



Fundamentals of Agricultural Economics

Ag. Econ 2.1 (2+0)

**Department of Agricultural Economics
College of Agriculture,
Navsari Agricultural University, Bharuch**

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Chapter – 1

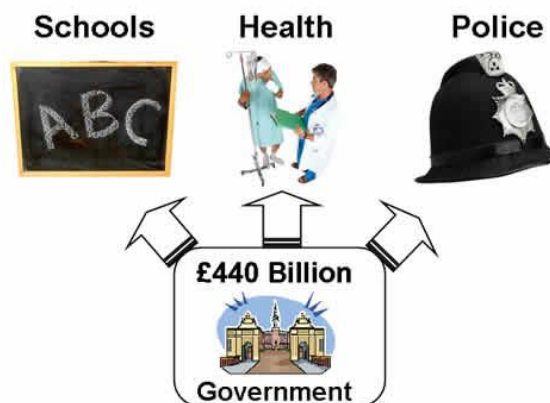
ECONOMICS

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

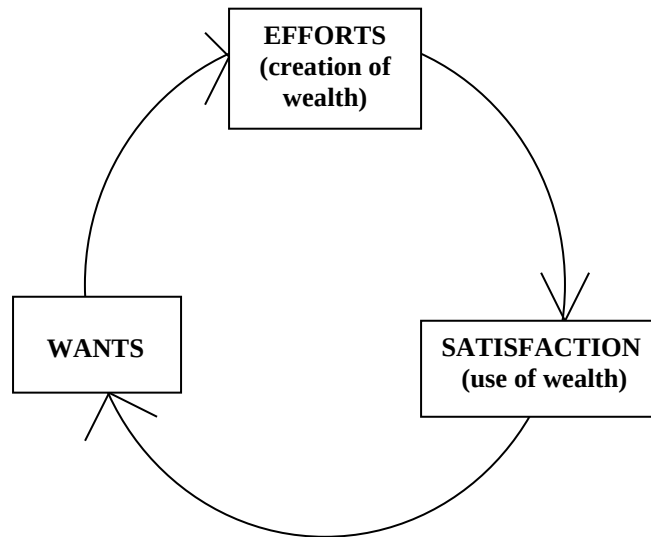
The basic economic problem is **Human wants are many; but means to satisfy these wants are limited.** These limited means are capable of alternative uses and hence there is a need of satisfying maximum wants with limited resources. In reality most resources are scarce. Similarly individuals and nations 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.



The Basic Economic Problem

CIRCLE OF ECONOMICS

The existence of human wants is the starting point of all economic activity in the world. Unless we make efforts, we cannot satisfy wants. Hence, **wants, efforts and satisfaction form the circle of economics.**



NATURE 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.

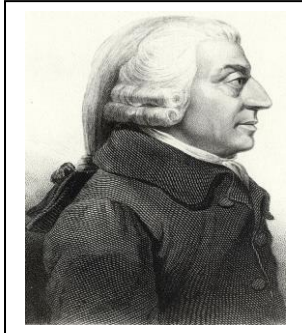
DEFINITIONS OF ECONOMICS

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



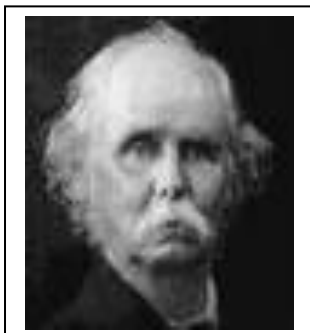
Adam Smith (1723-90) in his book entitled “*Wealth of Nations*”(1776) defined economics as “***An enquiry into the nature and causes of the of wealth of nations***”. He is known as the “***Father of Economics***” because he was the first person who put all the economic ideas in a systematic way. It is 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. We study about consumption, production, exchange and distribution of wealth.

But the definition of economics as a science of wealth cannot be regarded as being a correct one. 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. Writers like Carlyle and Ruskin condemned this worship of Mammon (The god of wealth). They accused economics of selfishness and, therefore, called it a **dismal science**. 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***”.

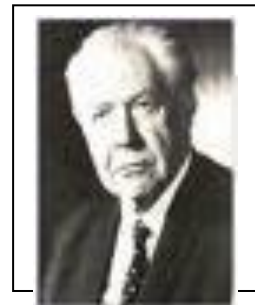
Marshall agrees that economics studies about wealth. But he does not accept the view that economics studies about wealth alone. In the words of Marshall, “Economics is on the one side a study of wealth, and on the other and more important side, a part of the study of man. Man is the centre of his study. According to him, the study of man is more important than the study of wealth. Wealth is sought only for promoting human welfare.. Hence wealth is given a secondary position.

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 Marshall remained current for a long time, but early in the 1930's, a distinguished economist Lionel Robbins challenged the definition as under.

- Economics was treated as a social science rather than a human science; and the term "human science" is more apt on the ground that any individual either as a member of society or in isolation does have economic problems.
- It classifies economic phenomena into material and non-material; and it ignores the non-material services like those of teachers, doctors etc. which also make an important contribution to economic welfare.

Scarcity Definition by Lionel Robbins

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



- Ends are various. The term "ends" mean wants. Human wants are unlimited.
- 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.

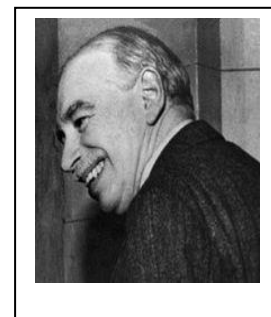
We know time is limited. There are only 24 hours in a day. If a worker wants only money he has to work for long hours and forgo leisure. If he wants leisure, he has to forgo his income. He cannot have both at the same time. We may, however, note that all means which satisfy human wants are not limited. 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

Robbins's definition is superior to "wealth" and "welfare" definitions because 'welfare' aspect is embodied in the definition and 'wealth' is represented as means which is always scarce.

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 scarce 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.



SUBJECT-MATTER / DIVISIONS OF ECONOMICS

Traditional View

Traditionally, the subject matter of economics can be studied under four divisions. These are Consumption, Production, Exchange and Distribution.

Consumption: It means the use of wealth to satisfy innumerable wants. It also means the destruction of utility. All the goods that are produced are consumed immediately or some time in future. Consumption represents using up of utility.

Production: It is an activity that helps to create utility. It simply means the addition of utilities. Hence, production is defined as the creation of utility. Through the process of production one set of goods is transformed into the other. In the production process, inputs are transformed into products.

Exchange: In a primitive society, the connection between wants, efforts and satisfaction is close and direct. A primitive man feels hungry; he picks up some fruit, eats it, and is satisfied. But in a modern society things are not so simple and straight. Here a man produces what he does not consume and consumes what he does not produce. For example, a farmer produces wheat, but he cannot use them all by himself. He sells them for money with which he buys the things he needs. This work of selling and buying is called exchange.

Distribution: Nowadays most of the things we need are produced in a field or factory. To make them workers give his labour, the landlord his land, the capitalist his capital, while the businessmen organize the work of all these. They all get a reward in money. The labour earns wages, the landlord gets rent, and the capitalist gets interest, while the entrepreneur's reward is profit. Economics studies how these incomes—wages, rent, interest and profit—are determined. The process is called distribution.

Thus, Consumption, Production, Exchange and Distribution is the subject-matter of economics. This traditional view is now regarded as constituting only one part of Economics, viz., **Price Theory** or also called **Micro-Economics**.

Modern View

According to modern approach, the scope or the subject-matter of Economics is not only the price theory but also the **study of the economy as a whole**. We study, for instance, how the income of an economy is generated and how the level of country's income and employment is determined. In other words, we also study the factors that determine a country's national income, savings, investment, output, employment, general price level, etc. Such a study of the economy as a whole is called **Macro-Economics**.

Recently, economists have begun to pay special attention to how an economy grows. i.e. how the under-developed countries grow into developed economy and the developed countries grow still further. Economics thus also includes study of **economic growth**.

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 is a traditional view of Economics.	It is a modern view of Economics.

ECONOMICS AS A SCIENCE

1. Is Economics a Science or an Art?

By definition science is a systematized body of knowledge. Analogous to science, an art is also systematized body of knowledge. It directs through a system of procedures to attain a given objective or goal. It tells us how to do a thing.

Treating economics as a science, a given theory is formed through conducts of experiments, recording observations, analysis of data recorded, drawing the conclusions and finally testing them. In economics also the same procedure is followed to present any principle or theory. **Hence, economics is as good as any science. Only the question is regarding precision.**

The scientific experiments are conducted under laboratory or controlled conditions, while economic theories are subjected to several casual factors that influence human behaviour. The situation of controlled experiments in economics is not possible, since it deals with human behaviour, which is unpredictable. This indicates the fact that **the degree of precision of economics as a science is less, when compared with the pure science.**

As an art, economics shows solutions to the problems. It helps us how to do a thing. The role of economics as an art can be found in any sphere of economic activity. For example, it advocates how to maximize the profits of a firm given the resource constraints (e.g., producing more wheat from an acre of land).

Thus, the field of economics has the attributes of science and art. **Economics, therefore, is a science and art.**

2. Economics as Social Science

Economics studies human beings as a member of the society participating in the economic activities. It does not study humans as isolated individuals. He is interdependent. Thus economics is a social science.

3. Is Economics a Positive Science or Normative Science?

A positive science explains the why and wherefore of things. i.e., their causes and effects (why things are as they are). A normative science, on the other hand discusses the **rightness and wrongness** of things (the things ought to be). e.g. atom bomb.

Economists differentiate positive economics and normative economics. Positive economics is completely objective and is limited to the causes and effect relationship of economic activity. It tells us why certain things happen. Normative Economics studies the way that economic relations ought to be. It evaluates policy making, a conscious intervention in the economy for the welfare of the people.

Thus, economics is both a positive and normative science. It not only tells us why certain things happen, it also says whether it is the right thing to happen. For example, we know that a few people in the world are very rich while the masses are very poor. Economics should explain not only the causes of this unequal distribution of wealth, but it should also say whether this is good or bad. It might well say that wealth ought to be fairly distributed. Further, it should suggest the methods of doing it.

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.

1. Theoretical Importance

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

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

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.

Teaches mutual dependence: Economics teaches us the important lesson 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.

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.

2. Practical Importance

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.

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 a rational basis.

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.

Chapter – 2

Nature of Economic Theory

Methodology of Economics

Economics as a science adopts two methods for the discovery of its laws and principles

(a) Deductive method:

Here, we proceed from the general to particular, i.e., we start from certain principles that are self-evident or based on strict observations. Then, we carry them down as a process of pure reasoning to the consequences that they implicitly contain. For instance, traders earn profit in their businesses is a general statement which is accepted even without verifying it. It is useful in analyzing complex economic phenomenon where cause and effect are inextricably mixed up. However, the deductive method is useful only if certain assumptions are valid. (Traders earn profit, if the demand for the commodity is more).

(b) Inductive method:

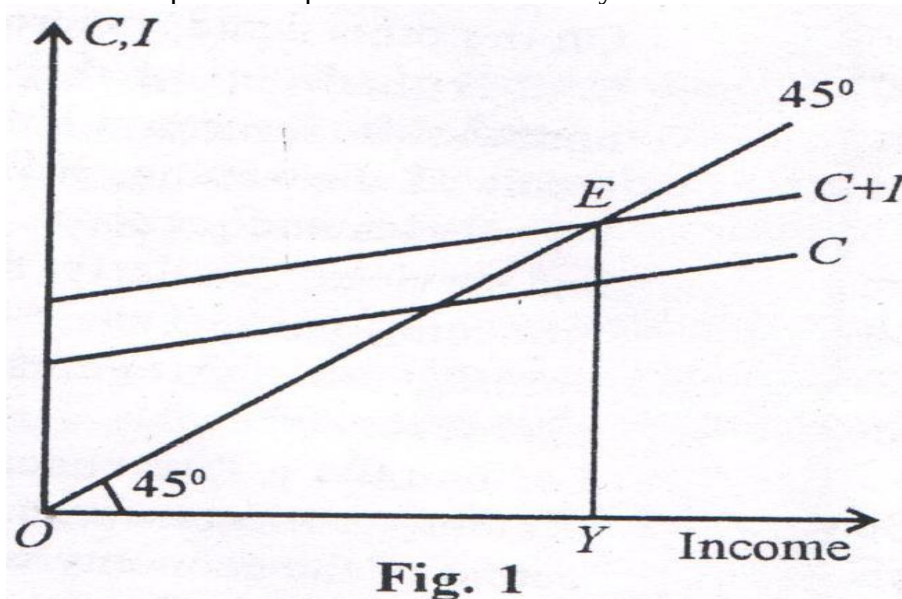
This method mounts up from particular to general, i.e., we begin with the observation of particular facts and then proceed with the help of reasoning founded on experience so as to formulate laws and theorems on the basis of observed facts. e.g. Data on consumption of poor, middle and rich income groups of people are collected, classified, analyzed and important conclusions are drawn out from the results.

In deductive method, we start from certain principles that are either indisputable or based on strict observations and draw inferences about individual cases. In inductive method, a particular case is examined to establish a general or universal fact. Both deductive and inductive methods are useful in economic analysis.

Approaches to economic analysis

Static and Dynamic

The word 'statics' is derived from the Greek word *statike* which means bringing to a standstill. It implies a state characterized by movement at a particular level without any change. It is a state where five kinds of changes are absence. The size of population, the supply of capital, methods of production, forms of business organization and wants of the people remain constant but the economy continues to work at steady pace. Statics analysis explains the static equilibrium position of the economy.



Economic dynamics, on the other hand, is the study of change. An economy may change through time in two ways: (a) without changing its pattern, and (b) by changing its pattern. Economic dynamics relates to the latter type of change. If there is a change in

population, capital, techniques of production, forms of business organization and tastes of the people, in anyone or all of them, the economy will assume a different pattern, and the economic system will change its direction.

Economic laws

Economic laws are the principles that govern the actions of individuals in their economic activities. Just like any other law of science, economic laws too are conditional i.e. applicable when certain conditions are fulfilled. Economists consider basic factors into account while developing a theory, keeping other factors influencing theory as constant.

According to Robbins, economic laws are statements of uniformities, which govern human behaviour concerning the utilization of limited resources for the achievement of unlimited ends.

Characteristics of economic laws

1. Economic laws are not the Government laws: The Govt. laws are very stringent and violation of these laws amounts to punishment. Economic laws on the other are applicable, only if certain conditions are satisfied.
2. Economic laws are merely statement of tendencies: These are based on human tendencies to a given phenomenon. This is the expected behaviour which is not certain.
3. Economic laws are hypothetical: These laws hold good under the assumption of number of things. These laws are characterised by the phrase *ceteris paribus* (other things are held constant).
4. Economic laws are positive but not normative: They only describe economic phenomenon but do not describe how it should be.
5. Some economic laws are axiomatic in character: It means that they are self-evident and universally valid. e.g. LDMU.
6. Economic laws lack exactness of the laws of science. Marshall said that these are the laws of tide rather than the laws of gravitation.

Equilibrium:

It indicates ideal condition or when complete adjustment has been made to changes in an economic conditions.

Types of equilibrium

- Stable: It tends to resume its original position.
- Unstable: Original position is never restored.
- Neutral: Disturbing forces neither bring it to the original position nor do they drive it further away.
- Short term: Economic forces do not get sufficient time to bring complete adjustment. E.g. supply is adjusted to change in demand.
- Long term: There is ample time to change even the means of production or resources available. e. g. If demand increased supply is also increased.
- Partial: It relates to single individual, consumer, producer or a firm.
- General: It relates with multiplicity of variable. It covers all the organizations functioning in the economy.

* * * * *

BASIC CONCEPT

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 goods, wealth, income, value, price and market. If we do not understand their meaning properly, it may result in a lot of confusion.

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.

Classification of Goods

Free Goods	Economic Goods
They are the free gifts of nature.	They are produced through human efforts.
No efforts are needed to get it.	Efforts are required to get it.
No price needs to be paid.	They are to be purchased at a given price.
They are not scarce .	They are scare .
Its supply is more than demand and one can get to the extent they need.	Their supply is less than demand.
They have value-in-use but no value-in-exchange.	They have value in use and value-in-exchange.
E.g.: air, sunlight, rainfall, etc.	E.g.: food, cloth, car, books, etc.

Distinction between economic goods and free goods is not permanent

It is true that what is a free good in one place can become an economic good in another place. It all depends on the supply of a good and the demand for it. For example, **sand** which is a free good in riverbeds becomes an economic good in the places of house construction activities. Similarly, **water** which is a free good near river or canal becomes an economic good when there is scarcity of water and one has to pay price for that i.e., water in a city. Thus, this distinction between economic goods and free goods is not permanent.

Consumption Goods, Capital Goods and Intermediate Goods

Consumption Goods	Capital Goods
They satisfy our wants directly .	They are those goods that help to produce other goods. So, they satisfy our wants indirectly .
They are also called goods of the first order in view of their ability to give direct satisfaction.	They are goods of second order in view of their ability to give indirect satisfaction.
They are called consumer goods .	They are called producers' good .
E.g.: food, car, cloths, books, etc.	E.g.: machinery which are used to produce a car, cloth, fertilizers, etc.

Distinction between consumption goods and capital goods is not permanent

It is true that what is a consumption good in one place can become a capital good in another place. For example, when **electricity** is used for lighting purposes at home, it is a consumption good. But the same electricity when used in factories for industrial purposes, it becomes a capital good.

Intermediate Goods

In between the consumption goods and capital goods are the **intermediate** goods. They are the raw materials used in the production of the final or consumption goods. For example, the cloths that we wear are consumption goods; the textile machinery which is used to make cloths is capital goods; and the **cotton or silk or some synthetic fibers** which are used to make cloths are intermediate goods.

Material goods and non-material goods

Material goods	Non-material goods
The goods which are tangible and concrete are called material goods.	They are various kinds of services. They are intangible, non-material and variable.
e.g.: land, house, foods, books, seeds, cloths, machinery, fertilizers etc.	e.g.: the services rendered by doctor, lawyer, labourer etc.

Transferable Goods and Non-transferable Goods

Transferable Goods	Non-transferable Goods
They are goods which can change their ownership. They can be physically transferred from one place to other place; however in case of land, physical transfer is not possible, only ownership can be changed.	They are personal qualities which cannot be transferred; only their service can be used by others.
E.g.: car, book, cloths, land, patents, copyright, goodwill of a business, etc.	E.g.: skill, intelligence, degree certificate, driving license, etc.

Impersonal Goods and Personal Goods

Impersonal Goods	Personal Goods
The goods which are not personal, are impersonal goods. They are what he has .	They refer to the personal qualities of a person. They are what he is .
They are also material and exist outside him, therefore, they are also called External Goods .	They are non-material and exist inside him, therefore, they are also called Internal Goods .
E.g.: land, buildings, cloths, etc.	E.g.: ability, skill, knowledge, etc.

Private Goods and Public Goods

Private Goods	Public Goods
They are the property of private individuals owned by them exclusively.	The goods which are common to all and are owned by society collectively.
They are not shared with others.	Every one can use it.
E.g.: land, house, etc.	E.g.: town hall, public garden, civil hospital, railway, etc.

Mono-period Goods and Durable Goods

Mono-period Goods	Durable (poly period) Goods
They are used only once to satisfy a need. They cease to exist once their use was over.	The goods which are used once and the same can be used again in future for several times.
E.g.: foods, productive resources like seeds, fertilizers, etc.	E.g.: land, machinery, implements, tv, mobile, books, etc.

UTILITY

What is 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.

Utility and Usefulness

A commodity may satisfy a human want, but may not be useful. On contrary, it may actually be injurious e.g., opium, tobacco, poison, etc. But, because they satisfy a human want, we say in Economics that they possess utility, even though their consumption is injurious. The term utility as used in Economics has no ethical or moral significance. Thus, a thing may be good or it may bad, but if it satisfies a human want, we shall say it possesses utility.

Characteristics of Utility

1. Utility is subjective

Utility is subjective to the interest of an individual. It depends on individual's frame of mind. Hence, a given commodity need not bring the same utility to all the consumers. Utility varies from person to person. *Example:* Utility of bidi for a regular smoker is greater than that of non-smoker.

2. Utility varies with purpose

Depending upon the purpose for which a commodity is used, utility of the same varies. *Example:* Utility derived from water as drinking purpose and irrigation purpose are different.

3. Utility varies with time

A particular commodity gives different utilities for the same person in different time period. Cold drinks and ice-cream provide greater utility to the same person in summer than in winter.

4. Utility varies with ownership

Ownership of good creates far greater utility from a good than that when it is hired.

5. Utility need not be synonymous with pleasure

Utility derived from a commodity need not be associated always with pleasure. Consuming apples gives the pleasure to the consumer, while consuming medicine may not give pleasure though it possesses utility. For example, quinine. In spite of its bitter taste, quinine is purchased and consumed, for it does fulfill a need. Hence, utility is not the same thing as pleasure. **A thing which possesses utility may be pleasurable or it may not give any pleasure.**

6. Utility does not mean satisfaction

Utility is not satisfaction by itself. Utility is quality of a good by virtue of which it gives satisfaction to an individual. To say that a mango gives utility is incorrect. We should say, it possesses utility or it gives satisfaction. A thing **possesses utility** but it **gives satisfaction**.

Kinds / types / Forms of utility

Form Utility

By changing the form of a good, great utility can be created. *Examples:* processing of paddy into rice, cotton into cloths, groundnut into oils, etc.

Place Utility

By virtue of its position in area, the commodity will have different utilities. Such utility is called place utility. Moving a good from one place or market to another place or market increases its utility. *Example:* Apples from Himachal Pradesh, the area of abundant production are transported to western and southern parts of the country (non-producing area), hereby increasing the utility of apples.

Time Utility

Any time lag between production and consumption of commodities creates time utility. Through storage over time, greater utility is created for the products. Storage helps to

create time utility. Example: Agricultural commodities like paddy, wheat, etc, are stored to make them available for the regular use of consumers throughout the year. In doing so, higher utility for commodity is imparted which we call time utility. Similarly, Utility of umbrella in rainy season is higher than that is in winter season.

Possession Utility

Commodities in the transaction process change the hands from one person to another person. Commodities in the hands of producers have some utility and by the time they reach consumers their utility is increased. Such utility due to possession or transfer of ownership of commodity is called possession utility. Example: Utility of Medicines for a patient is much higher than that of its producer. Similarly, Utility of milk for a child is higher than that of its producer (milkman).

VALUE

Meaning of Value

Value is of two kinds (1) value-in-use and (2) value-in-exchange.

Value-in-use

We often say education has great value or that fresh air, sunshine, rain are very valuable. Here the term 'value' is used in the sense of usefulness. This is **value-in-use** for which economists use the term 'utility'.

Value-in-exchange

In Economics, the term 'value' is used in the sense of **value-in-exchange**. Thus, in Economics, the term 'value' refers to the exchange qualities of a good. Value of a commodity refers to the goods that can be obtained in exchange for it. We cannot exchange fresh air for anything; its value in economic sense is, therefore, zero even though it is otherwise so valuable.

The value of a commodity, thus, means the commodities or services that we can get in return for it; it is, in short, its purchasing power in terms of other commodities or services; it is its power of commanding other things in exchange for itself.

Attributes of Value

It is clear, then, that in order to have value in the market; a commodity must not be a free good. Only economic goods can have value in the economic sense. Three qualifications are thus essential for a good before it can have value:

1. It must possess utility;
2. It must be scarce in relation to demand; and
3. It must be transferable or marketable.

All these three qualities are required together. In absence of any one of these qualities, a good will have no value at all. For example, air possesses utility, but it is not scarce. Rotten eggs may be scarce; but since they possess no utility. A book has utility; it is also scarce and it is transferable. Hence, in economics, air and rotten eggs have no value; while book has value.

Value is relative term

Since 'value' in Economics means value-in-exchange, it must be relative. It cannot be absolute. It is impossible to speak of the value of a commodity in an absolute manner independently of anything else.

For example, to say that the value of a book is great, gives an idea of its utility only. To talk of the value of a book, in economic sense, we must relate it to something else which we can get in exchange for it. Say, value of a book is Rs. 100 or say value of a book is equal to value of 5 kg rice.

Value equates certain commodities, i.e., a book may fetch 5 kg of rice. It expresses relationship between two commodities, it relates one to other. That is why value is said to be relative. If value of a book increase, it may fetch >5 kg of rice; while if value of rice increases, a book may fetch <5 kg of rice.

PRICE

What is Price?

Value is not the same thing as price. **When value is expressed in terms of money, it is called price.**

In pre-historic times, people did not know the use of money. They exchanged goods for other goods. This system is called barter. In modern times, however, goods are ordinarily exchanged for money. Therefore, the price of a commodity today means its money-value. **Price expresses value of a commodity in terms of money.**

Generally, economists make no distinction between value and price. All prices are related to one another. They form the price system. It 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

What is money?

It refers to anything which is generally accepted as a medium of exchange.

WEALTH and WELFARE

What is wealth?

In ordinary speech, when we refer to wealth, we mean money or riches. But in economics, it has a special meaning. It refers to those scarce goods which satisfy our wants and which have money value. **Anything which has money value is wealth.** All economic goods have value-in-exchange. So wealth includes all economic goods. **In Economics the term 'wealth' is synonymous with economic goods.** Wealth has been defined as **"stock of goods existing at a given time that have money value"**. Thus, in economics, every man, even the poorest of the poor, possesses some wealth.

Attributes of Wealth or Characteristics of Wealth

There are three attributes of wealth as in the case of value; Utility, Scarcity and Transferability or Marketability. Three qualifications are thus essential for a good before it can be considered as wealth:

1. It must possess utility.

It must have the power to satisfy a want.

2. It must be scarce.

For example, **air and sunshine** are essential for life. We cannot live without them. But we do not consider them as wealth because they are available in large quantities. Such goods are known as free goods. The goods which are scarce are wealth.

3. It must be transferable.

That is, it should be possible for us to transfer the ownership from one person to another. Land, buildings, machinery, etc. are examples of wealth. **Degree certificate**, skill of doctor, artists, cricket, etc. is non-transferable; hence they are not considered as wealth though they are source of wealth. But the **good will** of a company is transferable; hence, it is a wealth.

What is welfare?

Welfare is the well being of individual or community. It refers to the condition of mind. Hence, any good whether it is free or economic, is counted as long as it leads to welfare. Hence, **Welfare = Wealth (all economic goods) + All Free goods.**

Wealth and Welfare are two different aspects having relationship. All economics goods are wealth. Free goods have no place while representing wealth. Wealth is a path for welfare, as all our desires are satisfied by means of wealth.

Money and wealth

All money is wealth but all wealth is not money. As wealth consists of all kinds of property, some of them is not acceptable as medium of exchange or not transferable in money.

Wealth and Income:

The amount of money which wealth yield is called income. Wealth is a fund and income is a flow *e.g.* A person is having Rs. 2 lakhs *i.e.* wealth. By investing this amount, he earns Rs. 10,000 as interest. This is his income.

Distinction may also be made between money income and real income. Income of a person expressed in terms of money per month or year is his money income while the amount of goods and services he purchases with his money income is known as real income. A part of current income is consumed and a part is saved or invested.

The excess of income over consumption is the saving. Investment means an addition made to nation's physical stock of capital like building, new machines, finished and semi finished goods.

$$Y = C + S \text{ and } Y = C + I \text{ where } S = I$$

Classification of wealth

Wealth can be classified as follows:

- (1) Individual wealth: The wealth of an individual consists of his property like cash, land, buildings, livestock and goodwill of business which commands a price in the market.
- (2) Personal wealth: Personal qualities like skill, ability and intelligence.
- (3) Social or communal wealth: It consists of state, municipal or social properties like dams, canals, state and museums.
- (4) National wealth: Narrowly speaking it consists of the aggregate wealth of all citizens, excluding the debts. In the wider sense, it includes rivers, mountains, high character of people *etc.*
- (5) Cosmopolitan wealth: It is the wealth of the whole world.

(6) Negative wealth: This refers to debts owned by individuals or state. If something is a nuisance like wild pigs, or stray cattle damaging the crops, it may be regarded as negative wealth.

(7) Representative wealth : Documents of title, documents of property, insurance policy *etc* are representative wealth.

HUMAN WANTS

What is Human 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 necessities 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.

Characteristics of Human wants

1. Human wants are unlimited

There is no end to human wants. When one want is satisfied, another crops up. The never-ending cycle of wants goes on and on. Human wants keep on multiplying.

2. Any particular want is satiable

Although wants in aggregate are unlimited, yet it is possible to satisfy a particular want, provided one has the means.

3. Wants are Complementary

It is common experience that we want things in groups. For, example, if we want to write a letter, we want paper and pen. Paper alone is not enough. Thus, a car needs petrol, oil, etc. before it starts working. Thus, wants are complementary.

4. Wants are competitive

We all have a limited amount of money at our disposal, whereas we want so many things at the same time. We cannot buy them all. We must, therefore, choose between them by accepting some and rejecting others. Thus, there is competition between the various wants that we want to satisfy.

5. Some wants are both complimentary and competitive

For example, Factory manager wants machinery and labour. Machinery competes with labour; and up to some extent they also complement each other.

6. Wants are alternative

There are several ways of satisfying a particular want. If we feel thirsty, we can have water, soda, sarbat, lassi, thumps-up, pepsi, etc.

7. Wants vary with time, place and person

Different people want different things and the same person wants different things at different time and in different places.

8. Wants vary in urgency and intensity

Some wants are more urgent and intense than others. These are generally satisfied first, while others are given next priority / postponed.

9. Wants multiply with civilization

As civilization spreads among peoples, their wants also go on increasing.

10. Wants recur

Most of the human wants are of recurring nature. For example, food, drink, entertainment, etc. We eat something when we feel hungry. It will not last for ever. After some hours, we again feel hungry and want some food again and again.

11. Wants change into habits

If a particular want is regularly satisfied, a person becomes used to it and it grows into habit. For example, smoking, drug addiction, etc.

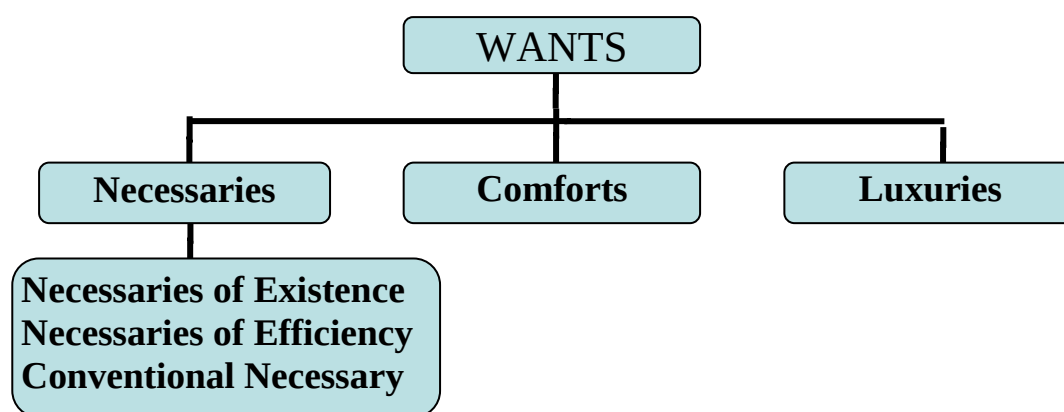
12. Wants are influenced by income, salesmanship and advertisement

It is obvious that if income is higher, more wants can be satisfied, and a poor man cannot simply afford to have many wants. Besides, we do not always buy the things we need. We often induced to buy particular brands or products by persuasive salesmen or clever advertisement even though better alternatives may be available.

13. Wants may be the result of custom or convention

More or less, we all are slaves of custom. Many of our wants are conventional. Whether, we like it or not, we have to spend a lot of money on social ceremonies.

Classification of Wants



1. Necessaries

They may be sub-divided as:

1. **Necessaries of Existence:** These are the things without which we cannot exist, e.g., food, cloths, shelter, etc.
2. **Necessaries of Efficiency:** Some goods may not be necessary to enable us to live, but necessary to make us efficient workers. A pen is necessary for student.
3. **Conventional Necessary:** These are the things which are forced to use either by social custom or because of the people around us expect us to do so. *Example:* need of black coat for lawyer.

2. Comforts

Having satisfied our wants for the necessities of life, we desire to have some comforts too. For a student, a book is a necessity, table and a chair are necessities of efficiency; but cushioned chair is a comfort.

3. Luxuries

Man does not stop even at comforts. After comforts have been provided he wants luxuries too. 'Luxury' has been defined as a superfluous consumption, something we could easily do without. *Example:* costly furniture, luxurious car, etc. For a college student, a fan in summer is a comfort; but air-conditioner is a luxury.

Necessaries, Comforts and Luxuries are relative term

We cannot attach permanent and fixed labels of necessities, comforts or luxuries to commodities. We cannot say that car is always a luxury. The same thing may be a necessary under one set of conditions and a luxury under others. For example, a car for a doctor is necessary, but for a teacher it is comfort; while for a labour it is luxury. Today what may be a luxury can become a necessary in future. In same manner, what may be regarded as a luxury in India may be a necessary in England. Thus, necessities, comforts and luxuries are relative to person, time and place.

Comparison / difference

Necessaries of Efficiency	Comforts
(1) Necessary to make us efficient workers	(1) Make for fuller life, enjoyments <i>etc.</i>
(2) Benefit from money spent is more	(2) Benefit from money spent is less

Comforts	Luxuries
(1) Comforts make for a fuller life, enjoyment	(1) It is a superfluous consumption, something we could easily do without it.
(2) Money spent on comforts brings some compensation	(2) Expenditure on luxuries brings negligible return. There may be a loss or harm.

Chapter – 4

AGRICULTURAL ECONOMICS

What is Agricultural Economics?

Agriculture

- The word agriculture comes from the Latin words **ager**, referring to the soil and **cultura**, to its cultivation.
- Agriculture in its widest sense can be defined as the cultivation and/or production of crop plants or livestock products.
- It is synonymous with farming: the production of field dependent production of food, fodder and industrial organic material.

Economics

- Economics is the science that studies as how people choose to use scarce productive resources (like land, labour, capital and organiser) to produce various goods and to distribute these goods to various members of the society for their consumption.

Agricultural Economics

- **Agricultural economics is an applied field of economics** in which the principles of choice are applied in the use of scarce resource such as land, labour, water, seeds, fertilizers, etc. in farming and allied activities.
- It deals with the principles that help the farmer in efficient use of land, labour and capital.
- Its role is evident in offering practicable solutions in using scarce resource of the farmers for maximization of income.

Definitions

1. Prof. Gray has defined agricultural economics as ***“The science in which the principles and methods of economics are applied to the special conditions of agricultural industry”***.
2. According to Prof. Hibbard ***“Agricultural economics is the study of relationships arising from the wealth-getting and wealth-using activity of man in agriculture”***.

Thus, agricultural economics deals with the problems of the farms as the units of industry, the income earning and spending activities of the farmers and also the management of farm business and bringing necessary changes according to the situation so as to bring stability to farm income.

Importance

- Agricultural Economics uses theoretical concepts of economics to provide answers to the problems of agriculture and agri-business. Initially earnest efforts were made by the economists to use the economic theory to agricultural problems. Now the subject of agricultural economics is enriched in many directions and fields taking the relevant tools of science particularly mathematics and statistics.
- Agriculture is the integral part of world food system having the foundation link between crops and animal production system. Agricultural economists here have to play a major role in understanding the foundation systems.
- The student of agricultural economics should have a clear insight and understanding of the influences of climatic conditions in determining as to how the commodities are produced and marketed in line with the consumption needs. Knowledge regarding problems in production, finance, marketing and Government policies and their impact on production and distribution is very essential to find out suitable solutions.

Major Fields of Agricultural Economics

1. Microeconomics

- Basic Concepts
- Consumer Behaviour
 - Theory of Demand
 - Theory of Supply
- Theory of Production
- Theory of Cost
- Market Structure
- Theory of Distribution

2. Macroeconomics

- National Income
- Money
- Public Expenditure
- Public Revenue
- Unemployment
- Trade Cycle
- Inflation
- Poverty

3. Agricultural Production Economics

- Laws of Returns
- Returns to Scale
- Factor-Product Relationship
- Factor-Factor Relationship
- Product-Product Relationship

4. Farm Management

- Types of Farming
- Types of Farm Business Organization
- Farm Planning
- Farm Budgeting
- Farm Records, Accountancy and Inventory
- Farm Efficiency Measures
- Risk and Uncertainty

5. Agricultural Finance

- Problems of Agricultural Finance
- Institutional Agencies in Farm Credit
- Tests of Farm Credit Proposals
- Tools of Farm Financial Analysis
- Agricultural Projects

6. Agricultural Marketing

- Marketing Functions
- Marketing Efficiency
- Marketing Channels
- Agricultural Prices
- Problems of Agricultural Marketing
- Role of Government in Agricultural Marketing

Characteristics of Agriculture

1. Perishability of the product
2. Seasonality of production
3. Bulkiness of products
4. Variation in quality of products
5. Irregular supply of agricultural products
6. Small size of holdings and scattered production
7. Processing

The contribution of agriculture to economic development is as follows

1. It provides food to the rapidly expanding population.
2. It increases the demand for industrial products and thus helps in the expansion of other sectors.
3. It provides additional foreign exchange earnings for the import of capital goods for development through increased agricultural exports.
4. It increases the rural income.
5. It increases the employment opportunities.
6. It improves the welfare of the rural people.

* * * * *

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 effect 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 will be able to pay for the car. **Thus, desire backed by willingness and ability to pay is called demand.**

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:

$$D_x = f(P_x, P_s, Y, T, W)$$

Where,

D_x represents demand for good x

P_x is price of good X

P_s is price of related goods

Y is income

T refers to tastes and preferences of the consumers

W refers to wealth of the consumer.

Types of Demand

There are three kinds of demands: Price Demand, Income Demand and Cross 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.

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**.

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. tractor and trailer) 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

Understanding ***ceteris paribus*** is the key to understanding much of microeconomics. 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. Change in the price should not be anticipatory due to the fact that either on account of the danger of war or widespread failure of rains.
6. The use of a commodity does not confers distinctions.

Demand Schedule

Demand schedule is a tabular statement showing how much of a commodity is demanded at different prices. Table 2.1 is a hypothetical demand schedule of an individual consumer. It shows a list of prices and corresponding quantities demanded by an individual consumer. This is an individual demand schedule.

Individual Demand Schedule	
Price (Rs./unit)	Quantity Demanded (units)
5	10
4	20
3	30
2	40
1	50

Market Demand Schedule				
Price of (Rs./unit)	Qty Demanded by "A"	Qty Demanded by "B"	Qty Demanded by "C"	Total Qty. Demanded
5	10	15	0	25
4	20	25	5	50
3	30	35	10	75
2	40	45	15	100
1	50	55	20	125

Practical utility of a demand schedule

It is not possible to construct the demand schedule accurately even though it is useful in the following ways.

- 1) All the businessmen make their forecast of quantity they could dispose of at different prices and accordingly they forecast profit and also it helps in arranging production level.
- 2) In order to find out the effect of different rates of taxes on the sale of commodity, a finance minister takes the help of demand schedule. Imposition of tax is bound to raise price, which would reduce demand while the government revenue depends on how much actually sold.

Demand Curve

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

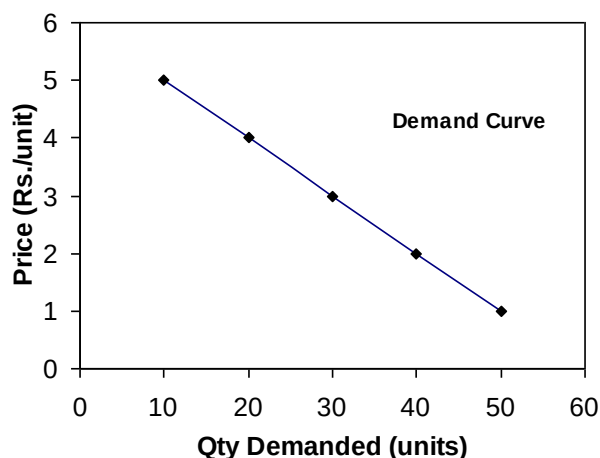


Fig. 1: Demand Curve

A demand curve shows the relationship between the price of an item 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.

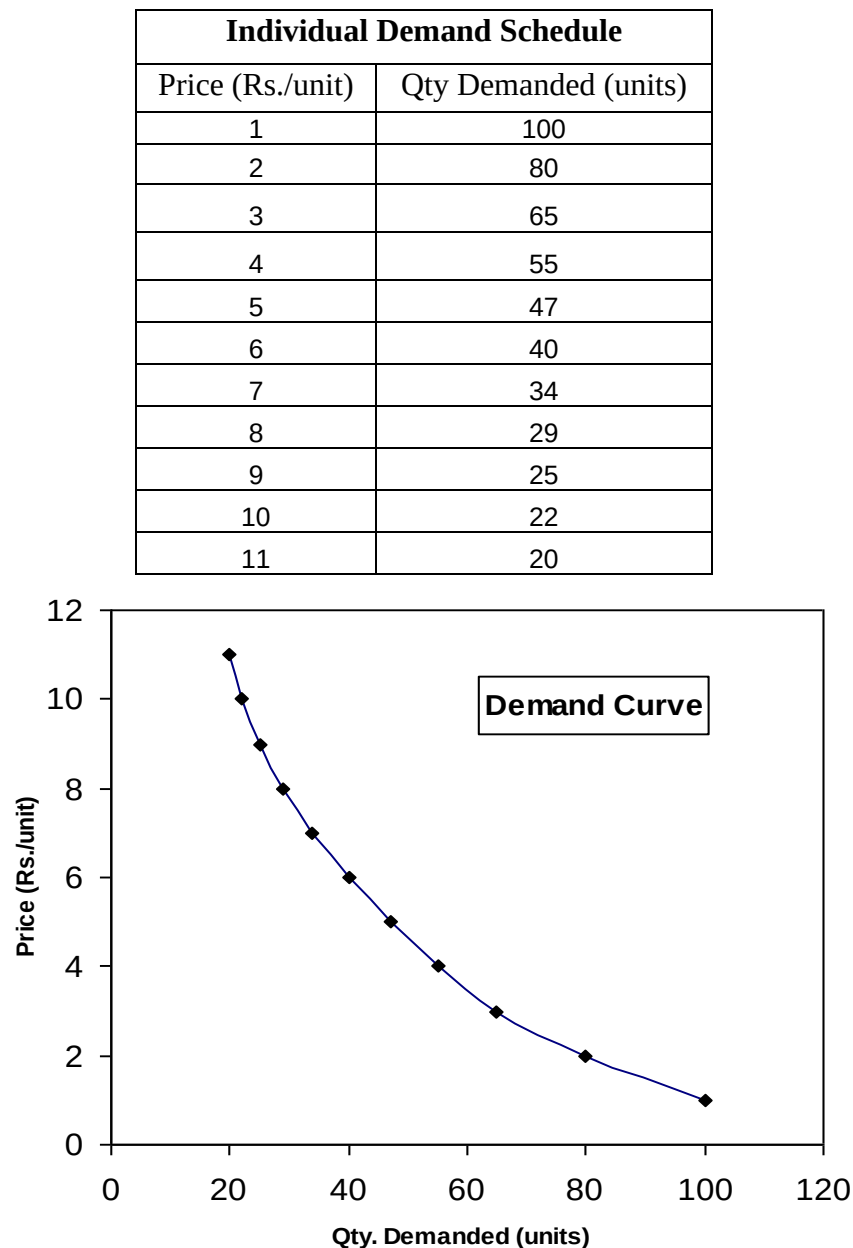


Fig. 2: Normal Demand Curve

Why demand curve slopes downward?

Generally, the demand curve slopes 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 farther 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**
2. When the commodity becomes cheaper, it tends to be substituted wholly or partly for other commodities. This is called **Substitution Effect**.
3. A commodity tends to be put to more uses or less urgent uses when it becomes cheaper. For example, if water is dear, we shall use it for drinking only; but when it becomes cheaper, we shall use it for washing and other less urgent uses.

Exceptions to the Law of Demand

As we have said above, generally the demand curve slopes downwards to the 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. This can be represented by a rising demand curve. Such cases are very rare, but we can imagine some. The following is the list of few exceptions to the law of demand.

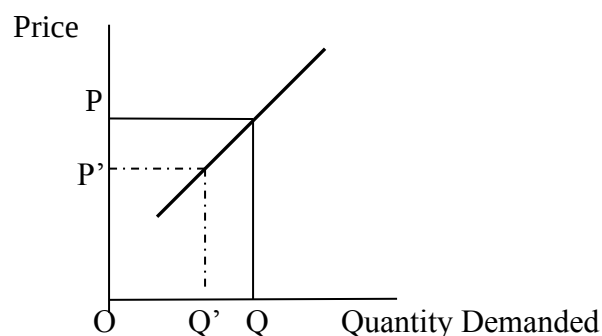


Fig. 3: Exceptions to the Law of Demand

(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. 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 people buy in large quantities when they are poor and in small quantities when they become rich. For example, poor people spend the major part of their income on coarse grains (e.g. ragi, kodra, bavta) and only a small part on rice. When the price of coarse grains rises, they will buy less rice. To fill up the resulting gap, more of coarse grains have to be purchased. Thus, rise in the price of coarse grains results in the increase in quantity of coarse grains purchased. This is called 'Giffen Paradox'. In these cases, the law of demand has an exception.

(3) When a serious shortage is feared, people may be in get panic and buy more even though the price is rising. They are anxious to avoid the necessity of having to pay a still higher price in future.

(4) Sometimes, people buy at a higher price in sheer ignorance.

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. 4.

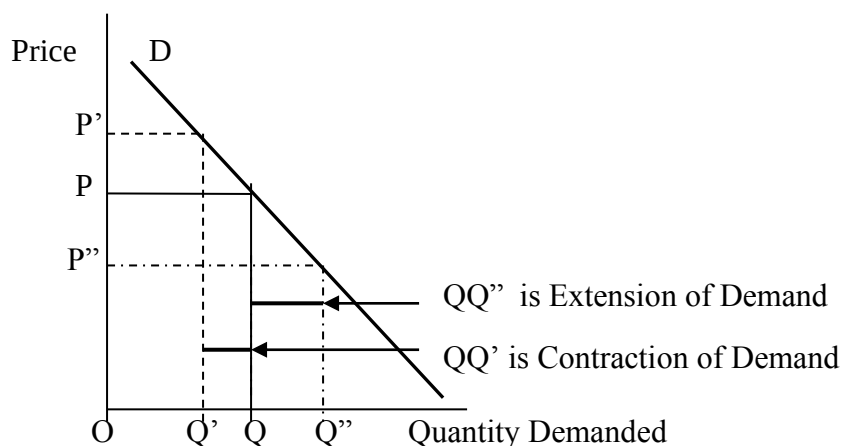


Fig. 4: Changes in Demand

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.5, 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.

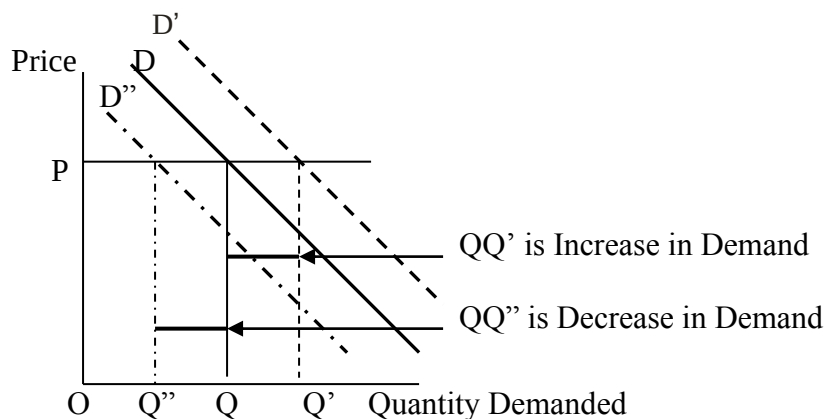


Fig. 5: Shifts in Demand

Factors determining demand

The following are the factors that bring change in demand either increase or decrease.

- 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 necessities 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) **Advertisement:** A clear and persistent advertisement may create a new type of demand.

Inter-related Demand

Direct demand

The demand for the ultimate object e.g. demand for house, a cup of tea, ice cream is called direct demand

Derived demand

The demand for various kinds of labour and materials which go to make the final product is called derived demand e.g. the demand for new bricks, iron, cement is strongly linked to demand of new buildings.



The demand for new bricks is derived from the demand for the new housings. When there is a boom in the construction industry, the market demand for bricks will increase.

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.

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, ice-cream etc.

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**—where the producer is seeking to influence consumer tastes and preferences.

Speculative Demand

The demand for a product can also be affected by **speculative demand**. Here, potential buyers are interested not just in the satisfaction they may get from consuming the product, but also the **potential rise in market price** leading to a **capital gain or profit**. When prices are rising, speculative demand may grow, adding to the upward pressure on prices. The speculative demand for housing and for shares might come into this category.

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Chapter – 6

UTILITY THEORY

Concept of Utility

In the ordinary language, 'utility' means 'usefulness'. In Economics, utility is defined as the power of a commodity or a service to satisfy a human want. Utility is a subjective or psychological concept. The same commodity or service gives different utilities to different people. For a vegetarian, mutton has no utility. Warm clothes have little utility for the people in hot countries. So utility depends on the consumer and his need for the commodity.

Total Utility

Total Utility refers to the sum of utilities of all units of a commodity consumed. For example, if a consumer consumes ten biscuits, then the total utility is the sum of satisfaction of consuming all the ten biscuits.

Marginal Utility

Marginal Utility is the addition made to the total utility by consuming one more unit of a commodity. For example, if a consumer consumes 10 biscuits, the marginal utility of 10th unit is nothing but the total utility of 10 biscuits minus the total utility of 9 biscuits.

Law of Diminishing Marginal Utility

The law of diminishing marginal utility explains an ordinary experience of a consumer. If a consumer takes more and more units of a commodity, the additional utility he derives from an extra unit of the commodity goes on falling. Thus, according to this law, the marginal utility decreases with the increase in the consumption of a commodity. When marginal utility decreases, the total utility increases at a diminishing rate.

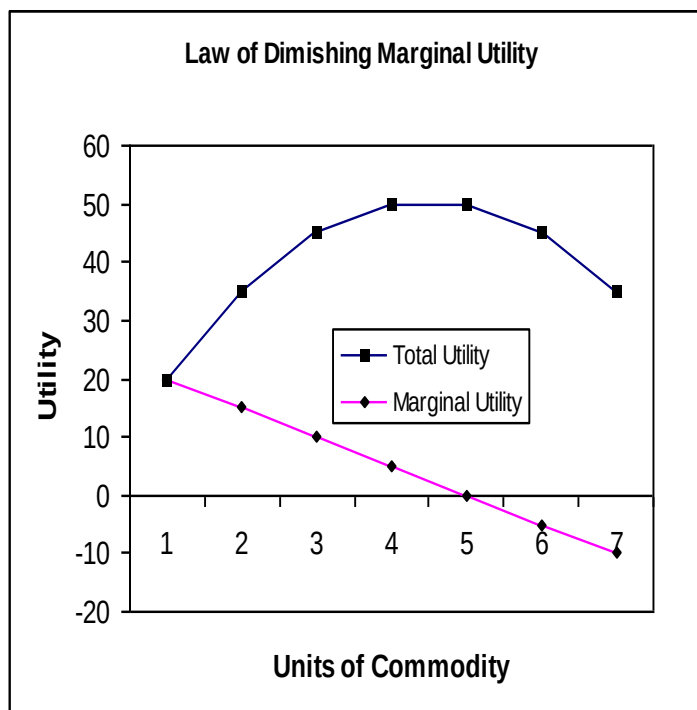
Definition According to Marshall, "*The additional benefit which a person derives from a given increase of his stock of a thing diminishes with every increase in the stock that he already has*".

Explanation

Suppose Mr. X is hungry and eats apple one by one. The first apple gives him great pleasure (higher utility) as he is hungry; when he takes the second apple, the extent of his hunger will reduce. Therefore he will derive less utility from the second apple. If he continues to take additional apples, the utility derived from the third apple will be less than that of the second one. In this way, the additional utility (marginal utility) from the extra units will go on decreasing. If the consumer continues to take more apples, marginal utility falls to zero and then becomes negative.

For example, the utility derived by a person from successive units of consumption of apples is as under.

Units of apple	Total Utility	Marginal utility
1	20	20
2	35	15
3	45	10
4	50	5
5	50	0
6	45	-5
7	35	-10



From the above table and figure, it is very clear that the marginal utility (addition made to the total utility) goes on declining. The consumer derives 20 units of utility from the first apple he consumes. When he consumes the apples continuously, the marginal utility falls to 5 units for the fourth apple and becomes zero for the fifth apple. The marginal utilities are negative for the 6th and 7th apples. Thus when the consumer consumes a commodity continuously, the marginal utility declines, reaches zero and then becomes negative.

The total utility (sum of utilities of all the units consumed) goes on increasing and after a certain stage begins to decline. When the marginal utility declines and it is greater than zero, the total utility increases. For the first four units of apple, the total utility increases from 20 units to 50 units. When the marginal utility is zero (5th apple), the total utility is constant (50 units) and reaches the maximum. When the marginal utility becomes negative (6th and 7th units), the total utility declines from 50 units to 45 and then to 35 units.

Relationship between Total Utility and Marginal Utility

S.No.	Total Utility	Marginal Utility
1	Increases	Declines
2	Reaches maximum	Reaches zero
3	Declines	Becomes negative

Importance

1. The Law of Diminishing Marginal Utility (DMU) is the foundation for various other economic laws. For example, the Law of Demand is the result of the operation of the Law of Diminishing Marginal Utility. In other words, as more and more units of a commodity are consumed, each of them gives less and less marginal utility. This is

due to the operation of the Law of DMU. As utility falls, consumer is therefore willing to pay a lower price only.

2. The Law of DMU operates in the case of money also. A rich man already possesses a lot of money. If more and more money is newly added to his income, marginal utility of money begins to fall. Alfred Marshall assumed that the marginal utility of money remains Constant
3. This law is a handy tool for the Finance Minister for increasing tax rate on the rich.
4. Producers are guided by the operation the Law of DMU, unconsciously. They constantly change the design, the package of their goods so that the goods become more attractive to the consumers and they appear as 'new goods'. Or else, the consumers would think that they are using the same commodity, over and over. In such a situation, the Law of DMU operates in the minds of the consumers. Demand for such commodities may fall.

Assumptions

1. The units of consumption must be in standard units e.g., a cup of tea, a bottle of cool drink etc.
2. All the units of the commodity must be identical in all aspects like taste, quality, colour and size.
3. The law holds good only when the process of consumption continues without any time gap.
4. The consumer's taste, habit or preference must remain the same during the process of consumption.
5. The income of the consumer remains constant.
6. The prices of the commodity consumed and its substitutes are constant.
7. The consumer is assumed to be a rational economic man. As a rational consumer, he wants to maximize the total utility
8. Utility is measurable.

Criticism / Limitations

1. Deriving utility is a psychological experience, when we say a unit of X gives ten units of utility, this means that utility can be measured precisely. In reality, utility cannot be measured. For example, when a person sees a film and says it is very good, we cannot measure the utility he has derived from it. However, we can measure utility indirectly by the cinema fare he is willing to pay.
2. The Law is based on a single commodity consumption mode. That is, a consumer consumes only one good at a time. This is an unrealistic assumption. In real life, a consumer consumes more than one good at a time.
3. According to the Law, a consumer should consume successive units of the same good continuously. In real life it is not so.
4. The Law assumes constancy of the marginal utility of money. This means the marginal utility of money remains constant, even when money stock changes. In real life, the marginal utility derived from the consumption of a good cannot be measured precisely in monetary terms.
5. As utility itself is capable of varying from person to person, marginal utility derived from the consumption of a good cannot be measured precisely.

Law of Equi – marginal Utility

This law is also known as the law of substitution. “The law implies that if a person has a thing which he can put to several uses, he will distribute it between those uses in such a way that it has the same marginal utility in all” (Marshall). A consumer generally is confronted with the problem of buying from among several goods and services, given his limited income. He is left with the choice making, regarding purchase of commodities and their quantities so that the purchases that are decided upon ensure him maximum satisfaction. Here, the consumer aims at maximizing total utility by consuming possible goods and services given the income constraint. In this process the consumer substitutes the goods having greater utility for those which have lesser utility. This process is continued till the marginal utilities of the commodities purchased are equalized. Hence the name, the law of equimarginal utility.

Assumptions

Before explaining the law, the following assumptions are made.

1. The consumer behaves rationally.
2. He has full knowledge about the commodities, their attributes, prices, etc., in the market.
3. Utility is measurable cardinally in terms of utils.
4. Commodities that are chosen are divisible and substitutable.

Explanation of the Law

Given the income constraint, the consumer makes prudent decisions in his purchases such that the allocation so made ensures him maximum satisfaction. Let us assume that the consumer has got Rs. 25 to spend. He has the options of spending this amount on three vegetables viz., potato, tomato and ridge gourd. The marginal utilities that are derived from the consumption of these vegetables and the amounts of money spent are presented in table. The marginal utilities are derived from the consumption of three vegetables by spending a unit of money (each unit of money is equal to Rs. 5). First unit of Rs. 5 on potato gives a marginal utility of 19 utils, second unit 16 utils, third 14 utils and so on. Now to maximize the satisfaction from the three vegetables the consumer has to spend Rs. 25 in such a way that the marginal utility of the last unit of money is equal in all uses. Given the marginal utilities derived from the three vegetables, the consumer has to spend first three units on tomato, one unit each on potato and ridge gourd respectively. The total utility through this combination would be 100 (22 + 21 + 20 + 19 + 18). No other combination of vegetables gives as high as 100 utils.

Equi – marginal Utility

No. of units (Rs. 5 per unit)	Marginal utilities per unit of Rs. 5		
	Potato	Tomato	Ridge gourd
1	19*	22*	18*
2	16	21*	17
3	14	20*	15
4	10	16	12
5	5	14	11

* Indicates units of money spent on vegetables

This combination is going to hold good till some changes occur either in the price or his income or his tastes. This law is also called as the principle of proportionality, as the consumer allocates his expenditure in such a way that the marginal utilities of the goods purchased would be in proportion to their prices. Consumer attaining equilibrium by spending his limited money is shown below:

$$\frac{\text{MU of X}}{\text{Price of X}} = \frac{\text{MU of Y}}{\text{Price of Y}} = \frac{\text{MU of Z}}{\text{Price of Z}} = K$$

Practical Importance of Law of Equi – marginal Utility

1. Consumption: A rational consumer follows this law, while planning his expenditure. He spends in such a way that marginal utility derived from each unit of money gives nearly equal utility in the various goods he purchases.
2. Production: A rational producer allocates his limited resources among various possible enterprises in such a way that the marginal value product derived from each unit of resource on various enterprises are the same.
3. Marketing: The consumer should keep in mind that marginal utility of the commodity and price of the commodities should be equal in purchasing the commodities from the markets. Thus this law guides the consumers to spend the given amount efficiently on different goods which provide utilities.
4. Distribution: The share of each factor of production is determined on the basis of marginal value productivity.
5. Prices: When the price of a commodity goes up in view of shortfall in supply, consumer prefers that commodity which is relatively less scarce. This preference of consumer brings down the price of the commodity.

Limitations of the Law

It needs a very careful scrutiny by the consumer regarding prices of various commodities and their substitutes. More often, the expenditure pattern is influenced by the habits, except in the case of very high priced goods for which certain amount of thinking goes before taking buying decisions. Another limitation for the operation of the law is indivisibility of certain goods which would not permit the equalization of marginal utilities. Further, it is possible that buying decisions are influenced by advertisement in which case rationality criterion may not be followed.

Consumer Equilibrium

The term *consumer's equilibrium* refers to the amount of goods and services which the consumer may buy in the market given his income and given prices of goods in the market. The aim of the consumer is to get maximum satisfaction from his money income. In simpler words, consumer equilibrium is the point at which a consumer reaches [optimum utility](#), or [satisfaction](#), from the [goods](#) and [services](#) purchased given the constraints of [income](#) and [prices](#). Consumer is in equilibrium position when marginal utility of money expenditure on each good is the same.

Derivation of Demand Curve

The law of demand or the demand curve can be derived with the aid of law of diminishing marginal utility. The law of diminishing marginal utility states that as the quantity of a good with a consumer increases, marginal utility of the good to him expressed in terms of money falls. In other words, the marginal utility curve of a good is downward sloping. Now, a consumer will go on purchasing a good until the marginal utility of the good equals the market price. His satisfaction will be maximum only when marginal utility equals price. It, therefore, follows that the diminishing marginal utility curve implies the downward sloping demand curve, that is, as the price of the good falls, more of it will be purchased. In the figure, the diminishing marginal utility of the good is measured in terms of money.

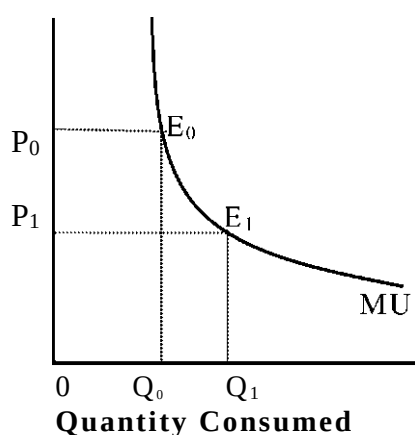


Fig.3.2 Derivation of Law of Demand from Law of Diminishing Marginal Utility

Suppose, the price of the good is OP_0 and a consumer will be in equilibrium if he purchased OQ_0 , then the marginal utility is equal to the given price OP_0 . Now, if the price falls to OP_1 , the consumer would buy OQ_1 quantity of good and the equilibrium would be shifted from E_0 to E_1 . In order to equate the marginal utility with the lower price OP_1 , the consumer must buy more of the good. Thus, there is an inverse relationship between quantity demanded and price of the good.

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Chapter – 7

CONSUMER'S SURPLUS

The concept of consumer's surplus was first introduced by Alfred Marshall. When a consumer is prepared to buy a commodity, he always calculates the utility he is going to derive from its consumption. Every rational consumer compares the utility he derives from the consumption of a commodity, against the price he has to pay. If the utility is more than the price paid, he prefers it and if it is *vice-versa*, he does not buy the same good. The surplus of utility he derives is consumer's surplus.

In nutshell, consumer's surplus is the difference between what the consumer is willing to pay and what he actual pays.

Consumer's surplus = Price that a consumer is willing to pay - Price he actual pays.

Suppose, a consumer wants to buy a shirt. He is willing to pay Rs 250 for it. But the actual price is only Rs 200. Thus he enjoys a surplus of Rs 50. This is called consumer's surplus.

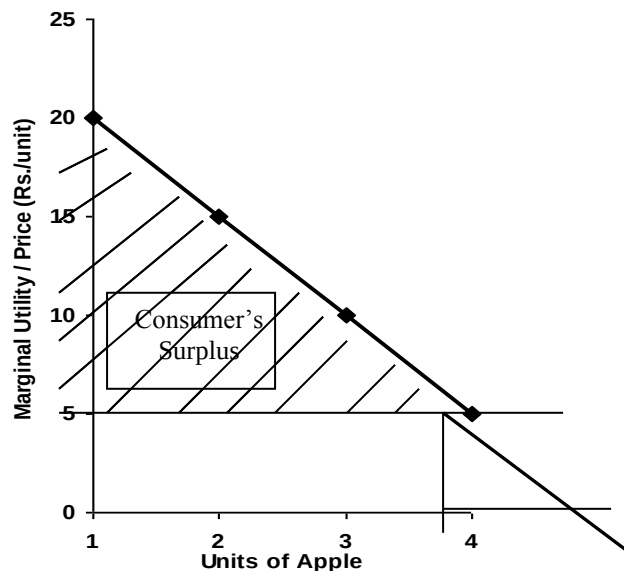
Consumer's surplus is experienced in commodities which are highly useful but relatively cheap. For example, newspaper, salt, match box, postage stamp etc. For these commodities, we are ready to pay more than what we actually pay.

Estimation of Consumer's surplus

Units of apple	Marginal utility	Actual Price of Apple	Consumer's surplus
1	20	5	15
2	15	5	10
3	10	5	5
4	5	5	0
Total Units Purchased = 4	Total Utility = 50	Total Money Spent = Rs. 20	Consumer's Surplus = Rs.30

Marginal utility explains the price which a consumer is willing to pay for the unit of the commodity. As more and more units of a commodity is purchased, the marginal utility declines. Therefore the price, which the consumer is willing to pay, also decreases. The difference between marginal utility and the market price (actual price) gives the consumer's surplus. Thus from the table consumer's surplus for each unit is the difference between Marginal Utility (column 2) minus market price (column 3). The consumer's surplus for all the units can be calculated as total utility minus the total amount spent on the commodity i.e. consumer's surplus = Rs 50 – 20 = Rs 30.

A rise in the market price reduces the consumer's surplus and *vice-versa*. If price of apple increases to Rs. 10, consumer will buy only 3 units and in such case consumer's surplus will be decreased to Rs. 15 only.



In the above figure, MU is the marginal utility curve. OP is the price and OM is the quantity purchased. For OM units, the consumer is willing to pay OAEM. The actual amount he pays is OPEM. Thus consumer's surplus is $OAEM - OPEM = PAE$ (the shaded area). A rise in the market price reduces consumer's surplus.

Assumptions

1. Cardinal utility, that is, utility of a commodity is measured in money terms.
2. Marshall assumes that there is definite relationship between expected satisfaction (utility) and realized satisfaction (actual).
3. Marginal utility of money is constant
4. Absence of differences in income, tastes, fashion etc.
5. Independent goods and independent utilities.
6. Demand for a commodity depends on its price alone; it excludes other determinants of demand.

Criticism / Limitations

Two major criticisms against the Marshallian concept of Consumer's Surplus are:

1. Marshall assumed that utility is measurable, but J.R.Hicks says that is immeasurable, because it is psychological in nature
2. The Marshallian assumption of marginal utility of money remaining constant. But it is unrealistic. Marginal utility of money increases with the fall in the stock of money.

Importance of Consumer's Surplus

1. It is useful to the Finance Minister in formulating taxation policies.
2. It is helpful in fixing a higher price by a monopolist in the market, based on the extent of consumer's surplus enjoyed by consumers.
3. It enables comparison of the standard of living of people of different regions or countries. This comparison helps to distinguish consumption levels between the people, who are living in rich countries and poor countries. For example, a middleclass person in New York enjoys more consumers' surplus than a similar person in Anand.

* * * * *

Chapter – 8

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.

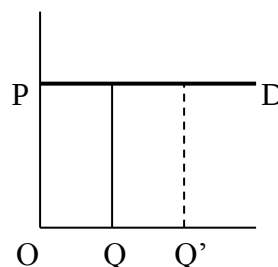
$$\text{Cross Elasticity (Ec)} = \frac{\% \text{ change in Demand for commodity X}}{\% \text{ change in Price of commodity Y}}$$

Degree of Price Elasticity

There are five types of elasticity of demand.

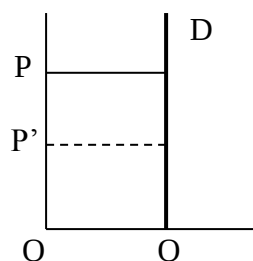
1. Infinite or Perfectly elastic demand ($E_p = \infty$)

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 ($E_p = 0$)

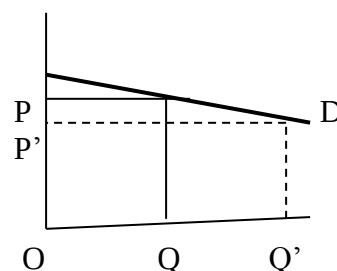
Perfectly inelastic demand means a great rise or fall in the price of the commodity, its demand remains absolutely unchanged.



3. Relatively (very) elastic demand ($E_p > 1$)

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

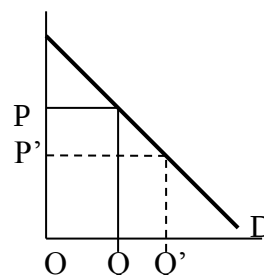
$$(PP' < QQ')$$



4. Unitary (unit) elastic demand ($E_p = 1$)

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

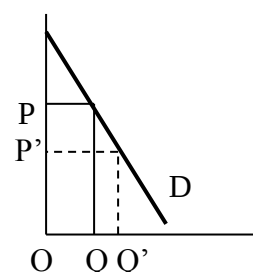
$$(PP' = QQ')$$



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

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.

$$(PP' > QQ')$$



Methods for Measurement of Price Elasticity

1. Total expenditure method / Total outlay method

Under this method we measure elasticity of demand by examine the change in the total expenditure due to a change in price. Calculate E_p for following demand schedule.

Price of Milk Rs./ lit.	Quantity Demanded (lit.)	Total Amount Spent (Rs.)	Remarks
24	3	72	(1)
21	4	84	(2)
18	5	90	(3)
15	6	90	(4)
12	7	84	(5)
9	8	72	(6)

Rule to decide Ep		Observations found in example
Situation	Conclusion	
When the total amount of money spent 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 (84>72) and 2 & 3 (90>84)
When the total amount of money spent remains the same. The rise in price is exactly balanced by reduction in purchases and vice versa.	The elasticity is said to be a unity. (Ep=1)	Between no.3 & 4 (90=90)
When the total amount of money spent 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 (84<90) and 5 & 6 (72<84)

2. Proportional method

Under this method, we measure elasticity by comparing the percentage change in price with percentage change in demand. The elasticity is the ratio of the percentage change in the quantity demanded to the percentage change in the price.

$$\begin{aligned}\text{Elasticity (Ep)} &= \frac{\% \text{ change in Demand}}{\% \text{ change in Price}} \\ &= \frac{\frac{\text{Change in Demand}}{\text{Initial Demand}}}{\frac{\text{Change in Price}}{\text{Initial Price}}}\end{aligned}$$

Example : Find out Ep for following demand schedule.

Price of "X" (Rs./kg)	Quantity of "X" Demanded (kg)
250	10
200	15

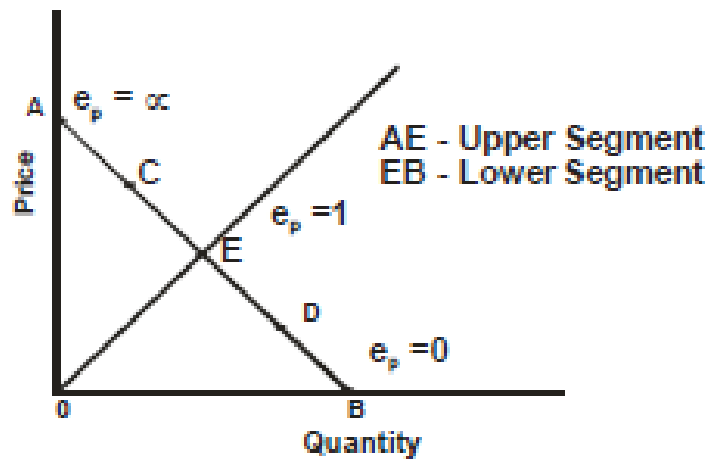
$$\text{Ep} = \frac{\frac{\text{Change in Demand}}{\text{Initial Demand}}}{\frac{\text{Change in Price}}{\text{Initial Price}}}$$

$$\begin{aligned}
&= \frac{15-10}{10} \div \frac{200 - 250}{250} \\
&= 5/10 \div 50/250 \\
&= 1/2 \div 1/5 \\
&= 5/2 \\
&= 2.5
\end{aligned}$$

Conclusion: $E_p > 1$, Thus, the demand is very elastic.

3. Geometrical method /point elasticity

We can calculate the price elasticity of demand at a point on the linear demand curve as under.



Formula to find out E_p through point method is,

$$E_p = \frac{\text{Lower segment of the demand curve}}{\text{Upper segment of the demand curve}}$$

For example, in above figure, the length of the demand curve AB is 4 cm.

At point E, $E_p = EB/EA = 2/2 = 1$ ($E_p=1$, i.e., Unitary elastic demand)

At point C, $E_p = CB/CA = 3/1 = 3$ ($E_p > 1$, i.e., Elastic demand)

At point D, $E_p = DB/DA = 1/3 = 0.33$ ($E_p < 1$, i.e., Inelastic demand)

At point A, $E_p = AB/0 = 4/0 = \text{Infinite}$ ($E_p = \alpha$, i.e. Perfectly elastic demand)

At point B, $E_p = 0/BA = 0/4 = 0$ ($E_p = 0$, i.e. Perfectly inelastic demand)

Factors determining elasticity of demand:

1. Nature of the commodity
2. Uses of commodity
3. Existence of substitutes
4. Postponement of demand
5. Amount of money spent

6. Habits
7. Range of prices of commodity

Importance of Elasticity of demand

1. Price discrimination

If the demand for a product has different elasticities in different markets, then the monopolist can fix different prices in different markets. This price discrimination is possible due to different price elasticities.

2. Levy of taxes

The government will get higher revenue if tax is increased on goods having inelastic demand. Conversely, the government will get lower revenue if tax is increased on goods having elastic demand.

3. International Trade

Terms of trade refer to the rate at which domestic commodities are exchanged for foreign commodities. The terms of trade will be favourable to a country if its exports enjoy inelastic demand in the world market.

4. Determination of volume of output

Volume of goods and services must be produced in accordance with the demand for the commodity. When the demand is inelastic, the producer will produce more goods to take the advantage of higher prices. Hence the nature of elastic and inelastic demand helps in the determination of the volume of output.

5. Fixation of wages for labourers

If the demand for workers is inelastic, efforts of trade unions to raise wages of the workers will be successful. On the other hand, if the demand for labour is elastic, they may not succeed in increasing the wage rate by trade union activity.

6. Poverty in the midst of plenty

The concept of elasticity of demand explains the paradox of poverty i.e. poverty in the midst of plenty. For example, bumper crop of food grains should bring agricultural prosperity but if the demand for food grains is inelastic, the agriculturist will be the loser if low price is paid.

* * * * *

PRODUCTION

Production

Production means creation of value in the goods, i. e. creation of utility. Production activity helps in transforming a set of inputs into goods and services. It essentially means transforming of one set of goods into another. The output which comes out of production has greater utility over the inputs combined in the production process. The inputs that are used in production of goods may be provided by the nature and/ or by other industries.

Factors of Production

These mean the production resources required to produce a given product. Fraser defined factor of production as “a group or class of original productive resources”. The factors of production have been traditionally classified as land, labour, capital and organization.

Land

According to Marshall, land means “the materials and forces which nature gives freely for man’s aid, in land and water, in air and light and heat.” In Economics the term land has a very broad meaning. It includes all free gifts of nature available to mankind viz., air, water and land. It includes all types of land surfaces such as mountains, valley, plains, forests etc. It includes all types of water resources such as rivers, oceans, etc. Thus the term land includes all natural resources on, above and below the earth's surface.

Labour

The term, labour has wide and diversified meaning in economics. It can be physical work or mental work that is done by a person with an aim of earning money. It includes the work done by farmers, workers, the service of teachers, doctors, actors, etc. In the words of Marshall, labour is defined as “any exertion of mind or body undergone partly or wholly with a view to earn some good other than the pleasure derived directly from the work”. Any work that is done for pleasure does not come under labour.

Characteristics of Labour

1. Labour is inseparable from labourer.
2. Labour is perishable.
3. Labour has very weak bargaining power.
4. Lack of free mobility.
5. Supply of labour is independent of demand.
6. Supply of labour peculiarly changes with the wages.

Capital

Capital is not an original factor like land, but it is the result of man – made efforts. Man makes the capital goods to produce other goods and services. For example, machinery, raw material, transport equipment, dams, etc., are considered as capital goods. Capital is produced means of production. According to Karl Max, capital is ‘crystallized labour’. All capital is necessarily wealth but all wealth is not necessarily capital. Money when used for the purchase of capital goods, then only it becomes capital. For instance, residential buildings are the wealth of the individuals, but these are not considered as capital.

Characteristics of Capital

1. Capital is not a free gift of nature. It is the result of man – made efforts. Machinery, implements, etc., are considered as capital goods.

2. Capital is productive, as it helps in enhancing the overall productivity of all the resources employed in the production process.
3. It is also prospective as its accumulation rewards income in future.
4. Capital is highly mobile as it possesses the characteristic of territorial mobility.
5. Capital is supply elastic as its supply can be altered according to the need.

Organization

In any business activity, there is always a person who guides and controls its function. He also coordinates and regulates all the factors which are employed in the business activity. Apart from monitoring it, he takes the responsibility of the outcome. We call such a person, an entrepreneur (organizer) and the business activity which he is doing is called an enterprise or organization. The performance of an organization depends upon the capabilities of the organizer or entrepreneur. Through proper allocation of resources, the entrepreneur would be in a position to maximize productivity of the resources that are used. Hence, the success or failure of enterprise depends on the role of the entrepreneur in any business activity. Following are the prime functions of an entrepreneur.

Functions of Entrepreneur

1. Identification and initiation: Entrepreneur is the person who identifies a particular business activity and initiates the idea of commencing the business.
2. Location of the enterprise: The place where the business unit is proposed to be set up is finalized by the entrepreneur.
3. Organizing
4. Supervision
5. Introduction of innovation
6. Risk taking

Production Function

Production function is a technical and mathematical relationship describing the manner and the extent to which a particular product depends upon the quantities of inputs or services of inputs, used at a given level of technology and in a given period of time. It shows the quantity of output that can be produced using different levels of inputs. I. e.,

$$Y = f(X_1 | X_2, X_3, \dots, X_n)$$

Where,

Y = Output from a particular enterprise

X_1 = Variable resource

$X_2 \dots X_n$ = Fixed resources

| (Vertical bar) = It separates variable resource from fixed resources

* * * * *

Chapter – 10

LAWS OF RETURNS

Law of Variable Proportions

This is the modern view point of traditional law of diminishing marginal returns. According to the law, “As additional input of one factor in equal installment is carried out while keeping all other factor input constant, after a certain point, the output of the product also decreases i.e. the marginal product will decrease.” According to Leftwitch “the law of variable proportion states that if the inputs of one resource is increased by equal increment per unit of time while the inputs of other resources are held constant, total output will increase, but beyond some point the resulting output increases will become smaller and smaller.”

Explanation of the Law of Variable Proportion

- (a) Total product: Total number of units of output obtained in a unit time by using all input factors.
- (b) Average Product: Total product per unit of a given variable factor.
- (c) Marginal Product: The new additional total product obtained on addition of a unit of variable factor to the production process, keeping all other factors constant.

Production with one variable input

Unit of Capital (K)	Unit of Labour (L)	Total Product (Tp)	Average Product (Tp/L)	Marginal Product ($\Delta Tp/\Delta L$)
10	0	0	-	-
10	1	40	40	40
10	2	120	60	80
10	3	240	80	120
10	4	320	80	80
10	5	380	76	60
10	6	432	72	52
10	7	448	64	16
10	8	448	56	0
10	9	432	48	-16
10	10	400	40	-32

The above table indicates phenomena of law of variable proportion. The capital is fixed at 10 units and shown in first column. The labour units increase from zero to 10 units, shown in second column. The third column show the total output. The data of the table indicates that there is no production when labour unit is zero. Then as labour input increases, keeping the capital fixed, output increases first at an increasing rate and then at a decreasing rate, up to seventh unit of labour. At eighth unit, there is no increase in output. At seventh and eighth labour unit the output remains same as 448 units. Beyond eighth unit more units of labour is Counter Productive because output decrease as labour is increased. The average product shown in fourth column also increases initially then falls after fourth unit. The marginal product shown in fifth column also increases initially, then decreases and ultimately becomes negative, reason being use of variable input too intensively with the fixed input

Returns to scale

It refers to the change in output as a result of a given proportionate change in all the factors of production simultaneously. When all the factors or inputs involved in a production

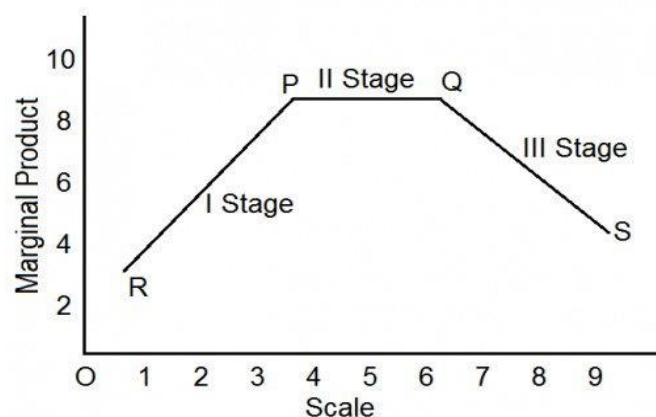
process are increased or decreased simultaneously, in a certain fixed proportion, the response of output to such an increase or decrease in the input levels, is explained through the concept of returns to scale. Returns to scale is a long run concept as all the variables are varied in quantity. Returns to scale are increasing or constant or decreasing depending on whether proportionate simultaneous increase of input factors results in an increase in output by a greater or same or small proportion. Returns to scale is illustrated with the help of hypothetical data in the following table.

Returns to Scale

Labour (L)	Capital (K)	Total Output (Q)	Increment in output	Nature of returns to scale
0	0	0	-	Increasing
1	1	8	8	
2	2	17	9	
3	3	28	11	Constant
4	4	38	10	
5	5	48	10	
6	6	58	10	Decreasing
7	7	68	10	
8	8	76	8	
9	9	82	6	
10	10	86	4	

From the table it can be seen the variation in total output for changing proportion of L and K. Initially, when the input proportion is changing, output is changing by an increasing proportion. This is increasing returns to scale. This trend is seen in the use of L and K up to the ratio of 3: 3. Constant increase in output is found till the proportion of L and K is extended up to the ratio of 7: 7. This is constant returns to scale. The use of L and K in the proportion of 8: 8 onwards reveals the decreasing returns to scale.

Figure 1



Let the estimated Cobb – Douglas production function be represented as

$$\hat{Y} = 0.32 X_1^{-0.0681} X_2^{0.6669} X_3^{0.1202} X_4^{0.1050}$$

Y = Crop output in quintals

X₁ = Human labour in man days

X₂ = Fertilizers in kg

X₃ = Manures in tonnes

X_4 = Pesticides in litres

In Cobb – Douglas production function the returns to scale is obtained by the summation of elasticity coefficients of the independent variables i. e.,

$$\sum_{i=1}^n b_i$$

If $\sum b_i > 1$ it is increasing returns to scale

If $\sum b_i = 1$ it is constant returns to scale and

If $\sum b_i < 1$ it is decreasing returns to scale

The value of $\sum b_i$ from the estimated equation is 0.824, which indicates the prevalence of decreasing returns to scale.

Differences between the Law of Variable Proportions and Returns to Scale

S.No.	Law of variable proportions	Returns to scale
1.	Describes the behaviour of output when one input is varied	Examines the behaviour of output, when all the inputs are varied at the same time
2.	Some factors of production are constant	All factors are varied
3.	The proportion among factors varies	The proportion among the factors remains the same
4.	It is a short run production function	It is a long run production function
5.	Here increasing, constant and decreasing returns to a factor are observed	Here increasing, constant and decreasing returns to scale are observed
6.	Increasing returns are due to the efficient utilization of fixed resources as a result of application of sufficient quantity of variable resource	Increasing returns to scale are due to scale economies of production
7.	Optimum output is the result of best proportion among fixed and variable resources	The optimum output is the result of optimum size of the plant
8.	The diminishing returns are due to over exploitation of fixed factor	Diminishing returns to scale are due to the operation of diseconomies of scale
9.	$Y = f(X_1 X_2, X_3, \dots, X_n)$	$Y = f(X_1, X_2, X_3, \dots, X_n)$
10.	It is a reality	It is a myth

Chapter – 11

COST

Knowledge regarding various relationships existing between costs and output is necessary to comprehend the concepts of equilibrium conditions of different firms under different market conditions. Basically we require data on output, fixed costs, variable costs and the prices of inputs and outputs. From this data we finally derive all the seven cost concepts, viz., TFC, TVC, TC, AFC, AVC, AC and MC. These cost concepts would have implications for output expansion of the firms and equilibrium position of the firms in different time periods. In the cost theory, economists use different names for cost concepts under different context. They are money costs or nominal costs, real costs, opportunity costs, economic costs, implicit costs, explicit costs, deflated costs, social costs, short run costs, long run costs, separable costs, *etc.*

Nominal Costs or Money Costs

These are usually expressed in money terms at current prices. Nominal costs of production refer to per unit cost of production of output at current market prices.

Real Costs

When the costs of inputs and input services are expressed at constant prices they become real costs.

Opportunity Cost

Opportunity cost is the value of return sacrificed or foregone from the next best alternative activity. In farming farmers don't have to pay for their owned resources, viz., family labour, owned bullock labour, owned machinery, owned seed, *etc.* But still in the cost analysis the value of these owned resources are considered on the basis of opportunity cost.

Economic Costs

These are divided into explicit cost and implicit costs. Explicit costs include payments made by the entrepreneurs for purchasing and hiring of inputs and input services. They are also called paid out costs or cash costs. Entrepreneurs do not pay for the use of owned resources. The value of such resources is called as implicit costs. Costs of self – owned and self – employed resources are known as implicit costs.

Deflated Costs

Costs if deflated by general price index are called deflated costs. By doing so the effect of inflation in an economy is taken out. Example: Real cost of commodities.

Social Costs

These are also called as externalities. Firms incur both implicit and explicit costs in the production of goods and services. Their sum constitutes total cost of production. These costs we name as private costs, but from the point of view of society, these firms will give rise to some additional costs to the society in the form of environmental degradation, water, air or noise pollution *etc.*, in the areas where goods are produced by the private firms. In the absence of well – drained system, irrigation projects bring problems to the command area of the project in the form of new diseases. Such costs are called social costs.

Separable Costs

Separable costs are the costs which can exclusively be attributed to production of output separately. Common costs are those which cannot be separated to the production of the

output. So they are called joint costs. The costs are involved in the production of several products. For *example*, electricity generation, ground water use, *etc.*

Historical Costs and Replacement Costs

Historical costs are the costs involved in the purchase of durable goods like land, buildings, machinery, equipment, *etc.* Purchase price of the asset should be considered as price of the asset and hence it is considered as historical cost in analysis. Since the costs of the assets are apportioned in computation, they are called as historical costs. Replacement costs refer to the difference between the purchase price of the asset and the current price of the same asset. Suppose a tractor is purchased 10 years ago at a price of Rs. 1,50,000 but its present price is say, Rs. 2,50,000, the difference of Rs. 1,00,000 is the replacement cost.

Establishment Costs

Construction of plant in any business activity entails some costs. Such construction costs are called establishment costs in the business analysis. They are also called first phase costs. The other costs *viz.*, licenses, site development expenditure for construction of factory, purchase of equipment, furniture, expenditure on personnel, royalties for seeking product rights, cost of raising finance, costs of maintaining raw materials *etc.*, are also included in the establishment costs.

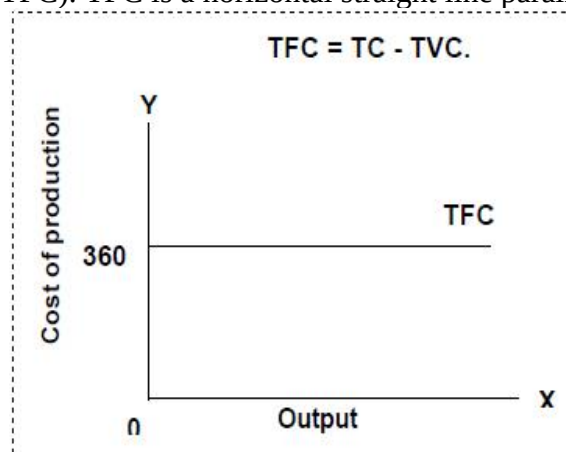
Cost Concepts

Knowledge regarding the cost functions is very much essential for optimal managerial decisions to be taken by the firm as well as the Government. In the short run, pricing and output decisions are based on short run cost curves, while in the long run, long run cost curves have crucial implications for development and growth of the firm and investment policies of the firm. Consideration of cost curves is essential and forms the basis for entry and exit of the firms in the industry. Profit maximizing rule is determined with the help of cost curves, cost functions and production functions. This rule is popularly known as marginal analysis at which $MC = MR$. The costs are also one of the major price determinants in all the market situations of the economy and in all the economic models which would explain the behavior of the firms.

There are seven costs, which explain the behavior of the firms in the production of requisite products.

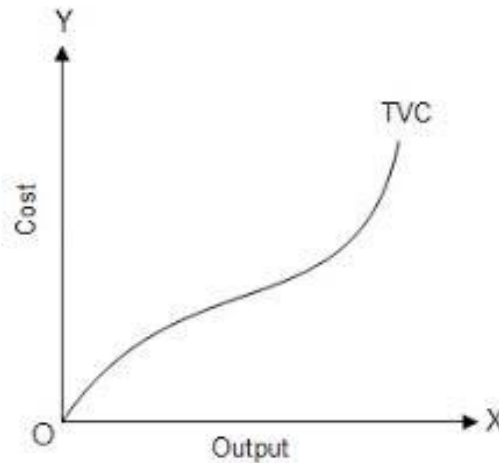
Fixed Costs

Fixed costs remain the same irrespective of level of production. These costs remain invariant in the short run but in the long run there are no fixed costs as all the inputs can be varied. Fixed costs include cost items like taxes, insurance, cess, depreciation on machinery, implements, tools, buildings, salaries of personnel working in the firm, *etc.* These are also known as indirect costs, sunk costs and overhead costs. The summation of all these costs is called total fixed costs (TFC). TFC is a horizontal straight line parallel to X – axis.



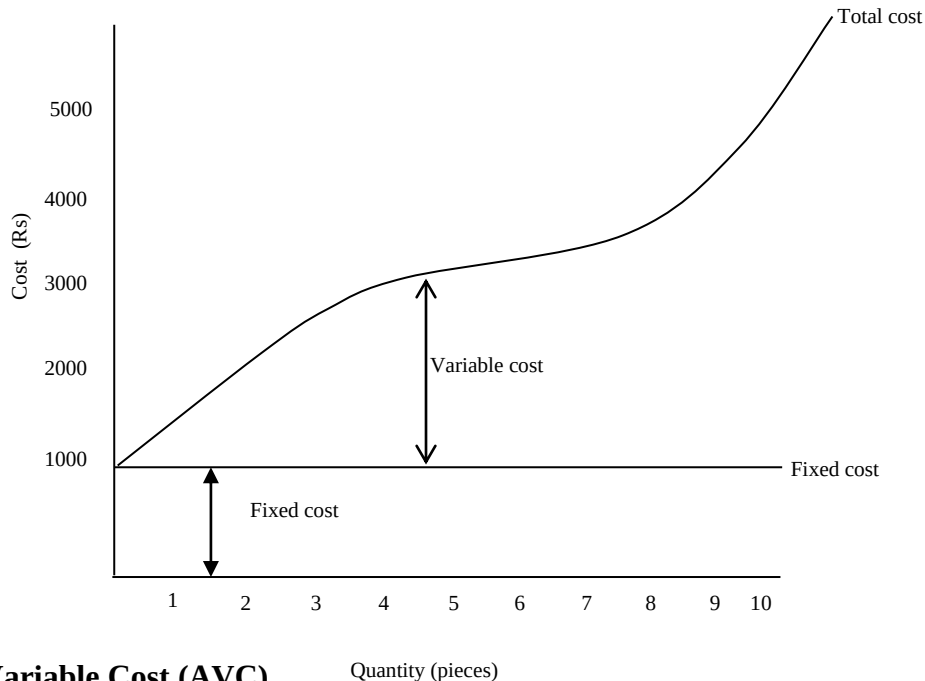
Variable Costs

Variable costs as per definition vary with the level of output. These include costs of raw materials, labour, power, repairs, maintenance charges of machinery, *etc.* These are also known as working costs, operating costs, direct costs, prime costs, circulating costs and running costs. These are second phase costs. The summation of these costs refer to total variable costs (TVC). Graphically TVC as inverse 'S' shape.



Total Costs

These include total fixed costs as well as total variable costs. Its shape is similar to that of TVC.



Average Variable Cost (AVC)

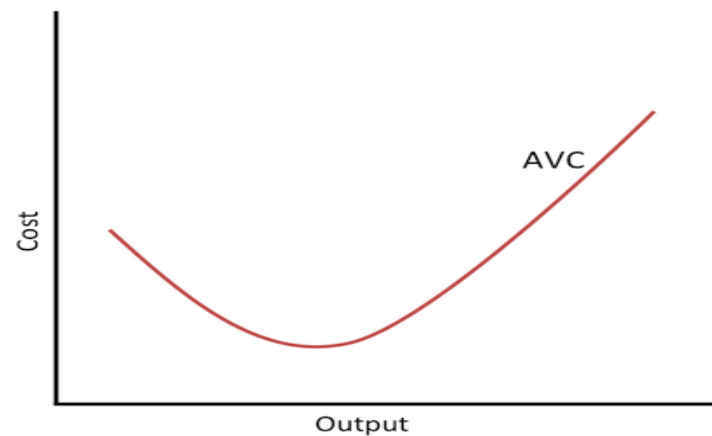
Quantity (pieces)

It is the amount spent on the variable inputs to produce an unit of output. Algebraically it is expressed as

$$AVC = \frac{\text{Total variable costs}}{\text{Output}} = \frac{TVC}{Q}$$

When a small amount of output is produced, cost of variable input per unit of output becomes very high. This is to say in other words, that productivity of variable input increases when greater amounts are used in the production of the commodities due to economies of scale. This causes AVC to have 'U' shape when it is graphed. When it is 'U' shaped it

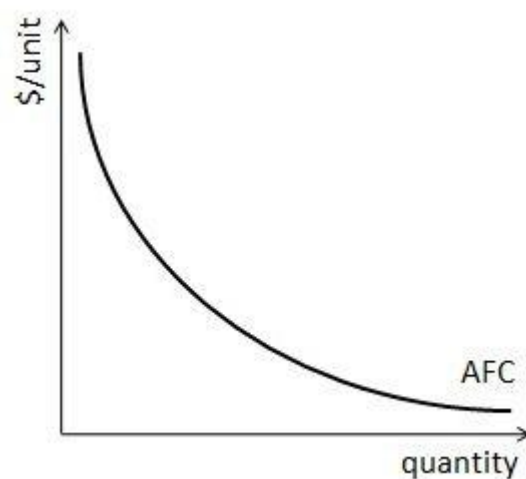
becomes reciprocal of average physical product curve. AVC falls to minimum level at the output level where APP is maximum. Thereafter due to production of greater amount of output, AVC rises again and becomes vertical at certain level of maximum output.



Average Fixed Cost (AFC)

It is the cost of fixed resources or inputs required for producing one unit of output and it is given by the formula as

$$\text{AFC} = \frac{\text{Total fixed costs}}{\text{Output}} = \frac{\text{TFC}}{Q}$$

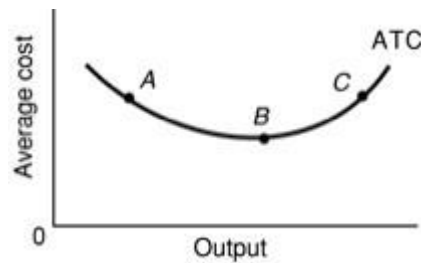


AFC curve is declining with the increased output because TFC is constant. Due to this it is continuously falling up to its maximum output. It is having the shape of hyperbola.

Average Total Cost or Average Cost (ATC or AC)

When the total costs are divided by output, we get ATC.

$$\text{ATC} = \frac{\text{Total costs}}{\text{Output}} = \frac{\text{TC}}{Q} = \frac{\text{TFC} + \text{TVC}}{Q}$$

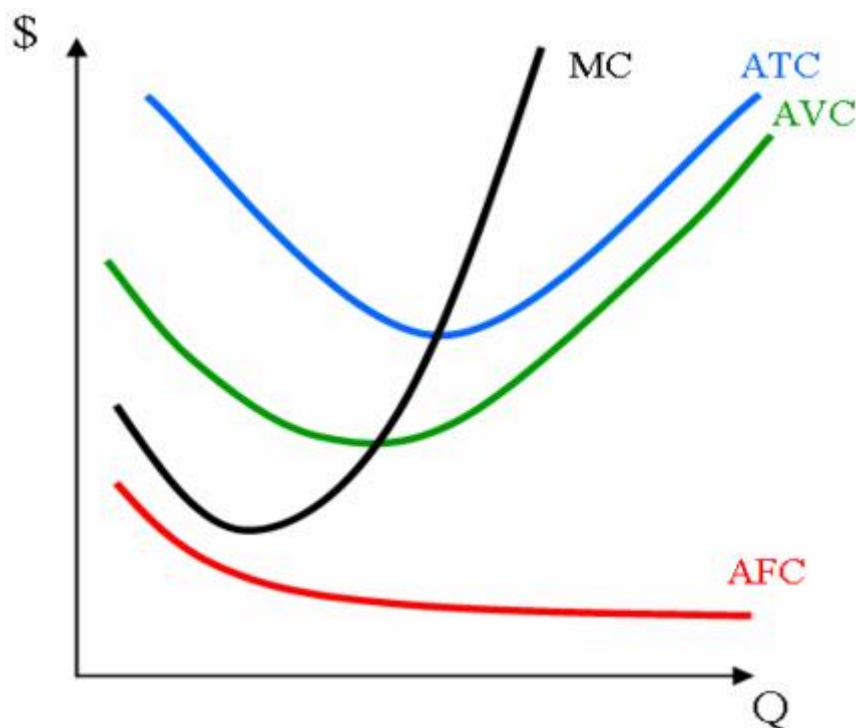


Marginal Cost (MC)

As per the definition, it is the change in the total cost due to the change in output. Algebraically it is expressed as

$$\frac{\text{Change in total costs}}{\text{Change in output}} = \frac{\Delta \text{ TC}}{\Delta Q} \text{ or } \frac{\Delta \text{ TVC}}{\Delta Q}$$

To compute MC, we can use TC or TVC because fixed costs cannot be changed. The only component of change in TC is TVC. The specific shape of MC curve is due to marginal product of the variable inputs. When MPP is maximum, MC is minimum. MC curve is declining when MPP curve is increasing; hence there is an inverse relationship between MPP and MC. When MPP is zero, MC becomes vertical. MC curve intersects AVC and ATC at their minimum points.



Short run and Long run Costs

In the short run it is possible to vary the output by varying only the amount of variable factors such as labour and raw materials. In the short run, the fixed factors such as capital equipment, managerial persons, factory building etc cannot be changed. Thus in the short run if an organization intends to increase production, then it can be done by hiring more workers or buying and using more raw materials. In the short run it is not possible to enlarge the size of the plant. Thus in the short run only variable factors can be varied and the fixed factors remain the same.

In long run time period it is possible to vary all factors of production. Thus it is possible to increase output in long run either by increasing capital equipment or by adding capacity to existing plant or installing an altogether new plant of bigger size.

Short run Cost Behaviour

The short run cost behaviour is explained by following hypothetical example.

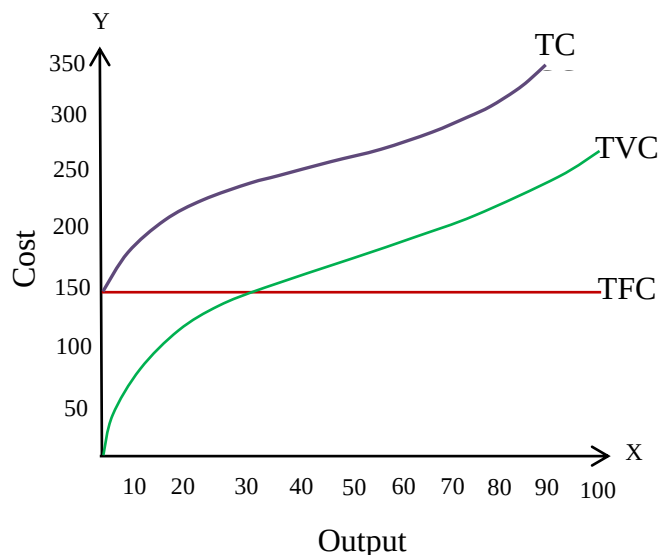
Table-17.1: The short run total cost schedule

Capital Units (Fixed Factor)	Labour Units (Variable factor)	Total product (TP)	Total fixed cost (TFC) (Rs.)	Total Variable cost (TVC)(Rs.)	Total Cost (TC) (TFC + TVC)
5	0	0	150	-	150
5	1	4	150	12	162
5	2	7	150	24	174
5	3	12	150	36	186
5	4	17	150	48	198
5	5	20	150	60	210
5	6	22	150	72	222
5	7	23	150	84	234

The data in the above table shows the behaviour of total fixed cost, total variable cost, total cost in the short run. Following assumptions are made about the data: price of labour is Rs. 12 per Unit and Price of capital is Rs 30 per Unit.

Behaviour of Total Cost

1. Total fixed cost remains same at Rs. 150 at all levels of output. Even when production is not done (TP = 0), total fixed cost is Rs. 150.
2. Total variable costs varies with the output. When production is not done, total variable cost is zero.
3. Total cost varies directly as total variable cost. In the short run fixed cost remains same and change in total cost are affected due to change in variable costs.



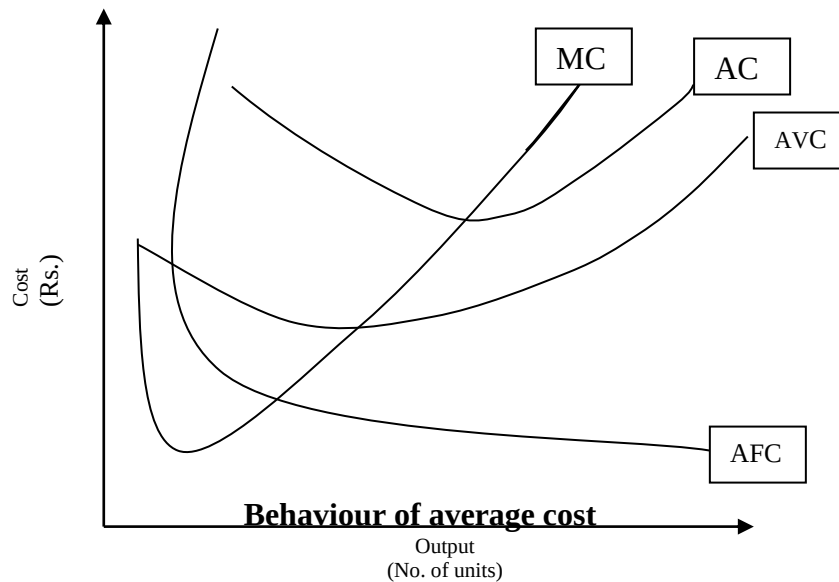
Behaviour of total cost, total variable cost and fixed cost

Short Run Average Cost Curves

For a hypothetical example, average cost curves are shown in the following table.

Average cost

Output (Units)	Total Fixed cost (TFC) (Rs.)	Total Variable (TVC) (Rs.)	Total Cost (Rs.)	Average Fixed cost $AFC = \frac{TFC}{Q}$	Average Variable Cost $AVC = \frac{TVC}{Q}$	Average Total Cost $ATC = \frac{TC}{Q}$	Marginal Cost
0	220	0	220	-	-	-	-
1	220	100	320	220	100	320	100
2	220	140	360	110	70	180	40
3	220	160	380	73.33	53.33	126.66	20
4	220	192	412	55	48	103	32
5	220	260	480	44	52	96	68
6	220	400	620	36.66	66.66	103.33	140



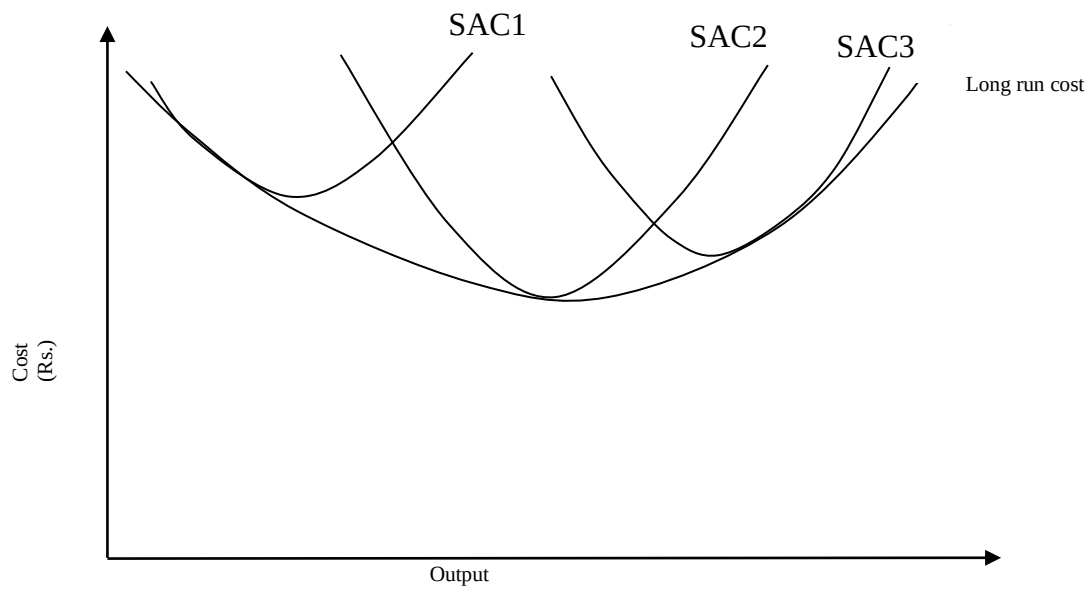
From the above figure, following conclusions can be drawn about short run cost curve:

1. As output increases, average fixed cost decreases. The total fixed cost remains same for all level of output, but average fixed cost decreases continuously because of spreading it over more number of units as output increases.
2. Average variable cost first decreases and then increase as output increases.
3. Average total cost decreases initially. It remains same at a point for a while and then go on increasing as output increases.
4. Marginal cost decreases initially but then increases as the output is increased.
5. When the average cost is minimum, marginal cost is equal to average cost.

LONG RUN COST CURVES

In the long run, all the factor inputs are variable. In the long run it is possible for the organization to change the overall plant capacity as per demand. In the long run there is no distinction of fixed and variable costs. There is only variable or direct cost as total cost.

Long run is a vision of future. It is a planning horizon. In the long run also, all economic activities actually operate in the short run. Thus a long run consists of many possible short run situations and a choice is made for actual courses of operation from them. Thus long run average cost curve is the envelope of the number of short run cost curves. It is drawn as tangent to the short run average cost curves. Long run cost curve is shown in following figure in which long run cost curve is drawn on the basis of 3 possible plant sizes.



Behaviour of long run cost

Chapter – 12

SUPPLY

Supply means the quantity of a good or service offered by a producer for sale at different unit prices in a given market at a point of time. It is the willingness of the supplier to offer the goods for sale at different unit prices. More specifically, supply is defined as a schedule that shows the amounts of a product or service, sellers are willing to sell at each unit price in a set of possible prices during some specified period of time in a specified market. Meyers defined supply as “*a schedule of the amount of good that would be offered for sale at all possible prices at any one instance of time in which the condition of supply remains the same*”. Prof. Mc. Connel defined supply as “*a schedule which shows the various amounts of a product which a producer is willing to and able to produce and make available for sale in the market at each specific price in a set of possible prices during some given period*”.

Stock

Along with the concept of supply, another concept called stock needs to be explained. 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, while stock is the amount of output that exists in a market. Depending on the demand for a commodity stock is converted into supply. For perishable commodities stock and supply are the same. For durable commodities stock and supply are different.

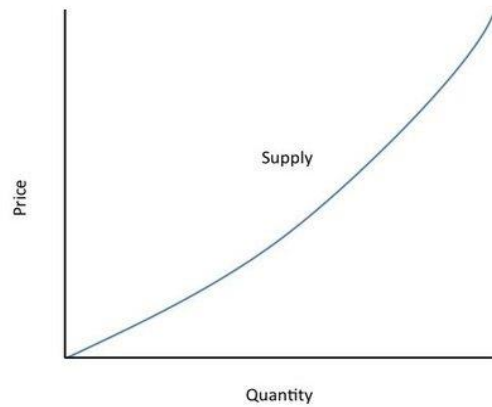
Individual Supply Schedule

Supply schedule depicts the list of quantities – price relationships of a commodity in a market at a specific point of time by an individual seller. In other words, it reveals the mind of sellers in offering various quantities of a given commodity against corresponding prices. An example of supply schedule is presented in table.

Hypothetical Supply Schedule of a Commodity in a Market

Price (Rs./Q)	Quantity supplied (Q)
300	30
325	40
350	50
375	60
400	70
425	80

It reveals that at price of Rs. 300 the quantity supplied by a seller is 30 Q at Rs. 325, 40 Q and so on. As the price per unit of the commodity rises, the quantity supplied is also increasing. As price increases, sellers are committed to increase their sales. When a supply schedule is plotted on a graph it becomes a supply curve. The supply curve will have a positive slope *i.e.*, it slopes upwards from left to right.



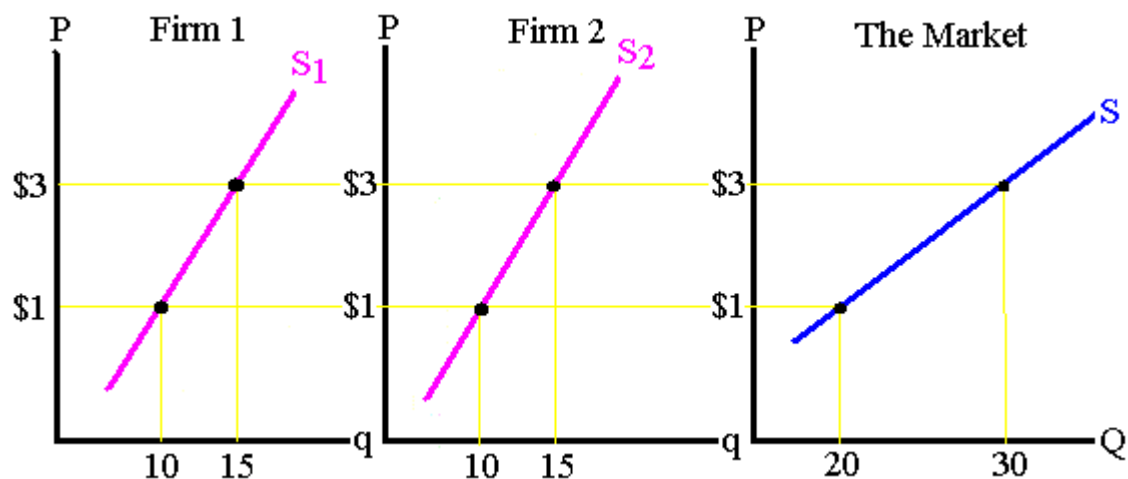
Market Supply

It is the sum of the quantity of commodity that is brought into a market for sale by the sellers in a given market at a specific point of time. Assume that there are three sellers in a market viz., A, B and C with individual supply schedules as shown in table.

Market Supply Schedule

Price (in Rs./Q)	Individual seller's supply/week (Q)			Market supply (Q) = (A + B + C)
	A	B	C	
300	30	35	0	65
325	40	50	0	90
350	50	65	50	165
375	60	80	70	210
400	70	95	90	255
425	80	110	110	300

The price quantity relationship of the three sellers reveals that at Rs. 300 per quintal, seller 'A' is prepared to sell 30 Q, while seller 'B' 35 Q and seller 'C' is not prepared to sell at all at this particular price. The seller 'C' is not prepared to sell the commodity at any price less than Rs. 350/Q. Market supply is the sum total of output that is sold by the three sellers as presented in the last column of the table. Thus the market supply is 65, 90, 165 Q and so on. It is the lateral or horizontal summation of the supply of individual sellers at each unit price. The market supply curve is drawn based on the first and last columns of the table.



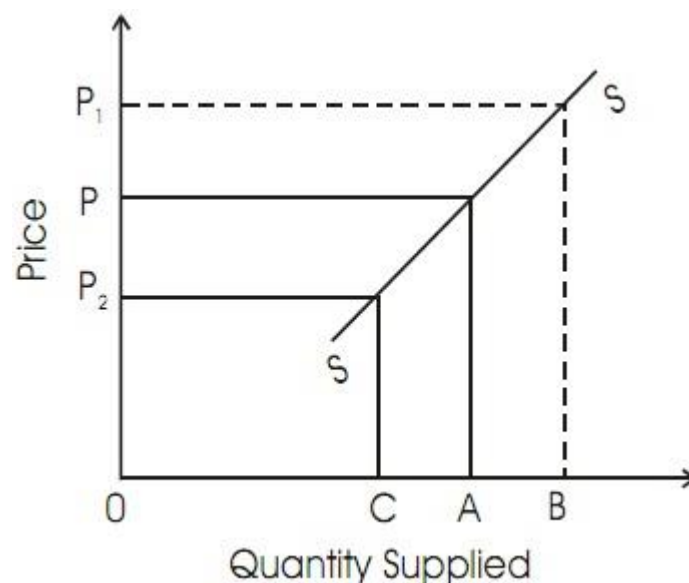
Law of Supply

The law of supply indicates the functional relationship between the quantity supplied of a commodity and its unit price. The law signifies the positive relationship *i.e.*, as the price of a commodity rises its supply extends and as the price falls its supply contracts, with other things remaining the same. Producers normally tend to increase the supplies in the wake of rising prices and reduce the same when the prices are on the lower side. Supply varies directly with the price, *ceteris paribus*.

Extension and Contraction of Supply (Change in Quantity Supplied)

Extension and contraction of supply refer to the movement of product supply on the same supply curve. Extension of supply means offering more quantity for sale at a higher price, while contraction means offering less quantity at a lower price. As seen from table that the quantity of commodity supplied by 'A' at Rs. 300 is 30 Q and it is 40 Q when the price rose to Rs. 325. Here the quantity supplied has increased from 30 to 40 Q. It is the case of extension of supply, conversely if the price falls from Rs. 325 to Rs. 300, the quantity supplied too falls from 40 to 30 Q. It is the contraction of supply.

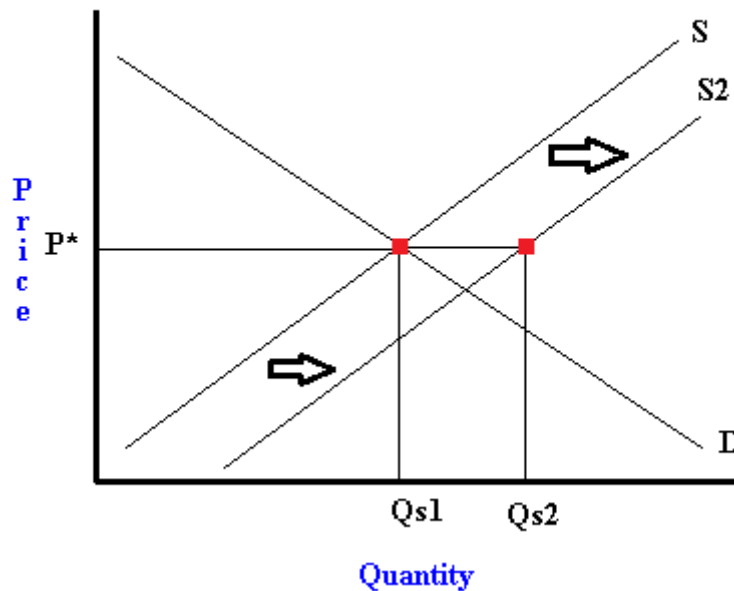
Graphically, when it is depicted, it shows that the upward movement from A to B is extension of supply and downward movement from B to A is contraction of supply.



Increase and Decrease in Supply (Shift in Supply)

Increase in supply implies more supply at the same price and decrease in supply means less supply at the same price. The change in supply (increase and decrease in supply) results in a shift of the supply curve. An increase in supply results in the shift of the supply curve towards right side of the initial supply curve SS as shown in figure. The new supply curve is S_1S_1 . On the other hand, a decrease in supply causes a shift of the supply curve towards the left side of the initial supply curve. The new supply curve thus formed is S_2S_2 . Originally, OQ quantity is supplied at OP price. But due to changes in supply conditions at the same price OP, OQ_1 quantity of commodity is supplied indicating increase in supply. On the other hand, again influenced by changing supply conditions at the same price, OQ_2 is supplied. This is decrease in supply.

Increase in Supply



Factors Causing Changes in Supply (Shift Factors)

The factors that are responsible for changes in supply are discussed below:

1. Changes in Technology: Technological innovations viz., new varieties of crops and their consequent increased yields per unit area, help to increase the supply of the commodity
2. Reduction in Resource Prices: When the price of input factors become cheaper than before, it encourages producers to use more of them in producing more output. Supply curve shifts towards the right side.
3. Reduction in the Relative Prices of Other Products: A reduction in relative prices of other related products compel the producers to increase the production of that particular commodity whose prices are relatively higher.
4. Market Infrastructure: When good communication and transport network increase, the supply of the commodity also increases.
5. Number of Producers: Changes that are found regarding number of producers producing a given commodity influence the supplies. More the number of producers, greater the supply and vice versa.
6. Producers' Expectations about Future Prices: Price expectations influence the sales strategies of the producers positively.

Elasticity of Supply

Elasticity of supply of a commodity is the responsiveness, or sensitiveness of supply to the changes in price. Supply is said to be elastic, if a small change in price causes considerable change in the quantity supplied. The supply is inelastic when a given change in price leads to little or less change or no change in the quantity supplied. In short, elasticity measures the adjustability of supply of a commodity to price.

Elasticity of supply (price elasticity of supply) is expressed as the ratio of percentage change in the quantity of good supplied and percentage change in price of the good *ceteris paribus*.

$$\text{Elasticity of supply (E}_s\text{)} = \frac{\text{Percentage change in quantity of good supplied}}{\text{Percentage change in price of good supplied}}$$

Algebraically elasticity of supply is expressed as

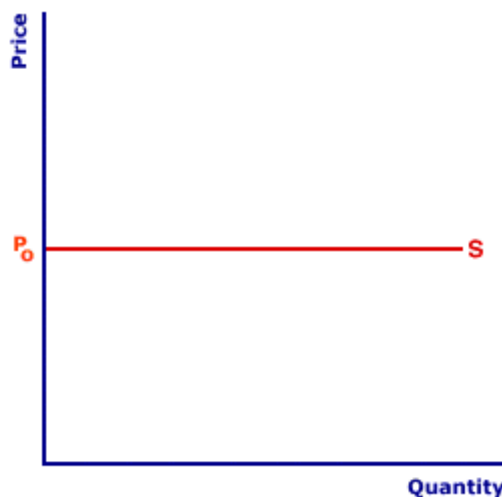
$$\frac{\frac{\Delta Q}{Q} \times 100}{\frac{\Delta P \times 100}{P}} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

Degrees of Elasticity of Supply

There are five degrees of elasticity of supply. They are as follows:

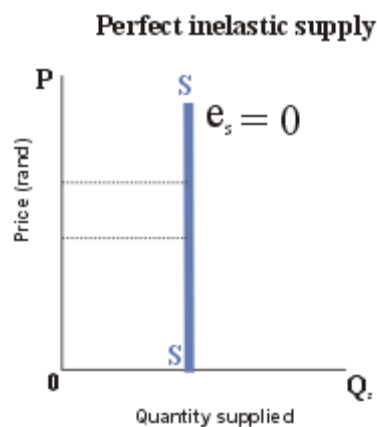
Perfectly Elastic Supply

When the supply of commodity increases to infinite quantity or unlimited quantity, even though there is invisible rise or minute rise in the price, the elasticity of supply is said to be infinity ($E_s = \alpha$).



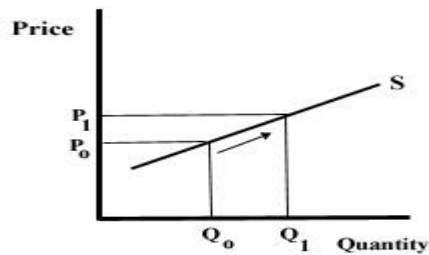
Perfectly Inelastic Supply

It means that the quantity supplied is not responsive to change in prices. Elasticity of supply in this case is zero ($E_s = 0$).



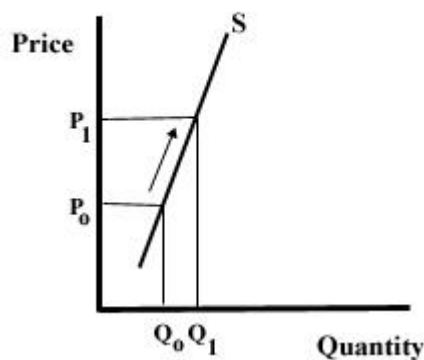
Relatively Elastic Supply

Supply is referred as relatively elastic, when the percentage change in quantity supplied is more than the corresponding percentage change in price. It is also called elastic supply. Elasticity of supply is more than one ($E_s > 1$).



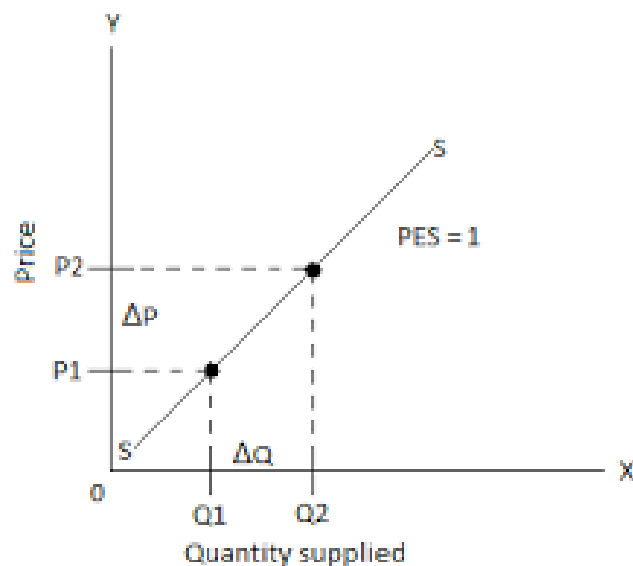
Relatively Inelastic Supply

Supply is said to be relatively inelastic, when the percentage change in quantity supplied is less than the corresponding percentage change in price. In this case the elasticity of supply is less than one ($E_s < 1$).



Unitary Elastic Supply

When percentage change in quantity supplied equals the percentage change in price, it is called unitary elastic supply. Here the elasticity of supply is equal to one ($E_s = 1$).



Factors Influencing Elasticity of Supply

1. Availability of Inputs of Production: If the needed inputs are available as per the requirement, the supply is elastic. If any one of the factors is not available which is absolutely necessary, supply would be inelastic.
2. Length of Time Period: It is the period of time required to adjust the supplies to the changes in price. The biological characteristics of the product dictate the changes of responsiveness.
3. Diversification of Production Activity: When the producer is engaged in production of a number of products and facilities exist for shifting of production from one product to the other, in such a case for each product the supply is elastic.
4. Availability of Alternative Markets: Suppose there exists several markets for the producer to sell the goods, a fall in price in one market would prompt him to shift his goods to other markets and a rise in price in one market induces him to shift his goods to that market. In such a case the supply is elastic.
5. Flexibility in Starting and Winding up the Business: If a particular production activity is quickly taken up and quickly wound up, the supply of the goods is elastic.

Price Determination

We know that market demand curve is a horizontal summation of individual demand curves, and similarly horizontal summation of individual supply curves become market supply curve.

Price determination can be examined by the following ways:

Arithmetic Approach

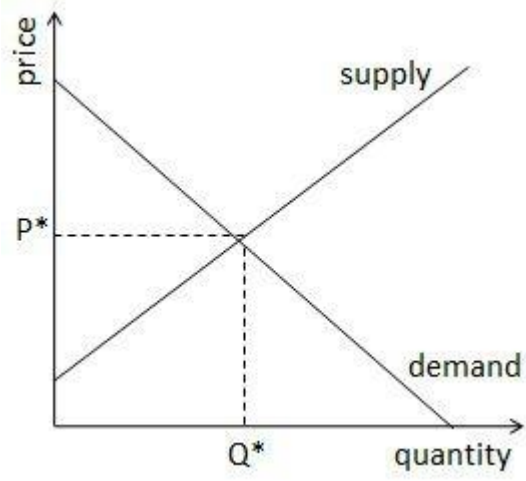
The information in table reveals that at Rs. 12, the quantities demanded and supplied are both equal *i.e.*, 80 Q. At this price, what the buyers are willing to purchase and what the sellers are willing to offer are the same. Therefore, Rs. 12 per unit is the equilibrium price and quantity amounting to 80 Q is the equilibrium output.

Demand, Supply and the Equilibrium Price and Output

Price/ unit (Rs.)	Quantity demanded (Q)	Quantity supplied (Q)
14	60	120
13	70	100
12	80	80
11	90	60
10	100	40

Graphic Approach

The intersection of market demand curve (DD) and the market supply curve (SS) indicates the equality of quantity demanded by the consumers and that supplied by the producers. This equality of quantity demanded and quantity supplied is called equilibrium quantity (OQ) and the price that occurs at this balancing point is called equilibrium price (OP). When such a condition prevails in a market, the market is said to be in equilibrium, because there are neither shortages nor surpluses of commodities.



Chapter – 13

Distribution

In the process of production, the producer coordinates different factors of production *i.e.*, land, labour, capital and management. In the process of distribution the returns obtained through the production activity are apportioned to these factors that are employed in the production process. Consequently land gets rent, labour gets wages and interest is paid to capital and finally organization is rewarded with profit. Such an apportionment of returns among different factors of production is called distribution. It is also called factor pricing.

Rent

Rent is the return for the fertility status of the land. In fact the land is defined in a broad sense. All the natural resources existing on the surface and beneath the surface of land like mines, rivers, *etc.*, are also treated as land, from which rent is received. Some resources are publicly owned, while others are privately owned. Rent is almost zero for publicly owned resource because one cannot use it for one's own purpose. These are meant for public welfare. Rent is expressed in two forms *i.e.*, one is economic rent and the other is contract rent.

Economic Rent

Economic rent is the rent received exclusively from the use of land only. We use the term, exclusively because the rent of a building refers to the return obtained by the owner on the capital invested in the construction of building as well as the land. It is the return obtained from the combined values of both. Then it does not become rent. In farming the rent paid by a tenant to the landlord is not economic rent.

Contract Rent

This implies the money paid by the tenant to the land lord for cultivating the land in a given year. Normally a certain rent is charged by a farmer not only for land but also for making availability of certain infrastructure on land like buildings, machinery, wells, fencing, *etc.* This means that he would like to realize some return on the investment made on the farm. Then it is not exclusively rent for land only. Thus economic rent is a part of contract rent.

Quasi Rent

The basis for evolving this rent is the short run fixity of man made assets of production like machines, buildings, *etc.* When in the short run, the demand for these assets increases, consequently their income also increases. This results in a surplus income due to increased demand. This surplus income of assets is called quasi rent This rise in quasi rent is a temporary phenomenon. In fact, the supply of these assets being elastic it is increased in the long run to match with the demand causing the surplus earnings to disappear. The concept of quasi rent does not apply to land because supply of land is inelastic.

Scarcity Rent

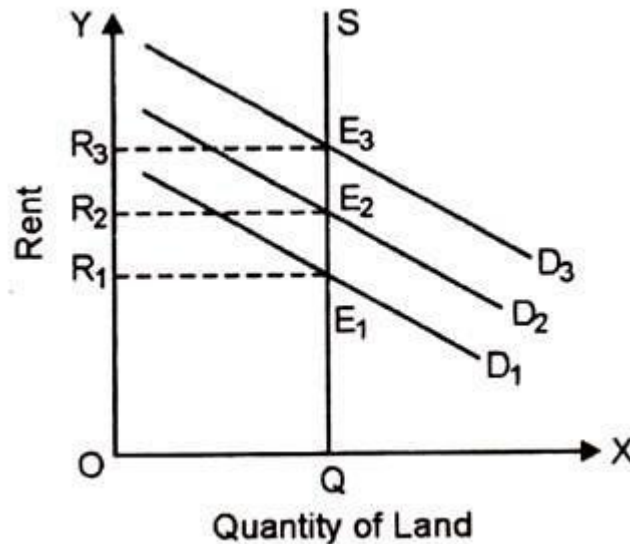
This is the rent which arises due to scarcity of land in relation to demand. Scarcity rent is due to inelastic supply of land. This is surplus rent over the market rent for land due to increased demand for land.

Modern Theory of Rent

Modern economists assert that rent arises for any factor of production. It is the surplus payment in excess of transfer earnings of a factor. Transfer earnings imply the amount of money which any particular unit of factor could earn in its next best alternative use.

The rent of the land is determined by the two market forces viz., demand for and supply of land. Demand curve for land slopes downwards because the rent of land is influenced by the marginal productivity. On the other hand supply of land is fixed i.e., supply is inelastic. Supply curve is vertical to X – axis. Equilibrium between demand and supply determines the rent of land.

As seen from figure, D_2 is the demand curve for land and S is the supply curve of land. The two curves intersect at 'E₂' and hence the rent is OR_2 . Changes in population and consequent additional pressure on land increase the demand for land. Therefore the new demand curve is D_3 and the rent is OR_3 . Contrary to this when demand for land falls the new demand curve D_1 is formed and its corresponding rent is OR_1 .



Wages

Wages are the rewards paid for the labourers for sparing their productive services. It may be paid either in cash or kind or both. *A wage may be defined as a sum of money paid under contract by an employer to a worker for services rendered (Benham).* Wages are paid for casual labourers, while salaries are paid for permanent staff and consultation fee for doctors, lawyers, etc.

Methods of Wage Payment

Based on the payment, wages are classified as (1) Cash wages and kind wages (2) Time wages (3) Piece wages; and (4) Task wages.

1. **Cash Wages and Kind Wages:** Wages for the workers are paid in cash or kind or both. With the advent of currency, wages are paid in cash. However, kind payment is also in vogue along with the cash payment.
2. **Time Wages:** It is the wage per unit of time. It is the payment of wages on hourly, daily, weekly, fortnightly and monthly basis. In farming, casual labourers are paid on daily basis, workers for domestic services are paid on monthly basis and attached servants in farming are paid on half – yearly or yearly basis.
3. **Piece Wages:** It is based on the work performed by an individual in the production of goods and services. In the manufacturing process of a good, the entire production activity is divided into various sub – processes. An individual attending to a sub – process is paid according to the work he completes on a particular day.
4. **Task Wages:** Wages are paid for a given work after its completion, say in farming, paddy transplanting, weeding, harvesting, etc., are completed by a group of labourers. Wages are decided based on the work assigned to the group and it has nothing to do with the number of labourers in that group. The task is given to the group for completion of work in time according to agreed wages. They are also called as contract wages.

Types of Wages

1. Nominal Wage or Money Wage: It is the wage paid in terms of money at current market prices.
2. Real Wage: It indicates the purchasing power of money wage. Real wage of the worker is obtained by dividing nominal wage of the workers at different time periods by general price index. Real wage is measured by

$$R = W/P$$

Where,

R = Real wage

W = Money wage

P = General price index

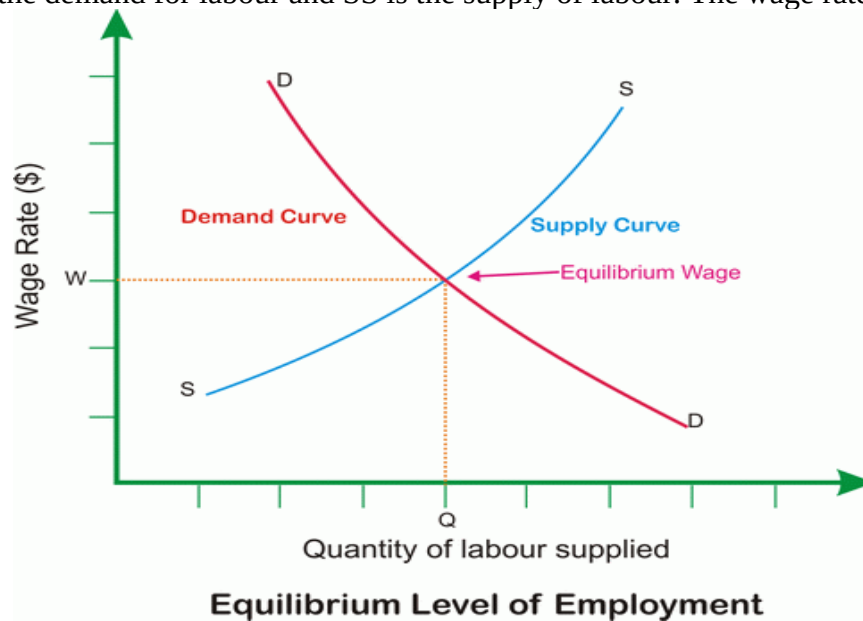
Modern Theory

Modern theory is based on demand for and supply of labour. Demand for labour is a derived demand. If there is a higher demand for products from consumers, there would be more demand from producers for labour for helping to bring the expected level of output.

A rise in demand for a commodity pushes up the demand for the labour involved in the production of that commodity.

The supply of labour is represented by the number of workers willing to work in a production activity at various wage rates taking into consideration the number of hours, number of days in a week, etc. These two forces i.e., demand and supply determine the wages.

DD is the demand for labour and SS is the supply of labour. The wage rate is OW.



Interest

Interest is the amount paid by the borrower to the lender for the use of capital. According to Marshall “the payment made by a borrower for the use of loan for, say a year, is expressed as the ratio which that payment bears to the loan” is called interest.

Interest is the price paid for the use of loanable funds (Meyers).

The interest charged by a lender from the borrower is termed as gross interest. It is because lending activity is fraught with risk as well as inconvenience which are also considered. Taking these items into account the gross interest is considered under the following terms.

1. Net or Pure Interest: This interest is the payment exclusively made for the loan amount.
2. Insurance Against Risk: In the lending activity there is always the risk of not getting back the funds lent by the lender. The loan may turn out into a bad debt. This risk needs to be insured. For this purpose, some more interest is added to the net interest.

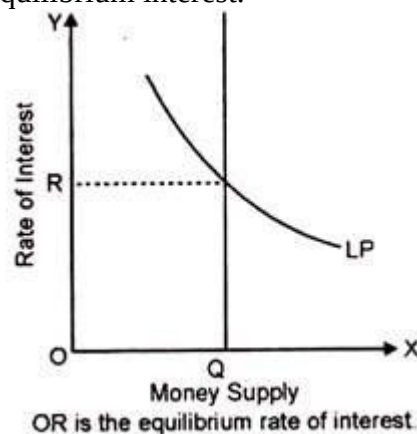
3. Payment for Inconvenience: Through the lending activity the lender gets interest but in the same process he is placed in inconvenience to get back his funds at the time he wants, because the funds are locked up for a certain period of time. Unless the loan period was over he cannot get back his funds. For this inconvenience, he charges some additional interest to the net interest.

4. Reward for Management: The business of lending requires perfect maintenance of the records to keep a close watch on the business performance. Apart from this, the borrowers are to be pursued for prompt repayment. This calls for efficient management of the business. Hence reward for management is included in gross interest.

Determination of Interest Rate

Liquidity preference and supply of money determine the rate of interest. Liquidity preference here means the liquidity preference for speculative purpose according to Keynes. Therefore, the equilibrium between liquidity preference for speculative purpose and supply of money determine the rate of interest.

In figure, LP indicates liquidity preference for speculative purpose. It is the demand for money. OQ represents the fixed amount of money available to meet the requirements of liquidity preference for speculative purpose. Rate of interest is determined by the equality of demand of money for speculative purpose and supply of money. The interest rate that prevails is OR, which is the equilibrium interest.



Profit

Profit is the reward for entrepreneurial function of decision – making and uncertainty bearing. Profit can be either positive or negative, since it is a residual income. Profit differs from rewards of other factors of production like rent, wages and interest on the point that these are all certain, while profit is tentative. These rewards are paid even before the ultimate product is obtained, while profit happens to be the surplus of returns over total costs, and it is obtained at the end of production activity.

Various Concepts of Profit

Gross Profit: It is the surplus of gross revenue over paid out costs (explicit costs) obtained in a production activity. Gross profit cannot be treated as ultimate profit, for it includes several items which are not actually profits as presented below:

Remuneration for Entrepreneur Himself: It is a practice for the entrepreneur to contribute his own capital in the business besides offering his services as a manager. In such a situation the opportunity cost of owned capital and the services rendered in his own business are also included in the gross profit. These imputed costs are to be deducted from the gross profit to arrive at the net profit.

Depreciation and Maintenance Charges: When the plant is in operation there will be wear and tear (depreciation) on equipment and machinery which needs to be duly accounted for. In addition to this, interest on fixed capital and insurance premium are other fixed cost items that are incurred in a production activity. These cost items need to be deducted from the gross profit to arrive at net profit.

Extra Personal Profits: These are the profits which accrue to a business unit not due to the managerial ability of the entrepreneur, but due to other factor, say the profits of monopoly. These are not due to the businessman's managerial abilities but for his position as a monopolist. The monopoly profit needs to be deducted from gross profit to arrive at net profit. Another source of getting unexpected high profit is from windfall gains or chance profits. Any sudden happening, say outbreak of war, natural calamities in certain pockets of the country etc., lead to a rise in the product prices, resulting in abnormal profits for the entrepreneur. Such unexpected profits should be deducted from gross profit to find out the net profit.

Net Profit: The aforesaid three items viz., remuneration for entrepreneur himself, depreciation and maintenance charges and extra personal profits are to be deducted from gross profit to work out the net profit. It is the reward of the entrepreneur for coordination and risk – taking.

$$\text{Net profit} = \text{Gross income} - \text{Total cost}$$

Chapter – 14

National Income

Concepts

In an economy goods and services keep on being produced, which need to be valued.

National Income is nothing but the aggregate money value of all goods and services produced in a country in a year. It can also be viewed as income distributed among the factors of production in the form of rent (to land), wages (to labour) interest (to capital) and profits (to entrepreneurs).

According to Alfred Marshal National Income is defined as the labour and capital of a country acting on its natural resources produce annually a certain net aggregate of goods and services.

Limitations

- In an economy in which numerous goods and services are produced, it is really a difficult proposition to estimate them correctly to arrive at the national income. Coming to the farming, farmers do retain some part of production for personal consumption and the rest is only marketed. In such a case, the methodology to evaluate the amount of produce not reached the market has not been given.
- Double counting: It implies the same good being counted twice: say, cotton may be counted in agricultural production and the cotton cloth in industrial production.

Marshall approached national income from **production end**. On the other hand, some other economist approached from **consumption end**. At the same time this approach in reality poses problems. Consumers who number in millions, consumes the same good at different places, and the estimation of their total consumption is a difficult proposition. Hence, there are problems in measurement of national income.

Modern View

Simon Kuznets defined national income as “**the net output of goods and services flowing during the year from the production to the hands of ultimate consumers**”. Here the income side as well as expenditure side is included to present the concept of national income.

Gross National Product (GNP)

GNP is the basic social accounting measure of the total production of goods and services in an economy. **GNP is defined as the total market value of all final goods and services produced in a year.** It includes the market value of such products as are produced in agriculture, mines, forests, industries etc. and of services like transport, communication, banks, lawyers, doctors, teachers, etc. and these are added together during one year.

GNP is a measure of current output of economic activity in a country. Goods and services produced in an economy are subjected to purchase and sale several times. Therefore,

to avoid the possibilities of double counting, GNP includes the market value of **final goods only** ignoring the transactions involving intermediate goods.

Those which are not included in GNP are as follows:

1. Services which are rendered freely e.g. free services offered by family members to others in the family.
2. The sale and purchase of old goods (resale of used items).
3. The sale and purchase of shares, bonds, etc... because they do not add anything to the national produce as they are simply transformed from one to other.
4. Old age pensions, unemployment allowances etc. as they do not provide any services.
5. The change in value of the capital assets as a result of changes in the market prices as they have nothing to do with the current production.

Measures of GNP

Three methods to measure GNP are as under:

1. Income Method

According to this method GNP is the sum total of the following items:

- a. Wages and salaries
- b. Rents
- c. Interest
- d. Income of Non-company Business (individual proprietors/partners/self-employed person)
- e. Corporate profits
- f. Indirect taxes
- g. Depreciation
- h. Transfer payments (payments received by individuals as pension, unemployment allowance are called transfer payments. These are received by the people for not doing any work, so these should be deducted from GNP.

Thus, **GNP = Wages and salaries + Rents + Interest + Incomes of Non-company Business + Corporate profits + Indirect taxes + Depreciation - Transfer payments**

2. Expenditure Method

Through this, GNP is the sum total of expenditure incurred on goods and services during a period of one year. The expenditures included are as under:

- a. **Personal consumption expenditure (C):** It includes all types of expenditure on personal consumption by individuals of a country. It includes expenses on durable goods (car, bike, tv, mobile, etc.) non-durable goods or consumable articles (food, cloth, soaps, etc.) and also the expenditure incurred on services of all kind (doctor, transportation, etc.)
- b. **Gross domestic private investment (I):** It includes private investment on capital and producer goods like buildings, machinery, equipments, etc which are produced in the year only. Purchase of used items and old buildings are not included here because they were included earlier. Investment on purchase of share in stock exchange is also not included, since it does not help in new production.

- c. **Net foreign investment (X-M):** In an economy, the entire production may not be consumed within the country and part of it is exported to other countries. Similarly, the country imports some products from other countries. The difference between the value of exports and of imports should be worked out. If the difference is positive, it should be added to other items of expenditure and it should be deducted from the other items of expenditure, if the difference is negative.
- d. **Government expenditure on goods and services (G):** The Central and State Governments purchase consumer goods as well as investment goods for their own enterprise. Apart from this, the Government spends on defense, police, education, etc. These are included in GNP however, expenditure on transfer payments such as pension, unemployment allowances, etc are not included in GNP.

In short, $GNP = C + I + (X-M) + G$

Value added Method

It is always difficult to distinguish between intermediate goods (raw materials, fuel, etc.) and the final goods as it may be intermediate product for one industry and final product for the other industry. For example, electricity is intermediate good when consumed by industry and it is final good when consumed directly by consumers. So, to overcome this problem the value of the intermediate goods used in a manufacturing industry should be deducted from the value of the final goods. The difference that is arrived at is called value addition. If the same procedure is adopted for all the industries in the economy, we can find the GNP by value added method.

National Income at Market Price or Net National Product (NNP)

In the production process, the capital goods are worn-out. This amount of decline in the value of capital goods due to wear and tear is called depreciation. To estimate NNP, depreciation is deducted from GNP. NNP therefore is the market value of all final goods after duly accounting for depreciation; hence, it is called National Income at Market Price. In other words, NNP is the net money value of final goods and services produced at current prices in a year in a country.

Thus, $NNP = GNP - \text{Depreciation}$

National Income at Factor Cost : It implies the sum of all incomes earned by resource suppliers for their contribution of land, labour, capital and entrepreneur which go into the net production in a year. In fact national income depicts how much it costs the society in terms of resources to produce net output. Hence, it is called national income at factor cost.

Thus, $\text{National Income at Factor Cost} = NNP - \text{indirect taxes} + \text{subsidies}$.

GDP vs GNP (or GNI)

Gross Domestic Product (**GDP**) can be contrasted with Gross National Product (**GNP**) or Gross National Income (**GNI**). The difference is that GDP defines its scope according to location, while GNP defines its scope according to ownership. GDP is product produced within a country's borders; GNP is product produced by enterprises owned by a country's citizens. The two would be the same if all of the productive enterprises in a country were owned by its own citizens, but foreign ownership makes GDP and GNP non-identical.

Production within a country's borders, but by an enterprise owned by somebody outside the country, counts as part of its GDP but not its GNP; on the other hand, production by an enterprise located outside the country, but owned by one of its citizens, counts as part of its GNP but not its GDP.

To take the India as an example, the India's GNP is the value of output produced by Indian-owned firms, regardless of where the firms are located.

Adjustments to GDP (the real, or constant, GDP)

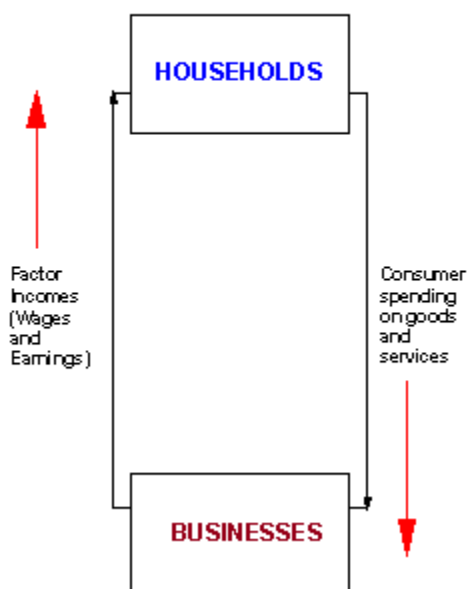
When comparing GDP figures from one year to another, it is desirable to compensate for changes in the value of money – inflation or deflation. The raw GDP figure as given by the equations above is called the nominal, or historical, or current, GDP. To make it more meaningful for year-to-year comparisons, it may be multiplied by the ratio between the value of money in the year the GDP was measured and the value of money in some base year. For example, suppose a country's GDP in 1990 was \$100 million and its GDP in 2000 was \$300 million; but suppose that inflation had halved the value of its currency over that period. To meaningfully compare its 2000 GDP to its 1990 GDP we could multiply the 2000 GDP by one-half, to make it relative to 1990 as a base year. The result would be that the 2000 GDP equals \$300 million $\times$ one-half = \$150 million, *in 1990 monetary terms*. We would see that the country's GDP had, realistically, increased by 1.5 times over that period, not 3 times, as it might appear from the raw GDP data.

The GDP adjusted for changes in money-value in this way is called the real, or constant, GDP. The factor used to convert GDP from current to constant values in this way is called the **GDP deflator**. Constant-GDP figures allow us to calculate a GDP growth rate, which tells us how much a country's production has increased (or decreased, if the growth rate is negative) compared to the previous year.

Per Capita GDP

Another thing that it may be desirable to compensate for is population growth. If a country's GDP doubled over some period but its population tripled, the increase in GDP may not be deemed such a great accomplishment: the average person in the country is producing less than they were before. **Per-capita GDP** is the measure compensated for population growth.

THE BASIC CIRCULAR FLOW MODEL



The Circular Flow in a Simple Economy

The concept of circular flow is described in its simplest form, a simple economy is considered in which there is no government, no financial markets, and no imports or exports. As an illustration, imagine that the households in this economy live entirely from hand to mouth, spending all their income on consumer goods as soon as they receive it, and that the firms sell all their output directly to consumers as soon as they produce it.

Methods of Measuring National Income

There are four methods of measuring national income. Which method is to be employed depends on the availability of data in a country and the purpose in hand.

(1) **Product Method:** According to this method, the total value of final goods and services produced in a country during a year is calculated at market prices. To find out the GNP, the data of all productive activities, such as agricultural products, wood received from forests, minerals received from mines, commodities produced by industries, the contributions to production made by transport, communications, insurance companies, lawyers, doctors, teachers, etc. are collected and assessed at market prices. Only the final goods and services are included and the intermediary goods and services are left out.

(2) **Income Method:** According to this method, the net income payments received by all citizens of a country in a particular year are added up, i. e., net incomes that accrue to all factors of production by way of net rents, net wages, net interest and net profits are all added together but incomes received in the form of transfer payments are not included in it. The data pertaining to income are obtained from different sources, for instance, from income tax department in respect of high income groups and in case of workers from their wage bills.

(3) **Expenditure Method:** According to this method, the total expenditure incurred by the society in a particular year is added together and includes personal consumption expenditure, net domestic investment, government expenditure on goods and services and net foreign investment. This concept is based on the assumption that national income equals national expenditure.

(4) **Value Added Method:** Another method of measuring national income is the value added by industries. The difference between the value of material outputs and inputs at each stage of production is the value added. If all such differences are added up for all industries in the economy, we arrive at the gross domestic product.

Problems of Measurement of National Income in a Developing Economy

In a developing economy, complete and reliable information relating to the various methods of estimating national income are not available due to the following problems:

1. **Non – monetized sector:** There is a large non – monetized sector in a developing economy. This is the subsistence sector in rural areas in which a large portion of production is partly exchanged for the other goods and is partly kept for personal consumption. Such production and consumption cannot be calculated in national income.

2. **Lack of Occupational Specialisation:** There is the lack of occupational specialization in such a country which makes the calculation of national income by product method difficult. Besides the crop, farmers in a developing country are engaged in supplementary occupations like dairying, poultry, cloth making, etc. But income from such productive activities is not included in the national income estimates.

3. **Non – market Transactions:** People living in rural areas in a developing country are able to avoid expenses by building their own huts, tools, implements, garments and other essential commodities. Similarly, people in urban areas having kitchen gardens produce vegetables which they consume themselves. All such productive activities do not enter the market transactions and hence are not included in the national income estimates.

4. **Illiteracy:** The majority of people in developing countries are illiterate and they do not keep any accounts about the production and sales of their products. Under the circumstances, the estimates of production and earned incomes are simply guesses.

5. **Non – availability of Data:** Adequate and correct production and cost data are not available in a developing country. Such data relate to crops, forestry, fisheries, animal husbandry, and the activities of petty shopkeepers, small enterprises, construction workers, etc. For estimating national income by the income method, data on unearned incomes and on persons employed in the service sector are not available. Moreover, data on consumption and investment expenditures of the rural and urban population are not available for the estimation of national income by the expenditure method. Moreover, there is no machinery for the collection of data in such countries.

Importance of National Income Analysis

The national income data have the following importance.

1. **For the Economy:** National income data are of great importance for the economy of a country. These days the national income data are regarded as accounts of the economy, which are known as social accounts. These refer to net national income and net national expenditure, which ultimately equal each other. Social accounts tell us how the aggregates of a nation's income, output and product result from the income of different individuals, products of industries and transactions of international trade. Their main constituents are inter – related and each particular account can be used to verify the correctness of any other account.

2. **National policies:** National income data form the basis of national policies such as employment policy, because these figures enable us to know the direction in which the industrial output, investment and savings, etc. change, and proper measures can be adopted to bring the economy to the right path.

3. **Economic Planning:** In the present age of planning, the national data are of great importance. For economic planning, it is essential that the data pertaining to a country's gross income, output, saving and consumption from different sources should be available. Without these, planning is not possible. Similarly, the economists propound short – run as well as long – run economic models or long – run investment models in which the national income data are very widely used.

4. **Economic Models:** Economists build short – run and long – run economic models in which the national income data are widely used.

5. **For research:** The national income data are also made use of by the research scholars of economics. They make use of the various data of the country's input, output, income, saving, consumption, investment, employment, etc., which are obtained from social accounts.

6. **Per Capita Income:** National income data are significant for a country's per capita income which reflects the economic welfare of the country. The higher per capita income, the higher the economic welfare and vice versa.

7. **Distribution of Income:** National income statistics enable us to know about the distribution of income in the country. From the data pertaining to wages, rent, interest and profits we learn of the disparities in the incomes of different sections of the society. Similarly, the regional distribution of income is revealed. It is only on the basis of these that the government can adopt measures to remove the inequalities in income distribution and to restore regional equilibrium. With a view to removing these personal and regional disequilibria, the decisions to levy more taxes and increase public expenditure also rest on national income statistics.

Chapter – 15

Population

Theories of Population

The theory of population is studied because the supply of labour depends upon population and its growth. Observing the abnormal growth of population and consequent fall in the standard of living, Thomas Malthus (1760 – 1834) an English Clergyman first studied population growth in various countries of Europe. Later he wrote a book entitled “An Essay on the Principles of Population” in 1798. His observations compelled him to foresee a gloomy future for the human race and hence emphasized the immediate need to keep the population growth under check. Now his theory is popularly known as Malthusian theory of population. To quote the theory in his own words “By nature human food increases in a slow arithmetic ratio, man himself increases in a quick geometric ratio unless want and vice stop him.”

Propositions of Malthusian Theory

These are briefly presented below:

1. Population is necessarily limited by means of subsistence (food supply). According to Malthus in a country the size of population depends on its food production. Greater the food production, larger would be the size of population, which a country can support and smaller the food production then the country would be in a position to support smaller population only.
2. The power of population is infinitely greater than the power in the earth to produce subsistence for men. He further adds that population growth always overtakes food production, since agricultural production is constrained by the law of diminishing returns. This prevents the food production to grow as faster as that of population. As such, there is no limit to the growth of population.
3. Population increases in geometric progression, whereas food production increases in arithmetic progression. This means that population tends to grow in quick geometric progression i.e., 1, 2, 4, 8, 16, 32, etc., while, food production tends to grow in arithmetic progression i.e., 1, 2, 3, 4, 5, 6, etc. This implies that population doubles in every 25 years.
4. Population always increases, when the means of subsistence increase, unless it is prevented by some powerful checks. When the food production of a nation increases, the tendency is that it encourages people to have more children and consequently it leads to large families. After certain time, the population would become excessive relative to the food production and the per capita availability of food decreases.
5. There are two types of checks, which can keep population on a level with the means of subsistence viz., preventive checks and positive checks.
 - a. Preventive checks: These are man – initiated checks to keep the population under control. They aim at decreasing the birth rate. These checks are: 1. celibacy 2. late marriage 3. moral restraints, etc.
 - b. Positive checks: These are the checks caused by the nature when man fails to take control of the situation. These checks cause the reduction of excess population and thereby bring an equilibrium between demand and supply. We have often the famines, epidemics, wars, floods, earthquakes, etc. These positive checks are also called as natural checks, since they are caused by nature.

Criticism of Malthusian Theory of Population

This theory was criticized by many economists on several grounds. Some of the important ones are presented below:

1. Presenting the mathematical precision for population growth and food production was objected because as these ratios are found to be unrealistic. There were no instances in the world, where this trend of population growth and food production recorded and the case of doubling of population in every 25 years.
2. Malthus did not foresee the scientific advances that are bound to come in agricultural production, even in the presence of operation of law of diminishing returns.
3. He did not consider total production of nation but confined to agricultural production alone while presenting his theory. In fact it is total production of a country which gives the true picture of its economic position. Consider the example of Great Britain. It was not self – sufficient in agricultural production but it could make great progress through its industrial production. Less agricultural production cannot make the country to be called over – population.
4. It was viewed that increase in population would cause greater demand for foodgrains, ignoring its contribution in the production of goods and services. Further it was criticized that increase in population in an over – populated country is a matter of serious concern, as it imposes heavy strain on the limited resources of the nation. In respect of an under populated country, increase in population is a welcome sign and it helps to raise economic growth and per capita income
5. Malthus also failed to view that the education and civilization would transform the people to have smaller families. Hence, there would be no danger of over population.
6. Natural calamities which are infact the acts of nature are commonly found everywhere regardless of whether a particular country is over populated or under – populated. So, the statement that natural calamities would occur only in the over populated countries to reduce population is not true.

Optimum Theory of Population

Prof. Sidgwick gave the foundation of the optimum theory in his principles of political economy. It was later developed by Edwin Cannon. It is also called as the modern theory of population.

Definitions of Optimum Population

1. It generally refers to that size of population which provides maximum income per head at a given amount of resources and technology.
2. Optimum population is that population which produces maximum economic welfare (Carr – Saunders).
3. Optimum population is that which gives the maximum income per head (Dalton).
4. Optimum population in a country ensures 1) best possible utilization of all resources; and 2) highest per capita income. More specifically, optimum population is the right size of population that is most desirable in a country consistent with its supply of resources.

Under Population

If the population of a country is below optimum size i.e., below what it ought to be, the country is said to be under – populated. In such a case the per capita income will not be the

highest, as the population is insufficient to use the available resources (both natural and capital) of the country efficiently. The resources are left unharnessed to their optimum level.

Over Population

If the population of a country is in excess of optimum level, the country is said to be over populated. Since the resources are insufficient in relation to the population, the per capita income will not be the highest. Gainful employment is not available to people in view of the insufficiency of resources and requisite technology.

When we say optimum population, it is not fixed for all times. It keeps on changing with the development of technology and growth of capital.

In figure, population is measured on X – axis and output per capita on Y – axis. It is observed that output per capita increases with every increase in population till OQ is reached. At this level of population (optimum population) the per capita output is the highest and is equal to QP. Any further increase of population beyond OQ leads to reduction of output per capita. If the actual population of a country is less than optimum population (OQ), it is under populated and if it is more it is over populated.

Dalton's Formula for Maladjustment

Dalton's maladjustment means the extent of deviation of population from optimum size of population. To measure maladjustment, Dalton gave the following formula.

$$M = \frac{A - O}{O}$$

Where,

M = Maladjustment

A = Actual population

O = Optimum population

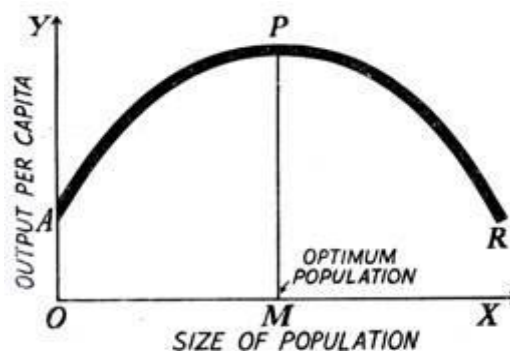
A positive 'M' indicates that the country is over – populated.

A negative 'M' indicates that the country is under – populated.

A zero value of 'M' indicates that the actual population is equivalent to optimum population.

Malthusian Theory of Population Vs Optimum Theory of Population

1. Malthusian theory is based on the relationship between food production and the size of population, while modern theory is based on the relationship between total production of a country and the size of population.
2. Malthusian theory is more a pessimistic theory, while optimum theory is an optimistic one.
3. Malthusian theory has a limitation in its application as it is applicable to over populated countries only, whereas the optimum theory is applicable universally.



Under, Over, Optimum Population

Fig. 14.1

Natural and Socio – economic Determinants

Natural Factors

The abundance of resources influences the growth of population. In the presence of abundant resources, populations can grow at geometric or exponential rates. If resources become limited, population growth rate slows and eventually stops; this is known as logistic population growth. Population growth stops when populations reach a maximum size called the carrying capacity, the number of individuals of a particular population that the environment can support. Population growth is a function both of per capita growth rates and population size.

The environment limits population growth by changing birth and death rates. The factors affecting population size and growth include biotic factors such as food, disease, competitors, and predators and abiotic factors such as rainfall, floods, and temperature. Because the effects of biotic factors, such as disease and predation, are often influenced by population density, biotic factors are often referred to as density-dependent factors. Meanwhile, abiotic factors such as floods and extreme temperature can exert their influences independently of population density and so are often called density-independent factors.

Socio – economic Factors

The socio-economic factors play an important role in the growth of population. The socioeconomic factors which affect the growth of population are industrialization, education, religious beliefs, marriage, social status, family structure, health care, nutritional status etc.

There is an inverse relationship with the industrial growth and the rate of population growth. The developed or industrialized countries have less growth of the population. They are mostly stable. The zero growth occurs in Germany and around 1 percent growth occurs in America and France. In Austria there is a negative growth. But in the developing countries there has been an increase in the growth of population. They show a direct relationship.

The education shows an inverse relationship with the rate of population growth. The developed or industrialized countries which have a high literacy rate show less growth of the population. But it is not the only criteria which define the rate of growth of population. In some states like Kerala the literacy rate is very high but they are thickly populated also. There are few religious beliefs which prevent the people to undergo family planning. In such religion-dominated countries the population will continue to rise. This occurs despite the higher literacy rates and economic growth. It occurs in the United Arab Emirates and Saudi Arabia. They have a very high population growth rate.

The women can give rise to offspring mainly from the age 15 to 45. If she gets married late naturally the chances of giving birth to more offspring will reduce. It is common in the industrialized countries. The women marry late but in the developing countries the women marry very early around 15 to 20 years of age.

The social status of women shows an inverse relationship with the rate of population growth. The higher status women marry later in their age. The family structure also plays an important role in the growth of population. The child labor plays a crucial role in the growth of population. These families consider the children as their earning hands. So, more are the children and more are their sources of income.

The health care shows a direct relationship with the rate of population growth. The better is the health care system less is the mortality rate and higher is the natality rate. The families

with the gainful employment show low mortality. It decreases the incidence with the large number of children. A well maintained diet helps to reduce the mortality.

The sources of entertainment also play an important role in the growth of population. They keep a routine check on the population. More are the sources of entertainment and lesser are the chances of high natality. The population education shows an inverse relationship with the rate of population growth. The better is the population education the lesser is the growth of population.

National Population Policy (NPP) 2000

1. The Immediate Objective: The immediate objective is to address the unmet needs for contraception, health care infrastructure and health personnel and to provide integrated service delivery for basic reproductive and child health care.

2. The Medium Term Objective: The medium term objective is to bring the Total Fertility Rate (TFR) to replacement level by 2010 through vigorous implementation in inter-sectorial operational strategies.

3. The Long Term Objective: The long term objective is to achieve a stable population by 2045 at a level consistent with the requirements of sustainable economic growth, social development, and environment protection.

Targets: The following are the targets of National Population Policy:

1. Achieve zero growth rate of population by 2045.
2. Reduce infant mortality rate of below 30 per thousand live births.
3. Reduce maternal mortality ratio of below 100 per 1, 00,000 live births.
4. Reduce birth rate to 21 per 1000 by 2010.
5. Reduce total fertility rate (TFR) to 2.1 by 2010

As a result of the initiatives of the Government, the country's Total Fertility Rate (TFR) has declined from 2.7 in 2006 to 2.2 in 2016. The Crude Birth Rate has declined from 23.8 in 2005 to 20.8 and 24 states/UTs have already achieved the replacement level TFR of 2.1 or less out of 36 states/UTs.

National Socio-Demographic Goals for 2010:

To fulfill these objectives and targets, National Socio-Demographic goals have been formulated which in each case are to be achieved by the year 2010.

They are as follows:

1. Make school education free and compulsory up to the age of 14 and reduce dropouts at primary and secondary school levels to below 20 per cent for both boys and girls.
2. Address the unmet needs for basic reproductive and child health services, supplies and infrastructure.
3. Achieve universal immunization of children against all vaccine preventable diseases.
4. Promote delayed marriage for girls, not before 18 and preferably after the age of 20 years.
5. Prevent and control communicable diseases.
6. Achieve universal access to information/counselling and services for fertility regulation and contraception with a wide basket of choices.
7. Achieve 80 per cent institutional deliveries and 100 per cent deliveries by trained persons.
8. Achieve 100 per cent registration of births, marriage and pregnancy.
9. Integrate Indian Systems of Medicine (ISM) in the provision of reproductive and child health services and in reaching out to households.

10. Contain the spread of Acquired Immuno-Deficiency Syndrome (AIDS) and promote greater integration between the management of Reproductive Tract Infections (RTI) and Sexually Transmitted Infections (STI) and the National AIDS Control Organisation.
11. Bring about convergence in implementation of related social sector programmes so that family welfare becomes a people centred programme.
12. Promote vigorously the small family norm to achieve replacement levels of TFR.

Implementation of NPP, 2000: National Commission on Population:

In pursuance of NPP, 2000, the Central Government has set up a National Commission on Population (NCP) on 11 May, 2000. It is presided over by the Prime Minister, with the Chief Ministers of all States and UTs and the Central Minister-in-charge of concerned Central Ministries and Departments, reputed demographers, public health professionals and non-government organisations as members. State Level Commissions on Population presided over by the Chief Minister have been set up with the objective of ensuring implementation of the NPP.

The functions of the Commission are:

- (i) To review, monitor and give direction for the implementation of the NPP with a view to achieve the goals set by it;
- (ii) To promote synergy between health, educational, environmental and developmental programmes so as to hasten population stabilization;
- (iii) To promote inter-sectoral co-ordination in planning and implementation of the programmes through different agencies at the Centre and in the States; and
- (iv) To develop a vigorous people's programme to support this national effort.

Chapter – 16

Money

When the human civilization was not developed, people used to exchange those goods which they produced for those which others produced. Such an act of exchanging goods for goods is called barter. But as the years rolled by and when the social organization became more complex, barter system was found to be not practicable. The following are the main difficulties which were found in the barter system.

1. Double coincidence of wants
2. Lack of a standard unit of account
3. Impossibility of subdivision of goods
4. Lack of information
5. Production of large and very costly goods not feasible

The difficulties in barter system were replaced with the introduction of money. Money has been defined as the medium of exchange. According to Robertson money is defined as “Anything which is widely acceptable in discharge of obligations”. The different stages in the development of money are as follows.

1. **Commodity Money:** The earliest form of money consisted of goods like rice, wheat, cattle, skins, elephant tusks etc. These were accepted as they were all desired by all the people.
2. **Metallic Money:** As the civilization advanced, people found it difficult to carry on the exchange transaction with commodities, as they were found to be very inconvenient. Commodity money gave way for the metals to be used as money. These metals include gold, silver, copper, bronze, etc. From the beginning of their introduction, Government kept the right to issue coins and certify their weight and quality. Metals were converted into coins for this purpose.
3. **Paper Money:** Paper money is introduced to supplement the metallic money. When paper money was introduced, it was backed up by exactly equal amount of gold or silver kept in reserve by the issuing authority. But now paper money is not backed up by metals like gold and silver, but only proportional reserves are maintained. Their issue rests more on people's confidence on the issuing authority. Such a currency is called fiduciary issue and Indian currency largely is of fiduciary issue.
4. **Bank Money:** Paper money has been supplemented or at times replaced by bank money. It refers to the bank deposits. Deposits can be converted into money by the depositors through cheques.

Kinds of Money

The main kinds of money are (1) Metallic money and (2) Paper money. These are further divided into standard money and token money.

1. **Standard Money:** For such type of money, intrinsic value (real value) is equal to face value (the value written on the coin). It is subjected to free coinage. The coins are made of gold and/ or silver. As such, no country has such a money in circulation.
2. **Token Money:** This money is made up of cheaper metal. Its face value is greater than its intrinsic value. The rupee is a standard unit of money in India, but its face value is greater than its real value and also it is not subjected to free coinage. It is a mixture of standard and token money.

Characteristics of Money: Following are the characteristics of money.

1. **Cognisability:** The medium used, as money should be easily recognized by one and all. Keeping this in view, the citizens of a nation give value to their respective currencies, issued by monetary authorities. In India the quantum of currency and its value are determined by RBI and Ministry of Finance.

2. **Utility:** When money is deposited by the public in different financing institutions, they will get different interest rates. This is due to the fact that money receiving agency (borrowing agency) will have different time utilities for money. In other words, they use the money for the best alternative and accordingly pay the interest to the lenders, depending on the need. Similarly money will have possession utilities and place utilities also.
3. **Portability:** It should facilitate easy carrying from one place to another without expense or inconvenience to the individual user. In other words, the bulkiness, weight and other inconveniences in the transactions are reduced with the help of currencies of different denominations, such as Rs. 5, Rs. 10, Rs. 20, Rs. 50, Rs. 100, Rs. 500 and Rs. 1000 notes.
4. **Durability:** Coins are more durable than the paper currencies. Particularly, currencies of lower denominations viz., 10 paise, 25 paise, 50 paise, one rupee and 5 rupees are being in circulation in the form of coins in order to provide durability. Similarly keeping the same purpose in view, the standard paper is used for printing currency notes.
5. **Indestructibility:** In the normal usage the coins should not get disfigured easily and the paper currency should not get torn easily in the circulation.
6. **Stability:** The value of money should not be changing. It should be more stable. For this to achieve there is need to eliminate inflation in the economy.
7. **Homogeneity:** All coins of the same metal should be as identified as possible with regard to quality and weights. Similarly notes should be printed with the same quality paper with utmost caution and use of sophisticated machinery, otherwise fake notes come into circulation and cause inflation.
8. **Universal Acceptability:** The value of the currency issued by monetary authority in the country should be recognized uniformly in all the states of the nation. Such currency of the nation will be accepted internationally also, provided the currency follows the norms of international monetary authority.

Functions of Money: Money performs five important functions.

1. **Medium of Exchange:** Money facilitates the buying and selling of goods and services as a medium of exchange.
2. **A unit of account:** Money is used as the measure of value of all goods and services. Rupee is the monetary unit in India. The value of all goods and services is expressed in rupees.
3. **Standard of Deferred Payments:** Money facilitates the settlement of debts and future transactions without any risk.
4. **Store of value:** Money is a form of holding wealth. If one feels that the available money is in excess of his requirements it is convenient to save and use it as and when the need arises.
5. **Transferable:** It facilitates the easy transfer of value. The disposal and purchase of assets can be done very easily with money.

Money Supply

The supply of money conforms to the 'stock' concept and not the 'flow' concept. Just as the demand for money is the demand for money to hold, similarly, the supply of money means the supply of money to hold. Money must always be held by someone, otherwise it cannot exist. Hence, the supply of money means the sum total of all the forms of money which are held by a community at any given moment.

The stock of money, which constitutes the supply of it, constitutes of (a) metallic money or coins (b) currency notes issued by the currency authority of the country whether the Central bank or the government and (c) chequable bank deposits. In old times, the coins formed the bulk of money supply of the country. Later, the currency notes eclipsed the metallic currency and now the bank deposits in current account withdrawable by cheques have overwhelmed all other forms of money. In modern times, the supply of money really means the chequable bank deposits.

The modern economists include in money stock not only currency or cash balances and demand deposits in banks together called M_1 . In addition to the items of M_1 , the concept of money supply M_2 includes savings deposits with the post office savings banks. M_3 is a broad

concept of money supply. In addition to the items of money supply included in measure M_1 , in money supply M_3 time deposits with the banks are also included. The measure M_4 of money supply includes not only all the items of M_3 but also the total deposits with the post office savings organisation.

The total supply of money in a country, by and large, depends on the credit control policies pursued by the banking system of the country.

Inflation

In economics, **inflation** is a rise in the **general price level** of goods and services in an economy over a period of time.

When the price level rises, each unit of currency buys fewer goods and services; consequently, annual inflation is also **an erosion in the purchasing power of money** – a loss of real value in the internal medium of exchange in the economy.

What is Inflation Rate?

Inflation rate is the rate at which prices of goods and services increase in its economy. It is an indication of the rise in the general level of prices over time. Since it's practically impossible to find out the average change in prices of all the goods and services traded in an economy due to the sheer number of goods and services present, a sample set or a **basket of goods and services** is used to get an indicative figure of the change in prices, which we call the inflation rate.

Measuring inflation

Suppose the price of 1 kg of wheat changes from Rs. 20 to Rs. 25 over the course of a year, with no change in quality, then this price difference represents inflation. This single price change would not, however, represent general inflation in an overall economy. To measure overall inflation, the price change of a large "basket" of representative goods and services is measured. This is the purpose of a price index, which is the combined price of a "basket" of many goods and services. **The combined price is the sum of the weighted average prices of items in the "basket"**. A weighted price is calculated by multiplying the unit price of an item to the number of those items the average consumer purchases. Weighted pricing is a necessary means to measuring the impact of individual unit price changes on the economy's overall inflation. Those weighted average prices are combined to calculate the overall price. To better relate price changes over time, indexes typically choose a **base year** price and assign it a value of 100. Index prices in subsequent years are then expressed in relation to the base year price.

Inflation measures are often modified over time. New products may be introduced, older products disappear, the quality of existing products may change, and consumer preferences can shift. Both the sorts of goods and services which are included in the "basket" and the weighted price used in inflation measures will be changed over time in order to keep pace with the changing marketplace.

Inflation numbers are often seasonally adjusted in order to differentiate expected cyclical cost shifts. For example, price of air-conditioner is expected to rise in summer months. In such cases, seasonal adjustments are used when measuring for inflation.

How does India calculate inflation?

In India, inflation is calculated on a weekly basis. India uses the Wholesale Price Index (WPI) to calculate and then decide the inflation rate in the economy while most developed countries use the Consumer Price Index (CPI) to calculate inflation.

Wholesale Price Index (WPI)

WPI is the index that is used to measure the change in the average price level of goods traded in wholesale market. It was first published in 1902, and was one of the more economic indicators available to policy makers until it was replaced by most developed countries by the Consumer Price Index in the 1970s.

In India, at present a total of **697 commodities** are included in the commodity basket in which **Primary articles** contribute 117 items, **Fuel and Power** contribute 16 items, and **Manufactured Products** provide 564 items. The base year is 2011-12.

How is WPI (Wholesale Price Index) calculated in India?

For calculation, WPI for the base year is assumed to be 100. Assume that WPI for the year 1993-94 is considered as the base year. Let's calculate WPI for the year 2009-10 for a particular commodity, say wheat. Assume that the price of a kilogram of wheat in 1993-94 = Rs 7.00 and in 2009-10 = Rs 15.00

$$\begin{aligned}\text{WPI of wheat (2009-10)} &= \frac{(\text{Price of wheat in 2009-10} - \text{Price of wheat in 1993-94})}{\text{Price of wheat in 1993-94}} \times 100 \\ &= (15.00 - 7.00) / 7.00 \times 100 \\ &= 114.28\end{aligned}$$

Since WPI for base year is assumed as 100, WPI for 2009-10 will become 100+114.28 = 214.28.

In this way individual WPI values for all the commodities are calculated and then the weighted average of individual WPI figures are found out to arrive at the overall Wholesale Price Index. Commodities are given weight age depending upon its influence in the economy.

How is inflation rate calculated?

If we have the WPI values of two time zones, say, beginning and end of year, the inflation rate for the year will be, (WPI of end of year – WPI of beginning of year) / WPI of beginning of year x 100. For example, WPI for 1st Jan 2009 was 200 and WPI for 1st Jan 2010 was 210 then inflation rate for the year 2009 is (210-200)/200 x 100 = 5%.

Since WPI figures are available every week, inflation for a particular week (which usually means **inflation for a period of one year ended on the given week**) is calculated based on the above method using WPI of the given week and WPI of the week one year before.

Consumer Price Index (CPI)

CPI is a measure estimating the average price of consumer goods and services purchased by households. A consumer price index measures a price change for a constant market basket of goods and services from one period to the next within the same area (city, region, or nation). It is a price index determined by measuring the price of a standard group of goods meant to represent the typical market basket of a typical urban consumer.

Effects of Inflation

Inflation's effects on an economy are manifold and can be simultaneously positive and negative.

Negative effects

1. Decrease in the real value of money and other monetary items over time
2. Uncertainty about future inflation may discourage investment and saving, or may lead to reductions in investment of productive capital and increase savings in non-producing assets. e.g. selling stocks and buying gold.
3. Reduce overall economic productivity rates, as the capital required to retool companies becomes more elusive or expensive.

4. High inflation may lead to shortages of goods if consumers begin hoarding out of concern that prices will increase in the future.

Positive effects

1. Mitigation of economic recessions
2. Debt relief by reducing the real level of debt.

Causes of Inflation

1. High rate of inflation is caused by an **excessive growth of the money supply**. A long sustained period of inflation is caused by money supply growing faster than the rate of economic growth.
2. Low or moderate inflation may be attributed to fluctuations in real demand for goods and services, or changes in available supplies such as during **scarcities**, as well as to growth in the money supply.
3. Generally **during war** and in the **post-war** period, there will be inflation. This is so because during war, there will be shortage of goods and there may be rationing, control and things like that. So during the post-war years, people who have been forced to save money will spend. That is, demand for all sorts of goods will increase during that period but supply will not increase so fast as that. This leads to inflation. Inflation occurs during war because the one great aim at that time is that of winning the war. Since modern wars are so expensive, the Government has to depend upon created money to finance war. This leads to inflation.
4. And inflation breeds inflation. It means that inflation leads to inflation. During a period of inflation, prices will be high. Since prices are high, workers will demand high wages. High wages result in high costs. High costs in turn lead to high prices. Thus it forms a vicious circle. **Wages force up prices; prices force up wages**. This is the **inflationary spiral**.
5. **Deficit financing** is another cause of inflation. This applies particularly to underdeveloped countries with planned economies.

Kinds of Inflation

There are three major types of inflation

1. Demand-pull inflation

It is caused by increases in aggregate demand due to increased private and government spending, etc. Demand inflation is constructive to a faster rate of economic growth since the excess demand and favourable market conditions will stimulate investment and expansion.

Demand-pull theory states that the rate of inflation accelerates whenever aggregate demand is increased beyond the ability of the economy to produce (its potential output). Hence, any factor that increases aggregate demand can cause inflation. However, in the long run, aggregate demand can be held above productive capacity only by increasing the quantity of money in circulation faster than the real growth rate of the economy.

2. Cost-push inflation

It is also called supply shock inflation. It is caused by a drop in aggregate supply (potential output). This may be due to natural disasters, or increased prices of inputs. For example, a sudden decrease in the supply of oil, leading to increased oil prices, can cause cost-push inflation. Producers for whom oil is a part of their costs could then pass this on to consumers in the form of increased prices.

3. Built-in inflation

It is induced by adaptive expectations, and is often linked to the "price/wage spiral". Rising inflation can prompt employees to demand higher wages (above the rate of inflation), to keep up with consumer prices and firms passing these higher labor costs on to their customers as

higher prices, leading to a **vicious circle**. Built-in inflation reflects events in the past, and so might be seen as hangover inflation.

Other types of Inflation

Repressed Inflation : Generally price rise results in inflation. However, there can be inflation even without a rise in the price level. This is known as Repressed Inflation. Usually this happens during a war period. On account of many controls and rationing that exist during wartime, prices will be kept under check. But the moment controls are withdrawn, prices will go up. So the real test of inflation is neither an increase in the amount of money nor a rise in prices, but the appearance of **abnormal profits**. Whenever businessmen and producers make huge profits, it is a sign of inflation.

Runaway or Galloping or Hyper – Inflation : This is a serious type of inflation. For example, it was experienced in Germany after World War I and in Hungary and China after World War II. In this situation, prices rise to a very great extent at high speed and high prices have to be paid even for cheap things. And money becomes quite worthless and new currency has to be introduced. This situation is known as galloping inflation or hyper-inflation.

Profit – Push Inflation : Just as trade unions manage to push up wages, oligopolists and monopolists will raise prices more than enough to cover increase in costs with the aim of making monopoly profits.

Controlling inflation

Since inflation has many evils, every government tries to check it. A variety of methods have been used in attempts to control inflation. Today, most mainstream economists favor a low positive steady rate of inflation. Low inflation may reduce the severity of economic recessions. The primary tool for controlling inflation is **monetary policy**. The task of keeping the rate of inflation low and stable is usually given to monetary authorities. Generally, these monetary authorities are the central banks that control the size of the money supply through the setting of interest rates, through open market operations, and through the setting of banking reserve requirements.

Some other measures

1. Increased taxation
2. By reducing government expenditure on capital projects. (In India, this measure has been suggested to check inflation. Many capital projects proposed in our Third Five Year Plan were either suspended or dropped completely.
3. Restrictions on imports.
4. Rationing and
5. Price controls.

Sometimes a “wage freeze” is recommended to check inflation. That is, trade unions will be requested not to ask for an increase in wages during a given period. The success of the above measures in tackling inflation depends upon the efficiency of the government in implementing the measures.

Related definitions

Deflation

Deflation is a state in which the value of money is rising, i.e., prices are falling. **Deflation is the opposite of inflation**. Generally inflation is a period characterized by rising activity and employment. But during deflation, there will be **bad trade** and **unemployment**. During deflation, since prices fall faster than costs, there will be heavy losses for producers and businessmen. There will not be profits in any branch of economic activity. So there will be a fall in investment. This results in unemployment. **Both inflation and deflation are evils**. There is nothing much to choose between them. While rising prices can be checked to some extent by the monetary policy of the government, the latter is of little help in raising the price

level during deflation. It does not work. That is why during such periods, modern economists suggest that the State must play an active role in the economic field and step up economic activity by undertaking a series of public works programmes.

Disinflation – a decrease in the rate of inflation

Hyperinflation – an out-of-control inflationary spiral

Stagflation – a combination of inflation, slow economic growth and high unemployment

Reflation – an attempt to raise the general level of prices to counteract deflationary pressures.

Chapter – 17

Economic Systems

The term *economic system* refers to the mode of production and the distribution of goods and services within which economic activity takes place. In a broader sense, it “refers to the way different economic elements (individual workers and managers, productive organisations such as factories or firms, and government agencies) are linked together to form an organic whole.” The term also refers to how the different economic elements will solve the central problems of an economy: What, how, and for whom to produce.

Capitalism or Free Enterprise Economy

Capitalism is an economic system in which each individual in his capacity as a consumer, producer, and resource owner is engaged in economic activity with a large measure of economic freedom. Individual economic actions conform to the existing legal and institutional framework of the society which is governed by the institution of private property, profit motive, freedom of enterprise, and consumers’ sovereignty. All factors of production are privately owned and managed by individuals. The raw materials, the machines, the firms, and the factories are owned and managed by individuals who are at liberty to dispose of them within the prevalent laws of the country. Individuals have the freedom to choose any occupation, and to buy and sell any number of goods and services.

Features of Capitalism

The principal features of capitalism are:

1. **Private Property:** It means that the owner of a firm or factory or mine may use it in any manner he likes. He may hire it to anybody, sell it, or lease it at will in accordance with the prevalent laws of the country.
2. **Profit motive:** The decisions of businessmen, farmers, producers, including that of wage – earners are based on the profit motive.
3. **Price Mechanism:** Under capitalism, the price mechanism operates automatically without any direction and control by the central authorities. It is the profit motive which determines production. Capitalism is a system of mutual exchanges where the price – profit mechanism plays a crucial role.
4. **Role of the State:** During the 19th century, the role of the state was confined to the maintenance of law and order, protection from external aggression, and provision for educational and public health facilities. This policy of *laissez - faire* – of non – intervention in economic affairs by the state – has been abandoned in capitalist economies of the West after the Second World War. Now the state has important tasks to fulfil. They are monetary and fiscal measures to maintain aggregate demand; anti – monopoly measures and nationalised monopoly corporations; and measures for the satisfaction of communal wants such as public health, public parks, roads, bridges, museums, zoos, education, flood control, etc.
5. **Consumers’ Sovereignty:** Under capitalism, ‘the consumer is the king.’ It means freedom of choice by consumers. There is also freedom of production whereby producers are at liberty to produce a vast variety of commodities in order to satisfy the consumer who acts like a ‘king’ in making a choice out of them with his given money income. These twin freedoms of consumption and production are essential for the smooth functioning of the capitalist system.
6. **Freedom of Enterprise:** Freedom of enterprise means that there is free choice of occupation for an entrepreneur, a capitalist, and a labourer. But this freedom is subject to their ability and

training, legal restrictions, and existing market conditions. It is on account of the presence of this important feature of freedom of enterprise that a capitalist economy is also called a free enterprise economy.

7. **Competition:** Competition is one of the most important features of a capitalist economy. It implies the existence of large number of buyers and sellers in the market who are motivated by self – interest but cannot influence market decisions by their individual actions. It is competition among buyers and sellers that determines the production, consumption and distribution of goods and services.

Socialism

A socialist economy is an economic organization in which the means of production are owned and regulated by the state. The production and distribution of goods and factors of production are done by the state under the direction of the planning commission. The decisions as to how much to produce, which methods of production to employ and for whom to produce are taken by the planning authority. That is why, a socialist economy is also called planned economy. Such economies are China, Cuba, Vietnam and North Korea. They possess the following features.

Features of Socialism

1. **Public Ownership:** A socialist economy is characterised by public ownership of the means of production and distribution. There is collective ownership whereby all mines, farms, factories, financial institutions, distributing agencies (internal and external trade, shops, stores, etc.), means of transport and communications, etc. are owned, controlled, and regulated by government departments and state corporations.
2. **Central Planning:** A socialist economy is centrally planned which functions under the direction of a central planning authority. It lays down the various objectives and targets to be achieved during the plan period.
3. **Definite Objectives:** A socialist economy operate within definite socio – economic objectives.
4. **Freedom of Consumption:** Under socialism, consumers’ sovereignty implies that production in state – owned industries is generally governed by the preferences of consumers, and the available commodities are distributed to the consumers at fixed prices through the state – run department stores.
5. **Equality of Income Distribution:** In a socialist economy, there is great equality of income distribution as compared with a free market economy. The elimination of private ownership in the means of production, private capital accumulation, and profit motive under socialism prevent the amassing of large wealth in the hands of a few rich persons.
6. **Planning and the Pricing Process:** The pricing process under socialism does not operate freely but works under the control and regulation of the central planning authority. There are administered prices which are fixed by the central planning authority. There are also the market prices at which consumer goods are sold. There are also the accounting prices on the basis of which the managers decide about the production of consumer goods and investment goods, and also about the choice of production methods.

Mixed Economy

A mixed economy is a golden mean between a capitalist economy and a socialist economy. It is an economic system where the price mechanism and economic planning are used side by

side. There is mixture of private and public ownership of the means of production and distribution. Some decisions are taken by households and firms and some by the planning authority. All developing countries like India are mixed economies.

Features of Mixed Economy

A mixed economy possesses the following features:

1. **Public Sector:** The public sector is under the control and direction of the state. All decisions regarding what, how and for whom to produce are taken by the state. Public utilities, such as rail construction, road building, canals, power supply, means of communication, etc, are included in the public sector. They are operated for public welfare and not for profit motive. The public sector also operates basic, heavy, strategic and defence production industries which require large investment and have long gestation period. But they earn profits like private industries which are utilized for capital formation.
2. **Private Sector:** There is a private sector in which production and distribution of goods and services are done by private enterprises. This sector operates in farming, plantations, mines, internal and external trade, and in the manufacture of consumer goods and some capital goods. This sector operates under state regulations in the interest of public welfare. In certain fields of production, both public and private sectors operate in a competitive spirit. This is again in the interest of the society.
3. **Joint Sector:** A mixed economy also has a joint sector which is run jointly by the state and private enterprises. It is organised on the basis of a joint stock company where the majority shares are held by the state.
4. **Cooperative Sector:** Under a mixed economy, a sector is formed on cooperative principles.
5. **Freedom and Control:** A mixed economy possesses the freedom to hold private property, to earn profit, to consume, produce and distribute, and to have any occupation. But if these freedoms adversely affect public welfare, they are regulated and controlled by the state.
6. **Economic Planning:** There is a central planning authority in a mixed economy. A mixed economy operates on the basis of some economic plan.
7. **Social Welfare:** The principal aim of a mixed economy is to maximize social welfare. This feature incorporates the merits of socialism and avoids the demerits of capitalism. To remove inequalities of income and wealth, and unemployment and poverty, such socially useful measures as social security, public works, etc. are adopted to help the poor. On the other hand, restrictions are placed on the concentration of monopoly and economic power in the hands of the rich through various fiscal and direct control measures.

Forms of Business Organization

A business activity can be organized in different ways. In practice we come across business organization owned and run by a single person or group of persons. The ownership patterns of business when looked into, reveal five distinct forms viz., 1) Individual organization or single proprietorship or sole trader concern organization or the sole proprietorship; 2) Partnership; 3) Joint stock company; 4) Co-operative – organization; and 5) State enterprise.

The selection of each form of business organization by the entrepreneurs is influenced by several factors viz., 1) type of business unit contemplated; 2) the care with which an enterprise can be run; 3) owned funds available with the entrepreneur; 4) total capital

requirements; 5) possibilities of securing borrowed capital; 6) the risk and liability aspects which the entrepreneur has to assume; 7) tax aspects of different forms of business organization; 8) Organizational, managerial and controlling aspects, etc.

Individual Enterprise or Single Proprietorship or Sole Trader or the Sole Proprietorship

The individual enterprise is the most common form of business organization. Many small business enterprises belong to this form. These enterprises are owned and operated by a single person, who takes all the responsibilities of outcome of the business. These enterprises are found to be small with a few exceptions here and there. This is more or less a family proprietorship with all the family members participating in the business affairs. As far as the size of the business is concerned, it is left to the desire of the entrepreneur keeping in view of the resources at his disposal.

Partnership

It is an association of two or more individuals who join together as co – owners to share profits or losses in agreed proportions. Partnership comes into existence based on the goals of the co – owners. To safeguard the business interests of the partners, normally a written partnership agreement is made covering various dimensions of business viz., capital contribution, managerial responsibilities, sharing of profit and losses, withdrawal from the business, termination of the business, etc.

There are two kinds of partnership, viz., general partnership and the limited partnership. General partnership is the most common in partnership dealings. Every partner, irrespective of the percentage of capital contributed to the business, has equal say in the management of business. Each partner has equal rights and liabilities. In limited partnership, any number of limited partners are allowed, but there should be atleast one general partner. Liability of each member is limited to the extent of investment made only. Profits are also distributed among the partners according to the contribution of capital in the business.

There are different kinds of partner, viz., active partner, sleeping partner, nominal partner, secret partner, etc. Active partner is one who is actively involved in running the business. He performs various roles like manager, organizer and adviser of business. A sleeping partner is one who contributes capital, shares profits and takes the responsibilities of losses of the business, but he does not participate in running the business. Normally persons having capital but who do not find time in the business affairs, prefer to be sleeping partners. Nominal partner is one who joins a business but does not contribute capital. He just lends his name for the business and on his virtues the business prospers. But he is identified as a partner by the third party. In the event of loss of a business, he is liable to the third party. This is because third party thinks him as partner. Secret partner is one whose name is kept secret. His name is not disclosed to outsiders. He is liable for the losses, if any. He differs from sleeping partner in the matter that he takes part in running the business.

Joint Stock Private Limited Company

The minimum number of members is two but the number cannot exceed 50. There is no need for the private limited company to call for a statutory meeting. Similarly, the company need not submit its annual balance sheet to the registrar of joint stock companies. The transfer of share is generally restricted by articles. It cannot issue prospectus inviting the public to

subscribe to the share capital. The word 'Pvt. Ltd' must be used with the name of the company.

Joint Stock Public Limited Company

The business can be started with seven persons and there is no maximum limit for members. The business shall commence only after getting the certificate of incorporation from the registrar of joint stock companies. The public limited company must issue a prospectus inviting the public to contribute to the share capital. A statutory meeting must be held within a prescribed period and its annual balance sheet must be submitted to the registrar of joint stock companies. The main sources of finance for the company are through shares and borrowings. The shares are freely transferable. A shareholder can sell his shares at any time he prefers. The company will not return the shares to the shareholder till it winds up the business, but shareholders can easily sell their shares through stock exchange. The common types of shares are: 1) ordinary shares 2) preference shares; and 3) deferred shares. Ordinary shares are those for which no special privilege is given. Ordinary shareholders get dividend from the net profits of the company. Preference shares are those which carry a certain fixed dividend from the net profits. This dividend is paid to the preference shareholders before dividend is paid to other kind of shareholders. At the time of liquidation of the company after paying outside creditors, preference share capital is returned. Ordinary shareholders will be paid only when preference share capital is paid in full. Deferred shareholders receive dividend, after payment of dividend to ordinary and preference shareholders.

Apart from selling shares the company raises required capital by floating debentures. A debenture is a document under the company's seal which provides for the payment of a principal sum and interest there on at regular intervals, which is usually secured by a fixed or floating charge on the company's property or undertaking and which acknowledges a loan to the company. Debentured are not shares but are just like promissory notes from which funds are raised. It is a form of loan and debenture holders (creditors) are paid interest as promised whether the company gets profits or not.

Co – operative Organization

The term, co – operation implies the self help made effective through mutual help. The philosophy behind co – operative movement embodies in a slogan called "*all for each and each for all*". The basic objective of co – operation is protecting weaker sections of the society so that they fulfill their needs. Various types of co – operative societies are: 1) Consumers' co – operatives 2) Producers' co – operatives and 3) Credit co – operatives.

Consumers' Co – operatives

These are present in rural and urban areas. Members in an area contribute capital to form into a society. Any person, regardless of caste, creed or religion can become a member of the society. The society is run by the elected executive members. The society undertakes bulk purchases of consumer goods and sells to the members. In this process the middlemen are eliminated. Non – members are also allowed to buy the goods but they are charged extra price. The society makes small profits to cover the administrative costs. The surplus of profits are distributed among the members as dividends. A certain percentage of profits is kept aside as reserve fund for contingencies and growth of the co – operatives.

Producers' Co – operatives

These are the associations of producers which help them in procuring inputs and in marketing their produce. These societies are formed with a sole aim of improving the economic conditions of producers. The society supplies the raw materials to these members who produce the goods. The society takes the responsibility of selling the goods. The members as workers are paid wages for their services. Part of the profits is retained as reserve fund and the balance is distributed among members. Examples: Weavers' societies, co – operative farming societies, etc.

Credit Co – operatives

Credit co – operatives are established to protect the small farmers and other weaker sections. Here, through the co – operatives, weaker sections of the society are protected from the clutches of moneylenders, who charge exorbitant rates of interest. Credit co – operatives are categorized into two. 1) Rural Credit Co – operative Societies and 2) Urban Credit Co – operative Societies

1. Rural credit co – operatives can be formed with at least 10 members. Individuals join as members by contributing to the share capital in the form of shares. The societies receive loans from State Co – operative Bank, and these are advanced to the members as short term loans. These societies keep up a margin while advancing loan to meet the administrative costs. The area of coverage of these societies is confined to one or two villages.

2. Urban co – operative credit societies are meant to advance loans to small traders, artisans and employees receiving small incomes. The members are provided short term loans. Liability is limited. Urban co – operatives raise their capital from Governmental agencies and members.

State or Public Enterprise

State enterprise is an undertaking, owned and controlled by the local or State or Central Government. Entire investment or major part of the investment is done by the Government. The major considerations for the States to undertake the business are heavy investment requirements, need to protect weaker sections against economically strong, and when private traders are hesitant to venture into the enterprise. State enterprises are found in manufacturing, trading and service activities. These enterprises are managed by the Government. The Government programmes are implemented through State enterprises.

International/ Foreign Trade:-

With the introduction of the process of globalization of the economy and the advantage of WTO, the degree of inter-dependence among the countries of the world has increased. Many factors have favored international specialization and international trade in tangible goods & in intangible goods and services.

Definition: Foreign trade/ international trade mean “Trade done outside the boundaries of country and with other countries, e.g. Tea is exported from India to England.

a. Import Trade: It means purchase goods or services from other countries. E.g. Machineries Purchased from USA and brought to India.

b. Export Trade: It means to sell the goods, services or technology produced in our country to other countries. e.g. Mango Juice sale in Australia

c. Re-export Trade: It means to purchase goods from other country and to sell the same directly to other country. e.g. Machinery purchase from Russia and unloaded at Bombay port and from Bombay, sent to Sri Lanka.

Differences between Inter Regional Trade (Domestic Trade) and International Trade

The classical economists proposed a specific theory of international trade which is popularly known as the Theory of “**Comparative Costs**” or the theory of “**Comparative advantage**”

While modern economists views against that of classical economist and states that the difference between inter Regional trade and international trade are of only in degree rather than in the kinds of trade.

1. Factor Immobility: The factors of production are perfectly **mobile** between the regions of a country while they are perfectly **immobile** between the countries entering into international trade. Labour and capital are regarded as immobile between countries while they are perfectly mobile within a country. The factor prices are almost equal in a country but differ widely between countries. It was due to the differences in languages, customs, tastes and preferences, operational skills, economic, social, political and legal restrictions etc. But above problems do not arise in the case of inter regional trade.

2. Differences in Natural Resources Endowments: The production of those commodities in which they are richly endowed and trade them with other countries where such resources are scarce. In Australia land is in abundance while labour and capital are relatively scarce, whereas in England the capital is abundant and cheap, while land is scarce and dear. Countries trade with each other on the basis of **comparative cost differences in the production** of different commodities.

3. Geographical, Ecological and Climatic Differences:- Every country cannot produce all commodities due to geographical, ecological and climatic conditions except at prohibitive cost.

4. Different Markets: International markets are separated by differences in language, usage, customs, habits, styles etc. e.g. the car models in France and the USA are quite different and they are trade better within the country rather than across the country. Thus the goods differ for sale in the inter-regional markets and international markets.

5. Different Currencies: The principal difference between inter-regional markets and international markets lies in the use of different currencies in the international markets but the same currencies in the inter-regional markets. To overcome this problem a common currency has been introduced in the European countries (Euro-dollars).

6. Problems of Balance of payment: The problems of BOP are perpetual in the international trade, but there is no such problem in inter-regional trade because of greater mobility of capital within different regions of country. The problem of BOP is due to the problems of deflection, devaluations, import restrictions, restrictions on the movement of currency etc.

7. Transport Costs: International trade involves huge transport costs while it was less in inter-regional trade.

8. Different Economic Policies: Different countries follow different economic policies with regards of taxation, tariff, commerce and trade considering a policy of free trade.

Advantages of International Trade:

The advantages of international trade rests on international division of labour. There is world wide specialization in industries which results in increased total production and other advantages which are as follows.

1. The productive resources of the world are utilized to the best advantage.
2. A country is able to consume goods which it cannot produce at all or only at an impossible high cost.
3. Violent price fluctuations are turned down.
4. Shortage in time of famine and scarcity can be met from the imports.
5. Countries economically backward but rich in unused resources are able to develop their industries.
6. Trade develops racial sympathies and creates common interests.
7. The existence of international trade promotes peace.

Disadvantages:

1. The worst effect of foreign trade on backward countries is the destruction of their handicrafts and cottage industries.
2. The empire builder follows the trader e.g. a powerful country can easily find some excuse for attacking a weak country.
3. Dependence on foreign goods creates difficulties in time of war when the country is cut off by enemy action.
4. Countries which sell primary commodities and by manufactured goods in return are losers.
5. Foreign trade may completely exhaust a country's natural resources.
6. Imports of harmful drugs and luxuries, as opium in china, ruin the health of the nation, negative and vulgar movie etc. affects the cultural value of the country.
7. Through foreign trade, the economic troubles of one country are transmitted to other. For example, the collapse of American market in 1929 resulted in a world wide depression.

Balance of payment:

The balance of payments is a comprehensive record of economic transactions of the residents of a country with the rest of the world during a given period of time. It includes all 'visible' and 'invisible' items. The main purpose of keeping these accounts is to inform the government of a country of the international economic position of the country and to help it in making decisions on monetary and fiscal policies to be pursued as well as on the trade and payment issues.

Importance of Balance of Payments

A study of BOP is important because –

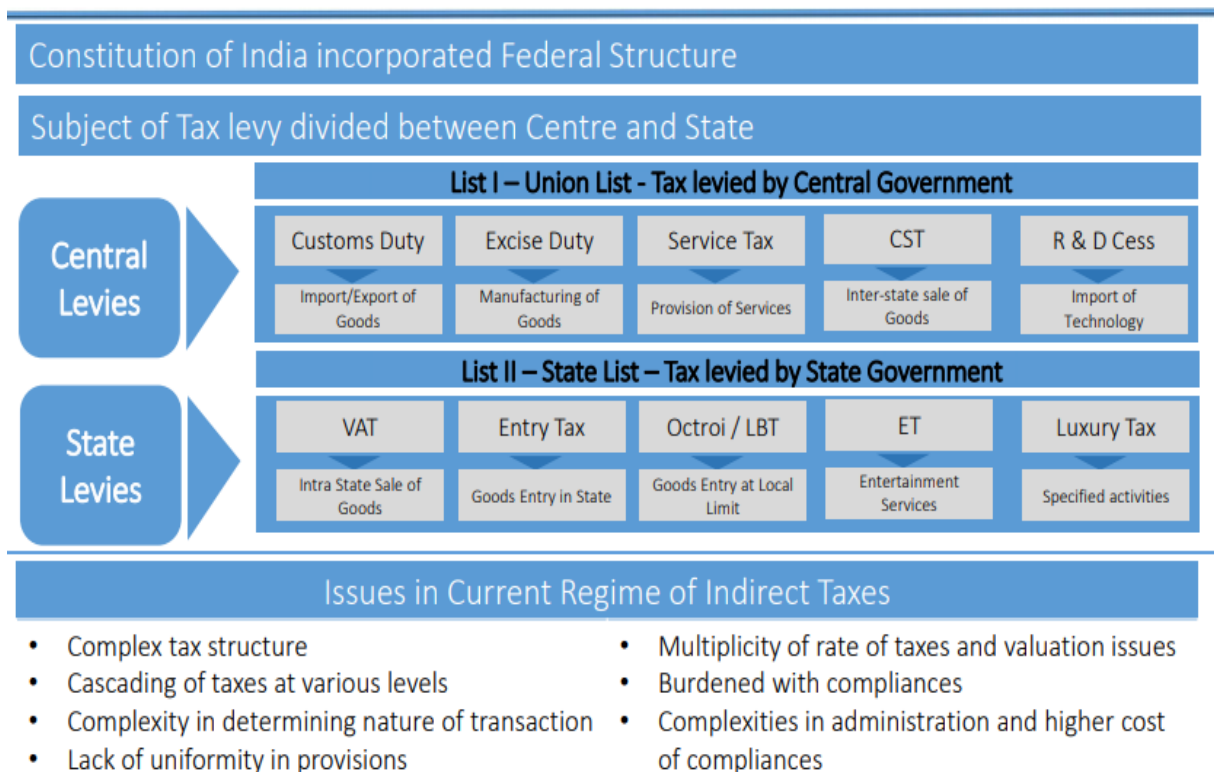
1. It serves as an indicator of the changing international economic or financial position of a country.
2. It helps in formulation of a country's monetary, fiscal and trade policies.
3. It helps in determining the influence of foreign trade & transactions on the level of national income of a country.
4. It is useful to banks, firms, financial institutions and individuals which are directly or indirectly involved in international trade and finance.
5. It is an economic barometer of nation's progress vis-à-vis rest of the world.

Chapter – 18

GST

- GST is one indirect tax for the whole nation, which will make India one unified common market. GST is a single tax on the supply of goods and services.
- GST is a destination-based tax, which is levied only on value addition at each stage because credits of input taxes paid at procurement of inputs will be available. Thus, the final consumer will bear only the GST charged by the last dealer in the supply chain.

Current Regime of Indirect Taxes



Source: http://www.krestonsgco.com/wp-content/uploads/SGCO_GST_PPT_2017.pdf



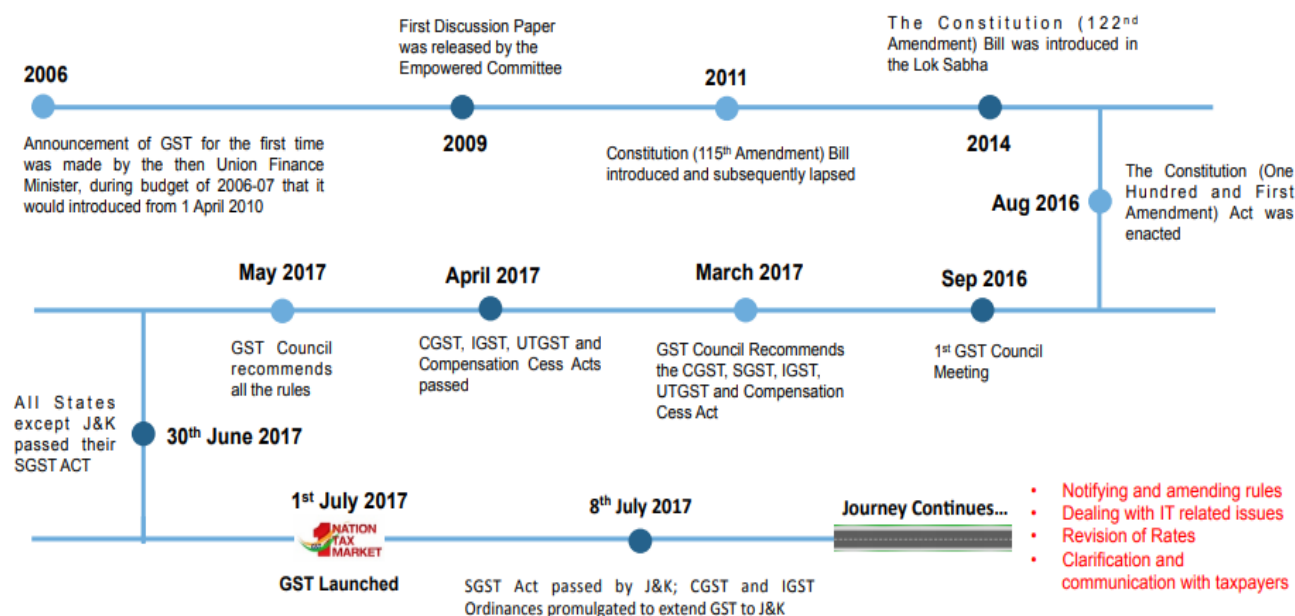
Proposed broader structure under GST

Proposed GST Rates	Current Indirect Tax Rates	Product Basket / Comments
0 %	0 %	- Proposed to include approx. 50 % of Items falling under Consumer Price Indices basket - It may include items such as Food grains used by Common People - Zero rated to keep its impact least in terms of inflationary pressure on common people
5 %	4 % - 7 % (approx.)	- Items of mass consumption mainly used by common people ("Aam Aadmi Products") - Rates has been reduced from earlier proposed rate of 6 %
12 % (1 st - Standard Rate)		- One of the Standard Rates but no specification provided about items to be taxed - May be applicable on Fast moving Consumer Goods
18 % (2 nd - Standard Rate)		- One of the Standard Rates but no Specification provided about items to be taxed - Certain products used by Lower middle class may be included which are currently taxed at 28 % or at higher rate (such as Soaps, Oils & Shaving Kits)
28 %	28 % - 31 %	- Includes products such as White goods, Cars which are currently taxed at more than 28 % - Lesser items to be included in this rate brackets
28 % plus Cess	40 % - 65 %	- Cess to be levied only on selected products covered under 28% bracket - Cess to be applicable with a sunset clause of 5 years subject to yearly review - Covers Luxury Cars, Ultra Luxury / Demerit / Sin goods, Aerated Drinks, Tobacco, Panmasala

- Discussion pending about categorisation of items falling under respective slab rates and will be provided at a later date.
- No rates has been specified in case of Services as it would be clarified at a later date when categorisation list is provided.
- Gold rates to vary from 2 % to 4 % based on flexibility of revenue generated to achieve Revenue Neutrality.
- Cess so collected to be utilised to compensate State tax losses estimated to be INR 50,000 Crores in first year of GST.
- Existing Energy Cess on Coal to continue and will be utilised to compensate state tax losses.

Source: http://www.krestonsgco.com/wp-content/uploads/SGCO_GST_PPT_2017.pdf

The Journey of GST



Source: <http://www.cbec.gov.in/resources/htdocs-cbec/gst/ppt-on-gst-ason-0112017.PDF>

What taxes will be levied under GST?

Answer: Since India is federal country, Centre Government and State Government both have powers to levy taxes. Under GST regime, Centre and State both have power to levy GST. Therefore, GST in India is divided into two parts:

1. Central GST (CGST)
2. State GST (SGST)

GST will be divided into two components, one is CGST, which is levied by Central Government, and other is SGST, which is levied by State Government. However, there will be one more type of GST is Integrated GST (IGST). IGST will be levied on inter-state transactions. Since, there are chances that people will get confused in case of transactions between two persons of two different States and there will be difficulty setting off dues of taxes between two States, thus IGST will be levied by Centre. Now, Centre will apportion the State's portion of GST from IGST to relevant State.

Basic Rates on Agricultural Sector

Goods	Rate(%)
Seed, Organic compost without brand	0
Head pump and its parts	5
Tractor	12
Chemical fertilizer	5
Tractor Tire & Rim	18
Other tractor parts	18
Harvester, Earth, Grader, Parts	12
Insecticide	18

Source: <http://www.alankitgst.com>

Benefits of GST

- Reduction in Cascading of Taxes
- Overall Reduction in Prices
- Common National Market
- Benefits to Small Taxpayers
- Self-Regulating Tax System
- Non-Intrusive Electronic Tax System
- Simplified Tax Regime
- Reduction in Multiplicity of Taxes
- Consumption Based Tax
- Abolition of CST
- Exports to be Zero Rated

Impact of GST on Agriculture

Impact on input-side

- Fertilisers that were subjected to a 0% to 8% VAT will henceforth attract 12% tax under GST. This will increase the prices of fertilisers by 5% to 7% unless the government offers to increase subsidy.
- Pesticides have been placed in 18% slab. This is an increase from the pre-GST 12% excise and VAT of 4-5% in some states.
- While tractors are placed in 12% slab, several components and accessories of tractors are placed in the 28% slab. It is not clear what impact GST will have on the prices of tractor. However, it is expected that there is a scope for reduction in tractor prices.

- Overall, from the input side, the cost of cultivation is expected to increase marginally.
Impact on Output side
 - Highly used agri-commodities such as rice, wheat, milk, fresh fruits and vegetables are placed in the zero tax slab. This will help in avoiding tax, cess and arhatiya commission levied by some States.
 - The taxation structure for processed food is not very encouraging. The processed foods like fruit and vegetables juices under GST will be taxed at 12% up from 5%. Some items like fruit jams, jellies, marmalades etc will be taxed at even higher 18%. The higher tax rates are expected to discourage the development of food processing industry, especially for perishable fruits and vegetables. This may also affect the employment in food processing industry
- GST will help to do away with mandi taxes and associated cess and levies, which were distorting agricultural markets. It is one of the biggest gains for agriculture. Introduction of GST could also help in reinvigorating the interest of private sector in agriculture.

Source: www.gktoday.in

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Dt.27/06/2018

AGRICULTURAL FINANCE

Meaning:

Agricultural finance generally means studying, examining and analyzing the financial aspects pertaining to farm business, which is the core sector of India. The financial aspects include money matters relating to production of agricultural products and their disposal.

Definition of Agricultural finance:

Murray (1953) defined agricultural finance as **“an economic study of borrowing funds by farmers, the organization and operation of farm lending agencies and of society’s interest in credit for agriculture.”**

Tandon and Dhondyal (1962) defined agricultural finance **“as a branch of agricultural economics, which deals with and financial resources related to individual farm units.”**

Nature and Scope:

Agricultural finance can be dealt at both micro level and macro level. Macro finance deals with different sources of raising funds for agriculture as a whole in the economy. It is also concerned with the lending procedure, rules, regulations, monitoring and controlling of different agricultural credit institutions. Hence macro-finance is related to financing of agriculture at aggregate level.

Micro-finance refers to financial management of the individual farm business units. And it is concerned with the study as to how the individual farmer considers various sources of credit, quantum of credit to be borrowed from each source and how he allocates the same among the alternative uses within the farm. It is also concerned with the future use of funds.

Therefore, macro-finance deals with the aspects relating to total credit needs of the agricultural sector, the terms and conditions under which the credit is available and the method of use of total credit for the development of agriculture, while micro-finance refers to the financial management of individual farm business.

Significance of Agricultural Finance:

- 1) Agril.finance assumes vital and significant importance in the agro – socio – economic development of the country both at macro and micro level.
- 2) It is playing a catalytic role in strengthening the farm business and augmenting the productivity of scarce resources. When newly developed potential seeds are combined with purchased inputs like fertilizers & plant protection chemicals in appropriate / requisite proportions will result in higher productivity.
- 3) Use of new technological inputs purchased through farm finance helps to increase the agricultural productivity.
- 4) Accretion to in farm assets and farm supporting infrastructure provided by large scale financial investment activities results in increased farm income levels leading to increased standard of living of rural masses.

- 5) Farm finance can also reduce the regional economic imbalances and is equally good at reducing the inter-farm asset and wealth variations.
- 6) Farm finance is like a lever with both forward and backward linkages to the economic development at micro and macro level.
- 7) As Indian agriculture is still traditional and subsistence in nature, agricultural finance is needed to create the supporting infrastructure for adoption of new technology.
- 8) Massive investment is needed to carry out major and minor irrigation projects, rural electrification, installation of fertilizer and pesticide plants, execution of agricultural promotional programmes and poverty alleviation programmes in the country.

Three basic economic activities constitute the managerial process of the farm. They are production activities, financing activities and marketing activities. Production activities comprise the decisions like what products to be produced, method of production and how much of each product should be produced. Financial activities relate to decisions of obtaining and use of credit. Marketing activities involve managerial decisions related to procurement of inputs and distribution and sale of output.

Financial decisions more often than not overlap the production and marketing decisions. For example, nature of enterprises and the quantum of the product determine the amount of capital and provide solution to the decisions of how much capital should be used in the farm business. Evaluation and involvement of alternatives among enterprises is linked with the decisions of how products are produced. Analogously, marketing decisions are linked with financial decisions, because product marketing and selection of input marketing are often determined by the quantum of financing. Thus, we should recognize that production, financing and marketing decisions are concerned with financial acquisition and financial use depending upon the goals of financial manager.

Importance of Finance:

Agricultural finance is one of the most important inputs in all agricultural development activities for increasing agricultural production. It is necessary that farmers must be provided with adequate and timely finance for irrigation, farm mechanization and land development etc. So agricultural finance is very important instrument in facilitating the process of agricultural activities. Finance is very important in the context of new strategy and for making the agricultural sector up to date and modern.

Agricultural credit itself is not a input but it helps creating environment for adoption of modern production technology using more production inputs and encouraging private investments on the farms. Both non-institutional credit agents give money lenders, landholders' relatives, trader's friends and institution credits agents like co-operatives, commercial banks are in operation.

As the available resources base and the capacity to generate sufficient levels of financial resource within the rural sector particularly in the agriculture sector is limited at present, institutional financing is considered as principle source of external finance to support and accelerate the development of the agriculture sector. The provision of adequate, timely and liberal credit to the farmers has become an integral part of the agricultural development policy in India.

The involvement of commercial banks in agricultural development was negligible and was largely in terms of indirect credit. The nationalization of 14 major banks in July, 1969 and 6 banks in April 1980 gave further impetus to farm finance by commercial banking facilities to hitherto neglected areas. Special attention was given to priority sector including agriculture and special programmes and schemes were launched to help the weaver section including small and marginal farmers.

In ancient period agriculture was subsistence type, capital need was less for agricultural production and hence, credit was also limited. In course of time agriculture became more capital intensive and hence credit intensive. In India about 69 per cent cultivators are small and marginal cultivators, their income level is quite low. Low income results into low saving, because of low saving one can not make additional investment and again has to face low income. Thus, Indian cultivators are found in a vicious circle, to break this circle, credit is essential. Investment in agriculture at the time of sowing and developing of crops is required and if the farmer is not having his own funds then credit can fulfill these needs.

Agriculture is an important industry and like other industries it also requires capital. Due to the peculiarities of agriculture, especially its uncertainties, low returns, high rate of rent and limited scope for employment, a large number of cultivators cannot manage the needed finance without recourse to borrowing. One of the most important lessons of universal agrarian history is that the agriculturist must borrow, due to the fact that an agriculturist's capital is locked up in his lands and stocks. For stimulating the tempo of agricultural production, it is necessary that the farmer must be provided with adequate and timely credit.

Farm finance is not just a science to manage the money, but is an applied science of allocating scarce resources to derive the optimum output. The role of farm finance in strengthening and development of both input and output markets in agriculture is crucial and significant. Indian agriculture is still traditional, subsistence and stagnant in nature, hence agricultural finance is needed to create the supporting infrastructure for adoption of new technology. Massive investment is needed to carry out major and minor irrigation projects, rural electrification, installation of fertilizers and chemical plants and poverty alleviation programmes in the country.

Farm finance has vital importance in the agro-socio economic development of the country both at individual /micro level and at aggregate /macro level.

It is important for higher productivity of resources.

- Application of new technological inputs
- Accretion to farm assets & farm income, improve the living standards of rural masses.
- It reduces the regional economic imbalances as well as narrowing down the inter farm asset wealth variations.
- It strengthens and development of both input & output marketing in agriculture.
- It is needed to create the supporting infrastructure for adoption of new technology.

Credit and its Classification

*** Meaning of Credit:**

The dictionary meaning of the word credos is confidence felt in a person's ability, honesty to pay money with the belief that it will be repaid in a specified period.

- Credit means trust in borrower's ability to pay and his willingness to pay

Credit: Credit/ Loans are certain amount of money provided for certain purpose, on certain conditions with some interest which should be repaid sooner or later.

*** Characteristics of good Agricultural Credit:**

- (1) It should be in accordance with state and central Govt. agril policy.
- (2) It should be an effective alternative of the private financing agencies.
- (3) Persons working in financing agencies dealing with loan issuing workers must be trained.
- (4) It should be capable to co-ordinate agril. and its allied activities.
- (5) Credit should not be provided only against assets but should be provided against crop estimates and repayment capacity.
- (6) Effective inspection on use of credit should be made by the credit supplying agencies.
- (7) It granted through easy procedure.
- (8) It may be provided on low or reasonable rate of interest
- (9) It may be granted as such way that it should be protect the dignity and social status of the farmers.
- (10) It should be act to educate disciplines & guide to the farmers.

Credit Instruments are: 1. Cheque 2. Promissory notes 3. Bill of exchange

4. Bank draft 5. Hundi

CLASSIFICATION OF CREDIT

Loans/ credits are certain amount of money provided for certain purpose on certain conditions with some interest which should be repaid sooner or later.

It is broadly classified based on various criteria.

- I Based on Purpose
- II Based on Time (Length of period)
- III Based on Security
- IV Based on Liquidity
- V Based on Lenders
- VI Based on Borrowers
- VII Based on Approach
- VIII Based on Contact

(I) Based on purpose

- 1. Production (Agriculture) Loan
- 2. Investment Loan
- 3. Marketing Loan
- 4. Consumption Loan

(1). Production Loans:

Loan given to the farmers to increased the crop production. These are also called Seasonal Agril. Operations (SAO) loans or short term loans or crop loans. These loans are repayable within a period ranging from 6 months to 18 months in single installment.

(2) Investment loans:

Loans given for equipment whose productivity is distributed over more than one year. e.g. loans given for tractor, pump sets, tube wells etc.

(3). Marketing Loans:

These are meant for helping the farmers to overcome distress sales & market the produce in a batter way. Regulated markets & commercial bank based on warehouse receipts, advanced 75 % of the value of the produce.

(4). Consumption loan:

Any loan advanced for the purpose other than production, is broadly categorized as consumption loan.

- It assists in more productive use of the crop loans
- It restricted to hit area by natural calamities
- It given in group guarantee basis with a maximum of three members.

- It repaid within 5 crop seasons or 2 ½ years whichever is less.

(II) Based on Time:

It depends on the repayment period of the loan amount

(1). Short Term Loans:

These loans are to be paid back within a period ranging from 6 to 18 months. All crop loans are said to be short-term loans, but, the length of the repayment period varies according to the duration of the crop. The farmers require this type of credit to meet the expenses for the ongoing agricultural operations on the farm like sowing, fertilizer application, plant protection measures etc.

(2) Medium Term Loans:

These loans are extended for a period varying from 15 months to 5 years. These loans are required by the farmer for bringing about some improvements on his farm business by way of purchasing implements, electric motor, milch animal etc.

(3) Long term loans:

These loans fall due for repayment over a long time ranging from 5 years to more than 20 years. These loans together with medium term loans are called investment or term loans. These loans are meant for bringing about permanent improvements on the land, like leveling and reclamation, construction of farm building, purchase of tractors, raising orchards etc.

(III) Based on Security:

The loan under this category into sub-categories, viz, secured and unsecured loan.

1. Secured Loans:

Loans advanced against some security by the borrower are termed as secured loans. Various forms of securities are offered in obtaining the loan which is as follows:

(i) Personal Security:

Borrower himself stands as the guarantor. It is advanced on the farmer's promissory note.

(ii) Collateral Security:

It is the property that is pledged to secure a loan. The movable properties of the individuals are offered as security. Examples are: LIC bonds, fixed deposit bonds, warehouse receipts, jewellery, machinery, livestock etc. These are some of the properties accepted as collateral security by the institutional lending agencies.

(iii) Chattel Loans:

These are specific type of loans particular category of lenders. Loans obtained from pawn brokers by pledging movable properties such as jewellery, utensils made of various metals are the examples.

(iv) Mortgage:

The immovable properties are presented for security. For Example, land, farm buildings, etc.

Mortgages are of two types

- a) **Simple mortgage:** When the mortgaged property is ancestrally inherited property of borrower then simple mortgage holds good. Here, the farmer- borrower has to register his property in the name of the banking institution as a security for the loan he obtains. The registration charges are to be borne by the borrower.
- b) **Equitable mortgage:** When the mortgaged property is self-acquired property of the borrower, then equitable mortgage is applicable. In this no such registration is required, because the ownership rights are clearly specified in the title deeds in the name of farmer-borrower.

(v) Hypothecation:

Borrower has ownership right on his movable and the banker has legal right to take a possession of property to sale on default (or) a right to sue the owner to bring the property to sale and for realization of the amount due. The person who creates the charge of hypothecation is called as hypothecator (borrower) and the person in whose favour it is created is known as hypothecatee (bank) and the property, which is denoted as hypothecated property.

This happens in the case of tractor loans, machinery loans etc. Under such loans the borrower will not have any right to sell the equipment until the loan is cleared off. The borrower is allowed to use the purchased machinery or equipment so as to enable him to pay the loan instalment regularly.

Hypothecated loans again are of two types' viz., key loans and open loans.

- a) **Key loans:** The agricultural produce of the farmer - borrower will be kept under the control of lending institutions and the loan is advanced to the farmer. This helps the farmer from not resorting to distress sales.
- b) **Open loans:** Here only the physical possession of the purchased machinery rests with the borrower, but the legal ownership remains with the lending institution till the loan is repaid.

2. Unsecured Loans:

Based on confidence between the borrower and lender the loan transaction takes place. There is no mention of any type of security here.

(IV) Based on Liquidity:

Under this type, the loans are classified into self-liquidating loans and partially liquidating loans or non-liquidating loans.

(i) Self liquidating Loans:

The income generated through these loans helps the farmer to repay the loan amount in the same season.

e.g. short term loans or crop loan

(ii) Partially liquidating loans or non-liquidating loans:

The income generated through these borrowings will help to pay part of the loan component only. In other words, these loans are cleared over a time period by the farmer- borrower.

e.g. term loans

(V) Based on Lender's: Credit is also classified on the basis of lender such as

- a) **Institutional credit:** Here are loans are advanced by the institutional agencies like co-operatives, commercial banks. Ex: Co-operative loans and commercial bank loans.
- b) **Non-institutional credit:** Here the individual persons will lend the loans Ex: Loans given by professional and agricultural money lenders, traders, commission agents, relatives, friends, etc.

(VI) Based on Borrower's: The credit is also classified on the basis of type of borrower.

- a) **Based on the business activity** like dairy farmers, poultry farmers, rural artisans etc.
- b) **Based on size of the farm:** agricultural labourers, marginal farmers, small farmers, medium farmers, large farmers
- c) **Based on location** hill farmers (or) tribal farmers.

(VII) Based on approach:

- a) **Individual approach:** Loans advanced to individuals for different purposes will fall under this category.
- b) **Area based approach:** Loans given to the persons falling under given area for specific purpose will be categorized under this. Ex: Drought Prone Area Programme (DPAP) loans, etc
- c) **Differential Interest Rate (DIR) approach:** Under this approach loans will be given to the weaker sections @ 4 per cent per annum.

(VII) Based on contact:

a) **Direct Loans:** Loans extended to the farmers directly are called direct loans.
Ex: Crop loans.

- b) **Indirect loans:** Loans given to the agro-based firms like fertilizer and pesticide industries, which are indirectly beneficial to the farmers are called indirect loans.

PROBLEMS OF RURAL & AGRIL. INDEBTEDNESS

On account of extreme poverty of the rural people they have to incur heavy debt to meet their production requirements, social commitments and even consumption needs. The debt passes from generation to generation because the income from agriculture is too meager to pay off the debt and the malpractices of the money lenders do not allow the farmers to free themselves from the burden of debt. Therefore it has been correctly stated that “The Indian farmer is born in debt, lives in debt and dies in debt.” (Remark by Royal Commission of agriculture)

CAUSES OF RURAL INDEBTEDNESS

The problem of rural indebtedness is considered in a very casual manner in India and it is customary to regard the illiteracy of farmers, unfavorable climatic conditions, increase in the pressure of population, subdivision and fragmentation of holdings, the money lender system, defective marketing, wasteful expenditures by farmers etc. as the causes of rural indebtedness.

- (1) **Ancestral debt (Inherited debt):** The most important and the chief cause of the existing indebtedness is the inherited debt, which is handed over from father to son, generation to generation.
- (2) **Sub-division & fragmentation of holding:** Due to the over population and pressure of population on land, and is divided and fragmented further & further. Due to uneconomical land holding farmers become more and poorer.
- (3) **Poverty of the rural people:** Poverty of the rural people is most important factor responsible for indebtedness in rural, sector with ridiculously low income; the poor people are unable to repay their loan.
- (4) **Agriculture depends upon nature:** There is every possibility, almost every season that there may be no rains or inadequate or untimely rain, drought condition, weather effect.
- (5) **Wasteful or unproductive expenditure:** The social and religious functions pertaining to marriages, births, deaths etc. are the wasteful or unproductive expenditure increase the indebtedness.
- (6) **Defective marketing system:** The system of agricultural marketing in India is full of defects. As a result the farmer is not able to procure a fair price for his produce. Because of economic dependence on the money lender and village trader, he is forced to sell off a large part of his produce to them. They give him a very low price for his produce keeping him constantly in a state of poverty.
- (7) **Defective agricultural credit system:** The system of agric. credit is wrong with a defective substantial part of credit granted by money lenders. Money lenders are fully exploiting the farmers. Money lenders are least interested in whether their money is used for productivity. They charge exorbitant rates of interest, manipulate accounts and write-down inflated figures of loans, do not enter payment of installments of loans by the farmers etc.
- (8) **Absence of alternative source of income:** There was a steady decline of Indian industries during the British regime. Cause of the decline of small and cottage industries, village handicrafts etc. dependence on agriculture increased. But agriculture is heavily dependent on monsoon and years of drought or floods spell misery to the rural poor who have to incur heavy debt to make both ends meet.
- (9) **Ignorance & Illiteracy of the cultivators:** Standard of education is very low in Indian agricultural farmers. Most of the farmers are illiterate and ignorant and as a result all the agencies concerned with them are fully exploited.

CLASSIFICATION OF CREDIT INSTITUTION IN AGRICULTURE

Agriculture Credit

A. Non-Institutional agencies

1. Money lenders
2. Traders and commission agent
3. Relatives
4. Land lord & others

B. Institutional agencies

1. Co-operative bank
2. Scheduled commercial bank
3. Regional Rural Bank (RRB)
4. Land Development Bank (LDB)
5. National Bank for Agricultural And Rural Development (NABARD)

A. Non-Institutional Agencies (Private):

1. **Money lenders:** Under unorganized financial agencies, the money lender is important source both from the point of view of easy availability and the volume of business.

Money lender as a credit agency continue to play dominant role in rural credit, although these agencies charge more rate of interest and follow unethical (immoral) practice. The reason for this that their lending procedure is relatively simple and credit assistance timely.

Malpractices followed by money lenders are as follows:

1. Deduct in advance the total interest for the year.
2. Many moneylenders get thumb impression or signature on blank sheet of paper before lending money and later on enter more money.
3. Few have receipts / pass books.
4. High rate of interest.
2. **Traders and commission agent:** In the sphere of agril. Credit, traders and commission agents also supply a sizable part of finance. Commission agent are providing short term finance to the cultivators and exploiting them fully by heavy rate of commission, interest etc.
3. **Relatives:** Farmers some time take loan from relatives in case of urgent need. These loans are generally available on soft terms and short term with low or negligible interest.
4. **Land lord & others:** Agriculturist also seek loan from land lord and other people. The loan from these sources generally costly because of high rate of interest in this loan is common. Most of the money supplied by this system is consumed as non-productive use and hence this system is not considered healthy.

B. Institutional Agencies:

1. Co-operative Banks: The co-operative credit agencies in India can be divided in two categories. i.e. those dealing with short and medium term needs and those serving long term needs. The structure of short and medium term credit is three tier i.e. (1) Primary Credit Societies (PCS), (2) District Co-operative bank (DCB), (3) State co-operative bank (SCB).

In the case of long term credit, the structure is two tier i.e. (1) Primary land development bank, (2) Central land development bank.

(i) Primary Credit Societies (PCS):

These are primary unit at a village level functioning in which funds are directly to the borrowers. The main sources of their funds are share capital and loan from Central Co-operative Bank (CCB). Share capital is kept just nominal with a view that maximum villagers may become the members of the society. Loans are granted for short period normally for one year for carrying out agricultural operations purpose of input purchase. Only some profit distributed to the share holder and remaining profit are spent on the welfare of the villages. The organizations of such types of societies are as per the Act of 1904.

(ii) District Co-operative Bank (DCB):

Known as District central co-operative banks, organized as per co-operative societies Act 1912. These bank works as an intermediary to link the primary credit societies and with money market. They also form an important link between state co-operative bank and primary agril. Credit societies. The main sources of their funds are their own share capital and reserves and deposit from the public and loan from the (SCB) State co-operative banks. Their main objective is to lend money to the village primary credit societies. They are above the Primary Credit Societies and below the State Co-operative or Apex Bank.

(iii) State Co-operative Bank (SCB)

Known as Apex-bank generally one bank in each state. It is final link in the chain between the small, scattered primary societies and the money market, and also with Reserve Bank of India. The nature of their work is mostly supervisory. Its main function is to finance and control the District Central Co-operative banks. It serves as a link between NABARD from which it borrows and lends to co-operative central banks and the village co-operative societies.

Main Function:

1. Act as a banker's bank to the central co-operative banks.
2. Ensuring the co-ordination and uniformity in banking policy.
3. Prompting the cause of co-operation in general.

Land Development Bank (LDB):

There was no suitable agency in the country to help agriculturist in meeting their long term requirements for the development of his land and other programme. Thus better and suitable machinery was needed to enable the cultivators to get such loans according to their requirements. This brought idea of land development bank in the country. The long term credits in agril. sectors are met by this bank. Loan is provided against the mortgage of land.

Characteristics of Banks:

1. Lending money for long term against the mortgage of their lands.
2. Increasing their capital by issuing debentures.
3. Supported by Government.

Function of Bank:

1. Extend credit for redemption of old debts.
2. Improvement, reclamation and development of land.
3. Purchase of agril. Machinery/ equipments.
4. Other improvement like sinking and repairs of well.

2. Scheduled Commercial Banks: (Nationalized 1969)

Commercial banking on western styled started in India in the beginning of 19th century. Commercial banks are important financial intermediaries for promoting and mobilization savings and allocating investment among productive sectors like agriculture by providing short term and medium term loan up to 10 years. In 1969, 14 major commercial banks were nationalized (at present 29 banks nationalized) there are 53123 branches of which about 60% are in rural areas. This banks are financing to farmers, land less labourers, artisan and economically weaker section of the society. After nationalization, there has been substantial increase in the involvement of commercial banks in agril. Sector and emerged as an important source of agricultural finance.

The commercial banks collected their resources in the shape of deposits, paid up capital and borrowings from the R.B.I. and utilize them by way of loans.

3. Regional Rural Banks (RRBs):

Started in 1975 under ordinance of president of India. These banks are financing the rural people through their branches in rural areas. These banks are formed by the Central government and Nationalized Commercial Banks. The main objective of RRBs is to provide credit to the weaker section- small and marginal farmers, landless labourers, artisans and small entrepreneurs by development of village areas.

Capital Structure:

The capital of every RRB was Rs. 1 crore and the issued capital was Rs. 25 lakhs. 50 per cent of the issued capital being subscribes by the central Government, 15 per cent by concerned state Government and 35 per cent remaining part by the sponsoring bank.

Objective:

According to regional rural banks act 1976, the RRBs were to set up mainly with a view to develop the rural economy by providing for the development of agriculture, trade, commerce, industry and other productive activities in the rural areas. These banks aimed at providing credit and other facilities particularly to the small and marginal farmers, agricultural labourers, rural artisans and small entrepreneurs.

Management:

The management of each RRB is being done through a nine-member Board of Directors headed by a chairman. The strength of the Board could be raised up to 15 with the approval of Government of India which appoints its Chairman. The central Government nominees three directors (in addition to chairman), the State Government two director, while sponsoring bank nominates the remaining three directors.

Banking Business:

Every RRB status of scheduled commercial bank and has been empowered to mobilize deposits and to grant short term loans directly (whether individually or in groups) only to small and marginal farmers, agricultural labourers, rural artisans, small entrepreneurs. They can pro vide loans both for productive as well as consumption purpose.

4. Land Development Bank (LDB):

There was no suitable agency in the country to help agriculturist in meeting their long term requirements for the development of his land and other programme. Thus better and suitable machinery was needed to enable the cultivators to get such loans according to their requirements. This brought idea of land development bank in the country. The long term credits in agril. sectors are met by this bank. Loan is provided against the mortgage of land.

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Function of Bank:

1. Extend credit for redemption of old debts.
2. Improvement, reclamation and development of land.
3. Purchase of agril. machinery/ equipments.
4. Other improvement like sinking and repairs of well.

5. National Bank for Agriculture and Rural Development (NABARD):

The most important development in the field of rural credit in recent years is the setting up the National Bank for Agriculture and Rural Development (NABARD) in July 1982. It took over from Reserve Bank of India all the functions that the latter performed in the field of rural credit. NABARD is giving credit to farmers indirectly through co-operative societies, nationalized banks, land development banks etc.

Objectives:

1. The Bank serves as a refinancing institution for institutional credit to promote the activities of rural areas.
2. The Bank also provides direct lending to any institution as may be approved by the Central Government.
3. The bank has an organic links with the Reserve Bank and maintains a close link with it.

Functions of NABARD:

1. It works as an apex body to look after the credit requirements of the rural sector.
2. It has authority to oversee the functioning of the co-operative sector through its agricultural credit department.
3. It provides short term credit (up to 18 months) to state co-operative banks for seasonal agricultural operations (crop loan), purchase and distribution of fertilizers and working capital requirements of co-operative sugar factories.
4. It provides medium term credit (18 months to 7 years) to state co-operative bank and RRBs for approved agricultural purpose, purchase shares of processing societies and conversion of short-term crop loans into medium term loan in areas affected by natural calamities.
5. It provides medium and long term credit (not exceeding 25 years) for improvements in agriculture to State Co-operative Bank, Land Development Bank, RRBs and Commercial Banks.

6. It maintains a research and development fund to be used to promote research in agriculture and rural development.
7. It offers advice and guidance to State Governments, Federation of Co-operatives and National co-operative Development Corporation (NCDC) and functions in close contact with RBI and Government of India pertaining to agriculture and rural development.

Difference between Agril. Credit and Credit for Commerce and Industries

Credit for Agriculture	Credit for Commerce and Industries
Demand for finance remaining stable irrespective of the ups and downs in output.	Demand for credit in industries directly linked to the output.
Agricultural business is full of uncertainty and due to the possibilities of crop diseases, attack by insects etc. it is not possible for framer to calculate exactly the need of credit.	In manufacturing industries precise calculation of financial needs can be made as it is possible to anticipate the output and returns on output.
In agriculture, farmers need credit for consumption because there is an interval between sowing and harvesting the crop.	In manufacturing industries, there is in the first instance no such demand for consumption.
In agriculture, there is every chance of misuse of consumption credit in unproductive use etc.	In industries, the payment of wages paid before the output is complete or sold.
In India, there are no adequate facilities for irrigation and therefore agriculture is gamble in monsoon and there are number of chances for crop failure as result no bank wishes to finance because there are not sure about repayment.	Industries are not depending upon nature and therefore, output is fixed, over and above industries is well organized and as a result they are getting finance on soft terms for their business as compared to agriculture.

PRINCIPLES OF AGRICULTURAL CREDIT

1. SAFETY: Safety of Funds, borrower should be in position to repay the loan plus interest.

Repayment by borrower depends on:

- (a) Borrower's capacity (Tangible Assets)
- (b) Willingness to pay (by honesty & character of the borrower).

2. LIQUIDITY: It means security of assets which are easily marketable without much loss.

Bank lend funds for Short-term i.e. for Working Capital, payable on demand. Borrower's Assets should be easily encashable such as –Goods and Commodities are easily saleable as against Land and Building. So liquidity is easier in goods as compared to Fixed Assets.

3. PROFITABILITY: Banks are giving loans to public to earn profit.

Loan given by Bank is Depositor's Money. It is to be repaid along with interest on deposit.

There are expenses on staff's salary etc.

Bank should not grant advances or loans to unsound parties with doubtful repaying capacity.

Three R's of Credit

Lending Agency should lend only those projects or activities within the format of 3R's

(i.e. Principles of Lending). The project should be Technically Feasible and Economically Viable.

When we take up the economic feasibility test of credit, three basic financial aspects are assessed by the banker.

1. If the loan is advanced will it generate return more than the cost?
2. Will the returns have surplus, to repay the loan when it takes due.
3. Will the farmer standup to risk & uncertainty in farming.

It known as Three R's of credit

1. Returns from the investment
2. Repayment capacity
3. Risk bearing ability of the farmer -borrower

(1) Returns from the Investment

This is an important measure in the credit analysis. The farmer's demand for credit can be accepted only when he will be able to generate returns that will enable him to tide over the costs. Returns depend upon the decision like what to grow, how to grow, how much to grow, whom to sell, where to sell etc. Which the farmers taken in their production activities. Farmers should be able to generate incremental income when they go for the additional costs to be made good by the borrowed funds.

Partial Budget technique

Season/ crop	Existing Plan			
	Area (ha.)	Gross Returns (Rs.)	Costs (Rs.)	Net Income (Rs.)
Kharif Paddy (improved)	1.0	7000	3500	3500
Summer Paddy (improved)	1.0	7400	3900	3500

Season/ crop	Alternative Farm Plan				Incremental Income (Rs.)
	Area (ha.)	Gross Returns (Rs.)	Costs (Rs.)	Net Income (Rs.)	
Kharif Paddy (HYV)	1.0	11500	5200	6300	2800
Summer Paddy (HYV)	1.0	12000	5600	6400	2900

By getting a loan amount of Rs. 1700 and Rs. 1700 in kharif and summer respectively, the farmer can switch over from improved varieties of paddy to high yielding varieties in both seasons. The borrowing fund is quite productive generating an incremental amount of Rs. 5,700 per hectare of land.

It is an important positive factor in favour of the farmer to present his claims for the loan amount from the institutional agency.

(2) Repayment capacity:

It means the ability of the farmer to clear off the loan obtained for production purpose within the time fixed by the bank.

The loan should not only be profitable but also have potential for effecting repayment. This condition emerges out of the fact that repayment capacity not only depends upon the returns but also on several other factors.

$$Y = \frac{(X_1, X_2, X_3, X_4)}{\text{Quantitative Variables}} + \frac{(X_5, X_6)}{\text{Qualitative Variable}}$$

Y = Repayment Capacity (in Rs.)

(+) X_1 = Gross returns from the enterprise for which loan was taken during a season/year (in Rs)

(-) X_2 = Working expenses (Rs)

(-) X_3 = Family consumption expenditure (Rs)

(-) X_4 = Other loan due (Rs.)

(+) X_5 = Literacy

(+) X_6 = Managerial skill

Though the returns are increase other factors may offset the returns which reducing the repayment capacity.

The estimation of repayment capacity varies from crop loans (self -liquidating loans) to term-loans (non -liquidating loans or partially –liquidating loans).

- **For self liquidating**

Repayment Capacity: Gross income - (working expenses excluding crop loan + family living expenses + other loans due + miscellaneous expenditure + crop loan)

Estimation for Repayment capacity for self-liquidating loans

Particulars	Amount (Rs.)	
	Without loans	With loans
Gross Returns	28,000/-	41,500/-
Working expenses excluding crop loan	8,800/-	8,800/-
Family living expenses	10,000/-	10,000/-
Other loans due	4,000/-	4,000/-
Miscellaneous expenditure	600/-	600/-
Crop loan	-	5,000/-
Repayment capacity	4,600	13,100/-

The farmer generated gross income of Rs. 41,500/- with a loan amount of Rs. 5,000/- His repayment capacity stood at 13,100/- after clearing the loan which indicates his credit worthiness.

- **Repayment capacity in respect of partially liquidating loans:**

Repayment Capacity = Gross Income – (Working expenses including short term loans + family living expenses + other loans due + miscellaneous expenditure + annual installment due for term loan)

Estimation of Repayment Capacity for Partially Liquidating Loans

Particulars	Amount (Rs.)	
	Without loans	With loans
Gross Returns	28,000/-	41,500/-
Working expenses including short-term loan	8,800/-	13,800/-
Family living expenses	10,000/-	10,000/-
Other loans due	4,000/-	4,000/-
Miscellaneous expenditure	600/-	600/-
Annual installment due for farm loan	-	5,620/-
Repayment capacity	4,600	7,480/-

Farmer has taken an investment loan of Rs. 20,000/- which is payable in 5 equal annual installments of Rs. 5620/- each. In this case also the term loan is productive enough to augment quite comfortably. The repayment capacity stood at Rs. 7,480/- after deducting the annual installment.

Causes for Poor Repayment Capacity:

Following are the causes for poor repayment capacity of the farmers:

1. Small size of land holdings;
2. Low productivity and production;
3. Low prices and fluctuations of agricultural commodities;
4. High family expenditure;
5. Using farm credit for unproductive purpose;
6. Low farmer's equity;
7. Lack of adoption of improved technology; and
8. Poor management of farm resources.

Measures to Strengthen Repayment Capacity:

Following are the measures to be adopted to strengthen the repayment capacity of the farmers:

1. Increasing net income by proper organization and operation of the farm business;
2. Adopting potential technology for increasing production and reducing the farm expenses;
3. Removing imbalances of the resources availability;
4. Scheduling the repayment plans according to the flow of income;
5. Adopting the risk management strategies like crop insurance/ machinery insurance etc.

(3) Risk Bearing Ability:

It is the ability of the farmer to withstand the risks that arise due to financial loss.

Risk can be quantified through statistical techniques like coefficient of variation, standard deviation, programming models etc.

Sources of risk in farming are:

1. Production risk;
2. Technological risk;
3. Risk caused by illiteracy and ignorance;
4. Personal risk (Sickness);
5. Institutional risk,
6. Weather uncertainly,
7. Price uncertainly

The farmer may satisfy the banker with regards to returns and repayment capacity, but yet another factor to be fulfilled is risk-bearing ability.

If the CV (coefficient of Variation) of paddy yield in given area is 15 %, the expected gross returns are deflated by 15 % to arrive at the corrected yield or income.

Repayment Capacity under risk (Risk)

= Deflated gross returns – (working expenses excluding proposed loan + family living expenses + other loans due + miscellaneous expenditure + crop loan)

Deflated Gross Return (Income) is = 41,500 – (41,500 /- x 0.15%) (Rs. 41,500 /- expected Gross income)

Example: Estimation of Risk Bearing Ability or RPC under: Risk.

Particulars	Amount (Rs.)	
	Without loans	With loans
Deflated gross Returns	28,000/-	35,275/-
Working expenses excluding crop loan	8,800/-	8,800/-
Family living expenses	10,000/-	10,000/-
Other loans due	4,000/-	4,000/-
Miscellaneous expenditure	600/-	600/-
Crop loan	-	5,000/-
Repayment capacity under risk	-	6,875/-

Measures to strengthen Risk Bearing Ability:

1. Developing owners equity
2. Developing moral characteristics i.e. honesty, integrity, feeling responsibility etc.
3. Reducing farm / family expenditure
4. Taking up stable and reliable enterprises
5. Providing ability to borrow in both good and bad periods
6. Creating ability to earn money and save money
7. Taking up crop and other insurance.

‘5’ Cs OF CREDIT

To the economic viability of a scheme or investment activity are 5 Cs.

1. Character
2. Capacity
3. Capital
4. Condition
5. Commonsense

1. CHARACTER:

The basis for any credit transaction is trust. Even though the bank insists up on security while lending a loan, an element of trust by the banker will also play a major role. The confidence of an institutional financial agency on its borrowers is influenced by the moral characters of the borrower like honesty, integrity, commitment, hard work, promptness etc. Therefore both mental and moral character of the borrowers will be examined while advancing a loan. Generally people with good mental and moral character will have good credit character as well.

2. CAPACITY:

It means capacity of an individual borrower to repay the loans when they fall due. It largely depends upon the income obtained from the farm.

$C = f(Y)$ where C = capacity and Y = income

3. CAPITAL:

Borrower must have adequate funds of his own to put in the Business along with the borrowing from Bank. So, borrower's own Capital should also be sufficient to realize bank's money.

4. CONDITION:

It refers to the condition needed for obtaining a loan from the financial institutions.

5. COMMONSENSE:

It's the perfect understanding between the lender and the borrower in credit transaction. This is in fact a prima facie requirement for obtaining credit for the borrower.

7 Ps of farm credit / Principles of farm finance

The increased role of financial institutions due to technological changes on agricultural front necessitated the evolving of principles of farm finance, which are expected to bring not only the commercial gains to the bankers but also social benefits.

The principles so evolved by the institutional financial agencies are expected to have universal validity. These principles are popularly called as 7 Ps of farm credit and they are

1. Principle of productive purpose.
2. Principle of personality.
3. Principle of productivity.
4. Principle of phased disbursement.
5. Principle of proper utilization.
6. Principle of payment and
7. Principle of protection.

1. Principle of productive purpose:

This principle refers that the loan amount given to a farmer - borrower should be capable of generating additional income. Based on the level of the owned capital available with the farmer, the credit needs vary. The requirement of capital is visible on all farms but more pronounced on marginal and small farms. The farmers of these small and tiny holdings do need another type of credit i.e. consumption credit, so as to use the crop loans productively (without diverting them for unproductive purposes). In spite of knowing this, the consumption credit is not given due importance by the institutional financial agencies.

This principle conveys that crop loans of the small and marginal farmers are to be supported with income generating assets acquired through term loans. The additional incomes generated from these productive assets add to the income obtained from the farming and there by increases the productivity of crop loans taken by small and marginal farmers.

The examples relevant here are loans for dairy animals, sheep and goat, poultry birds, installation of pump sets on group action, etc.

2. Principle of personality:

The 3Rs of credit are sound indicators of credit worthiness of the farmers. Over the years of experiences in lending, the bankers have identified an important factor in credit transactions i.e. trustworthiness of the borrower. It has relevance with the personality of the individual.

When a farmer borrower fails to repay the loan due to the crop failure caused by natural calamities, he will not be considered as willful – defaulter, whereas a large farmer who is using the loan amount profitably but fails to repay the loan, is considered as willful - defaulter. This character of the big farmer is considered as dishonesty. Therefore the safety element of the loan is not totally depends up on the security offered but also on the personality (credit character) of the borrower. ***Moreover the growth and progress of the lending institutions have dependence on this major influencing factor i.e. personality.*** Hence the personality of the borrower and the growth of the financial institutions are positively correlated.

3. Principle of productivity:

This principle underlines that the credit which is not just meant for increasing production from that enterprise alone but also it should be able to increase the productivity of other factors employed in that enterprise. For example the use of high yielding varieties (HYVs) in crops and superior breeds of animals not only increases the productivity of the enterprises, but also should increase the productivity of other complementary factors employed in the respective production activities. Hence this principle emphasizes on making the resources as productive as possible by the selection of most appropriate enterprises.

4. Principle of phased disbursement:

This principle underlines that the loan amount needs to be distributed in phases, so as to make it productive and at the same time banker can also be sure about the proper end use of the borrowed funds. Ex: loan for digging wells The phased disbursement of loan amount fits for taking up of cultivation of perennial crops and investment activities to overcome the diversion of funds for unproductive purposes. But one disadvantage here is that it will make the cost of credit higher. That's why the interest rates are higher for term loans when compared to the crop loans.

5. Principle of proper utilization:

Proper utilization implies that the borrowed funds are to be utilized for the purpose for which the amount has been lent. It depends upon the situation prevailing in the rural areas viz., the resources like seeds, fertilizers, pesticides etc., are free from adulteration, whether infrastructural facilities like storage, transportation, marketing etc., are available. Therefore proper utilization of funds is possible, if there exists suitable conditions for investment.

6. Principle of payment:

This principle deals with the fixing of repayment schedules of the loans advanced by the institutional financial agencies. For investment credit advanced to irrigation structures, tractors, etc the annual repayments are fixed over a number of years based on the incremental returns that are supposed to be obtained after deducting the consumption needs of the farmers. With reference to crop loans, the loan is to be repaid in lump sum because the farmer will realize the output only once. A grace period of 2-3 months will be allowed after the harvest of crop to enable the farmer to realize reasonable price for his produce. Otherwise the farmer will resort to distress sales. When the crops fail due to unfavourable weather conditions, the repayment is not insisted upon immediately. Under such conditions the repayment period is extended besides assisting the farmer with another fresh loan to enable him to carry on the farm business.

7. Principle of Protection:

Because of unforeseen natural calamities striking farming more often, institutional financial agencies cannot keep away themselves from extending loans to the farmers. Therefore they resort to safety measures while advancing loans like

*Insurance coverage

*Linking credit with marketing

*Providing finance on production of warehouse receipt

*Taking sureties: Banks advance loans either by hypothecation or mortgage of assets

*Credit guarantee: When banks fail to recover loans advanced to the weaker sections, Deposit Insurance Credit Guarantee Corporation of India (DICGC) reimburses the loans to the lending agencies on behalf of the borrowers.

Lead Bank Scheme

The Lead Bank Scheme was launched by the RBI in 1969 as an area approach for providing banking facilities in rural areas. The LBS was recommended by D R Gadgil study group that pioneered the idea of providing social banking in the post-independence period. Under LBS, every district across the country would be assigned to a commercial bank. The bank should have major presence in that district to do the work of the Lead Bank. The lead bank makes surveys and makes loan facility to various sectors.

The National Credit-Council constituted a study group in October 1968 to recommend an appropriate organizational frame work, for implementing the schemes which help in achieving the social objectives set before the country. The study group headed by Prof.G.R.Gadgil, then Deputy Chairman of the Planning Commission. / Suggested an area approach for banking development. It recommended that each commercial Bank be allocated districts, so as to take a leading role in its respective district as regards banking development. The study group felt that this step would help in extending institutional credit on easy terms to the hitherto neglected sectors, weaker sections of the society and backward areas. After the nationalization of 14 Major Commercial Banks, the Reserve Bank of India appointed a Committee of Bankers, headed by F.K.F. Nariman, to evolve a co-ordinate programme for providing banking facilities to the under banked districts of the country. The committee, in its report submitted to the Reserve Bank in November 15,1969, recommended the setting up of 'Lead Banks' in each district. The Nariman committee recommended that Banks should be allocated specific districts, where they would take the lead in surveying the potential of banking development, in extending branch expansion and extending credit facilities. The recommendations of the Nariman Committee was discussed at the Meeting of the standing Committee of Bankers in December, 1969. The principle of the 'Lead Bank' was accepted at the Meeting. Thus, the Reserve Bank of India, after careful consideration of the recommendations of the Gadgil study group and Nariman Committee, gave final shape to the Lead Bank Scheme towards the end of 1969.

OBJECTIVES OF THE LEAD BANK SCHEME

Under the scheme, Lead Banks shared the responsibility of surveying and developing the banking potential of all the districts. Lead Banks were expected to assume the role of catalytic agents of economic development in their respected lead districts. They were expected to serve as leaders to bring about a co-ordination of co-operative banks, commercial banks and other financial institutions in their respective districts in the interest of district development. This is a very vital role in which the banks are required to associate and align their operations with planned regional development. On the basis of the survey, the lead banks were expected to estimate the deposit potential and fill the credit gaps to improve bank advances in rural areas, especially to priority sectors and weaker sections. The close involvement of the Lead Bank with a particular area will not only result in deposit mobilization but also in the expansion of finance to agriculture and small industries. The following important benefits were expected to flow from the scheme.

- (i) The whole country would be served by a well-knit system of commercial and co-operative banking.
- (ii) Branch expansion, supervision and guidance would become effective.
- (iii) A dynamic relationship between commercial banks, co-operative credit institutions and government authorities at the district level would evolve.
- (iv) Major constraints impeding the development of the districts economy would be identified and the Lead Bank would induce the appropriate agencies to remedial action.

FUNCTIONS OF THE LEAD BANK

Reserve Bank of India spelt out the following functions to be performed by the Lead Bank.

To survey the resources and potential for banking development in its district.

To survey the number of industrial and commercial units, farms and other establishments which do not have bank accounts, or which depend primarily on money lenders, increasing the resources of such units by additional production through help from the banking system.

To examine the facilities for marketing of agricultural produce and industrial production, storage and warehousing and the linking of credit with marketing in the district.

To study the facilities for stocking of fertilizers and other agricultural inputs and repairing and servicing of equipments.

To recruit and train staff for offering advice to small borrowers and farmers in the priority sectors and for the follow-up and inspection of the end use of loans. To assist other primary lending agencies.

Kisan Credit Card

The Kisan Credit Card has emerged as an innovative credit delivery mechanism to meet the production credit requirements of the farmers in a timely and hassle-free manner. The scheme is under implementation in the entire country by the vast institutional credit framework involving Commercial Banks, RRBs and Cooperatives and has received wide acceptability amongst bankers and farmers. The broad guidelines of the revised scheme are as follows:

Objectives/Purpose

Kisan Credit Card Scheme aims at providing adequate and timely credit support from the banking system under a single window to the farmers for their cultivation & other needs as indicated below:

- To meet the short term credit requirements for cultivation of crops
- Post harvest expenses
- Produce Marketing loan
- Consumption requirements of farmer household
- Working capital for maintenance of farm assets and activities allied to agriculture, like dairy animals, inland fishery etc.
- Investment credit requirement for agriculture and allied activities like pump sets, sprayers, dairy animals etc.

Note: The aggregate of components a. to e. above will form the short term credit limit portion and the aggregate of components under f will form the long term credit limit portion.

Eligibility

- All Farmers – Individuals / Joint borrowers who are owner cultivators
- Tenant Farmers, Oral Lessees & Share Croppers
- SHGs or Joint Liability Groups of Farmers including tenant farmers, sharecroppers, etc.

Fixation of credit limit/Loan amount

The credit limit under the Kisan Credit Card may be fixed as under:

- **All farmers other than marginal farmers:**
- **The short term limit to be arrived for the first year: For farmers raising single crop in a year:** Scale of finance for the crop (as decided by District Level Technical Committee) x Extent of area cultivated + 10% of limit towards post-harvest / household / consumption requirements + 20% of limit towards repairs and maintenance expenses of farm assets + crop insurance, PAIS & asset insurance.
- **Limit for second & subsequent year :**First year limit for crop cultivation purpose arrived at as above plus 10% of the limit towards cost escalation / increase in scale of finance for every successive year (2nd , 3rd, 4th and 5th year) and estimated Term loan component for the tenure of Kisan Credit Card, i.e., five years.
- **For farmers raising more than one crop** in a year, the limit is to be fixed as above depending upon the crops cultivated as per proposed cropping pattern for the first year is changed in the subsequent year, the limit may be reworked.
- **Term loans for investments** towards land development, minor irrigation, purchase of farm equipments and allied agricultural activities. The banks may fix the quantum of credit for term and working capital limit for agricultural and allied activities, etc., based on the unit cost of the asset/s proposed to be acquired by the farmer, the allied activities already being undertaken on the farm, the

bank's judgment on repayment capacity vis-a-vis total loan burden devolving on the farmer, including existing loan obligations.

- **The long term loan limit** is based on the proposed investments during the five year period and the bank's perception on the repaying capacity of the farmer
- **Maximum Permissible Limit:** The short term loan limit arrived for the 5th year plus the estimated long term loan requirement will be the Maximum Permissible Limit (MPL) and treated as the Kisan Credit Card Limit.

Fixation of Sub-limits for other than Marginal Farmers:

Short term loans and term loans are governed by different interest rates. Besides, at present, short term crop loans are covered under Interest Subvention Scheme/ Prompt Repayment Incentive scheme. Further, repayment schedule and norms are different for short term and term loans. Hence, in order to have operational and accounting convenience, the card limit is to be bifurcated into separate sub limits for short term cash credit limit cum savings account and term loans.

Drawing limit for short term cash credit should be fixed based on the cropping pattern and the amounts for crop production, repairs and maintenance of farm assets and consumption may be allowed to be drawn as per the convenience of the farmer. In case the revision of scale of finance for any year by the district level committee exceeds the notional hike of 10% contemplated while fixing the five year limit, a revised drawable limit may be fixed and the farmer be advised about the same. In case such revisions require the card limit itself to be enhanced (4th or 5th year), the same may be done and the farmer be so advised. For term loans, installments may be allowed to be withdrawn based on the nature of investment and repayment schedule drawn as per the economic life of the proposed investments. It is to be ensured that at any point of time the total liability should be within the drawing limit of the concerned year.

Wherever the card limit/liability so arrived warrants additional security, the banks may take suitable collateral as per their policy.

For Marginal Farmers: A flexible limit of Rs.10,000 to Rs.50,000 be provided (as Flexi KCC) based on the land holding and crops grown including post harvest warehouse storage related credit needs and other farm expenses, consumption needs, etc., plus small term loan investments like purchase of farm equipments, establishing mini dairy/backyard poultry as per assessment of Branch Manager without relating it to the value of land. The composite KCC limit is to be fixed for a period of five years on this basis.

Disbursement :

The short term component of the KCC limit is in the nature of revolving cash credit facility. There should be no restriction in number of debits and credits. However, each installment of the drawable limit drawn in a particular year will have to be repaid within 12 months. The drawing limit for the current season/year could be allowed to be drawn using any of the following delivery channels.

- a) Operations through branch
- b) Operations using Cheque facility
- c) Withdrawal through ATM / Debit cards
- d) Operations through Business Correspondents and ultra thin branches

- e) Operation through PoS available in Sugar Mills/ Contract farming companies, etc., especially for tie -up advances
- f) Operations through PoS available with input dealers
- g) Mobile based transfer transactions at agricultural input dealers and mandies

Other features:

Uniformity to be adopted in respect of following:

Interest Subvention/Incentive for prompt repayment as advised by Government of India and / or State Governments. The bankers will make the farmers aware of this facility.

The KCC holder should have the option to take benefit of Crop Insurance, Assets Insurance, Personal Accident Insurance Scheme (PAIS), and Health Insurance (wherever product is available and have premium paid through his KCC account). Necessary premium will have to be paid on the basis of agreed ratio between bank and farmer to the insurance companies from KCC accounts. Farmer beneficiaries should be made aware of the insurance cover available and their consent is to be obtained, at the application stage itself.

One time documentation at the time of first availment and thereafter simple declaration (about crops raised / proposed) by farmer from the second year onwards.

Processing Fee as decided by banks.

What are the benefits of KCC Scheme?

- Simplifies disbursement procedures.
- Removes rigidity regarding cash and kind.
- No need to apply for a loan for every crop.
- Assured availability of credit at any time enabling reduced interest burden for the farmer.
- Helps buy seeds, fertilizers at farmer's convenience and choice.
- Helps buy on cash-avail discount from dealers.
- Credit facility for 3 years – no need for seasonal appraisal.
- Maximum credit limit based on agriculture income.
- Any number of withdrawals subject to credit limit.
- Repayment only after harvest.
- Rate of interest as applicable to agriculture advance.
- Security, margin and documentation norms as applicable to agricultural advance

How to get Kisan Credit Card?

- Approach your nearest public sector bank and get the details.
- Eligible farmers will get a Kisan Credit Card and a pass book. It has the name, address, particulars of land holding, borrowing limit, validity period, a passport size photograph of holder which may serve both as an identity card and facilitate recording of transactions on an ongoing basis.
- Borrower is required to produce the card cum pass book whenever he/she operates the account.

Tools of Financial Analysis

BUDGETING:

It may be defined as a detailed physical and financial statement of a farm plan or of a change in farm plan over a certain period of time. Farm budgeting is a method of analyzing plans for the use of agricultural resources at the command of the decision-maker. In other words, the expression of farm plan in monetary terms through the estimation of receipts, expenses and profit is called farm budgeting.

Types of Farm Budgeting: The following are the different types of farm budgeting techniques:

- a) Partial Budgeting.
- b) Enterprise Budgeting.
- c) Complete Budgeting.

a) Partial Budgeting: This refers to estimating the outcome or returns for a part of the business, i.e., one or few activities. A partial budget is used to calculate the expected change in profit for a proposed change in the farm business. A partial budget contains only those income and expense items, which will change, if the proposed modification in the farm plan is implemented. Only the changes in income and expenses are included and not the total values. The final result is an estimate of the increase or decrease in profit. In order to make this estimate, a partial budget systematically, answers to following four questions relating to the proposed change:

- 1) What new or additional cost will be incurred?
- 2) What current income will be lost or reduced?
- 3) What new or additional income will be received? and
- 4) What current costs will be reduced or eliminated?

The first two questions identify changes which will reduce profit by either increasing costs or reducing income. Similarly, the last two questions identify factors which will increase profit by either generating additional income or lowering costs. The net change in profit can be computed by estimating the total increase in profit minus the total reduction in profit. A positive value indicates that the proposed change in the farm plan will be profitable.

All the changes in farm plan that can be appropriately adapted with the help of a partial budget can be grouped into three types.

They are as given below:

1) Enterprise substitution: This indicates a complete or partial substitution of one enterprise for another. E.g. substituting one acre of paddy for one acre of sugarcane.

2) Input substitution: Changes involving the substitution of one input for another or the total amount of input to be used are easily analyzed with a partial budget. E.g. substituting machinery for labour.

3) Size or scale of operation: Included in this category would be changes in total size of the farm business or in the size of a single enterprise. E.g. Buying or renting additional land or machinery.

b) Enterprise Budgeting:

Enterprise is defined as a single crop or livestock commodity. Most farms consist of a combination of several enterprises. An enterprise budget is an estimate of all income and expenses associated with a specific enterprise and an estimate of its profitability. It is pre-requisite for the preparation of a complete farm budget or for the application of farm planning techniques like linear programming. An enterprise budget lists down all the expected output, both in physical as well as value terms, for a unit of a particular activity (i.e., per hectare, per animal or per 100 birds) on the farm. The enterprise budget is important since it depicts the relative profitability of different enterprises or activities or alternatives, which can be used to determine the relative dominance of different enterprises. It includes variable cost or total operating cost and fixed cost including depreciation and interest on fixed asset. Any enterprise budget can also be analyzed in terms of cash versus non-cash expenses and total cost versus actual cash outlay.

C) Complete or Whole Farm Budgeting:

It is a technique for assembling and organizing the information about the whole farm in order to facilitate decisions about the management of farm resources. It attempts to estimate all items of costs and returns and it presents a complete picture of farm business. It is generally used by beginners or by those farmers who want to completely overhaul their existing farm organization and operation. Complete and partial budgeting is mutually complementary, i.e., the partial budgeting should be used at various stages of complete budgeting in order to decide the changes to be effected in the farm organization.

The process of complete budgeting involves:

- i) appraisal of existing farm resources, their uses and efficiency,
- ii) appraisal of alternatives or opportunities or various production activities that can be included and their resource requirements and
- iii) preparing and evaluating the alternative plans for their feasibility and profitability.

2) Complete Budgeting and Partial Budgeting:

The differences between these two are:

- i) Complete budgeting accounts for drastic changes in the organization and operation of the farm, while partial budgeting treats minor changes only.
- ii) All the available alternatives are considered in complete budgeting, whereas partial budget considers two or a few alternatives only.
- iii) Complete budgeting is used for estimating the results of entire organization and operation of a farm, while partial budget helps only to study the net effects in terms of costs and returns of relatively minor changes.

Balance sheet

Balance sheet is a list of the accounts having debit balance or credit balance in the ledger. On one side it shows the accounts that have a debit balance and on the other side the accounts that have a credit balance. The purpose of a balance sheet is to show a true and fair financial position of a business at a particular date. Every business prepares a balance sheet at the end of the account year. A balance sheet is defined as:

Balance sheet or Net worth statement: It is a statement of the financial position of a firm business at a particular time, showing its assets, liabilities and equity.

If the assets are more than the liabilities it is called net worth or equity and its converse is known as net deficit.

The typical balance sheet shows assets on the left side and liabilities & equity on the right side. Both sides are always in balance hence the name balance sheet.

Balance sheet is so called because it is prepared with the closing balance of ledger accounts at the end of the year. It has two sides - assets side or left hand side and liabilities side or right hand side.

Assets mean all the things and properties under the ownership of the business *i.e.* building, plant, land, machinery, stock, cash etc. Assets also include anything against which money or service will be received *i.e.* creditors accrued income, prepaid expenses etc.

Liabilities mean our dues to others or anything against which we are to pay money or render service, *i.e.* creditors, outstanding expenses etc.

Asset side of the balance sheet indicates the different types of assets owned by a concern, while liabilities side discloses the various sources through which funds have been obtained in order to acquire those assets. Balance sheet reveals the financial position of the firm on a particular date at a point of time, so it is also called "***position statement***". It is prepared on the last day of the accounting year and discloses concern for the whole year cannot be determined through the balance sheet because financial position is ever changing.

Features of Balance Sheet:

Balance sheet has the following features:

1. It is the last stage of final accounts.
2. It is prepared on the last day of an accounting year.
3. It is not an account under the double entry system - it is a statement only.
4. It has two sides - left hand side known as asset side and right hand side known as liabilities side.
5. The total of both sides are always equal.
6. The balances of all asset accounts and liability accounts are shown in it. No expense accounts and revenue accounts are shown here.
7. It discloses the financial position and solvency of the business.

Importance of balance sheet:

- Farmer claim against the farm business equal to the equity amount
- It can be easily prepared if farm records are there
- It is useful to know financial position of the farm business at any point of time.
- It can also study the performance of a business over years.

Importance terminology:

1. **Tangible Assets:** Assets which have physical existence and which can be seen, touched and felt are called "tangible assets", e.g. building, plant, machinery, furniture etc.
2. **Intangible Assets:** Assets which have no physical existence and which cannot be seen, touched or felt are called "intangible assets", e.g. goodwill, patent right, trade mark etc.

Types of assets – 3 types

1. **Current Assets:** They are very liquid or short-term assets. They can be converted into cash within a short time, usually one year. For example, cash on hand, agricultural produce ready for disposal, i.e., stocks of paddy, jowar, wheat, black gram etc.
2. **Working Assets (Intermediate assets):** These assets take two to five years to convert into cash form. e.g. Machinery, Equipment, livestock, tractors, trucks etc.
3. **Long term Assets: (Fixed assets):** An asset that is permanent or will be used continuously for several years is called long-term assets. It takes longer time to convert into cash due to verification of records, legal transactions etc. e.g. land, farm building etc.

Type of Liabilities: 3 Types

1. **Current liabilities:** Debt that must be paid in the short term or in very near future. e.g. crop loans, cost of maintenance of cattle etc.
2. **Intermediate liabilities:** These loans are due for the repayment within a period of two to five years e.g. Livestock loans, Machinery loans etc.
3. **Long term liabilities:** The duration of loan payments more than five years. e.g. Tractor loans and land development loans etc.

INCOME STATEMENT OR PROFIT AND LOSS STATEMENT

This is entirely different from balance sheet, in a balance sheet; we considered assets and liabilities and did not consider operational efficiency in terms of receipts and expenses. In Income statement the items included are receipts, expenses, gains and losses. **It defined as** a summary of receipts and gains minus expenses and losses during a specific period. It is prepared for the entire farm for one agricultural year.

Receipts: They mean the returns obtained from the sale of crop produce and other supplementary products like milk and eggs, wages, gifts etc. Gain in the form of appreciation in the value of assets is also included in the receipts. However, returns from the sale of capital assets, such as livestock, machinery, farm buildings etc. are not included because such returns/income are not really obtained during the period.

Expenses: Operating and fixed costs are recorded here. Losses in the form of depreciation on the asset value fall under the expenditure item. However, the amount incurred on the purchase of capital assets is not considered.

Net Income: It constitutes net cash income, net operating income and net farm income.

Net Cash Income: It gives the position of cash receipts minus cash expenses only during the period for which income statement is prepared.

Net Operating Income: It is arrived at by deducting operating expenses from the gross income. Fixed costs are not given any consideration. Operating expenses include crop loans.

Net Farm Income: Net farm income equals net operating income less fixed costs. Compared to net cash income and net operating income, it is relatively a better measure of assessing the performance of a farm. It is the return accrued to own capital and family labour employed.

Income statement prepared for a given farm for a given year may present a very bright picture of the farm. A realistic position on the performance of a farm can be gauged by preparing income statements over years to show the actual situation, as the parameters influencing farm business are subject to fluctuations.

An income statement is the list of all farm expenses or business debts on the hand and all receipts or business credits on the other

Uses / Advantages of Income Statement

1. Provide information on cost and returns of different enterprises.
2. Provide the basis for a simple study and analysis of farm business
3. The analysis provides farmer an opportunity to compare the year's results with his expectations.
4. It helps to make comparisons of his efficiency with the performance of other farmers operating under similar situations.

Recent Trends in Agricultural Credit

Since the nationalisation of commercial banks in 1969, India had strongly pursued a policy of "Social and Development Banking" in the rural areas. As a result, formal institutions of credit provision, mainly commercial banks, emerged as important sources of finance to agriculture displacing usurious moneylenders and landlords. The policy of social and development banking was a supply-led policy; it aimed at augmenting the supply of credit to rural areas, and that too at an affordable interest rate.

Commercial banks fail to achieve their aim. As a result, the decade of the 1990s was a period of the reversal of the achievements of social and development banking. The situation of the 1990s however, changed in the 2000s. Beginning from the early 2000s there was a revival of agricultural credit in India. Between 2002 and 2011, agricultural credit grew by 17.6 per cent per annum, which was significantly higher than the growth rate of 2.6 per cent recorded for the 1990s. From 2004 onwards the flow of agricultural credit has been increasing. **There are three distinct features of the growth in agricultural credit. First,** a significant portion of the increase in total bank credit to

agriculture in the 2000 was accounted for by indirect finance to agriculture. Indirect finance does not go directly to cultivators but to institutions that support agricultural production in rural areas. Of the total increase in credit supply to agriculture between 2000 and 2011, about one third was contributed by indirect finance. The reason for growth in indirect finance to agriculture credit attributes to the new definition in the official agricultural policy, which states that from 1993 onwards, indirect finance should be considered as part of priority sector advances. **Secondly**, much of the increase in total advances to agricultural credit (direct + indirect finance) in 2000s were on account of a sharp increase in the number of loans with size of Rs. 10 crore and above, and particularly of Rs. 25 crore and above. Thirdly, there was an increased provision of agricultural credit from bank branches in urban areas in the 2000s. Much of these large-sized advances were made towards financing large agri-business oriented enterprises. There is little evidence to argue that major beneficiaries of the revival in agricultural credit in the 2000s have been the small farmers and marginal farmers.

Kisan Credit Card

The Kisan Credit Card Scheme (KCC) was introduced in 1998-99 to provide credit to farmers. The Indian commercial banks have been providing Kisan credit (also called cash credit or revolving fund) to farmers for more than a decade now. **The base of fixing Kisan credit limit is land holdings, crops cultivated, and crop duration.** The consumption needs of the farming family have also been taken into consideration while computing the limits. The Kisan credit card provides a lump sum loan released to the farmer to meet his crop needs like purchase of seeds, manure, pesticides, labour, and irrigation etc. The farmer is expected to draw from this account based on his needs on different occasions. He is expected to pay back the entire amount within one year mostly after the proceeds of the crops are realised so that he can apply for fresh Kisan credit limit. No doubt Kisan credit helps farmer most at the time of commencement of the farming operation. However, it is not possible for all farmers to repay the loan amount within one year. In order to repay the loan amount within one year he takes money from lenders and again he borrows to repay money lenders. Consequently, he left with no money to undertake his farming operations. He enters into a debt trap. Moreover, the Kisan credits are given to the farmers against mortgage of the lands on which cultivation is undertaken. In India, more often than not, farmers do not have proper title of the land on which they are cultivating. Thus, Kisan credit is useless for them. Therefore, Kisan credit policy is not as per the requirement of Indian farmers; it failed to entertain agriculture credit to all farmers.

Self Help Groups (SHGs)

A self-help group has been defined as a small and formal association of poor having preferably similar socio-economic background and who have come together to realise some common goals based on the principle of self-help and collective responsibility. The Self Help Group movement in India has gained a momentum in recent years. **The promotion of self-help groups in India began more formally in 1992 with the launch of the SHG-Bank Linkage Programme by National Bank for Agriculture and Rural Development. The programme's main aim was to improve rural poor's access to formal credit system in a cost effective and sustainable manner by making use of SHGs.** The invention of Self-Help Group is a boon for the small farmer in general and village women in particular. It has been responsible for bringing in a qualitative change in the lives of thousands of people. Under Self-Help Group, banks are expected to provide credit to the SHGs against group guarantee and members of the group stand as collective guarantors. Banks allow the members of the SHGs to decide on which members of the group shall borrow and how much, and

the methodology of repayment. Normally, SHGs loans are term loans wherein the members are expected to repay the loans in regular instalments over a period of time. In India most farmers, especially small farmers and marginal farmers neither have title of the land nor have any collateral security. As a result, they fail to get credit from commercial banks. In this situation, SHGs help them to get credit without any hassles.

South based NGO, Sri Kshetra Dharmasthala Rural Development Project (SKDRDP) has been promoting SHGs of the small farmers for more than two decades and helping them with credit facilities for their farming operations. This movement popularly known as pragathibandhu groups in Karnataka state has helped more than one and half million farmers directly or through their family members who are members of the SKDRDP promoted SHGs. SKDRDP sources bulk loans from commercial banks and lends them to SHGs for undertaking their farming operations. The unique feature of the SKDRDP is that SHGs members have to repay in weekly instalments. This uniqueness encourages farmers to go for subsidiary activities like dairy farming, vegetable cultivation, floriculture, or pure daily wage labour so that they can earn money every week to repay loan. This scheme of repayment has not only help farmer to repay loan easily but also help them thinking innovative. Realising the potentiality of the SHGs, the National Bank for Agriculture and Rural Development Bank (NABARD) is now actively facilitating promotion of Joint Liability Groups (JLGs) of farmers for providing necessary credit through JLGs. Commercial banks and Non-Government Organisations (NGOs) are given incentives for promoting JLGs and credit linking them with bank. Department of financial services, ministry of finance, government of India issued a directive in November 2011, wherein advising bank to provide cash credit or revolving fund to SHGs instead of term loans. This will act as a twin edged sword. On the one hand, members of the SHGs will get loan easily and on the other hand it can give freedom to the group to decide on the priorities of the members and lend to them on its own terms without having to take guidance from the banker.

The Gramin Bank Model

The Gramin Bank model, developed originally in Bangladesh, is one of the most popular models of micro finance institutions and has been replicated in various parts of the world. Under this model, non- government organisations (NGOs) form and develop self help groups (SHGs). Gramin Bank has reversed conventional banking practice by obviating the need for collateral. It has created the need for a banking system based on mutual trust, accountability, participation, and creativity. It offers credit for creating self-employment, income generating activities and housing for the poor, as opposed to consumption. In India, three main models of micro credit are being followed and they are different from the Gramin Bank model. Under the first model, bank themselves assumes the role of Self Help Promoting Institutions (SHPIs) by promoting formation of SHGs and extending loans to them. Under the second model, groups are formed and nurtured by NGOs, Government Agencies, or other community based organisations. These agencies act as facilitators. Bank open saving accounts of the SHGs formed and nurtured by the NGOs and provide them credit in due course of time. This is the most popular and wide spread model of micro credit in India. Under third model, the NGOs (SHPIs) promote formation of SHGs. Bank provide bulk assistance to these SHPIs for undertaking financial intermediation. NGOs, here, thus act as both facilitators and micro finance intermediaries.

Microfinance

The concept of micro finance is understood as providing poor families with very small loans (micro credit) to help them engage in productive activity or grow their tiny business. The importance of micro finance lies in the fact that the formal/institutional banking sector has not lived up to its social responsibility of meeting the financial needs of the poor due to various reasons such as: (a) lack of branch network in the rural area, (b) lack of collateral security of farmers and poor people, and (c) lack of education, awareness among the poor. Micro finance scheme in India has emerged as major avenues for bringing the poor within the purview of the organised financial sector. The access to credit for the poor from conventional banking is often constrained by lack of collaterals, information asymmetry and high transaction cost associated with small borrower accounts. In operational terms micro credit involves small loans, up to Rs. 25000, extended to the poor without any collateral for undertaking self-employment project (RBI, 2007-08). Realising the importance of credit in the development process, the government and the Reserve Bank of India have taken various steps in this regard and have encouraged banks to make timely and adequate finance available to poor for agricultural credit as well as allied activities making institutional credit to the poor.

SCALE OF FINANCE:

The cost of cultivation, which can be stated as the expenses for successful raising of a crop per acre or hectare or unit area would indicate the average expenses, inputs such as fertilizers, insecticides, pesticides irrigation, supervision, harvesting and marketing of the crops. The factors of cost of cultivation would clearly indicate that the part of the expenses are required to be incurred by the farmers in stages; while part of the expenses are required by them for purchase of inputs from the market. **Depending upon the total cost of cultivation, the funds considered by bank as loans for various purposes is known as Scale of Finance.**

Scale of finance is fixed for annual, perennial crops and livestock also.

Livestock will have fixed costs of finance and they are termed as unit costs. The unit varies with the type of livestock. Ex: for milch cattle the unit refers to two animals, for sheep and goat a minimum of 10 animals and for poultry a minimum of 500 birds.

Factors influencing the scale of finance:

1. Type of the crop: It varies from crop to crop.
2. Nature of the crop: Within the same crop between the improved varieties and high yielding varieties (HYVs) the scale of finance differs.
3. Season: Scale of finance differs with season for the same crop.
4. Type of land: Based on the type of the land i.e. irrigated or dry the scale of finance differs with the same crop.
5. District/Area: For the same crop the scale of finance varies from district to district.

The Banks have circulated to their officers the scales of finance on various crops which should not rigidly apply under all sets of conditions. The loan amounts considered by banks are need based to meet the cost of the actual cultivation of various important crops.

Disbursement:

The disbursement procedures of loans aim at ensuring the end utilization of funds. Since the resources at the disposal of the cultivators and the loans/ credits raised by them can not meet their demands, utilization of funds lent for other than intended purpose is not uncommon due to socio-economic compulsion and lack of commercial consciousness. Care should be taken to disburse the cash and kind components in such a manner that they are not misutilised by the beneficiaries. It is necessary to ascertain the comparative rates of the inputs, preferably from the price list of various inputs published and circulated by the manufacturing companies.

Supervision:

It is necessary to inspect crops at various stages of growth to ascertain crop conditions, probable yields, occasional damages etc. The general stipulation to inspect the farms for the end utilization of funds may not be possible in view of the large number of accounts and simultaneous operations carried out by the farmers in a homogeneous cropping pattern.

Margin:

The margin in short –Term crop loans varied from 10 to 25 per cent. In deserving cases, margin is also required to be waived. It is also necessary to waive the margin in case of small and marginal farmers who are not in a position to raise the necessary margin.

Rate of Interest:

The practice of applying the rate of interest varies from Bank to Bank and is governed either by the land holding or purpose of loan or its quantum. It is advisable and rational that the rate of interest should be according to the land holdings.

Securities:

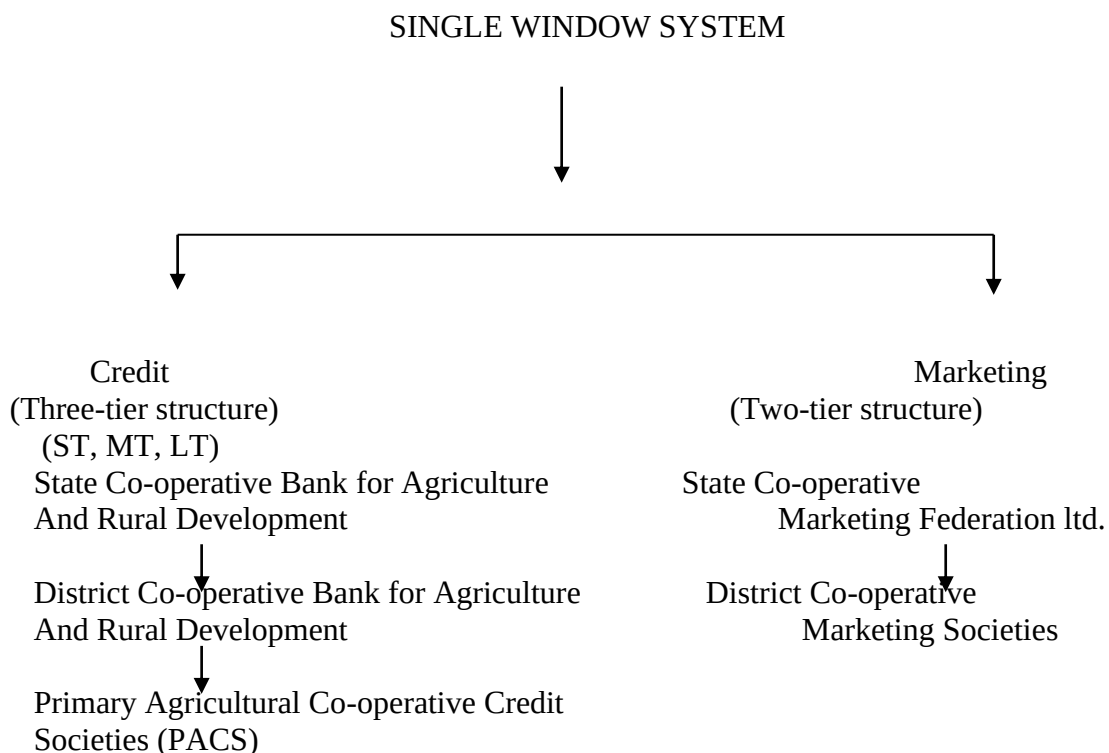
The number of documents, nature of securities and the cost thereof vary from Bank to Bank and from State to State.

Marketing:

The marketing is closely related with the repayment, which should be generally stipulated, coinciding with the time of marketing of crops. Efforts should also be made to link up repayment with the marketing in certain types of advances of assured and single point organized markets. Such as marketing of sugar-cane to the sugar factories.

SINGLE WINDOW SYSTEM

The farmers depended upon on PACS (in three-tier structure) for their short and medium – term credit requirements and on PLDBs (in two-tier system) for long –term credit needs till 1987, which means that the farmers had to obtain their total loan requirements from two different types of co-operative institutions. Regarding marketing of the farm produce, the farmers faced hardship in getting the services of marketing co-operative societies under three tier systems. To help co-operatives serve in a more useful way, the Government of some State thought that it is appropriate to bring some organizational changes in the working of co-operatives in the state. Accordingly, a committee under the chairmanship of Shri Mohan Kanda was constituted to come out with meaningful and practicable alternatives in this regard. The committee submitted its report in May, 1985. It recommended for the establishment of ‘Single Window System’ and bill was passed in January 1987. The main idea of introducing this system is to supply all types of agricultural credit required by the farmers and provide processing and marketing facilities under one roof i.e., through PACS. The single window system is a three-tier structure in co-operative credit and two-tier structure in co-operative marketing. The organizational structure is sketched out below.



Functions of PACS under single window system are:

1. To advance the ST, MT and LT loans;
2. To supply the needed farm inputs;
3. To distribute essential commodities; and
4. To arrange the marketing of farm produce of the farmer members.

CROP INSURANCE

Agricultural production is fraught with risk and uncertainty conditions. Risks are very many and generally measurable, whereas uncertainty situations are not amenable to measurement. Uncertainty, price risk and production risks are the major types confronting Indian agriculture. However, risks also emanate from institutional changes along with natural hazards like flood, draught, hail, cyclones, earthquakes etc. Natural hazards cause widespread devastation and grave loss to the properties of humans and their lives. Under such situations, disaster management programmes will be implemented by the Government with large –scale help coming both from the people and the Government.

Market risks arise from the fluctuations in demand and supply situations of goods and over-indulgence of middlemen in the market system. Strategies like storage, processing etc. are being restored to overcome such situations.

Risks that is associated with the weather aberrations such as change in the rainfall distribution, quantum of rainfall, floods, droughts etc., result in heavy losses of crop and livestock products. Inefficient management of farms due to illiteracy causes losses in production of crops and allied products.

Many management strategies have been evolved over time to combat production risks. They are practices of improvement of soil moisture holding capacity through bunding, leveling, mulching, mixed cropping, coupled with other agronomic practices and tenancy practices. Crop insurance of late is being given prime importance by Government of India primarily with the idea of safeguarding the farmers against crop losses during draught and flood years.

Origin of Crop Insurance Scheme:

The desire to introduce two pilot schemes, viz., crop insurance scheme and cattle insurance scheme with objective of protecting the farmers from the heavy losses of crop and livestock by the Government of India, dates back to 1948, soon after the independence. But, none of the State Governments agreed to implement the schemes due to paucity of funds. In the 1970, an Expert Committee on crop insurance under the Chairmanship of Dharamnarain was appointed by the Government of India to examine and analyze administrative and financial implications of the scheme with a view to introducing it. In his report he ruled out the possibility of implementing the scheme in India. Contrary to this report, Prof. Dandekar strongly defended the implementation of the scheme. In 1973, the Government of India had to set up General Insurance Company (GIC) to carry out all types of insurance business throughout the nation with four subsidiary insurance companies.

At the instance of the Government of India, GIC first introduced the crop insurance scheme in 1973 on experimental basis as a pilot scheme in selected centers of Gujarat. Only H₄ cotton was considered for implementation of the scheme.

Area based crop insurance scheme was subsequently introduced from 1979 by GIC on a pilot basis in selected areas. If the actual average yield of the crop in the selected area was less than the guaranteed yield of the crop, then the indemnity would become payable to all the insured farmer-borrowers. Sum assured was 100 per cent of the crop loan but a ceiling was imposed with regard to payment of indemnity, i.e., Rs. 5,000 per farmer in the case of dry land and Rs. 10,000 per farmer in the case of irrigated areas. This scheme was implemented by 12 States in India up to 1984.

The objectives of the scheme were:

- * Financial support to farmers in the event of crop failure - as a result of drought, floods.
- * Credit eligibility of farmers after a crop failure for the next crop season.

In the year 1985, Comprehensive Crop Insurance Scheme (CCIS) was introduced by GIC in all the states. The scheme covers all the farmers availing crop loans and it is limited to cereals such as rice and wheat, millets, oilseeds and pulses. Two percent of the sum insured is fixed as premium for rice, wheat and millets, whereas for the oilseeds and pulses it is one percent. Indemnity is calculated based on the following formula:

$$\text{Indemnity} = \frac{\text{Shortfall in the yield of the crop}}{\text{Threshold yield of the crop}} \times \text{Sum insured}$$

Eighty per cent of the average annual yield of the crop in a given area over the last previous five years is considered as threshold yield in that area. Shortfall in the yield of the crop is the difference between threshold yield of crop and actual yield of the crop in a particular area in the year under reference. The scheme is applicable only to farmer-borrowers.

On June 23, 1999 the Prime Minister launched a new crop insurance scheme called Rashtriya Krishi Bima Yojana (RKBY) under the National Agricultural Insurance Scheme (NAIS). Participation in RKBY was compulsory for farmers growing notified crops and availing crop loans from formal credit Institutions. In case of loaner farmers, the Sum insured was equal to the amount of crop loan advanced.

Under NAIS, premium rates are 3.5% of sum insured for bajra and oilseeds, 2.5% for other Kharif crops, 1.5% for wheat and 2% for other Rabi crops. Small and marginal farmers are entitled to a premium discount of 10%. In the case of commercial / horticultural crops, actuarial rates are being charged. NAIS is being implemented by 23 states and two Union territories.

Government set up an organization called Agriculture Insurance Company of India Ltd (AIC) with support from the general insurance companies and NABARD for effective implementation of the above scheme. All major cereals and pulses and oilseed crops were covered under CCIS and few horticultural crops like onion, potato were covered in NAIS. Spread of CCIS was poor. But the CCIS has helped financial institutions to reduce overdues and maintain the flow of crop loans/short term credit at least in areas where indemnities were paid by the GIC of India. There are also other schemes like 'Varsha Bhima', 'Sowing failure policy-2' being operated on a pilot basis.

Salient Features of the System:

1. The credit requirements of the farmers are to be based on the cost of cultivation (variable costs) of the crop.
2. The eligibility to receive the loan is not gauged by ownership of the land but by the factor that he is a bona fide farmer who needs credit for cultivation.
3. The disbursement and recovery of the loan are to be made in accordance with the crop production scheduled.
4. The loan should be given both in cash and kind, and kind component is related to quantum of actual total inputs required for production of a particular crop.
5. The quantum of loan should be fixed according to the variety and the season in which it is grown and type of crop, i.e., irrigated or rainfed.
6. Crop loan should be recovered with tie-up arrangement, i.e., linking credit with marketing, and
7. Crop loan is fixed by the district consultative committee which consists of experts from the fields of agriculture, animal husbandry, banking, etc.

Advantages of Crop Insurance:

1. It stabilizes the farm business during the period of crop failure;
2. The farmer can act much more confidently in farm business as there is protection against hazards of farming;
3. It prevents the farmers to approach non-institutional agencies during the periods of crop failure;
4. It enhances the use of modern inputs to boost the productivity in agriculture;
5. In high-risk areas crop insurance serves as a catalyst in bringing area under cultivation which otherwise remained uncultivated.

Limitations of Crop Insurance:

1. It provides coverage only to a limited number of crops-wheat, paddy, oilseeds, millets and pulses excluding important crops such as sugarcane, potato, cotton etc.;
2. the coverage was restricted to rainfed crops only and because of this, the scheme was not effective in State such as Punjab, Haryana and Western Uttar Pradesh; and
3. The scheme covered only those farmers who had taken loans from financial institutions and the sum insured was limited to a maximum of Rs.10, 000 only.

**DEPOSIT INSURANCE AND CREDIT GUARANTEE CORPORATION OF INDIA
(DICGC)**

The failure of two scheduled banks, viz., Palai Central Bank Ltd.(Kerala) and Laxmi Bank Ltd. (Maharashtra) in 1960 gave a rude shock to the stability of the banking system in the country. This forced RBI to frame legislative measures so as to arrest bank mortality and create confidence in depositors. In 1961, RBI formulated proposals for the establishment of Deposit Insurance Corporation (DIC) on the model of the Federal Deposit Insurance Corporation in USA. The Deposit Insurance Corporation bill was passed and the Corporation came into existence on January 1, 1962. In order to provide safety to the banking system from risks involved in lending to priority sectors, the Government of India established Credit Guarantee Corporation of India limited (CGCI) in 1971. The CGCI is associated with Credit Guarantee Organization (CGO), set up in 1960 to provide guarantee in respect to lending to small-scale industries. Subsequently, in 1978 CGCI and CGO were merged

with Deposit Insurance Corporation of India (DIC) and new institution by the name of Deposit Insurance and Credit Guarantee Corporation of India (DICGC) was established.

Role of the Corporation:

1. The Corporation gives protection to the depositors particularly the small depositors, from the risk of loss of their savings in the event of a bank's failure; such protection increases the confidence of the depositors in the individual banks and reduces the occurrence of panicky withdrawals of deposits;
2. The corporation contributes to the stability and orderly growth of the individual banks as well as collectively of the banking system; and
3. It plays an active role in developing the banking habits of the people and ensures a larger mobilization of their savings.

DICGC is a wholly owned subsidiary of RBI with a paid up share capital of Rs. 50 crore, contributed entirely by RBI. The corporation maintains three funds viz., **general fund, deposit insurance fund and credit guarantee fund**. The share capital of the Corporation is held in the general fund and the administrative expenses are met from the interest from this fund. The deposit insurance fund is built up by the premium received from the insured banks and augmented by the interest earned on the fund investment. The deposit insurance fund is utilized exclusively for meeting the deposit insurance claims.

The credit guarantee fund is used for meeting the credit guarantee claims, among the guarantee schemes introduced by the Corporation. The small loan guarantee scheme, 1971, covers among others, the credit facilities granted by commercial banks and RRBs to farmers. The scheme covers advance granted to borrowers, undertaking various types of agricultural and allied activities such as raising of crops, poultry farming, dairy farming and animal husbandry. The guarantee cover has been varying from time to time. Currently the guarantee is provide at 60 per cent of the amount in default.

In 1982, the small loan (Co-operative Credit Societies) Guarantee Scheme was formulated with a view to providing guarantee cover for advance granted by co-operative credit institutions at the primary level for agriculture and allied activities.

TIME VALUE OF MONEY

Future value of Present Money. A rupee today is worth more than a rupee in future. This is primarily due to its opportunity cost, i.e., interest. Interest will be added to the principal over time and hence its value increases. Future value of present sum is an important concept in financial analysis and this is called compounding. In the compounding process, the interest is added to the principal at the end of each time period. The future value of present investment is calculated by using the formula of compound interest:

$$A = P (1+i)^t$$

Where,

A= Future value of present sum invested,

P= Principal amount invested,

i = Interest rate in per cent, and

t = Number of years.

There are two methods of project appraisal, viz., undiscounted measures and discounted measures. In undiscounted measures, payback period, ranking by inspection, proceed per rupee of outlay etc., are important. Under discounting measures, Net Present Worth (NPW), Benefit-Cost Ratio, Internal Rate of Return (IRR) and Profitability Index are prominent.

UNDISCOUNTED MEASURES

The undiscounted measures are the naïve methods of choosing among the alternative projects. The methods listed under these measures often mislead in ranking of the projects and hence, choices go wrong.

Ranking by Inspection:

It is based on the size of costs and length of cash-flow stream. Suppose if the two projects are with the same investment and the same net value of production, but with difference in the length of the period, then the longer duration is preferred to the one with shorter time period. This leads to bias in the choice obviously due to the absence of appropriate analysis.

Payback Period:

Another simple method of ranking a project is the length of time required to get back the investment on the project.

The payback period of the project is estimated by using the straight forward formula:

$$P = \frac{I}{E}$$

Where,

P = Payback period of the project in years

I = Investment of the project in Rs. And

E = Annual net cash revenue in Rs.

The performance of a project is based on the shorter payback period.

Estimation of Payback Period

Initial Investment = Rs. 20,000

Year	Cash Flow (in Rs.)	
	Project – A	Project - B
0	-20,000	-20,000
1	5,000	4,000
2	5,000	4,000
3	5,000	4,000
4	5,000	4,000
5	5,000	4,000
6	5,000	4,000

Project- A = Rs. 20,000/ Rs. 5,000 = 4 years

Project- B = Rs. 20,000/ Rs. 4,000 = 5 years

It is inadequate to exercise the option among the alternatives, because it fails to consider very important points like, consistency of running, returns after the payback period and whether the cash-flows would be positive or negative in future.

Proceed per Rupee of Outlay

This is worked out by dividing the total proceeds with the total amount of investment, and a given project is ranked based on the highest magnitude of the parameters.

DISCOUNTED MEASURES

Cash-flows are yearly net benefits accrued from the project. If they are weighed by discount rate, they become discounted cash-flows. These discounted cash-flows are the best estimates to decide on the worth of the project. This approach will give the net present worth of the project. The present worth of the costs is subtracted from the present worth of the benefits in order to arrive at the net present worth of the project every year.

Measurement of the Cash flow of the Project

From the annual stream of gross benefits of the project, the capital invested and the other input costs like labour, machinery, fertilizers, pesticides, management, etc., are deducted.

Net Present Worth (NPW):

This is simply the present worth of the cash flow stream. Sometimes, it is referred to as Net Present Value (NPV). The selection criterion of the project depends on positive value of NPW when discounted at the opportunity cost of the capital.

$$NPW = \frac{P_1}{(1+i)^{t_1}} + \frac{P_2}{(1+i)^{t_2}} + \frac{P_n}{(1+i)^{t_n}} - C$$

Where, P_1 = Net cash flow in first year,
 i = Discount rate,

t = Time period, and
C = Initial cost of the investment.

Project with positive NPWs are given weightage in the selection compared to those with negative present values. Table 1 presents the particulars of NPV calculations for two projects.

Benefit-Cost Ratio:

We compare the present worth of costs with present worth of benefits. Absolute value of the benefit-cost ratio will change based on the interest rate chosen. While ranking the projects depending upon the B-C ratio, the most common procedure of selecting a project is, to choose the project, having B-C ratio of more than one, when discounted at opportunity cost of capital.

$$\begin{aligned} \text{Benefit - Cost Ratio} &= \frac{\text{Present worth of gross returns}}{\text{Present worth of costs}} = \frac{82867.99}{60789.57} = 1.36 \\ &= \frac{24292.88}{19704.53} = 1.23 \text{ (Mango)} \end{aligned}$$

Table: 1 Estimation of NPW for Two Projects (Hypothetical)

Sericulture (One ha.)						Mango orchard (One ha.)					
Year	Costs (in Rs.)	Returns (in Rs.)	Net income (in Rs.)	Discount factor at 15 %	NPW (in Rs.)	Year	Costs (in Rs.)	Returns (in Rs.)	Net income (in Rs.)	Discount factor at 15 %	NPW (in Rs.)
1	38,900	-	-38,900	0.8696	- 33827.44	At the end of 6 th year	25,000	-	-25,000	0.4323	- 10807.50
2	9,239,	28,475	19,236	0.7561	14544.34	At the end of 7 th year	4,250	10,260	6,010	0.3759	2259.16
3	10,575	32,550	21,975	0.6575	14448.56	At the end of 8 th year	4,792	12,550	7,758	0.3269	2536.09
4	11,952	35,610	23,658	0.5718	13527.64	At the end of 9 th year	5,368	14,530	9,162	0.2842	2603.84
5	12,858	39,802	26,944	0.4918	13251.06	At the end of 10 th year	5,975	16,275	10,300	0.2472	2546.16
				NPW	21944.17	At the end of 11 th year	6,456	19,396	12,940	0.2149	2780.81
						At the end of 12 th year	7,187	21,470	14,283	0.1869	2669.49
										NPW	4588.05

Table: 2 Estimation of Benefit-Cost Ratio for Two Projects (Hypothetical)

Sericulture (One ha.)						Mango orchard (One ha.)					
Year	Costs (in Rs.)	Returns (in Rs.)	Discount factor at 15 %	Present worth Of costs (in Rs.)	Present worth Of gross returns (in Rs.)	Year	Costs (in Rs.)	Returns (in Rs.)	Discount factor at 15%	Present worth of costs (in Rs.)	Present worth Of gross returns (in Rs.)
1	38,900	-	0.8696	33827.44		At the end of 6 th year	25,000	-	0.4323	10807.50	
2	9,239,	28,475	0.7561	6985.61	21529.95	At the end of 7 th year	4,250	10,260	0.3759	1597.58	3856.73
3	10,575	32,550	0.6575	6953.06	21401.63	At the end of 8 th year	4,792	12,550	0.3269	1566.50	4102.60
4	11,952	35,610	0.5718	6834.15	20361.8	At the end of 9 th year	5,368	14,530	0.2842	1525.59	4129.43
5	12,858	39,802	0.4918	6189.30	19574.62	At the end of 10 th year	5,975	16,275	0.2472	1477.02	4023.18
				60789.57	82867.99	At the end of 11 th year	6,456	19,396	0.2149	1387.39	4168.20
						At the end of 12 th year	7,187	21,470	0.1869	1343.25	4012.74
										19704.83	24292.88

Table: 1 Estimation of NPW for Two Projects (Hypothetical) Cancelled

Year	Costs (in	Returns (in Rs.)	Net income	Discount factor at 12	NPW (in Rs.)	Year	Costs (in	Returns (in Rs.)	Net income	Discount factor at 12	NPW (in Rs.)

	Rs.)		(in Rs.)	%			Rs.)		(in Rs.)	%	
1	38,900	-	-38,900	0.8929	- 34,733.81	At the end of 6 th year	25,000	-	-25,000	0.507	-12,675
2	9,239,	28,475	19,236	0.7972	15,334.94	At the end of 7 th year	4,250	10,260	6,010	0.452	2,716.52
3	10,575	32,550	21,975	0.7118	15,641.81	At the end of 8 th year	4,792	12,550	7,758	0.404	3,134.23
4	11,952	35,610	23,658	0.6355	15,034.66	At the end of 9 th year	5,368	14,530	9,162	0.361	3,307.48
5	12,858	39,802	26,944	0.5674	15,288.03	At the end of 10 th year	5,975	16,275	10,300	0.322	3,316.60
				NPW	26,565.63	At the end of 11 th year	6,456	19,396	12,940	0.287	3,713.78
						At the end of 12 th year	7,187	21,470	14,283	0.257	3,670.73
										NPW	7,184.34

Table: 2 Estimation of Benefit-Cost Ratio for Two Projects (Hypothetical)

Sericulture (One ha.)						Mango orchard (One ha.)					
Year	Costs	Returns	Discount	Present	Present	Year	Costs	Returns	Discount	Present	Present

	(in Rs.)	(in Rs.)	factor at 12 %	worth Of costs (in Rs.)	worth Of gross returns (in Rs.)		(in Rs.)	(in Rs.)	factor at 12 %	worth of costs (in Rs.)	worth Of gross returns (in Rs.)
1	38,900	-	0.8929	34,733.81	-	At the end of 6 th year	25,000	-	0.507	12,675.00	-
2	9,239,	28,475	0.7972	7,365.33	22,700.27	At the end of 7 th year	4,250	10,260	0.452	1,921.00	4,637.52
3	10,575	32,550	0.7118	7,527.29	23,169.09	At the end of 8 th year	4,792	12,550	0.404	1,935.97	5,070.20
4	11,952	35,610	0.6355	7,595.50	22,630.16	At the end of 9 th year	5,368	14,530	0.361	1,937.85	5,245.33
5	12,858	39,802	0.5674	7,295.63	22,583.65	At the end of 10 th year	5,975	16,275	0.322	1,923.95	5,240.55
				64,517.56	91,083.17	At the end of 11 th year	6,456	19,396	0.287	1,852.87	5,566.55
						At the end of 12 th year	7,187	21,470	0.257	1,847.06	5,517.79
										24,093.70	31,278.04

Internal Rate of Return:

In the computation of Internal Rate of Return (IRR), the time value of money is accounted. The method of working IRR provides the knowledge of actual rate of return from the different projects. Thus IRR is known as ‘Marginal Efficiency’ of capital or yield on the investment. It is the discount rate at which the present values of the net cash flows are just equal to zero, i.e., NPW = zero.

In the working procedure, an arbitrary discount rate is assumed and its corresponding NPW is arrived at. The positive NPW value of the project indicates that IRR is still higher and the next assumed arbitrary IRR value must be comparatively higher than the initial level. The process continued until NPW becomes negative. The IRR is found out using the following equation.

$$\text{IRR} = \text{Lower discount rate} + \frac{\text{Difference between the two discount rate} \times \text{Present worth of the cash flow at lower discount rate}}{\text{Absolute difference between the present worth of the cash flow at the two discount rates}}$$

Estimation of IRR for Sericulture (one ha.) (Hypothetical)

Year	Costs (in Rs.)	Returns (in Rs.)	Net Income (in Rs.)	Discount factor (40%)	Net Present worth (in Rs.)	Discount factor (45%)	Net Present worth (in Rs.)
1	38,900	-	-38,900	0.7143	-27,786.27	0.6897	-26,829.33
2	9,239,	28,475	19,236	0.5102	9,814.21	0.4756	9,148.64
3	10,575	32,550	21,975	0.3644	8,007.69	0.3280	7,207.80
4	11,952	35,610	23,658	0.2603	6,158.17	0.2262	5,351.44
5	12,858	39,802	26,944	0.1859	5,008.89	0.1560	4,203.26
			52,913		1,202.69		-918.18

$$\begin{aligned} \text{IRR} &= 40 + 5 \{1202.69/1202.69+918.18\} \\ &= 40 + 5\{0.5671\} \\ &= 40 + 2.7249 \\ &= 42.84 \% \end{aligned}$$

Estimation of IRR for Mango Orchard (Hypothetical)

Year	Costs (in Rs.)	Returns (in Rs.)	Net Income (in Rs.)	Discount factor (25%)	Net present worth (in Rs.)	Discount factor (30%)	Net present worth (in Rs.)
At the end Of 6 th year	25,000	-	-25,000	0.262	-6,550.00	0.207	-5,175.00
At the end Of 7 th year	4,250	10,260	6,010	0.210	1,262.01	0.159	955.59
At the end Of 8 th year	4,792	12,550	7,758	0.168	1,303.30	.0123	954.23
At the end Of 9 th year	5,368	14,530	9,162	0.134	1,227.71	0.094	861.23
At the end of 10 th year	5,975	16,275	10,300	0.107	1,102.10	0.073	751.90
At the end of 11 th year	6,456	19,396	12,940	0.086	1,112.84	0.056	724.64
At the end of 12 th year	7,187	21,470	14,283	0.069	985.53	0.043	614.17
			35,453		443.49		-313.24

$$\begin{aligned}
 \text{IRR} &= 25 + 5 \{443.49 / 443.49 + 313.24\} \\
 &= 25 + 5\{0.586\} \\
 &= 25 + 2.93 \\
 &= 27.93 \%
 \end{aligned}$$

Profitability Index:

It is defined as the ratio of net present values of the cash flows to the initial capital expenditure (Co).

$$\text{PI} = \frac{\text{NPV}}{\text{Co}}$$

$$\text{PI} = \frac{\text{NPV}}{\text{Co}}$$

Co

Estimation of profitability Index

Original amount invested in a project = Rs. 60,000

Year	Cash flow (in Rs.)	Discount factor (15 %)	Net Present worth (in Rs.)
1	14,500	0.8696	12609.20
2	14,900	0.7561	11265.89
3	16,600	0.6575	10914.50
4	18,700	0.5718	10692.66
5	19,000	0.4918	9344.20

6	20,000	0.4323	8646.00
	1,03,700		63472.45

Net present values of the cash flows 63,472.45

PI = ----- = ----- = 1.06

Original amount invested 60,000

1. Compounding:

Compounding is used to translate present cash flow into their future values. Suppose we invest Rs. 1.00 in a bank which will pay 10% interest per year. At the end of the first year, the investment will earn an interest of 10 paise. If we add this amount of interest to the original principal, we will have a new principal of Rs. 1.10 at the start of second year. At the end of second year, the new principal (Rs. 1.10) will earn an interest of Rs. 0.11 so that the principal at the start of third year will be Rs. 1.21.

Compounding factor enable calculation of future value of present money.

What is the future value of the following investment?

Sr. No.	Initial Amount(Rs.)	Compounding rate of interest	Period (years)	Compounding factor	Future Value (Rs.)
1	6000	15	10	6000x4.045	24240
2	500	20	16	500x18.4884	9442

2. Discounting:

This is to derive the present value of future income at a specified rate of interest. This is because, money has time value. **Discounting factor enable calculation of present value of future amount.**

Sr. No.	Amount to be received(Rs.)	Future Period in Years	Rate of interest	Discounting factor	Present Value (Rs.)
1	24276	10	15	24276x0.247185	6000
2	9244	16	20	9244x0.054088	500

3. Annuity Factor:

This factor is used when a constant stream of benefits is expected for the entire project life or certain number of years of project life. **Annuity factor is the sum of total discount factors.**

B. Institutional Agencies:

1. Co-operative Banks:

1. State Co-operative Banks: (SCBS)- Known as Apex Bank

These are the co-operative credit organizations present at the State level. DCCBs and PACS are the members of these banks. These institutions supervise the activities of the member banks and mobilize and deploy the financial resources among the member banks. They serve as a link between the RBI and PACS.

The specific functions of the State co-operative banks are:

- They help to the State Governments in formulating development plans with regard to co-operative institutions.
- They co-ordinate the policies of the co-operatives with the government.
- They formulate & implement uniform credit policies.
- They act as bankers bank to DCCBs.
- They grant subsidies to & DCCBs for the smooth functioning of co-operatives.

2. District Central Co-operative Banks: (DCCOB)

It links between state co-operative bank and PACs

Objective: to lend money to the village primary credit society.

Functions:

1. Supervise & inspect the activities of PACS
2. They maintain close and continuous contact and guide the primary societies.
3. They undertake not-credit activities.
4. They accept deposits from the member societies.
5. They undertake non-credit activities like supply of seeds, fertilizers besides sugar, kerosene and other consumer goods.
- 6.
3. **Primary Agricultural Co-operative Credit Society: - (PACS)** Formed society as the co-op. society Act of 1904. The co-operative principles like limited liabilities, limited area of operation, honorary management, voluntary participation of village etc., were framed for the smooth functioning of the societies. The societies are at the village level and directly meant for the farmers regarding provision of requisite short-term and medium-term loans.

Functions:

1. They borrow adequate & timely funds from DCBS and help the members in financial matters.
2. They attract local saving in the form of share capital & deposits from the villages.
3. The distribute fertilizers, insecticides etc., to the needy farmers.
4. Provide machinery on hire basis to the farmers

5. Said economic development of the village.
6. Involve in marketing of farm produce on behalf of the farmers borrowers.
7. They provided storage facilities and marketing finance.
8. They provide consumers goods like rice, wheat, sugar, kerosene, cloth, etc., at fair prices.

Long term Co-operative Loans:

*** Central Land Development Bank (CLDB)**

As an apex bank in the two tier co-operative credit structure, it provides long-term finance to PLDBs and also to its affiliated branches working in the States. Branches of CLDBs, PLDBs, and individual enterprise are the members of the CLDB. NABARD is the refinancing agency to the CLDBs. It supervises, inspects and guides the PLDBs in their banking operations. It floats debentures for raising the necessary funds. The CLDB generally provides loans to member banks for the redemption of old debts, development of land, purchase of agricultural machinery and equipment, development of minor irrigation, etc.

*** Primary Land Development Bank (PLDBs)**

- Established in the year 1920 in Punjab
- Later during the period 1920-29, many land mortgage Banks were establish in Punjab, Madras, Mysore, Assam & Bengal.

Function:

1. They provide long term finance to the needy farmers for the development of the land, increasing agril. production & productivity of the land.
2. Provide loans for miner irrigation & for redemption of old debts & purchase of land.
3. Provide finance in purchasing tractors, machinery and equipment.
4. Provided finance for the construction of farm structure.
5. They mobilize rural savings.

Social Control and Nationalization of Banks:

At the time of independence, the private sector banks were predominantly Urban-oriented and under the control of a few industrialists which had not helped in achieving the basic socio-economic objectives. The credit needs of agriculture, small-scale industries and also weaker sections such as small traders and artisans continued to be ignored. Even though for nearly three fourths of population, agriculture is the main occupation and contributed 50 per cent of gross domestic product, the total bank credit advanced to this sector was only one per cent as on June, 1967. The bulk of the deposits contributed by the public were being advanced to the industrial and trade sectors ignoring the prime sector of agriculture. In agriculture, the credit scene was dominated by the private money lenders who were charging exorbitant rates of interest.

All these situations compelled the imposition of social control over the banks in 1968. The main aim of social control was achieving of wider spread of bank credit to the priority sectors thereby reducing the authority of managing directors in advancing the loans. Social control created the tempo of banks expansion, as evident by the addition of 785 new branches by the end of first half of 1969. But this did not make dent in increased canalisation of credit to agricultural sector and to the other weaker sections. The directions issued by the Government were also ignored by many of the banks. Under these circumstances the Government thought that the social control of banks was not sufficient for socio – economic development and nationalization of banks was considered as an alternative solution.

The Government of India on **19th July 1969** promulgated an ordinance called “The Banking companies Ordinance 1969” (Acquisition and Transfer of Undertakings). Under this act **14 commercial banks** having deposits of **more than Rs. 50 crores** each were nationalized and they were

1. Central Bank of India	8. Syndicate Bank
2. Punjab National Bank	9. Allahabad Bank
3. Bank of Baroda.	10. Indian Bank
4. Bank of India	11. Bank of Maharashtra
5. United Commercial Bank	12. Canara Bank
6. Dena Bank	13. UCO Bank
7. Union Bank of India	14. Indian Overseas Bank

The objectives of nationalization as set out by the then Prime Minister, Smt. Indira Gandhi were:

1. Removal of control of banking by a few industrialists;
2. Elimination of the use of bank credit for speculative and unproductive purposes;
3. Expansion of credit to priority areas, which were neglected such as agriculture and small industry;
4. Giving professional bent to the bank management;
5. Provision of adequate training as well as reasonable terms of service to bank staff.

Spurred by the success of first spell of nationalization of 14 commercial banks, **six more banks** in the private sector, having deposits more than Rs. 200 crore were nationalized on **15th April 1980**. The six banks were:

1. Punjab and Sind Bank
2. Andhra Bank
3. New Bank of India
4. Vijya Bank
5. Oriental Bank of Commerce, and
6. Corporation Bank

As a result of two spells of nationalization of banks, by the end of June, 1992 bank advances towards agriculture sector were 16.2 per cent of total credit as against one per cent by the end of June, 1967.

Regional Rural Banks (RRBs):

All India Rural Credit Review Committee (AIRCRC) under chairmanship of Sri. B. Venkatappaiah during the year 1969 was of the opinion that over large parts of the country the marginal and small farmers were deprived of having access to the cooperative credit both for production and investment purposes. This stressed the establishment of institutional financial agencies under public sector. Consequently the first spell of nationalization of banks was done with greater expectations, but the situation had not changed as per the expectations.

Hence, the Government of India appointed a working committee under the chairmanship of Sri. M. Narasimham to study the financial assistance rendered to the weaker sections in the rural areas. This working committee recommended the setting up of rural based institutional agencies called “Regional Rural Banks” after identifying shortcomings in the functioning of commercial banks and cooperatives.

The Government of India accepted the recommendations of Sri.Narsimham committee and regional rural banks came in to existence through regional rural banks ordinance on 26th September, 1975. Initially only 5 RRBs were set up on pilot basis with sponsorship of commercial banks on **October 2nd, 1975**. This ordinance of 1975 was replaced by the Regional Rural Banks Act, 1976.

In 1975, a new category of banking institution was opened in the form of regional rural banks. **Regional Rural Banks are also called 'Gramin Banks'**. These banks are sponsored by the lead bank of the concerned district. **The main aim of Regional Rural Bank is to meet the credit requirements of marginal and small farmers, landless labourers, rural artisans and small entrepreneurs, these banks have limited area of operation. Generally, 50 per cent share capital is provided by Government of India, 15 per cent by the State Government and remaining 35 per cent is contributed by the sponsoring lead bank (Commercial bank).** These banks have a *Board of Directors of 9 members, 4 members are appointed by the Central Government, 2 by the lead bank, 1 by the State Government and 2 by the Government of India* from amongst other share holders. Lead bank also provides bank staff for two years to start the work.

The list of RRBs first opened in the country is:

List of RRBS

- Syndicate Bank
- S.B.I.
- United Bank of India
- Punjab National Bank
- United Commercial Bank

Head Quarters

- Muradabad (UP)
- Grrakhpur (UP)
- Malda (W.B.)
- Bhiwani (Haryana)
- Jaipur (Rajasthan)

Objectives:

1. To develop rural economy;
2. To provide credit for agril. & allied field,
3. To encourage village industries, artisans, carpenters etc.,

4. To reduce dependence of weaker sections on money lenders.
5. To fill up the gap created by moratorium on money lenders.
6. To help the poor financially for their consumption needs.

Characteristic features of RRBs:

- 1. Sponsorship:** It sponsored by scheduled commercial banks.
- 2. Jurisdiction:** The operational areas are to be covered by each RRB varies from one to two districts for efficient functioning. Coming to the population to be served by each branch, it has been kept at 20,000 roughly.
- 3. Management:** Board of directors numbering eight, headed by a chairman, who is the officer of the sponsoring bank. Of the 8 directors, three are nominees of the sponsoring bank, two from the State Government dealing with the district development programmes and three from the Central Government.
- 4. Share capital:** The authorized share capital of RRB has been fixed at Rs. One crore and issued capital at Rs. 25 lakh. This is contributed by the Central Government, State Government and the sponsoring bank in the ratio of 50:15:35 respectively.
- 5. Functions:** The main function is, to grant loans and advances particularly to small & marginal farmers, agril. labourers, co-operative societies, co-operative farming societies for agril. purposes, artisans etc., within the operational area of the RRB. They also provide banking facilities like issue of drafts, collection of Cheque, etc
- 6. Rate of Interest:** The rate of interest on the loans charged is the same as collected by PACS. They allowed offering 0.5% interest more on deposits than that of commercial banks.

National Bank for Agriculture and Rural Development (NABARD)

Agril. Refinance & Development Corporation (ARDC) has not made much work in the field of direct financing & delivery of rural credit against the high credit demand for rural development. As a result, many Committees and Commissions, viz., Banking Commission (1972), National Commission on Agriculture (1976) and Committee to Review Arrangements for Institutional Credit for Agriculture and Rural Development (CRAFICARD) in 1979 were constituted. CRAFICARD under the chairmanship of B. Sivaraman former member of Planning Commission were constituted, recommended the setting up of a national level institution called NABARD for providing all types of production & investment credit for agriculture and rural development. In pursuance of its recommendations, NABARD came into existence on **12 July 1982**. The then existing national level institutions such as ARDC, Agricultural Credit Department (ACD) and Rural Planning Credit Cell (RPCC) of RBI were merged with NABARD with a paid up capital of Rs. 500 crore equally contributed by GOI and RBI.

Board of Management: All directors in the Management Board are appointed by the Central Government in consultation with RBI.

In addition to Chairman and Managing Director, the Board consists 13 other directors. Out of these two are experts in rural economics and rural development. Three directors are representatives of

co-operatives and three from commercial banks. Three directors are officials of the Government of India & two belong to State Governments

Source of Funds:

- Authorized Share capital	Rs. 500 core
- Issued and paid up capital	Rs. 100 core

Other sources:

- Borrowing from the Govt. of India.
- Issue & sale of bonds by the Govt. of India.
- Borrowing from RBI
- Deposits from state Govt. & local authorities
- Gifts & grants received.

Objectives:

1. As an apex refinancing institution, NABARD survey and estimates all types of credit needed for the farm sector and rural development
2. Taking responsibility of promoting and integrating rural development activities through refinance.
3. With the approval of Government of India, NABARD also provides direct credit to any institution or organization or an individual.
4. Maintaining close links with RBI for guidance and assistance in financial matters.
5. Acting as an effective catalytic agent for rural development i.e in formulating appropriate rural development plans and policies.

Functions:

The activities of NABARD are presented under three categories

A. Credit activities

B. Developmental activities

C. Regulatory activities

A. Credit activities:

- It prepares for each district annually a potential linked credit plan.
- It participates in finalization of annual action plan of block, district & state level.
- It monitors implementation of credit plans.
- It lay down the form & condition to be followed by credit institutions in financing production, marketing and investment activities of rural farm & non -farm sector.
- It provides refinance facilities as detailed below:

Short -term Refinance:

- It is for agril production operations & marketing of crops by the farmers' cooperatives etc.
- Marketing & distribution of inputs like fertilizers, seeds, pesticides, etc. and
- Production and Marketing activities of village and cottage industries, handicrafts, handlooms, artisans and other rural non-farm enterprises.

Medium & Long -term Returns:

- Investment in agriculture and allied activities such as minor irrigation, farm mechanization, land development, dairy, forestry, installation of pump sets etc.
- Investment activities of artisans, small scale industries, village and cottage industries, handicrafts, hand looms, power looms etc.
- Activities of voluntary agencies /self-help group of rural poor.

Criteria & Extent of Refinance:

The criteria of refinance to any scheme submitted by financing institutions are

- Technical feasibility of the project and adequate response from the beneficiaries.
- Financially viability & adequate internal income to the borrower to repay loan.
- Organizational arrangement to ensure close supervision by financing banks.

Various activities for refinance:

▪ Pilot rainfed farming project	(100%)
▪ Waste land development Scheme	(100%)
▪ Agro -processing units	(75%)
▪ Bio-gas scheme	(75%)
▪ Farm Mechanization	(50%)
▪ Rural Electrification	(50%)

B. Development Activities:

The following are the developmental activities undertaken by NABARD for the productive use of credit.

(i) Institutional Development:

- It helps co-operative banks & RRBs for development action plan.
- It provides financial assistance to co-operative and RRBs for the establishment of technical and monitoring cells with them to improve the quality of their project formulation and project monitoring.
- It provides organization development intervention (ODI) through training institute (Bankers Institutes for Rural Development) (BIRD) Lucknow.
- It provided financial assistance for the training of institute of co-operative banks.
- It provides borrowers education on ethics of repayments.

(ii) Research & Development Funds :

- Supporting operational research projects aimed at up gradation and transfer of technology from lab to land.
- Organizing national and international seminars, conferences, symposia, etc., on subject related to rural development and banking.
- Conducting programmes for upgrading skills of prospective borrowers.
- Providing grant to selected Krishi Vikas Kendras.

C. Regularities activities:

As the apex development bank, NABARD shares with RBI, some of the regulatory and supervisory functions in respect of co-operative banks and RRBs.

- Under banking regulation Act.1949 NABARD undertakes inspection of RRBs and Co-operative banks (other than PACS).
- Any RRB or Co-Op bank seeking permission of RBI, for opening branches needs recommendation of NABARD.

Kisan Credit Card (KCC)

The Government of India introduced Kisan Credit Card scheme by banks during 1998 -99. The scheme was designed by NABARD. KCC aims at adequate and timely support from the banking system to the farmers for their short-term production credit needs in cultivation of crops, purchase of inputs etc in a flexible and cost effective manner.

Under this scheme, the farmers would be issued a credit card-cum pass book incorporating the name, address, particulars of land holding, borrowing limit, validity period etc and it will serve both as an identity card as well as facilitates the financial transactions. Credit limit on the card may be fixed on the basis of operational holding, cropping pattern and scale of finance as recommended by the District Level Technical committee (DLTC) / State Level Technical committee (SLTC).

As per the recommendations of Sri R.V. Gupta committee in the year 1998, on the flow of credit to agricultural sector, apart from the total credit need, a 20 per cent of total peak level credit requirement (PLCR) will be given contingent credit need (with a maximum ceiling of Rs.10,000). The KCC should normally valid up to 3 years and subject to annual review.

Agricultural Finance Corporation (AFC)

In view of the inexperience of the commercial banks in financing agriculture, a need was felt to set up an institutional agency at the national level to take care of this aspect. The Agricultural Finance Corporation was promoted by the Indian Banks Association and it was incorporated on 10th April 1968 under the Indian Companies Act 1956, with an authorized share capital of Rs. 100 crore and issued share capital of Rs. 10 crore.

The corporation has two distinct roles, viz., financing the individuals/ institutions/ organizations involving agricultural development and promoting commercial bank advances for agricultural development.

(i) Financing Role:

Top priority is being given by the Corporation to the following projects.

a. Sinking and deepening irrigation wells;

- b. Production, distribution and marketing of agricultural inputs such as seeds, fertilizers, implements and machinery;
- c. Construction of storage structures for food grains and fertilizers;
- d. Establishment of agricultural service units, etc.

(ii) Promotional role:

This is needed a challenging task for AEC. It provides expertise in the formulation of appropriate projects to all commercial banks working under its guidance and advancing loans. To increase the credit absorbing capacity in agriculture for modernizing agriculture, it suggests the following steps to be taken by commercial banks.

1. Commercialization and industrialization of agriculture;
2. Development of requisite infrastructure for rapid agricultural development;
3. Removal of various difficulties and handicaps experienced by the commercial banks and the farmer-borrowers;
4. Simplification and streamlining the procedures in sanctioning the loans.

Reserve Bank of India (RBI)

The Reserve Bank of India (RBI) was established in 1935 under the Reserve Bank of India Act, 1934. Its headquarters is located at Mumbai

The RBI was set up to

- ☐ ☐ regulate the issue of bank notes
- ☐ ☐ secure monetary stability in the country
- ☐ ☐ operate currency and credit system to its advantage

The role of RBI in agricultural credit was found in the establishment of Agricultural Credit Department (ACD).

The primary functions of ACD are

- * To coordinate the functions of RBI with other banks and state cooperative banks in respect of agricultural credit
- * To maintain expert staff to study all the questions of agricultural credit and be available for consultation by central government, state governments, scheduled commercial banks and state cooperative banks.
- * To provide legislations to check private money lending and checking other malpractices.

All India Rural Credit Survey Committee (AIRCSC) under the chairmanship of Sri. Gorwala in 1954 suggested several recommendations with regard to the activities of RBI in the sphere of rural credit. Based on this, two funds were established after amending RBI act, 1934.

1. National Agricultural credit (Long-term operations) fund-1955:

It has started with an initial capital of Rs.10 crores and annual contribution of Rs.5 crores and later this was increased to Rs. 15 crores. This fund was meant to provide long-term loans to various state governments so as to enable them to contribute to the share capital of different types of cooperative societies including Land Mortgage Banks (LMBs). Loans and advances out of this fund are made to state governments for a period not exceeding 20 years.

2. National Agricultural credit (Stabilization fund)-1956:

It was started with RBIs initial contribution of Rs. 1 crore and subsequent annual contribution of Rs. 1crore. This fund is utilized for the purpose of granting medium-term loans to State Co-operative Banks (SCBs), especially during the times of famines, droughts and other natural calamities when they are unable to repay their loans to RBI.

The functions of RBI in the sphere of rural credit can be dealt seen under three aspects:

1. Provision of finance
2. Promotional activities, and
3. Regulatory functions

Provision of Finance:

- * Reserve Bank of India provides necessary finances needed by the farmers through the commercial banks, cooperative banks and RRBs on refinance basis.
- * It advances long-term loans to state governments for their contribution to the share capital of the cooperative credit institutions like State Cooperative Banks (SCBs) and District Cooperative Central Banks (DCCBs).
- * It advances medium-term loans to State Cooperative Banks.
- * It extends refinance facility to the RRBs only to an extent of 50 per cent of outstanding advances.

Promotional activities:

Reserve Bank of India constitutes study teams to look into the organization and operation of the cooperative credit institutions all over the country. It also conducts number of surveys and studies pertaining to rural credit aspects in the country. The RBI felt that the cooperatives are the major force in the field of agricultural credit and hence following measures were framed for the strengthening of cooperatives.

- * Reorganization of the state and central cooperative banks on the principle of one apex bank for each state and one central bank for each district.
- * Rehabilitation of those central cooperative banks, which are financially weak due to mounting overdue, insufficiency of internal finances, untrained staff, poor management etc.
- * Strengthening of PACS to ensure their financial and operational viability.
- * Arranging suitable training programmes for the personnel of cooperative institutions.

Regulatory functions:

- * Reserve bank of India is concerned with efficiency of channels through which credit is distributed.
- * Banking Regulation Act, 1966 makes the RBI to exercise effective supervision over cooperative banks and commercial banks.
- * As per the Credit Authorized Scheme (CAS) of 1976, the cooperative banks should get prior authorization from RBI for providing finances beyond a certain limit.
- * The cash liquidity ratio (CLR) and cash reserve ratio (CRR) are fixed by RBI for cooperatives, farmer's service societies (FSS), regional rural banks (RRBs) and agricultural development banks (ADB) at lower levels than those fixed for commercial banks. For these cooperative banks the bank rate was 3 per cent less than that of commercial banks. They are permitted by RBI to pay 0.5 per cent higher rate of interest on deposits.

The Reserve Bank of India was established in 1935 under the RBI Act, 1934. The bank was set up to regulate the issue of bank notes and keeping up resources with a view to securing monetary stability in the country and operate the currency and credit system to its advantages. The role of RBI in the sphere of agricultural credit, the creation of Agricultural Credit department (ACD) comes to light. The primary functions of ACD were to coordinate the functions of RBI with regards to agricultural credit with other banks and State Co-operative Banks, to maintain expert staff to study all the questions of agricultural credit. Two funds were established after amending the RBI Act, viz., the National Agricultural Credit (Long Term Operations) Fund (1955) and the National Agricultural Credit (Stabilization) Fund (1956).

The role of RBI in the sphere of rural credit can be seen under three aspects viz., provision of finance, promotional activities and regulatory functions.

1. Provision of Finance:

Reserve Bank of India provides necessary finance needed by the agriculturists through the commercial banks, co-operatives societies and regional rural banks. It advances long-term loans to State Government for their contribution to the share capital of the co-operative credit institutions, i.e., apex and district banks. Refinancing facility is extended to RRBs only, to an extent of 50 per cent of their outstanding advances.

2. Promotional Activities:

The RBI's can be made appointment of study teams in organizing and running the co-operative credit institutions in the country. The All India Rural Credit Survey and the all India Rural Debt and Investment Surveys can be cited to conducts a number of studies and surveys pertaining to rural credit aspects in the country. The RBI felt that co-operatives are the major force in the sphere of agricultural credit; the following policies were made for strengthening the co-operatives.

1. Reorganization of the State and Central Co-operative Banks on the principle of one Apex bank for each state and one Central bank for each district.
2. Rehabilitation of those Central Co-operative banks, which are financially and administratively weak for such as mounting overdue, untrained staff, poor management, etc.
3. Strengthening of PACS to ensure their financial and operational viability.
4. Arranging suitable training programmes for the personnel of co-operative institutions.

3. Regulatory Functions of RBI:

Apart from lending aspects, RBI is concerned with efficiency of channels through which credit is given to rural sector. Banking Regulation Act 1966 of RBI enables it to exercise effective supervision over co-operative banks and commercial banks. The Cash Liquidity Ratio (CLR) and Cash Reserve Ratio (CRR) are fixed by RBI for co-operatives, FSSs, RRBs and ADBs at lower level than those fixed for commercial banks. For these banks the bank rate is 3 per cent less than that of commercial banks. They are permitted by RBI to pay $\frac{1}{2}$ per cent higher rate of interest on their deposits.

World Bank

The International Bank for Reconstruction and Development (IBRD) also called as World Bank was established in the year **1945** and started its operations in the year 1946. It is the sister institution of another international financial agency, International Monetary Fund (IMF) The IBRD/world bank's main aim is to reduce the poverty by promoting sustainable economic development in member countries. It attains this goal by providing loans and technical assistance for projects and programmes in its developing member countries.

The financial strength of IBRD is based on the support it receives from its shareholders and financial policies and practices adopted by it. The main activity of World Bank is to provide loans to the member- countries.

Functions of World Bank

*** Development activities:**

It provides loans to its member-countries to meet their developmental needs. It also provides technical assistance and other services to the member countries to reduce poverty.

*** Providing Loans:**

Each loan must be approved by IBRD's executive directors. Apart from providing loans it also waives the loans under special circumstances i.e. occurrence of natural calamities. After providing loans, the appraisal of the projects is carried out by IBRD's operational staff comprising engineers, financial analysts, economists and other specialists.

The loan disbursements are subjected to the fulfilment of conditions laid in the loan agreement. During the implementation, IBRD's experienced staffs periodically visit the project site to review the progress and monitor whether the execution of project is in line with IBRD's policies. During these visits the bank staff helps in resolving any problems that may arise during the execution of the project.

After the completion, the projects are evaluated by an independent body and findings will be reported to the executive directors to determine the extent to which project objectives were fulfilled.

*** Consultancy:**

In addition to the financial help, IBRD also provides technical assistance to its member countries irrespective of loans taken from it or not. There is a growing demand from borrowers for strategic advice, knowledge transfer and capacity building.

*** Research and Training:**

For assisting its member countries, the World Bank offers courses and training related to economic policy development and administration for governments and organizations that work closely with IBRD.

*** Trust–Fund Administration:**

IBRD itself or jointly with International Development Agency (IDA), on behalf of donors restricts the use of funds for specific purposes only. The funds so obtained are not included in the list of assets owned by IBRD.

*** Investment Management:**

IBRD provides investment management services for external institutions by charging a fee. The funds thus obtained are not included in the assets of IBRD.

EXERCIS: 1

PROCEDURAL FORMALITIES IN SANCTION OF FARM LOANS

The financing bank is visited with the powers either to accept or reject the farmer's loan application. This is an equal to an objective appraisal of farm credit proposals and procedures and formalities followed in the processing of loans. Here an attempt is made to explain the set of procedures and formalities required in processing of a farm loan application. The processing procedure is detailed under the following sub-heads.

1. Interview with the farmer;
2. Submission of loan application by the farmer;
3. Scrutiny of records;
4. Visit to the farmer's field before sanction of loan;
5. Criteria for loan eligibility;
6. Sanction of loan;
7. Submission of requisite documents;
8. Disbursement of loan;
9. Post-credit follow-up measures; and
10. Recovery of loan.

(1) Interview with the farmer

A banker studies the farmer-borrower in the interview regarding his credit characteristics such as honesty, integrity, frankness, progressive thinking, indebtedness, repayment capacity etc. The banker explains to the farmer the terms and conditions under which the loan is going to be sanctioned. Interview helps the banker to understand the genuine credit needs of the farmer. So interview is more than a mere formality, as it facilitates the banker to study the farmer in detail and assess his credit requirements.

(2) Submission of loan application by the farmer

After getting satisfied with the credentials of the farmer, the banker gives a loan application form to him. Details regarding the location of the farm, purpose of the loan, cost of the scheme, credit requirements, farm budgets, financial statements etc. as required in the form are filled in by the farmer. Certificates such as ownership of the land, statement showing cropping pattern adopted by the farmer-borrower, farm map, no objection certificate from the co-operatives, and affidavit from the borrower regarding his non-mortgage of land elsewhere are appended to the loan application. A passport size photograph is fixed to the loan application form.

3. Scrutiny of records

Verify the ownership of land and the acreage held by the applicant through title deeds 7/12, 8-A etc.

4. Visit to the farmer's field before sanction of loan

After verifying the records the Field Officer of the bank pays a visit to the farm to verify the particulars given by the farmer. The pre-sanction visit is expected to help the banker to identify the farmer and guarantor, locate the boundaries of land as per the map and assess the managerial capacity of the farmer in farming and allied enterprises and the farmer's attitude towards latest technology. Thus, pre-sanction visit of the bank officials is very important to verify credit-worthiness and trust-worthiness of the borrower. While appraising different types of loans, different aspects should be verified. For example, to advance loan for well-digging, the location of proposed well, ground water availability, distance from the nearby well, rainfall command area of the well etc., are verified in the pre-sanction visit. All these aspects are included in the report submitted to the Branch Manager for taking up final decision in the sanction of the loan.

5. Criteria for loan eligibility

The following aspects are considered in judging the eligibility of a farmer-borrower to receive loan.

1. He should have sound character and financial integrity,
2. His dealing with friends, neighbours, financial institutions etc., must be proper (He should not be defaulter in the past),
3. He must have progressive outlook and be receptive to modern technology,
4. He should sincerely implement the proposed scheme and ensure proper use of credit,

6. Sanction of loan

After examining all the aspects presented in the pre-sanction farm inspection report, the Branch Manager takes a decision whether to sanction the loan or not. Before sanctioning, the Branch Manager considers the technical feasibility, economic viability and bank ability of proposed projects including the repayment capacity, risk-bearing ability and sureties offered by the farmer-borrower. If the loan amount is beyond the sanctioning power of the Branch Manager, it is forwarded to the regional manager or Head office of the bank, incorporating his recommendations.

7. Submission of requisite documents

After sanctioning the stipulated amount to the farmer-borrower the following documents are obtained.

1. Demand promissory note;
2. Deed of hypothecation;
3. Guarantee letter;
4. Installment letter;
5. Authorization letter regarding the payment of loan from the marketing agencies or intermediaries on behalf of the farmer.

Title deeds are examined by the legal officer of the bank and his opinion with regard to clear, marketable and unlitigated title is sought. .

8. Disbursement of loan

As soon as the execution of documents is completed, the loan amount is credited to the borrower's account. The loan amount is disbursed in a phased manner, that too after ensuring that the loan is used by the farmer-borrower properly. A realistic repayment plan is framed and given to the farmer keeping in view the income flow of the proposed project.

9. Post-credit follow-up measures

The Branch Manager or Agricultural Officer pays a visit to the farmer to ascertain the proper use of the credit. This also benefits the farmer for; they can get the technical advice if any needed from the Agricultural officer in the implementation of the scheme. These visits are also meant for developing a close rapport between the farmer and the banker. Such visits also facilitate in assessing any further requirement of supplementary credit to complete the scheme.

10. Recovery of loan

The bank reminds the farmer-borrower in advance about the repayment of loan in time. If needed recovery camps, special drives, village meetings etc. are organized at an appropriate time. All appropriate measures are taken to persuade the farmer-borrower to repay the loan in time. In the case of failure, the reasons for the same are ascertained to find out whether the borrower is deliberate defaulter or not. If the reason is genuine, the borrower is further helped by extending finance to accelerate farm production. In such situations, a close supervision is necessary. If the bank officials find that the borrowers are willful-defaulters stringent measures are initiated to recover the loans through court of law. In all possible cases the bank officers make tie-up arrangements, i.e., the recovery of the loan is linked with marketing. Rephasing of repayment plan is allowed in the case of justifiable cases.

REPAYMENT PLAN

For term loans which are characterized by partially liquidating nature, the loan repayment plan is not as similar as that of short term loans. These loans are recovered through a given number of installments depending upon the nature of asset and the amount advanced for the asset. Various repayment plans, in vogue are listed and briefly explained here.

1. Straight-end payment plan or single repayment plan or ~~lump sum repayment plan~~;
2. Partial repayment plan;
3. Amortized repayment plan;
 - (a) Amortized decreased repayment plan;
 - (b) Amortized even repayment plan;
4. Variable repayment plan;
5. Optional repayment plan;
6. Reserve repayment plan.

1. Straight-end payment plan or single repayment plan or lump sum repayment plan

The entire loan amount is to be cleared off after the expiry of loan period stipulated. ~~More clearly~~ in this method, the principal component is repaid by the farmer at a time in lump sum when the loan matures, while the interest component is paid each year.

2. Partial repayment plan

The farmer is expected to settle the entire loan amount in quarterly, half-yearly or annual installments (principal + interest). It implies that repayment of loan will be done partially over the years. ~~Usually~~, the installment amount will be decreasing as the years pass by except in the maturity year (final year) during which the investment generates sufficient revenue for liquidation.

Example: Loan amount: Rs. 10,000
Time period: 6 years
Rate of interest: 12 %

This is also known as balloon repayment plan, as the large final payment is made at the end of the loan period following a series of smaller partial payments.

Table: 1 Partial repayment Plan

Year	Principal (in Rs.)	Interest (in Rs.)	Installment (in Rs.)	Remaining Balance amount (in Rs.)
1	1,000	1,200	2,200	9,000
2	1,000	1,080	2,080	8,000
3	1,000	960	1,960	7,000
4	1,000	840	1,840	6,000
5	1,000	720	1,720	5,000
6	5,000	600	5,600	-

Total	10,000	5,400	15,400	-

3. Amortized repayment plan

It is an extended version of partial repayment plan. Amortization means the repayment of the entire loan amount in a series of installments. Here we have two types of amortization plans, viz., amortized decreasing repayment plan and amortized even repayment plan.

(a) Amortized Decreased Repayment Plan

In this repayment plan, the principal component remains constant over the entire repayment period, while the interest part decreases continuously. With the principal amount remaining fixed and interest amount decreasing, the annual installment amount decreases over the years. *The advance made for the purchase of machinery does not demand much repairs in the initial years of loan payments enabling the farmer to repay a large amount of installments in the initial years.* The diagrammatic representation of the repayment schedule is shown in figure 1:

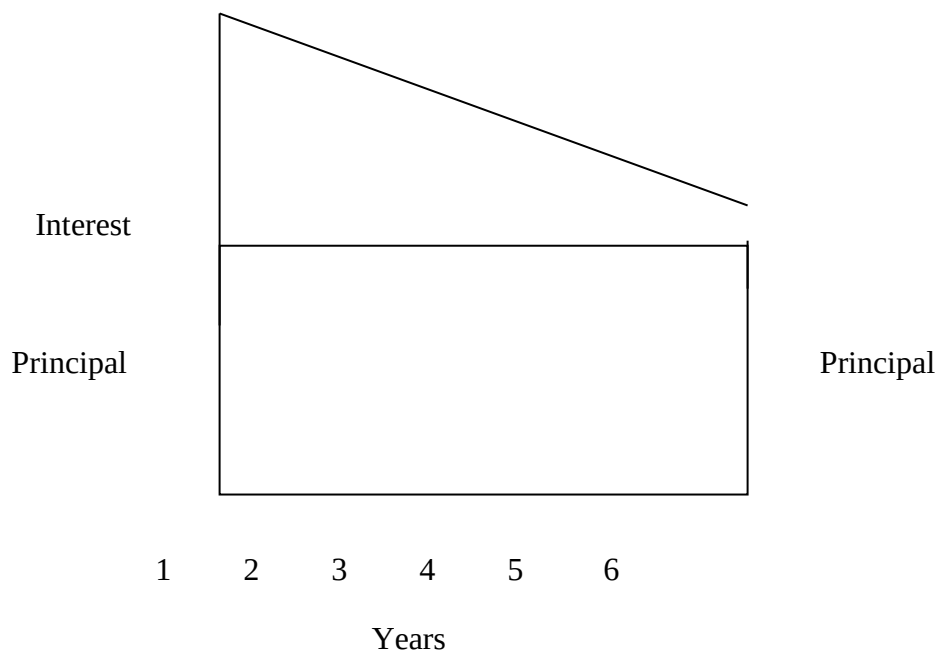


Figure1: Amortized Decreased Repayment Plan

Example: Loan amount: Rs. 10,000
Time period: 6 years
Rate of interest: 12 %

Table: 2 Amortized Decreased Repayment Plan

Year	Principal (in Rs.)	Interest (in Rs.)	Installment (in Rs.)	Balance amount (in Rs.)

1	1,666.67	1,200	2,866.67	8,333.33
2	1,666.67	999.99	2,666.66	6,666.67
3	1,666.67	799.99	2,466.66	5,000.00
4	1,666.67	600.00	2,266.67	3,333.33
5	1,666.67	399.99	2,066.66	1,666.67
6	1,666.67	199.99	1,866.67	-
Total	10,000	4,199.96	14,199.96	-

(b) Amortized even repayment plan

This is called equated annual installment method. The annual installment over the entire loan period remains the same in this method. The principal portion of the installment increases continuously, while the interest part declines gradually. This method is mostly adopted for term loans. Loan granted for farm development, digging of wells, construction of godowns, dairy, poultry etc., are the examples. This is depicted diagrammatically in figure 2.

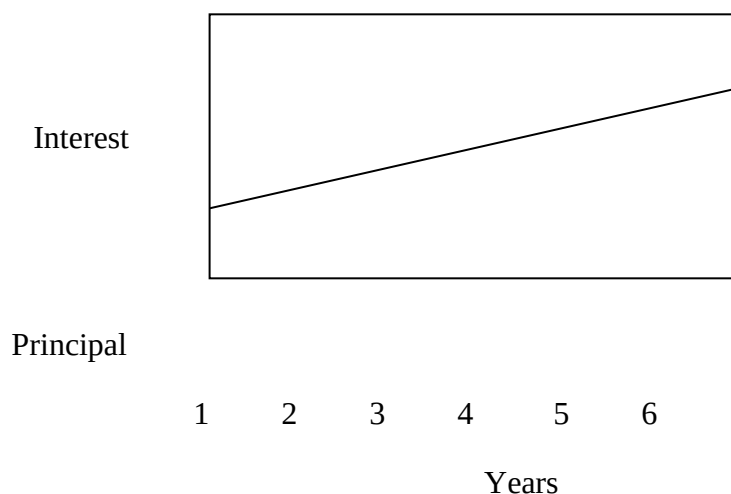


Figure2: Amortized Even Repayment Plan

The annual installment is arrived at through the formula given below:

$$I = B \frac{i}{1 - (1+i)^{-n}}$$

Where,

I = Annual installment in Rs.

B = Principal amount borrowed in Rs.

n = Loan period in years

i = Annual interest rate in fraction

The plan is shown in table: 3

Example:

Loan amount: Rs. 10,000

Time period: 6 years

Rate of interest: 12 %

$$\begin{aligned}
 I &= B \frac{i}{1 - (1+i)^{-n}} = 10,000 \times \frac{0.12}{1 - (1+0.12)^{-6}} \\
 &= 10,000 \times \frac{0.12}{1 - \left(\frac{1}{(1.12)^6}\right)} \\
 &= 10,000 \times \frac{0.12}{1 - \frac{1}{1.9736}} \\
 &= 10,000 \times \frac{0.12}{1 - 0.5066} \\
 &= 10,000 \times \frac{0.12}{0.4935} \\
 &= 10,000 \times 0.243225 = \underline{\text{Rs 2,432.25}}
 \end{aligned}$$

Table: 3 Amortized Even Repayment Plan

Year	Installment (in Rs.)	Principal (in Rs.)	Interest (in Rs.)	Balance amount (in Rs.)
1	2,432.25	1,232.25	1,200.00	8,767.75
2	2,432.25	1,380.12	1,052.13	7,387.63
3	2,432.25	1,545.73	886.52	5,841.90
4	2,432.25	1,731.22	701.03	4,110.68
5	2,432.25	1,938.97	493.28	2,171.71
6	2,432.25	2,171.64	260.61	-
Total	14,593.50	9,999.93	4,593.57	-

4. Variable repayment plan

As the very name indicates, ***various levels of installments are paid by the borrower over the loan period.*** In times of good harvest a higher installment is paid, while in periods of low yields lesser amount is credited towards installment to the lender. ~~According to the convenience, the borrower effects the repayment.~~ This method is not found with institutional borrowings.

5. Optional repayment plan

In this method provision is made for the borrower to make payment towards the principal amount in addition to the regular interest annually.

6. Reserve repayment plan

This type of repayment is made by the borrowers in ***areas which are subject to high income variability of farms.*** The impending problem here is that the farmers are haunted by the fear that they may not be able to keep up their promise of repaying crop loans or installments towards term loans at scheduled time. To overcome such situations, the farmer makes advance payments of the loan realized from the saving of the previous year. This type of repayment is advantageous to the banker as the institutional agency need not worry regarding loan collection during the periods of crop failure.

CO-OPERATIVE MOVEMENT IN INDIA

I Pre-Independence Era

The co-operative movement in the country in the pre-independence era can be categorized into four phases viz., initiation stage (1904-1911), modification stage (1912-1918), expansion stage (1919-1929) and restructuring stage (1930-1946).

Initiation Stage (1904-1911)

In olden days the rural credit service was replete with the dominance of non-institutional agencies particularly moneylenders who were charging high rates of interest from the helpless peasants. The farmers were forced to even to sell their belongings to clear the debts. This situation triggered a sort of agitation and in some parts of the country; the farmers started revolting against the moneylenders. The revolts that were found in Poona and Ahmednagar areas even attracted the attention of the Government which having understood the precarious situation of the farmers passed there acts viz., Deccan Agriculture Relief Act (1879) and later Land Improvement Loan Act (1883) and thereafter Agriculturists Loan Act (1884).

During 1892, the Madras Government appointed Frederick Nicholson to study the village banks organized on co-operative lines in Germany. On his return he submitted a report and raised a slogan *“Find Raiffeissen”*.

Indian Famine Commission in 1901 also supported the idea of Frederick Nicholson for the formation of credit societies on Raiffeissen model. Another committee in 1901 headed by Sir Edward Law also favored the credit societies to be started on Raiffeissen model. These recommendations resulted in the enactment of co-operative credit societies Act of 1904.

Salient Features of 1904 Act

1. Rural-urban classification of societies was made. Rural Societies are those having four-fifths of farmers, while urban societies are those with four-fifths of their members representing non-agriculturists.
2. Registrar was supposed to organize and control the societies.
3. Loans could be given to members on personal or real (immovable) security, and,
4. One-man one vote was specified in the Act.

Modification Stage (1912-1918)

The shortcomings of the Act of 1904 were rectified by enacting another co-operatives societies Act of 1912. The new act provided legal protection to all types of co-operatives including central financing agencies and supervising unions. The distinction between rural and urban societies was given a new focus. The liability was limited in the case of primary societies and unlimited for central societies. Since this act gave provision for the registration of all types of co-operative societies, it led to the emergence of rural co-operatives both on credit front and non-credit front, but this growth was

uneven spatially. As a consequence of this observation in 1914, the Government appointed a committee under the chairmanship of Sir Edward Mac Lagan to probe into the performance of the societies. The report of Mac Lagan committee came out in 1915. The Mac Lagan committee's recommendations and Act of 1912, introduced co-operative planning process in India. The observations of Mac Lagan committee were,

1. Illiteracy among the members,
2. Misappropriation of funds,
3. Rampant nepotism,
4. Delays in sanction of loans and
5. Irregular repayment of loans.

The observations prompted Mac Lagan to offer the following suggestions for effective functioning of the societies.

1. All members should be made aware of the co-operative principles,
2. Dealings should be strictly confined to the members only.
3. Honesty should be the main criterion for one to take loan,
4. Applications should be carefully scrutinized before advancing loan and there should be careful follow up for effective utilization of loan,
5. Loans should not be given for speculative purposes,
6. Ultimate authority should be with all the members but not with the office bearers
7. Thrift should be encouraged so also building up of reserve fund,
8. One member-one vote should be strictly followed,
9. Capital should be raised as far as possible from the savings of the members only, and
10. Punctual repayment should be insisted.

Expansion stage (1919-29)

Under the Montague-Chelmsford Act of 1919, co-operation became a provincial subject which gave further impetus to the movement. The economic prosperity during the period between 1920-29, contributed to further growth of the movement. The same period also witnessed the birth of co-operative land mortgage banks first in Punjab and subsequently land mortgage banks were registered in Madras (1925) and Bombay (1926). The Indian Central Banking Enquiry Committee (1931) also highlighted the glaring lacunae, particularly with reference to undue delays and inadequacy of credit. Meanwhile Madras Co-operative Societies Act of 1932 and Madras Co-operative Land Mortgage Bank Act of 1934 came into force with the former aiming at the growth of co-operative movement, while the latter for developing the long term credit.

Restructuring Stage (1930-46)

The economic depression in early thirties and abnormal fall in prices of agricultural commodities led to the collapse of the co-operative movement. Various enquiry committees viz., Vijayaraghava Charya Committee in Madras, Rehabilitation Enquiry Committees of Travancore and Maysore, Kale

Committee in Gwalior, Mehta and Bhansali Committee in Bombay and Wace Committee in Punjab etc., were appointed for examining the possibilities of restructuring and reorganization of societies. The movement picked up momentum during the period of Second World War, when there was a rise in the prices of agricultural commodities. This resulted, in the recovery of over dues of the societies and betterment of financial condition of the co-operative institutions. Prof. D. R. Gadgil, heading the Agricultural Finance Sub-Committee appointed by the Government of India, recommended in 1944, the adoption of limited liability to the co-operatives, assessing credit-worthiness based on repayment capacity of the farmer, subsidizing the cost of administration of small co-operative societies, linking of credit with marketing, etc. The Co-operative Planning Committee in 1945, under the chairmanship of R. G. Saraiya attributed the limited progress of co-operatives to the laissez-faire policy of the State, the literacy of the people, etc.

II Post-Independence Era

Planning commission which was set up in March, 1950 prepared his first five year plan in 1951. The main objectives with regard to co-operative were follows.

1. Involvement of co-operatives in rural development programmes
2. Development of a well organized credit system
3. Extending co-operatives to the fields of industry, housing, marketing, farming, etc.
4. Training of higher personnel engaged in co-operatives.

The All India Rural Credit Survey Committee (AIRCSC) appointed by the Reserve Bank of India in 1951 under the chairmanship of shri A. D. Gorwala brought out that the co-operative credit was unevenly distributed, inadequate and mostly lent to the asset-oriented large cultivators. The committee recommended an integrated scheme as a remedy to the existing situation, the salient features of which were

1. State partnership in co-operative institutions at all levels
2. Coordination between co-operative credit, marketing and processing
3. Development of warehousing and
4. Training of co-operative personnel at all levels.

All India Rural Credit Survey Committee (1954), National Co-operative Development and Warehousing Board (NCDWB) in 1956 was established by Government. Thus, in second five year plan (1956-61) the establishment of warehousing co-operatives was stressed. Apart from these, the second five year plan also initiated the setting up of co-operative processing and producer's co-operatives. The committee on Co-operative Credit under the chairmanship of shri V. L. Mehta in 1959 observed that the co-operative aspect was important as that of viability. The membership should not be too large or the area too extensive. No village included in a society should be at a distance of more than 3 or 4 miles from the headquarter village. Later the committee on taccavi loans and co-operatives credit under the chairmanship of shri B. p. Patel in 1961-62 felt that the co-operatives should provides loans to the farmers for the agricultural operations and land

improvements and taccavi loans should be confined to the farmers only under distress conditions. During the third five year plan (1961-66), stress was given to revitalize dormant societies apart from increased emphasis on co-operative credit and co-operative farming. National Co-operative Development Corporation (NCDC) was also established during this plan period. The All India Rural Credit Review Committee (AIRCRC) which was constituted in July, 1966 under the chairmanship of shri B. Venkatappaiah, in its final report submitted in July, 1969 recommended the setting up of Small Farmers Development Agency (SFDA), the creation of Rural Electrification Corporation (REC), the reorganization of primary societies into viable units, rehabilitation of weak central co-operative banks, active administrative and policy measures to check overdues, greater flexibility in the conversion of short term loans into medium terms loans, simplification of application form etc. A new concept of fertilizer co-operatives was started and the Indian Farmers Fertilizers Co-operative Ltd. (IFFCO) was established at Kandla. National Bank for Agriculture and Rural Development (NABARD) was formed during sixth five year plan to strengthen the credit for agriculture and other economic activities. Strengthening of dairy co-operatives was also given importance. Seven five year plan emphasized on special recovery camps, retail sale of fertilizers by co-operatives, strengthening National State Consumer Federation (NSCF) and introduction of Single Window System for credit.

Assignments

Example 1

Loan amount 12000, Rate of interest 8 %, Time period 8 years

Amortized Decreased Repayment plan

Year	Principal (in Rs.)	Interest (in Rs.)	Installment (in Rs.)	Balance amount (in Rs.)
1	1500	960	2460	10500
2	1500	840	2340	9000
3	1500	720	2220	7500
4	1500	600	2100	6000
5	1500	480	1980	4500
6	1500	360	1860	3000
7	1500	240	1740	1500
8	1500	120	1620	-
Total	12000	4320	16320	-

Example: 2 Amortized Even Repayment Plan

Loan amount: Rs. 12,000

Time period: 8 years

Rate of interest: 8 %

$$I = B \frac{i}{1 - (1+i)^{-n}} = 12,000 \times \frac{0.08}{1 - (1+0.08)^{-8}}$$

$$\begin{aligned}
&= 12,000 \times \frac{1}{1 - \frac{1}{(1.08)^8}} \\
&= 12000 \times \frac{0.08}{1 - \frac{1}{1.8509}} \\
&= 12000 \times \frac{0.08}{1 - 0.5043} = 12000 \times 0.08 / 0.4597 \\
&= 12,000 \times 0.174027 \\
&= \text{Rs. 2088.32}
\end{aligned}$$

Table: 3 Amortized Even Repayment Plan

Year	Installment (in Rs.)	Principal (in Rs.)	Interest (in Rs.)	Balance amount (in Rs.)
1	2088.32	1128.32	960.00	10871.68
2	2088.32	1218.59	869.73	9653.09
3	2088.32	1316.07	772.25	8337.02
4	2088.32	1421.36	666.96	6915.66
5	2088.32	1535.07	553.25	5380.59
6	2088.32	1657.87	430.45	3722.72
7	2088.32	1790.50	297.82	1932.22
8	2088.32	1933.74	154.58	
Total	16706.56	12001.52	4705.04	

Partial Repayment Plan:

Example: Loan amount: Rs. 12,000
Time period: 8 years
Rate of interest: 8%

Table: 1 Partial repayment Plan

Year	Principal (in Rs.)	Interest (in Rs.)	Installment (in Rs.)	Balance amount (in Rs.)
1	1,000	960	1,960	11,000
2	1,000	880	1,880	10,000
3	1,000	800	1,800	9,000
4	1,000	720	1,720	8,000
5	1,000	640	1,640	7,000

6	1,000	560	1,560	6,000
7	1,000	480	1,480	5,000
8	5,000	400	5,400	
Total	12,000	5440	17,440	

Time Value of money

Future Value of Present money:

A rupee today worth more than a rupee in future. This is primarily due to its opportunity cost, i.e. interest. Interest will be added to the principal over time and hence its value increases. Future value of present sum is an important concept in financial analysis and this is called compounding. In the compounding process, the interest is added to the principal at the end of each time period. Compounding factor enables calculation of future value of present money. The future value of present investment is calculated by using the formula of compound interest.

$$A = P (1+i)^t$$

Where,

A= Future value of present sum invested

P= Principal amount invested

i= Interest rate, and

t= Number of years

Present Value of Future Money:

The present value of future sum is the current value of investment to be received in the future at a specific date. This present value is worked out through discounting process in which future sum is discounted back to the present time to find out its current or present value.

A present sum is compounded to know the future value and future sum is discounted to know the present value.

$$PW = P / (1+i)^t$$

Where,

PW= Present value or worth of future money

P= money value in future

i= Interest rate, and

t= project life period in years.

Example:

What is the future value of the following investment?

Sr. No.	Initial amount Rs.	Compounding rate of interest	Period (years)	Compounding factor	Future value Rs.
1	6000	15	10	4.045	
2	500	20	16	18.4884	

What is the present worth of future value of the following investment?

Sr. No.	Amount to be received Rs.	Future period in years	Rate of interest	Discounting factor	Present value Rs.
1	24,276	10	15	0.2471	
2	9244	16	20	0.054	

Pay Back Period:

It is defined as the number of years required to recover the original cash outlay invested in a project.

Merits:

1. Easy to understand and calculate.
2. It costs less than most of the sophisticated techniques.
3. A company can have more favourable short-term effect on earning per share by setting up a shorter P. B. P.
4. The riskiness of the project can be tacked by having a shorter.

Limitations:

1. It fails to take into account of the cash flows evaluated after the P. B. P.
2. It is not an appropriate method of measuring the profitability of an investment project as it does not consider the entire cash inflow yielded by the project.
3. It fails to consider the pattern of cash inflows.
4. Administrative difficulties may be faced in determining the maximum PBP.
5. This method is not consistent with the objective of maximizing the market value of firms.

Discounted Cash Flow Method:

One great limitation of the traditional method is their inability to consider the timing of cash flow. The P. b. P. method considers all cash flow's received before the PBP and all cash flow received after the PBP are ignored. This method does not recognize the time value of money. While NPV recognize the timing of cash flows into analysis.

Net Present Value Method:

The NPV method is the classic economic method of evaluating the investment proposal. It is discounting cash flow technique explicitly recognizing the time value of money.

$$NPW = \frac{P_1}{(1+i)^{t_1}} + \frac{P_2}{(1+i)^{t_2}} + \dots + \frac{P_n}{(1+i)^{t_n}} - C$$

Where, P_1 = Net cash flow in first year,
 i = Discount rate,
 t = Time period, and
 C = Initial cost of the investment.

Merit:

1. It recognizes the time value of money.
2. It considers the all cash flows over the entire life of the project in its calculation.
3. It is consistent with the objective of maximizing the welfare of owners.

Limitations:

1. Difficult to use.
2. It may not give satisfactory answer when project investment being compared.

$$NPW = \frac{P_1}{(1+i)^{t_1}} + \frac{P_2}{(1+i)^{t_2}} + \dots + \frac{P_n}{(1+i)^{t_n}} - C$$

Where, P_1 = Net cash flow in first yea,
 i = Discount rate,
 t = Time period, and
 C = Initial cost of the investment.

Project with positive NPWs are given weightage in the selection compared to those with negative present values. Table 1 presents the particulars of NPV calculations for two projects.

Benefit-Cost Ratio:

We compare the present worth of costs with present worth of benefits. Absolute value of the benefit-cost ratio will change based on the interest rate chosen. While ranking the projects depending upon the B-C ratio, the most common procedure of selecting a project is, to choose the project, having B-C ratio of more than one, when discounted at opportunity cost of capital.

B:C Ratio = Present worth of cost

Present worth of benefit(return)

Co-Operation:

Meaning: Co-operation derived from Latin word “Co-operari” Co- means with and operari- mean to work. In other words co-operation means working together for a common purpose.

Definition of Co-operation: Co-operation is a form of organization wherein persons voluntarily associate together as human beings on a basis of equality for the promotion of economic interest of members.

Co-operative Principles:

The principles of co-operation may be considered as broad guidelines for Co-operative societies in the conduct of their various activities. The principles of co-operation have changed from time to time to suit the changing environment and situations so that the co-operative movement may become more meaningful and purposeful.

International co-operative Alliance (ICA) held in the year 1934-37 and the present classification of the Rochdale principles consists of the following:

(A) Primary Principles:

1. Open membership or Voluntary association:

It is chief characteristics of co-operation organization. It means that co-operative should only comprise persons who have joined it voluntarily. Co-operative organization must be open to everybody who desires and able to employ their services without any discrimination on political, religious and racial grounds.

However there is some restriction on admission. If a person doing harmful activities against the interest of the society, can be expelled or debarred from the society.

2. Democratic Control:

This means that each member has only one vote and no more irrespective of member of share held by him.

The organizations of co-operatives must be democratic at all levels, that is to say, they must have the right to elect their committees or other governing bodies without intervention or pressure from outside, and all members of society must have the same rights and be able to form and express their opinion freely.

The democratic idealism is practical in Co-operative organization in the following ways:

1. The limit of one vote per member irrespective of the number of share held.
2. Elimination of voting by proxy.
3. Requirement of regular reports from the executives.
4. Constant education to keep members informed.

5. The accessibility of co-operative account books for inspection by members.

3. Distribution of surplus on patronage dividend basis:

As society's main aim is not profit, in co-operative societies profit considered as surplus. Surplus is distributed on such a manner as would avoid any member gaining at the expenses of other. The members have generally full freedom to decide as to how this surplus is distributed. While distributing the surplus following points are considered.

1. Provision for development of the business of society.
2. Provision of common service.
3. Distribution of surplus among the members in proportion to their transactions with the society means patronage dividend.

4. Limited interest on capital:

One of the important principles of co-operative enterprise is the payment of limited interest on capital.

The main purpose of limited interest is, of course, to safeguard the non-profit character of the co-operative. But it has another meaning that within the co-operative economy capital has to serve, not dominate it has to be satisfied with a fixed wage at a limited interest so as not to obtain an unfair return from the business operations.

(B) Secondary Principles:

1. Political and religious neutrality:

In co-operatives political or religious influence on working may be strictly avoided for smooth functioning of the organization.

2. Cash trading:

To make co-operative movement efficient and successful, trading must be done on cash basis. Rochdale pioneer's Co-operative societies had adopted these principles of cash –trading and co-operatives become most successful.

3. Promotion of education or promotion of co-operative education:

It has been acknowledged on all hands that the strength and success of the co-operative movement depend upon the existence of a vast and enlightened membership and without co-operative education; enlightened membership does not become a reality. Rochdale in 1953 introduced in to the rules that 2.5 percent of surplus should be devoted to co-operative education.

Other Principles of co-operation:

1. Self-help through mutual help.
2. Co-operation among co-operatives or principles of growth.

3. Principle of Thrift.
4. Principle of Service.
5. Principle of Equity
6. Principle of Unity and Fraternity.
7. Principle of Honorary service.
8. Principle of Publicity.
9. Principle of Social Ownership.
10. Principle of Honest Trading.
11. Principle of Autonomous Local society.

Market:

Market implies the whole area over which buyers and sellers are in such touch with each other, directly or through middlemen, that the price of the same goods/ commodity in one part influences it in the other part of it.

Market refers not to a place but commodity or commodities and buyers and sellers are in free intercourse with one another.

Components of Market:

1. The existence of a good or commodity for transactions. (physical existence not necessary)
2. The existence of buyers and sellers.
3. Business relationship or intercourse between buyers and sellers.
4. Demarcation of area such as place, region, country or the whole world.

Regulated Market:

A regulated market is one which aims of the elimination of the unhealthy and unscrupulous practices, reducing marketing charges and providing facilities to producers-sellers in the market. Any legislative measure designed to regulate the marketing of agricultural produce in order to establish, improve and enforce standard marketing practices and charges may be termed as one which aims at the establishment of regulated markets.

Objectives:

1. To prevent the exploitation of farmers by overcoming the handicaps in the marketing of their products,
2. To make the marketing system most effective and efficient so that farmers may get better prices for their produce and the goods are made available to consumers at reasonable prices,
3. to provide incentive prices to farmers for a better production programme, both in quantitative and qualitative terms, and
4. To promote an orderly marketing of agricultural produce by improving the infrastructural facilities.

Important Features of Regulated Markets:

1. Method of sale	2. Weighment of produce
3. Grading of produce	4. Market news service
5. Market charges	6. Payment of the value
7. Licensing of market functionaries	8. Supervision
9. Elimination of bad practices.	

Export – Import

To understand the meaning of Export and Import, we have to understand the meaning of international trade first. The term international trade refers as the exchange of goods between citizens of different countries. This kind of trade across national frontiers has grown in size with improved means of transportation and development of technology. Export and Import are two aspects of International Trade.

Meaning of Export:

When one country sells any commodity or manufactured items, goods or services to another country, it is known as Export. Export means goods and services sold abroad.

Meaning of Import:

When one country purchases any commodity or manufactured items, goods or services from another country, it is known as Import. Import means goods and services bought from abroad.

Definitions of Globalization:

1. Globalization has been defined as the process by which the development of a “global ideology” has begun to transcend national boundaries, with far-reaching consequences for both; the conduct of business transactions and the theory and practice management.
2. Globalization is the process of a growing similarity in what citizens of different countries want to buy.

Meaning of Liberalization:

Liberalization in reference to Economic refers to the liberalization in Trade and Economics. This is one financial policy which is adopted by different countries with the objective to accelerate the economic growth. This policy is related with the open market. Restriction on production, prices, permission for manufacturing goods or services, distribution, exchange, consumption, import, export and other economic are liberalized or abolished. Market forces are allowed to operate freely. Foreign investment is also welcomed with the objective of improving the existing technology and infrastructure facilities in the country. Globalization has made significant changes in economical and social environment.

PROBLEMS OF AGRICULTURAL FINANCE

In recent years, various steps have been taken by the Government of India to raise the flow of credit in the agricultural sector. But still, there are certain problems of agricultural finance.

They are as -follows:

1. Limited Coverage: The foremost problem of agricultural credit is that its coverage is very limited. In co-operative, universal membership has -been accepted as a policy but people from 'weaker sections of the society are not being given proper representation in administration of co-operative societies. Consequently, they are intended to depend upon money lenders and landlords to meet their basic requirements.

2. Complicated Procedures of Loans: It has' been observed that number of formalities is to be completed to avail credit facilities. Majority of farmers are illiterate and are unable to furnish requisite informational. Therefore, farmers prefer to borrow from money lenders and pay higher rate of interest. Moreover, there is large time gap between submission of loan application and sanction of loans.

3. Wastage of Time and Man Power: Most of the financial institutions like Commercial Banks, State Cooperative Banks are situated in cities. Farmers have to visit the bank offices for a number of times to fulfill many formalities leading to the, sanction of loans. Thus, results in wastage of time and main power.

4. Miss utilization of Loans: It has been observed that there is a gap between disbursement and requirement in the farm sector. The situation becomes more pitiable when the granted loans are being miss utilized by the farmers. In other words, the loans are utilized for unproductive purposes in rural areas of the country.

5. Inefficient Administration: Still another problem faced is that co-operatives and commercial banks are managed by inefficient and incapable persons. These organizations possess inadequacies which are difficult to handle easily. There is no second opinion that they do not work for the betterment of farming community. Rather, they are keen for their personal benefits.

6. Regional Imbalances: An acute problem has been noticed that there are regional imbalances in the supply of agricultural credit. For example, five states, Gujarat, Andhra Pradesh, Punjab, Tamil Nadu, and Maharashtra availed 52 per cent of the total agricultural credit. This had led to rapid growth in crop productivity. On the other hand, agriculture in other states continues to be low productive and cultivators of these states lag behind in the adoption of new technology; it is only due to the lack of credit facilities in these areas of the country.

7. Mounting over dues: The stagnation of agriculture has caused mounting over dues. The efforts to wipe off loans in some parts of the country can be seriously viewed. In fact, it has set an undesirable precedent and will hamper the development of agricultural sector in future.

9. No Provision of Consumption Loans: Due to the seasonal nature of farm incomes, peasants need credit both for production purpose of durable consumption goods but this facility is limited to urban areas. Therefore, farmers are compelled to borrow from money lenders for consumption needs who suck their blood by using malpractices.

10. Low Rate of Share in Development: Since there is low productivity in agriculture, so it has led to a low share in the economic development. This is due to non adoption of latest technology. This evidence shows that commercial banks still prefer industry and trade safest field to invest rather the agricultural sector. Moreover, large amount of the total credit facilities are pocketed by rich farmers, leaving poor cultivators at the mercy of unscrupulous money lenders.

11. Lack of Saving: There is lack of rural savings in the country. Whatever rural savings exist fall short of rural needs and that is why there is a greater need for outside finance in the rural areas of the country. What is needed is not the mobilization of rural savings but the efforts to make rural savings possible.

12. Predominance of Private Agencies: In India, There exist the private agencies. There is an urgent need for the substitution of private agencies as we have been able to do in the sphere of industrial finance, in the country. Institutional credit may be private or otherwise, but the continuance of professional money lenders as the major source of finance to cultivators cannot solve the problem of rural finance "Where larger production is the, aim, the money lenders credit is obviously unsuitable. The alternative is institutional credit, private or otherwise but this tends more than ever to confine itself to the bigger cultivators if it is not channeled through some form of co-operative association of the borrowers.

SUGGESTION TO IMPROVE AGRICULTURAL FINANCE

There is urgent need to increase institutional credit-flow to agricultural sector and to modernize it. In this direction, few suggestions have been made to improve the agricultural finance.

They are discussed as follows:

1. Reduction in Regional Imbalances: To reduce the regional imbalances, new bank branches should be opened in rural areas liberally. In addition, regional rural banks should be set up in districts so that credit flow to the agricultural sector may be stepped up. They should also be directed to provide loan to only small and marginal farmers at cheaper rate of interest.

2. Provision of Consumption of Loans: To check the exploitation made by money lenders, cooperatives and commercial banks should come forward to extend the facility of consumption loans to rural people. Once they are freed from the clutches of money lenders, they would think to sell their produce at market price. Hence, it will help to raise their farm income.

3. Repayment of Loans: The Government should take strong and meaningful measures to ensure appropriate repayment facilities and provide all assistance to institutional credit agencies for recovery of

loans. It would increase the loan capacity of credit institutions to supply more loans to farming community.

4. Rationalization of Money Lending Business: Since money lenders play a dominant part in agricultural finance, it is the urgent need of the hour to rationalize their business activities such as maintaining proper accounts and other requisite record properly.

5. Co-ordination among Credit Agencies: Sincere efforts should be made to co-ordinate the functioning of various institutions of co-operative societies and commercial banks. These agencies may supplement each other to meet the requirements of rural agricultural community. This process will certainly lead farmers to adopt moderate and latest farm technology.

6. Proper Utilization of Loans: Proper utilization of loans leads, to enhance crop productivity. To ensure the proper utilization of loans by cultivators, special cell should be created in all credit institutions. They should keep close watch to see whether the loans are being utilized for the purpose for which such loans are granted.

7. Suitable Representation: The proper representation to small and marginal farmers in the management of cooperative institution will give the feeling of responsibility. Moreover they themselves watch the interests of their community for the purpose of granting of loans.

8. Lack of Co-ordination: Another problem of agricultural finance is that the co-operatives and commercial banks -lack of co-ordination in respect of credit planning. This result in overlapping as commercial banks credit flows to those areas where due credit structure is strong and areas of low credit availability remain deprived. Therefore, paucity of funds has been greatly responsible for low production of agriculture, thus, poverty of the cultivators.

Recent Trends in Agricultural Credit

Since the nationalisation of commercial banks in 1969, India had strongly pursued a policy of “Social and Development Banking” in the rural areas. As a result, formal institutions of credit provision, mainly commercial banks, emerged as important sources of finance to agriculture displacing usurious moneylenders and landlords. The policy of social and development banking was a supply-led policy; it aimed at augmenting the supply of credit to rural areas, and that too at an affordable interest rate.

Commercial banks fail to achieve their aim. As a result, the decade of the 1990s was a period of the reversal of the achievements of social and development banking. The situation of the 1990s however, changed in the 2000s. Beginning from the early 2000s there was a revival of agricultural credit in India. Between 2002 and 2011, agricultural credit grew by 17.6 per cent per annum, which was significantly higher than the growth rate of 2.6 per cent recorded for the 1990s. From 2004 onwards the flow of agricultural credit has been increasing. **There are three distinct features of the growth in agricultural credit.**

First, a significant portion of the increase in total bank credit to agriculture in the 2000 was accounted for by indirect finance to agriculture. Indirect finance does not go directly to cultivators but to institutions that support agricultural production in rural areas. Of the total increase in credit supply to agriculture between 2000 and 2011, about one third was contributed by indirect finance. The reason for growth in indirect finance to agriculture credit attributes to the new definition in the official agricultural policy, which states that from 1993 onwards, indirect finance should be considered as part of priority sector advances.

Secondly, much of the increase in total advances to agricultural credit (direct + indirect finance) in 2000s were on account of a sharp increase in the number of loans with size of Rs. 10 crore and above, and particularly of Rs. 25 crore and above.

Thirdly, there was an increased provision of agricultural credit from bank branches in urban areas in the 2000s. Much of these large-sized advances were made towards financing large agri-business oriented enterprises. There is little evidence to argue that major beneficiaries of the revival in agricultural credit in the 2000s have been the small farmers and marginal farmers.

Kisan Credit Card

Kisan Credit Card Scheme (KCC) was introduced in 1998-99 to provide credit to farmers. The Indian commercial banks have been providing Kisan credit (also called cash credit or revolving fund) to farmers for more than a decade now. **The base of fixing Kisan credit limit is land holdings, crops cultivated and crop duration.** The consumption needs of the farming family have also been taken into consideration while computing the limits. The Kisan credit card provides a lump sum loan released to the farmer to meet his crop needs like purchase of seeds, manure, pesticides, labour, irrigation etc. The farmer is expected to draw from this account based on his needs on different occasions. He is expected to pay back the entire amount within one year mostly after the proceeds of the crops are realised so that he can apply for fresh Kisan credit limit.

Self Help Groups (SHGs)

A self-help group has been defined as a small and formal association of poor having preferably similar socio-economic background and who have come together to realise some common goals based on the principle of self-help and collective responsibility. The Self Help Group movement in India has gained a momentum in recent years. **The promotion of self-help groups in India began more formally in 1992 with the launch of the SHG-Bank Linkage Programme by National Bank for Agriculture and Rural Development. The programme's main aim was to improve rural poor's access to formal credit system in a cost effective and sustainable manner by making use of SHGs.**

The invention of Self-Help Group is a boon for the small farmer in general and village women in particular. It has been responsible for bringing in a qualitative change in the lives of thousands of people. Under Self-Help Group, banks are expected to provide credit to the SHGs against group guarantee and members of the group stand as collective guarantors. Banks allow the members of the SHGs to decide on which members of the group shall borrow, how much and the methodology of

repayment. Normally, SHGs loans are term loans wherein the members are expected to repay the loans in regular installments over a period of time. In India most farmers, especially small farmers and marginal farmers neither have title of the land nor have any collateral security. As a result, they fail to get credit from commercial banks. In this situation, SHGs help them to get credit without any hassles.

South based NGO, Sri Kshetra Dharmasthala Rural Development Project (SKDRDP) has been promoting SHGs of the small farmers for more than two decades and helping them with credit facilities for their farming operations. This movement popularly known as pragathi bandhu groups in Karnataka state has helped more than one and half million farmers directly or through their family members who are members of the SKDRDP promoted SHGs. SKDRDP sources bulk loans from commercial banks and lends them to SHGs for undertaking their farming operations. The unique feature of the SKDRDP is that SHGs members have to repay in weekly installments. This uniqueness encourages farmers to go for subsidiary activities like dairy farming, vegetable cultivation, floriculture or pure daily wage labour so that they can earn money every week to repay loan.

This scheme of repayment has not only helped farmer to repay loan easily but also help them in thinking innovative. Realising the potentiality of the SHGs, the National Bank for Agriculture and Rural Development Bank (NABARD) is now actively facilitating promotion of Joint Liability Groups (JLGs) of farmers for providing necessary credit through JLGs. Commercial banks and Non-Government Organisations (NGOs) are given incentives for promoting JLGs and for credit linking them with bank. Department of Financial Services, Ministry of Finance, Government of India issued a directive in November 2011, wherein advising banks to provide cash credit or revolving fund to SHGs instead of term loans. This will act as a twin edged sword. On the one hand, members of the SHGs will get loan easily and on the other hand it can give freedom to the group to decide on the priorities of the members and lend to them on its own terms without having to take guidance from the banker.

The Gramin Bank Model

The Gramin Bank model, developed originally in Bangladesh, is one of the most popular models of micro finance institutions and has been replicated in various parts of the world. Under this model, Non-Government Organisations (NGOs) form and develop self help groups (SHGs). Gramin Bank has reversed conventional banking practice by obviating the need for collateral. It has created the need for a banking system based on mutual trust, accountability, participation and creativity. It offers credit for creating self-employment, income generating activities and housing for the poor as opposed to consumption. In India, three main models of micro credit are being followed and they are different from the Gramin Bank model. Under the first model, bank themselves assumes the role of Self Help Promoting Institutions (SHPIs) by promoting formation of SHGs and extending loans to them. Under the second model, groups are formed and nurtured by NGOs, Government Agencies or other community based organisations. These agencies act as facilitators. Banks open saving accounts of the SHGs formed and nurtured by the NGOs and provide them credit in due course of time. This is the most popular and wide spread model of micro credit in India. Under third model, the NGOs (SHPIs) promote formation of SHGs. Banks provide bulk assistance to these SHPIs for undertaking financial intermediation. NGOs, here, thus act as both facilitators and micro finance intermediaries.

Microfinance

The concept of micro finance is understood as providing poor families with very small loans (micro credit) to help them engage in productive activity or grow their tiny business. The importance of micro finance lies in the fact that the formal/institutional banking sector has not lived up to its social responsibility of meeting the financial needs of the poor due to various reasons such as: (a) lack of branch network in the rural area, (b) lack of collateral security of farmers and poor people, and (c) lack of education and awareness among the poor.

Micro finance scheme in India has emerged as major avenue for bringing the poor within the purview of the organised financial sector. The access to credit for the poor from conventional banking is often constrained by lack of collaterals, information asymmetry and high transaction cost associated with small borrower accounts. In operational terms micro credit involves small loans, up to Rs. 25000, extended to the poor without any collateral for undertaking self-employment project (RBI, 2007-08). Realising the importance of credit in the development process, Government and Reserve Bank of India have taken various steps in this regard and have encouraged banks to make timely and adequate finance available to poor for agricultural credit as well as allied activities making institutional credit to the poor.

PRADHAN MANTRI FASAL BIMA YOJANA (PMFBY)

1. OBJECTIVES:

- To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases.
- To stabilise the income of farmers to ensure their continuance in farming.
- To encourage farmers to adopt innovative and modern agricultural practices.
- To ensure flow of credit to the agriculture sector.

2. IMPLEMENTING AGENCY (IA):

The Scheme shall be implemented through a multi-agency framework by selected insurance companies under the overall guidance & control of the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW), Ministry of Agriculture & Farmers Welfare (MoA&FW), Government of India (GOI) and the concerned State in co-ordination with various other agencies; viz Financial Institutions like Commercial Banks, Co-operative Banks, Regional Rural Banks and their regulatory bodies, Government Departments viz. Agriculture, Co-operation, Horticulture, Statistics, Revenue, Information/Science & Technology, Panchayati Raj etc.

3. DAC&FW has designated/empanelled Agriculture Insurance Company of India(AIC) and some private insurance companies presently to participate in the Government sponsored agriculture /crop insurance schemes based on their financial strength, infrastructure, manpower and expertise etc. The empanelled private insurance companies at present are 1) ICICI-Lombard General Insurance Company Ltd. 2) HDFC-ERGO General Insurance Company Ltd. 3) IFFCO-Tokio General Insurance Company Ltd. 4) Cholamandalam MS General Insurance

Company Ltd. 5) Bajaj Allianz General Insurance Company Ltd. 6) Reliance General Insurance Company Ltd. 7) Future Generali India Insurance Company Ltd. 8) Tata-AIG General Insurance Company Ltd. 9) SBI General Insurance Company Ltd. 10) Universal Sompo General Insurance Company Ltd. The selection of insurance company from amongst the empanelled insurance companies to act as IA shall be done by the concerned State Government for implementation of the scheme in their State. Such selection of IA shall be done from amongst the designated / empanelled companies which

shall be initially pre-qualified, strictly on the basis of, experience, existence of infrastructure in the area and quality of services like coverage of farmers & area, pay-outs in terms of quantum & timely settlement thereof, willingness to do publicity & awareness campaigns etc. The final selection of IA from amongst the pre-qualified insurance companies shall be done based on the lowest weighted premium quoted by a pre-qualified company for all notified crops within the cluster of districts

4. MANAGEMENT OF THE SCHEME:

The existing State Level Co-ordination Committee on Crop Insurance (SLCCCI), Sub-Committee to SLCCCI, District Level Monitoring Committee (DLMC) already overseeing the implementation & monitoring of the ongoing crop insurance schemes like National Agricultural Insurance Scheme (NAIS), Weather Based Crop Insurance Scheme (WBCIS), Modified National Agricultural Insurance Scheme (MNAIS) and Coconut Palm Insurance Scheme (CPIS) shall be responsible for proper management of the Scheme. IA shall be an active member of SLCCCI and District Level Monitoring Committee (DLMC) of the scheme.

5. UNIT OF INSURANCE:

The Scheme shall be implemented on an '**Area Approach basis**' i.e., Defined Areas for each notified crop for widespread calamities with the assumption that all the insured farmers, in a Unit of Insurance, to be defined as 'Notified Area' for a crop, face similar risk exposures, incur to a large extent, identical cost of production per hectare, earn comparable farm income per hectare, and experience similar extent of crop loss due to the operation of an insured peril, in the notified area.

Defined Area (i.e., unit area of insurance) is Village/Village Panchayat level by whatsoever name these areas may be called for major crops and for other crops it may be a unit of size above the level of Village/Village Panchayat.

In due course of time, the Unit of Insurance can be a Geo-Fenced/Geo-mapped region having homogenous Risk Profile for the notified crop.

For Risks of Localized calamities and Post-Harvest losses on account of defined peril, the Unit of Insurance for loss assessment shall be the affected insured field of the individual farmer.

6. CROPS AND NOTIFIED AREA:

6.1. CROPS: The Scheme can cover all the Crops for which past yield data is available and grown during the notified season, in a Notified Area and for which yield estimation at the Notified Area level will be available based on requisite number of Crop Cutting Experiments (CCEs) being a part of the General Crop Estimation Survey (GCES).

6.2. NOTIFIED AREA: Notified Area is the **Unit of Insurance** decided by the State Govt. for notifying a Crop during a season. The size of the Unit of Insurance shall depend on the area under cultivation within the unit. **For major crops, the Unit of Insurance shall ordinarily be Village/Village Panchayat level and for minor crops may be at a higher level** so that the requisite number of CCEs could be conducted during the notified crop season. States may notify Village / Village Panchayat as insurance unit in case of minor crops too if they so desire.

7. FARMERS TO BE COVERED: All farmers growing notified crops in a notified area during the season who have insurable interest in the crop are eligible.

7.1. COMPULSORY COVERAGE: The enrolment under the scheme, subject to possession of insurable interest on the cultivation of the notified crop in the notified area, shall be compulsory for following categories of farmers:

7.1.1. Farmers in the notified area who possess a Crop Loan account/KCC account (called as Loaneer Farmers) to whom credit limit is sanctioned/renewed for the notified crop during the crop season.

AND

7.1.2. Such other farmers whom the Government may decide to include from time to time.

7.2. VOLUNTARY COVERAGE: Voluntary coverage may be obtained by all farmers not covered in 7.1 above, including Crop KCC/Crop Loan Account holders whose credit limit is not renewed.

8. RISKS TO BE COVERED & EXCLUSIONS:

8.1. RISKS: Following risks leading to crop loss are to be covered under the scheme :-

8.1.1. YIELD LOSSES (standing crops, on notified area basis): Comprehensive risk insurance is provided to cover yield losses due to non-preventable risks, such as

(i) Natural Fire and Lightning

(ii) Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane,

- Tornado etc.
- (iii) Flood, Inundation and Landslide
- (iv) Drought, Dry spells
- (v) Pests/ Diseases etc.

8.1.2. PREVENTED SOWING (on notified area basis):- In cases where majority of the insured farmers of a notified area, having intent to sow/plant and incurred expenditure for the purpose, are prevented from sowing/planting the insured crop due to adverse weather conditions, shall be eligible for indemnity claims upto a maximum of 25% of the sum-insured.

8.1.3. POST-HARVEST LOSSES (individual farm basis): Coverage is available upto a maximum period of 14 days from harvesting for those crops which are kept in "cut & spread" condition to dry in the field after harvesting, against specific perils of cyclone / cyclonic rains, unseasonal rains throughout the country.

8.1.4. LOCALISED CALAMITIES (individual farm basis): Loss / damage resulting from occurrence of identified localized risks i.e. hailstorm, landslide, and Inundation affecting isolated farms in the notified area.

8.2. EXCLUSIONS: Risks and Losses arising out of following perils shall be excluded:-

War & kindred perils, nuclear risks, riots, malicious damage, theft, act of enmity, grazed and/or destroyed by domestic and/or wild animals, In case of Post-Harvest losses the harvested crop bundled and heaped at a place before threshing, other preventable risks.

9. SUM INSURED / LIMIT OF COVERAGE:

In case of Loanee farmers under Compulsory Component, the Sum Insured would be equal to Scale of Finance for that crop as fixed by District Level Technical Committee (DLTC) which may extend up to the value of the threshold yield of the insured crop at the option of insured farmer. Where value of the threshold yield is lower than the Scale of Finance, higher amount shall be the Sum Insured. Multiplying the Notional Threshold Yield with the Minimum Support Price (MSP) of the current year arrives at the value of sum insured. Wherever Current year's MSP is not available, MSP of previous year shall be adopted. The crops for which, MSP is not declared, farm gate price established by the marketing department / board shall be adopted.

Further, in case of Loanee farmers, the Insurance Charges payable by the farmers shall be financed by loan disbursing office of the Bank, and will be treated as additional component to the Scale of Finance for the purpose of obtaining loan.

For farmers covered on voluntary basis the sum-insured is upto the value of Threshold yield i.e threshold yield x (MSP or gate price) of the insured crop.

10. PREMIUM RATES:

10.1 The Actuarial Premium Rate (APR) would be charged under PMFBY by IA. DAC&FW/States will monitor the premium rates considering the basis of **Loss Cost** (LC) i.e. Claims as % of Sum Insured (SI) observed in case of the notified crop(s) in notified unit area of insurance (whatsoever may be the level of unit area) during the **preceding 10 similar crop seasons** (Kharif / Rabi) and loading

for the expenses towards management including capital cost and insurer's
and taking into account etc.. margin taking into account non-parametric risks and reduction in insurance
The rate of Insurance unit size

Charges payable by the farmer will be as per the

S.No	Season	Crops	Maximum Insurance charges payable by farmer (% of Sum Insured)
		Food & Oilseeds crops (all cereals, millets, & oilseeds, pulses)	2.0% of SI or Actuarial rate, whichever is less
		Food & Oilseeds crops (all cereals, millets, & oilseeds, pulses)	1.5% of SI or Actuarial rate, whichever is less
	& Rabi	Annual Commercial / Annual Horticultural crops	5% of SI or Actuarial rate, whichever is less

10.2 The difference between premium rate and the rate of Insurance charges payable

by farmers shall be treated as Rate of Normal Premium Subsidy, which shall be shared equally by the Centre and State.

10.3 AIC shall calculate LC premium rates (till an Independent Agency/TSU takes over) based on latest available yield data in month of February for Kharif crops and August for Rabi crops as per requirement of the States and shall provide to DAC&FW/Concerned States before invitation for premium bidding.

10.4 State Govt. would invite all the empanelled insurance companies to quote their actuarial premium rates for the notified crop(s) in the notified insurance unit area, Indemnity Level, Threshold Yields, Sum Insured etc. as indicated by the State for the season.

10.5 For more effective implementation, selection of Implementing Agency (IA) may be made through adopting the cluster approach under which bunch of about 15-20 good & bad districts / areas with reference to risks will be bid out. This will facilitate the uniform distribution of the risks among the participating insurance companies and will avoid selection of districts / areas according to company's choice. In case of smaller States, the whole State shall be assigned to one IA. This is also expected to take care of districts which have traditionally had high actuarial premiums for crops due to high risk. Selection of IA may be made for at least 3 years.

10.6 The designated / empanelled companies participating in bidding have to bid the premium rates for all the crops notified / to be notified by the State Govt. and non-compliance will lead to rejection of company's bid.

10.7 The insurance coverage in terms of number of farmers & hectare-age should be at least at the previous season's level.

11. SHARING OF RISK:

Risk will be shared by IA and the Government as follows:

The liability of the Insurance companies in case of catastrophic losses computed at the National level for an agricultural crop season, shall be upto **350% of total premium collected (farmer share plus Govt. subsidy) or 35% of total Sum Insured (SI), of all the Insurance Companies combined, whichever is**

higher. The losses at the National level in a crop season beyond this ceiling shall be met by equal contribution (i.e. on 50:50 basis) from the Central Government and the concerned State Governments.

12. ESTIMATION OF CROP YIELD: The State/UT Govt. will plan and conduct the requisite number of Crop Cutting Experiments (CCEs) for all notified crops in the notified insurance units in order to assess the crop yield. The State / UT Govt. will maintain single series of Crop Cutting Experiments (CCEs) and resultant Yield estimates, both for Crop Production estimates and Crop

Crop Cutting Experiments (CCE) shall be undertaken per unit area /per crop, on a sliding scale, as indicated below: from Indian Agricultural Statistical Research Institute (IASRI), National Sample Survey Organization (NSSO), Ministry of Agriculture & Farmers Welfare (GoI) and implementing agencies shall dispose/decide the issues relating to CCEs and all other technical matters. Inputs from

Sl. No.	INSURANCE UNIT and Insurance.	Minimum no. of CCEs required to be done
1.	District	24
2.	Taluka / Tehsil / Block	16
3.	Mandal/Hobli/ Phirka / Revenue Circle	10
4.	Village / GramPanchayat/Patwar-Mandal/Patwari-Halka	4 for major crops, 8 for other crops

However, a Technical Advisory Committee (TAC) comprising representatives RST/satellite imagery would also be utilized in optimizing the sample size of CCEs.

Use of Mobile Phone Technology to improve Yield-data Quality & Timeliness

It has been felt that process of CCEs currently being conducted for estimating yield is lacking in reliability and speed which affects the claims settlement. There is a need to have good quality, timely and reliable yield-data. For addressing this problem, video/image capture of crop growth at various stages and transmission thereof with CCE data on a real time basis utilizing mobile communication technology with GPS time stamping, can improve data quality, / timeliness and support timely claim processing and payments. States and insurance companies shall utilise this technology for the purpose.

The cost of using technology etc. for conduct of CCEs etc will be shared between Central Government and State/U.T. Governments on 50:50 basis, wherever necessary, subject to a cap on total funds to be made available by Central Government for this purpose based on approximate cost of procuring hand held devices/Smart phones and other related costs.

13. INDEMNITY LEVEL (IL) and THRESHOLD YIELD (TY) :

13.1. Three levels of Indemnity, viz., 70%, 80% and 90% corresponding to crop Risk in the areas shall be available for all crops.

13.2. The Threshold Yield (TY) shall be the benchmark yield level at which Insurance protection shall be given to all the insured farmers in an Insurance Unit.

13.3. The Threshold Yield for a crop in an Insurance Unit shall be based on average yield of last seven years excluding two years of declared calamity if any, multiplied by the level of indemnity of the area.

*Sum[Last 7 Years of Yield (minus two notified
calamity years if any)]*

threshold Yield = -----

*— ----- ; ----- — ----- X Level of Indemnity
5 — 7 (as the case may be)*

14. CALENDER OF ACTIVITY:

The time-lines for coverage, submission of yield data, price data etc. shall be decided the SLCCCI strictly keeping in mind the onset of monsoon, sowing period, crop cycleThe seasonality by discipline shall be same for loanee and non-loanee farmers. The cut-off date is uniform for both etc loanee and non-loanee cultivators. Keeping in view the prevailing agro-climatic conditions, rainfall distribution/irrigation water availabilities, sowing pattern etc. the SLCCCI, in consultation with the insurance company shall fix seasonality disciplines of the coverage and other activities in such a way that it doesn't encourage adverse selection or moral hazards. Broad seasonality discipline is given in the chart below. State wise details of seasonality will be provided in the Operational Guidelines to be issued by DAC&FW.

S.No.	Activity	Kharif	Rabi
1	Issuance of Administrative Instructions by Government of India	February	August
2	Conduct of SLCCCI meeting to decide for notification of Crops and Notified areas, limits of Sum Insured and adoption of Level of Indemnity etc.	March	September
3	Loaning period (loan sanctioned) for	April to July	October to
	Loanee farmers covered on Compulsory basis.		December
4	Cut-off date for receipt of Proposals of farmers (loanee & non-loanee).	31 th July	31 st December
5	Cut-off date for receipt of Declarations of Loanee farmers covered on compulsory basis & non-loanee farmers covered on Voluntary basis from Bank branches to Respective Nodal Offices.	Within 15 working days for loanee farmers and seven working days for non-loanee farmers after cut-off date	Within 15 working days for loanee farmers and seven working days for non-loanee farmers after cut-off date
6	Cut-off date for receipt of Declarations of farmers covered on Voluntary basis from designated Insurance Agent(s) to Insurance Companies	Within two working days after receiving declaration/ premium.	Within two working days after receive declaration/ premium.

7	Cut-off date for receipt of Declarations of Loanee farmers covered on compulsory basis & non-loanee farmers covered on Voluntary basis from Respective Nodal Offices of Banks to Insurance Company	Within seven working days from receipt of Declarations by the Respective Nodal Offices of Banks.	Within seven working days from receipt of Declarations by the Respective Nodal Offices of Banks.
8	Cut-off date for receipt of yield data	Within a month from final harvest	Within a month from final harvest

15. PROCEDURE FOR ASSESSMENT, PROCESSING AND APPROVAL OF CLAIMS:

15. PROCEDURE FOR ASSESSMENT, PROCESSING AND APPROVAL OF CLAIMS:

15.1. Yield losses at Notified Area level: Once the Yield Data is received from the prescribed Format as per Govt. Approved and settled and cut-off dates, claims will be processed.

15.1.1. If the 'Actual Yield' (AY) per hectare of the insured crop for the defined area [on the basis of requisite number of Crop Cutting Experiments (CCEs)] in the insured season, falls short of the specified threshold yield (TY) 'Yield' (RY), all the insured farmers growing that crop in the defined area are deemed to have suffered shortfall in their yield.

15.1.2. The Scheme seeks to provide protection against such contingency to all insured farmers of an Insurance Unit.

15.1.3. Claim Pay-outs based on Yield losses shall be calculated as per the following formula:

$$\text{Claims Payout} = \frac{\text{Shortfall in Yield}}{\text{Threshold Yield}} \times \text{Sum Insured}$$

Where,

$$\text{ShortFall in Yield} = (\text{Threshold Yield} - \text{Actual Yield})$$

15.2. Assessment of prevented Sowing: The adverse weather conditions shall be defined in the notification and shall be captured by notified weather station/s in the District. The extent of claims payable will be decided on the basis of weather data recorded at the notified weather station/s for the purpose. The crop-wise scale of payment, upto a maximum of 25% of Sum Insured shall be worked out by IA based on a notified pay-out structure on the occurrence of pre-declared events such as month-wise deficit in aggregate rainfall during a specified period assessed through Reference Weather Stations tagged for the Notified / Group of Notified Area. The insurance coverage shall cease to operate for the crop in the notified area. The cover is available during Kharif season for recognised rain-fed areas and crops. The data provider will be notified by the SLCCCI.

15.3.1. Loss assessment and modified indemnity procedures in case of occurrence of localized perils, such as hailstorm, landslide, flood, and inundation shall be for a cluster of affected farms or affected village and the settlement of claims, if any, will be each insured farmer covered under assessment.

15.3.2. The District Administration will assist IA in assessing the extent of loss.

15.4. Post-Harvest Loss Assessment:

15.4.1. Loss assessment and indemnity procedures in case of occurrence of Post-Harvest Loss shall be for a cluster of affected farms or affected village and the settlement of claims, if any, will be each insured farmer covered under assessment.

15.4.2. The District Administration will assist IA in assessing the extent of loss.

15.5. On-Account Payment of Claims due to Mid-Season Adversity:

15.5.1. In case of adverse seasonal conditions during crop season viz. floods, prolonged dry spells, severe drought, unseasonal rains, IA in consultation with concerned State Government/UT based on agro meteorological data/ satellite imagery or any other proxy indicator will decide about crops/ areas for which on account payment will be made, not exceeding 25% of likely claims.

15.5.2. Appraisal of mid-season adversity and quantum of on-account payment will be established jointly by Government of India/concerned State Government/UT and IA.

15.5.3. On account payment will be implemented only in those districts/notified areas where such proxy indicators can be established and will be considered for payment and only if the expected yield during the season is likely to be less than 50% of normal yield.

15.6. IA shall process the claims liability assessed as per above mentioned methodology and approve the claims.

16. PROCEDURE FOR SETTLEMENT OF CLAIMS:

16.1. For coverage through Banks:-The claim amount along with particulars will be released to the individual Nodal Banks. The Banks at the grass-root level, in turn, shall credit the accounts of the individual farmers and display the particulars of beneficiaries on their notice board. The Banks shall provide individual farmer wise details claim credit details to IA and shall be incorporated in the centralised data repository.

16.2. For coverage through other insurance intermediaries: The claim amount will be released electronically to the individual Insured Bank Account.

Acreage discrepancy

Some areas in the past have reported excess insurance coverage vis-a-vis planted acreage, leading to 'over' insurance. Ideally the discrepancy should be handled at farm level to protect the interest of farmers with genuine insurance coverage. However, in the absence of digitized farm records on a

GIS platform, it would be cumbersome to physically verify each farm. For the time-being, it is to be addressed as follows:

Wherever the 'acreage discrepancy' is likely, the acreage insured at IU level shall be compared with average planted acreage of past three years, and the difference will be treated as 'excess' insurance coverage.

Sum insured may be scaled down in the ratio the average of three years' actual planted acreage bears to the insured acreage for the given crop. Claims shall be calculated on the scaled down sum insured. Premium shall be retained by the insurance company for the portion of sum insured scaled down.

Hence the individual farms (plots / survey numbers) are digitized and available on a GIS platform, it is possible to overlay the crop cover as derived using satellite imagery on the GIS platform to identify the crop and estimate the cropped area on each farm. This should lead to identifying the acreage discrepancy at individual farm level.

17. MANAGEMENT OF THE SCHEME AND REVIEW:

- 17.1.** Government of India shall issue operational guidelines and modalities, which may be appended from time to time, for implementation of the scheme provisions with detailed steps and processes involved, terms and condition applicable, roles and responsibilities of various agencies involved in execution of the scheme and roles and responsibilities of other related stakeholders.
- 17.2.** These operational modalities shall be considered as part of the scheme.
- 17.3.** The scheme may be reviewed periodically and additions, deletions and modifications of the provisions may be done as deemed necessary.
- 17.4.** During each crop season, the agricultural situation will be closely monitored in the implementing States / Union Territories. The State / UT Department of Agriculture and district administration shall set up a District Level Monitoring Committee (DLMC), who will provide fortnightly reports of Agricultural situation with details of area sown, seasonal weather conditions, pest incidence, stage of crop failure (if any) etc.
- 17.5.** The operation of the Scheme will be reviewed annually, and modifications as may be required would be introduced. Periodic Appraisal Reports on the Scheme would be prepared by Ministry of Agriculture, the Government of India / Implementing Agency.

18. PUBLICITY & AWARENESS:

18.1. Adequate publicity needs to be given in all the villages of the notified districts/ areas. All possible means of electronic and print media, farmer's fair, exhibitions including SMS messages, short films, and documentaries shall be utilized to create and disseminate awareness, benefits and limitations among the cultivators and the agencies involved in implementing the Scheme. Agriculture/Cooperation Department of the States in consultation with IA shall work out appropriate Plan for adequate awareness and publicity three months prior to the start of coverage period.

18.2. IA shall also assist the State Government/ UT in capacity building for effective implementation of the scheme and organize training workshops/sensitization programme for various stakeholders.

19. SERVICE TAX:

19.1. PMFBY is a replacement scheme of NAIS / MNAIS, and hence exempted from Service Tax liability of all the services involved in the implementation of the scheme.

20. USE OF INNOVATIVE TECHNOLOGY:

DAC&FW shall carry out pilots in select areas, in collaboration with various States/UTs, national and international research organisations / institutes, IMD, insurance companies, reinsurers etc. to make use of available technology in the fields of remote sensing, aerial imagery, satellites etc. that can help in acreage estimation, crop health / loss estimation, quicker yield estimation etc. with reduced manpower & infrastructure. With development of number of satellites with high resolution images orbiting the Earth, there have been great improvements in satellite imagery products. It has been reasonably proven the satellite imagery can help in demarcating the cropped areas into clusters on the basis of crop health. This feature can be successfully used to target the CCEs within the Insurance Unit (IU). Thus satellite imagery can help in '**smart sampling**' of CCEs. While an IU with heterogeneous crop health may need standard sample of CCEs, for eg. 4 CCEs per Village / Village Panchayat for major crops, the more homogenous IU may need a lower sample size, say 2 CCEs. This is expected to minimize the total CCEs needed by about 30-40%. States should progressively adopt this technique in generating yield estimates.

After proven strong correlation between / satellite I aeries results and yield estimates through CCEs, States may use the technologies in estimating the crop yields at IU level, subject to the satisfaction of Central and State Governments and insurance companies with the accuracy of the yield estimates to service the claims.

- 20.1.** The integrity of CCEs will be verified by use of GPRS enabled Mobile phones with cameras/smart phones. These phones will also help in addressing the problem of area discrepancy by capturing pictures of standing crops and will also help in quicker, accurate estimation of yields.
- 20.2.** Such technologies, after due consideration of pilot results by the Government shall be included in the Scheme.
- 20.3.** All state government shall use technology initiatives in the conduct and supervision of CCEs to provide the yield data with minimum delay to IA for quick processing of the claims. The state governments shall also use technology initiatives in the reporting of loss reports for on-account claim settlement, Claim intimations for Localized calamity and Post-Harvest losses.
- 20.4.** A centralized repository shall be maintained. Appropriate application (web based, app based etc.) would be developed by NIC. The State Government, IA, Banks, Insurance Intermediaries shall use this applications for inputting various operational data like notification related data, individual farmer wise insurance coverage and
etc.
claims details, crop loss details

21. REVIEW OF THE SCHEME

State Governments will review the performance of the scheme after one year and point out corrections, if any, required in any of the provisions of the scheme to Govt. of India.

AMUL

Anand Milk Union Limited or Amul is an [Indian](#) dairy cooperative, based at [Anand](#) in the state of [Gujarat](#). Formed in 1948, it is a brand managed by a cooperative body, the Gujarat Co-operative Milk Marketing Federation Ltd. (GCMMF), which today is jointly owned by 3.6 million milk producers in Gujarat. Amul spurred [India's White Revolution](#), which made the country the world's largest producer of milk and milk products. The white revolution was spearheaded by Tribhuvandas Patel under the guidance of Sardar Patel and [Verghese Kurien](#). As a result, Kaira District Milk Union Limited was born in 1946. Tribhuvandas became the founding chairman of the organization and led it until his death. He hired Dr. Kurien three years after the white revolution. He convinced Dr. Kurien to stay and help with the mission. Kurien, founder-chairman of the GCMMF for more than 30 years (1973–2006), is credited with the success of Amul. Amul has become the largest food brand in India and has ventured into markets overseas. Amul products are now available in more than 20 countries.

The main aim of the formation of amul was to stop the exploitation by middlemen. The exploitative trade practices followed by the local trade cartel triggered off the cooperative movement. Angered by unfair and manipulative practices followed by the trade, the farmers of the district approached the great Indian patriot Sardar Vallabhbhai Patel for a solution. He advised them to get rid of middlemen and form their own co-operative, which would have procurement, processing and marketing under their control. In 1946, the farmers of this area went on a milk strike refusing to be cowed down by the cartel. Under the inspiration of Sardar Patel, and the guidance of leaders like Morarji Desai and Tribhuvandas Patel, they formed their own cooperative. This co-operative, the Kaira District Co-operative Milk Producers Union Ltd. began with just two village dairy co-operative societies and 247 litres of milk and is today better known as Amul Dairy. Amul grew from strength to strength thanks to the inspired leadership of Tribhuvandas Patel, the founder Chairman and the committed professionalism of Dr Varghese Kurien, who was entrusted the task of running the dairy from 1950.

The then Prime Minister of India, Lal Bahadur Shastri decided that the same approach should become the basis of a National Dairy Development policy. He understood that the success of Amul could be attributed to four important factors. The farmers owned the dairy, their elected representatives managed the village societies and the district union, they employed professionals to operate the dairy and manage its business. Most importantly, the co-operatives were sensitive to the needs of farmers and responsive to their demands.

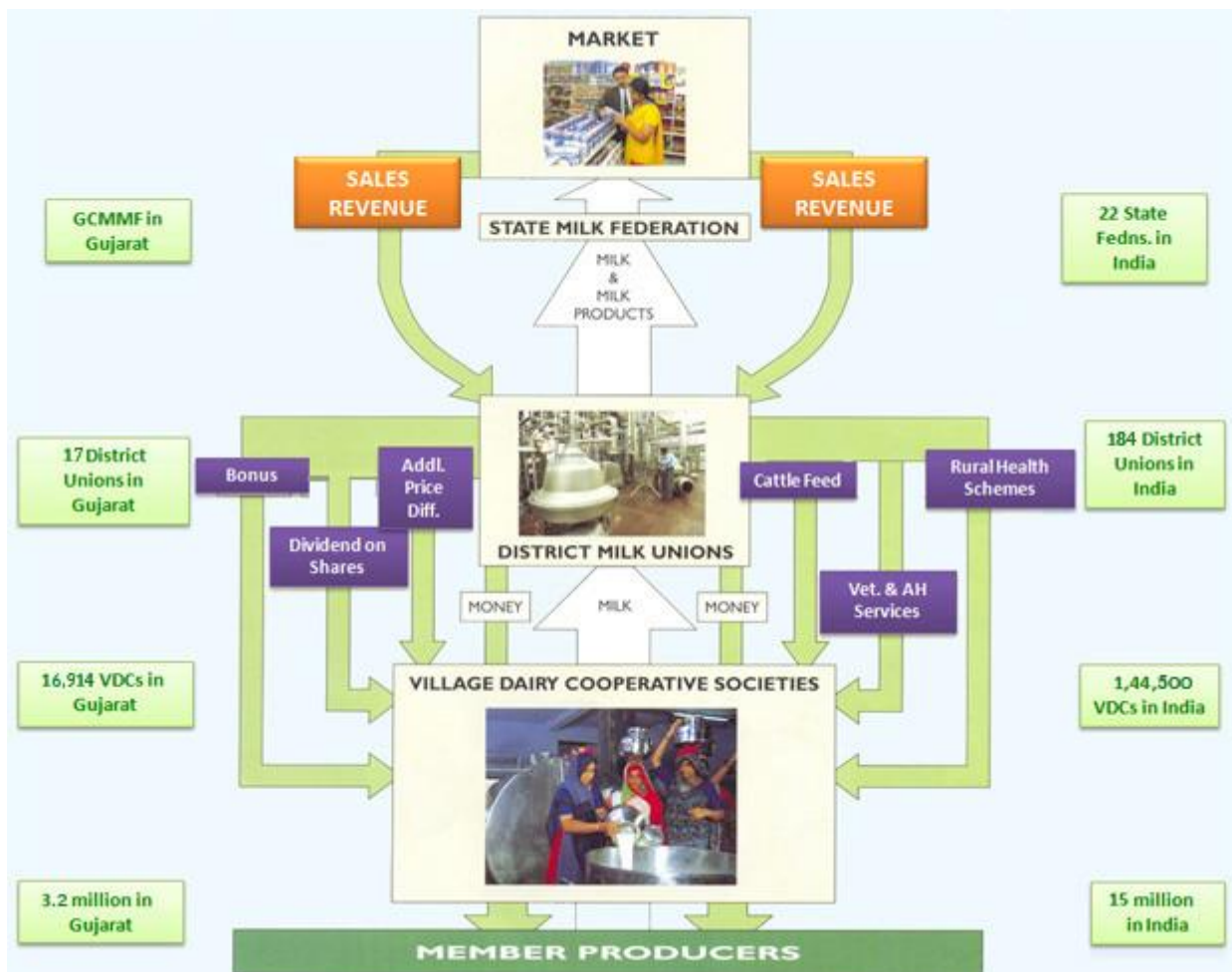
At his instance in 1965 the National Dairy Development Board was set up with the basic objective of replicating the Amul model. Dr. Kurien was chosen to head the institution as its Chairman and asked to replicate this model throughout the country.

The Amul Model

The Amul Model of dairy development is a three-tiered structure with the dairy cooperative societies at the village level federated under a milk union at the district level and a federation of member unions at the state level.

- Establishment of a direct linkage between milk producers and consumers by eliminating middlemen
- Milk Producers (farmers) control procurement, processing and marketing
- Professional management





The Amul model has helped India to emerge as the largest milk producer in the world. More than 15 million milk producers pour their milk in 1, 44, 500 dairy cooperative societies across the country. Their milk is processed in 184 District Co-operative Unions and marketed by 22 State Marketing Federations, ensuring a better life for millions.

GCMMF

Gujarat Cooperative Milk Marketing Federation Ltd. (GCMMF), is India's largest food product marketing organisation with annual turnover (2017-18) US\$ 4.5 billion. Its daily milk procurement is approximately 18 million litres per day from 18,554 village milk cooperative societies, 18 member unions covering 33 districts, and 3.6 million milk producer members.

It is the Apex organisation of the Dairy Cooperatives of Gujarat, popularly known as '**AMUL**', which aims to provide remunerative returns to the farmers and also serve the interest of consumers by providing quality products which are good value for money. Its success has not only been emulated in India but serves as a model for rest of the World. It is exclusive marketing organisation of '**Amul**' and '**Sagar**' branded products. It operates through 56 Sales Offices and has a dealer network of 10000 dealers and 10 lakh retailers, one of the largest such networks in India. Its product range comprises milk, milk powder, health beverages, ghee, butter, cheese, Pizza cheese, Ice-cream, Paneer, chocolates, and traditional Indian sweets, etc.

GCMMF is India's largest exporter of Dairy Products. It has been accorded a "Trading House" status. Many of their products are available in USA, Gulf Countries, Singapore, The Philippines, Japan, China and Australia. GCMMF has received the APEDA Award from Government of India for Excellence in Dairy Product Exports for the last 16 years. For the year 2009-10, GCMMF has been awarded "**Golden Trophy**" for its outstanding export performance and contribution in dairy products sector by APEDA. In 2013-14, GCMMF took giant strides in expanding its presence in International markets. Amul's presence on Global Dairy Trade (GDT) platform in which only the top six dairy players of the world sell their products, has earned respect and recognition across the world. By selling milk powders on GDT, GCMMF could not only realize better prices as per market demand but it also firmly established Amul in the league of top dairy players in world trade.

GCMMF is the first and only Indian organisation to win topmost International Dairy Federation Marketing Award for probiotic ice cream launch in 2007. For the innovations, GCMMF has received AIMA-RK Swamy High Performance brand award 2013 and CNN-IBN Innovating for better tomorrow award in 2014.

The Amul brand is not only a product, but also a movement. It is in one way, the representation of the economic freedom of farmers. It has given farmers the courage to dream. To hope. To live.

Source: <https://en.wikipedia.org/wiki/Amul>
www.amul.com/m/gcmmf

SWOT Analysis - Definition, Advantages and Limitations

SWOT is an acronym for Strengths, Weaknesses, Opportunities and Threats. By definition, Strengths (S) and Weaknesses (W) are considered to be internal factors over which you have some measure of control. Also, by definition, Opportunities (O) and Threats (T) are considered to be external factors over which you have essentially no control.

SWOT Analysis is the most renowned tool for audit and analysis of the overall strategic position of the business and its environment. Its key purpose is to identify the strategies that will create a firm specific business model that will best align an organization's resources and capabilities to the requirements of the environment in which the firm operates.

In other words, it is the foundation for evaluating the internal potential and limitations and the probable/likely opportunities and threats from the external environment. It views all positive and negative factors inside and outside the firm that affect the success. A consistent study of the environment in which the firm operates helps in forecasting/predicting the changing trends and also helps in including them in the decision-making process of the organization.

An overview of the four factors (Strengths, Weaknesses, Opportunities and Threats) is given below-

1. **Strengths** - Strengths are the qualities that enable us to accomplish the organization's mission. These are the basis on which continued success can be made and continued/sustained.

Strengths can be either tangible or intangible. These are what you are well-versed in or what you have expertise in, the traits and qualities your employees possess (individually and as a team) and the distinct features that give your organization its consistency.

Strengths are the beneficial aspects of the organization or the capabilities of an organization, which includes human competencies, process capabilities, financial resources, products and services, customer goodwill and brand loyalty. Examples of organizational strengths are huge financial resources, broad product line, no debt, committed employees, etc.

2. **Weaknesses** - Weaknesses are the qualities that prevent us from accomplishing our mission and achieving our full potential. These weaknesses deteriorate influences on the organizational success and growth. Weaknesses are the factors which do not meet the standards we feel they should meet.

Weaknesses in an organization may be depreciating machinery, insufficient research and development facilities, narrow product range, poor decision-making, etc. Weaknesses are controllable. They must be minimized and eliminated. For instance - to overcome obsolete machinery, new machinery can be purchased. Other examples of organizational weaknesses are huge debts, high employee turnover, complex decision making process, narrow product range, large wastage of raw materials, etc.

3. **Opportunities** - Opportunities are presented by the environment within which our organization operates. These arise when an organization can take benefit of conditions in its environment to plan and execute strategies that enable it to become more profitable. Organizations can gain competitive advantage by making use of opportunities.

Organization should be careful and recognize the opportunities and grasp them whenever they arise. Selecting the targets that will best serve the clients while getting desired results is a difficult task. Opportunities may arise from market, competition, industry/government and

technology. Increasing demand for telecommunications accompanied by deregulation is a great opportunity for new firms to enter telecom sector and compete with existing firms for revenue.

4. **Threats** - Threats arise when conditions in external environment jeopardize the reliability and profitability of the organization's business. They compound the vulnerability when they relate to the weaknesses. Threats are uncontrollable. When a threat comes, the stability and survival can be at stake. Examples of threats are - unrest among employees; ever changing technology; increasing competition leading to excess capacity, price wars and reducing industry profits; etc.

Advantages of SWOT Analysis

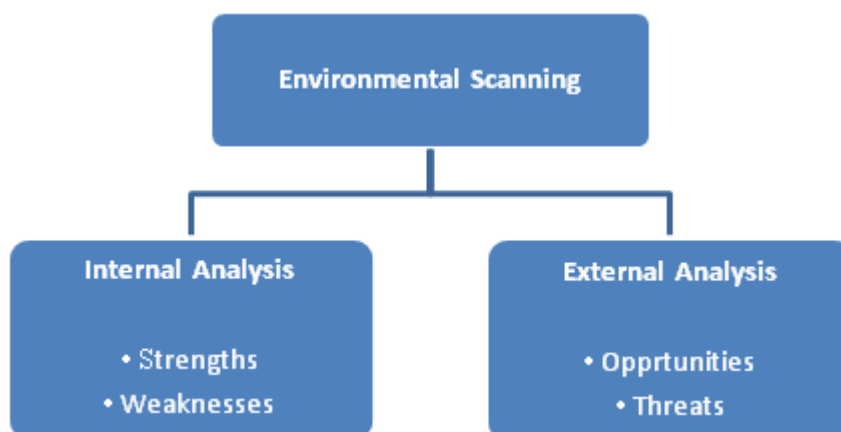
SWOT Analysis is instrumental in strategy formulation and selection. It is a strong tool, but it involves a great subjective element. It is best when used as a guide, and not as a prescription. Successful businesses build on their strengths, correct their weakness and protect against internal weaknesses and external threats. They also keep a watch on their overall business environment and recognize and exploit new opportunities faster than its competitors.

SWOT Analysis helps in strategic planning in following manner-

- a. It is a source of information for strategic planning.
- b. Builds organization's strengths.
- c. Reverse its weaknesses.
- d. Maximize its response to opportunities.
- e. Overcome organization's threats.
- f. It helps in identifying core competencies of the firm.
- g. It helps in setting of objectives for strategic planning.
- h. It helps in knowing past, present and future so that by using past and current data, future plans can be chalked out.

SWOT Analysis provide information that helps in synchronizing the firm's resources and capabilities with the competitive environment in which the firm operates.

SWOT ANALYSIS FRAMEWORK



Limitations of SWOT Analysis

SWOT Analysis is not free from its limitations. It may cause organizations to view circumstances as very simple because of which the organizations might overlook certain key strategic contact which may occur. Moreover, categorizing aspects as strengths, weaknesses, opportunities and threats might be very subjective as there is great degree of uncertainty in market. SWOT Analysis does stress upon

the significance of these four aspects, but it does not tell how an organization can identify these aspects for itself.

There are certain limitations of SWOT Analysis which are not in control of management. These include-

- a. Price increase;
- b. Inputs/raw materials;
- c. Government legislation;
- d. Economic environment;
- e. Searching a new market for the product which is not having overseas market due to import restrictions; etc.

Internal limitations may include-

- a. Insufficient research and development facilities;
- b. Faulty products due to poor quality control;
- c. Poor industrial relations;
- d. Lack of skilled and efficient labour; etc

Role of Different Organisations

International Co – operative Alliance (ICA)

International Cooperative Alliance is a non-profit international association established in 1895 to advance the cooperative model. The Alliance is the apex organisation for cooperatives worldwide, representing 318 cooperative federations and organisations across 110 countries (figures of September 2018). The members of the Alliance are national level cooperative federations, individual cooperative organisations and government offices concerned with cooperatives. One in every six people on the planet are cooperators. Through its membership, the Alliance represents 1,2 billion members of cooperatives from any of the 3 million cooperatives worldwide.

The International Cooperative Alliance works with global and regional governments and organisations to create the legislative environments that allow cooperatives to form and grow.

Towards the public, the International Cooperative Alliance promotes the importance of the cooperatives' values-based business model. Yearly, the International Cooperative Alliance publishes the World Co-operative Monitor, the index of the world's largest cooperative and mutual enterprises. The Monitor demonstrates the economic impact of cooperative enterprises worldwide. The sixth edition of the World Cooperative Monitor has revealed a **global turnover of 2.1 trillion USD** for the world's top 300 cooperatives. Cooperatives generate partial or full-time employment for at least 280 million individuals worldwide, either in or within the scope of cooperatives, making up almost 10% of the entire employed population.

Operating from a global office in Brussels, Belgium, the Alliance is organised with four Regional Offices.

The Alliance further has eight sectoral organisations:

- Banking
- Agriculture

- Fisheries
- Insurance
- Health
- Housing
- Consumer Co-operatives
- Industry and Services

Vision

The Alliance is the reference organisation for the co – operative movement, acting as an effective and efficient global voice and forum for knowledge, expertise and co – ordinated action for and about co – operatives.

Mission

The Alliance unites co – operatives worldwide and is the custodian of the co – operative values and principles. It makes the case for their distinctive values – based economic business model, providing individuals and communities with an instrument of self – help and influence over their development.

The Alliance advocates the interests and success of co – operatives, disseminates best practices and know – how, strengthens their capacity building, and monitors their performance and progress over time.

Structure

The International Cooperative Alliance consists of a governing board, a General Assembly, [four regions](#) (one each for Africa, Europe, Asia-Pacific, and Americas), [eight sectoral organisations](#) and several [thematic committees and networks](#):

- Committee on Cooperative Research
- Communications Committee
- Gender Equality Committee
- Youth Network
- Cooperative law committee

Work

The starting point of the International Co-operative Alliance's [Blueprint for a Co-operative Decade](#), is that co-operatives have a way of doing business which is both better and brings a more effective balance to the global economy. The 2020 Vision, embedded within the Blueprint strategy, aims for the co-operative form of business – by 2020 – to become:

- The acknowledged leader in economic, social, and environmental sustainability
- The model preferred by people
- The fastest growing form of enterprise

The publications of the Blueprint are created by the Alliance's thought leadership. They serve to guide co-operatives in conducting business in line with the co-operative principles, and cover the Blueprint's five pillars: Participation, Sustainability, Identity, Legal Framework and Capital.

The International Co-operative Alliance advances the interests of the co-operative movement through work with international policymakers. The Alliance's advocacy work helps create a more supportive political, legal and regulatory environment in which co-operatives can thrive. The Alliance's [Co-operative Law Committee](#) also advises on matters related to creating an enabling environment for co-operatives. At the United Nations, the Alliance participates in high-level discussions of relevance to co-operatives through its consultative status with the [United Nations Economic and Social Council \(ECOSOC\)](#), which it has had since 1946, the first non-governmental organisation to do so.

Since 2014, the Alliance has been actively engaged in the Business 20 (B20), a forum of business leaders that makes recommendations to G20 governments for strong, sustainable and balanced growth in the global economy. The Alliance delegation of co-operative leaders works to ensure that the co-operative voice is heard in the B20 Taskforces and represented in outcome documents. The Alliance also has individual partnership agreements with the [Food and Agriculture Organization of the United Nations \(FAO\)](#), the [International Labour Organization \(ILO\)](#) and the International Trade Centre, and participates in the [UN Inter-Agency Task Force on Social and Solidarity Economy](#).

Since 1971, the Alliance has been a founding member of the [Committee for the Promotion and Advancement of Co-operatives \(COPAC\)](#), a multi-stakeholder partnership of global public and private institutions that promotes and advocates for people-centred, self-sustaining cooperative enterprises, guided by the principles of economic, social and environmental sustainable development.

In March 2016, the International Co-operative Alliance entered into a partnership with the European Commission, ushering in a new phase of collaboration on strengthening the co-operative movement as development actors. The **ICA-EU partnership** aims to bring the co-operative model to the next level within international development policies and programs. It is built around activities focused on increasing **visibility**, enhancing **advocacy**, sharing **capacity building**, strengthening co-operative development **networking**, and supporting all these with evidence from exhaustive **research**. Acting as partners, the [regional](#) and global offices of the ICA are driving the actions, in collaboration with members, civil society organisations, international institutions and the EU.

Source: www.ica.coop

National Cooperative Union of India (NCUI)

National Cooperative Union of India, (NCUI) is an apex organisation representing the entire cooperative movement in the country. It was established in 1929 as All India Cooperative Institutes Association and was re-organised as Indian Cooperative Union through the merger of Indian Provincial Cooperative Bank's Association with All India Cooperative Institute Association and later in 1961 as National Cooperative Union of India. Ever since then NCUI has been acting as torchbearer of cooperative movement in the country. Of late, it has diversified its activities and programmes to address the emerging issues affecting the movement.

Objectives

- Expresses opinion on matters of cooperative policy and acts as the accredited representative of the Indian Cooperative Movement in the national and international spheres;
- Organises cooperative education and training programmes and popularises the principles and practices of cooperation
- Organises, conducts, collaborates and assists in carrying out research and analysis of cooperative problems and formulation of projects for cooperative development
- Arranges for the production and publication of literature and audiovisuals aids including films, filmstrips on cooperation and allied subjects
- Lends publicity to the activities of cooperatives through periodicals, journals, newspapers, pamphlets, brochures, books, films, broadcasts, T.V. for creating favourable opinion for the development of the cooperative movement
- Convenes and holds the National Cooperative Congress, Zonal Conferences, Cooperative Seminars, Meetings, Conferences, Exhibitions etc.;
- Select delegates, representatives and observers on behalf of the union for participation in International, National and State Conferences
- Promotes international cooperative institutions and assists member societies in resolving their problems and difficulties and formulation of programmes and their implementation while preserving and safeguarding the democratic character of the cooperative movement in the country
- Promotes international cooperative relations through active collaboration with ICA, UNO, FAO, ILO, UNDP, UNIDO and other international agencies involved in cooperative development
- Promotes international marketing on cooperative-to-cooperative basis by documenting necessary information and acts as nodal agency for the benefit of Indian Cooperative Movement
- Provides consultancy services to the cooperatives

Functioning

The working of NCUI reflects the democratic yearning of the cooperators and the cooperative institutions involved in cooperative development. The membership of NCUI is broad-based comprising of cooperative institutions at national level, state level and multi-state cooperative societies representing all sectors of the Indian cooperative movement. At present, there are 242 institutions which are members of NCUI

The supreme authority of NCUI vests with its General Body which meets once a year to decide the policy and programmes for cooperative development and also elects the Governing Council of NCUI once for a period of five years. The Governing Council meets once in every quarter and functions through the Executive Committee and other functional committees

The President is the head of the organisation and is supported by the Chief Executive who operates through various functional divisions of the NCUI Secretariat

Cooperative Congress

One of the notable activities of the NCUI is to formulate policies and programmes which not only highlights the achievements of cooperatives but also sets the direction for future growth of the cooperative movement in India. The cooperative congress is the mega event of the cooperative movement which reviews the trends of the movement and provides future projections.

Publicity and Public Relations

As a major image - building exercise, NCUI undertakes various activities for publicity and public relations. The notable activity in this regard is the celebration of all India Cooperative Week throughout the country from 14 to 20 November every year. The week -long celebrations based on a particular theme galvanises the states to organise cooperative awareness activities/ programmes in every nook and corner of the country. In the memory of late Vaikunth Bhai Mehta, The doyen of Indian Cooperative Movement, NCUI organises lecture from a distinguished personality regularly. Besides, NCUI provides timely information to the member institutions, maintains strong liaison with the press, sensitises the mainstream press through regular press releases and organises conferences and seminars for building opinion in favour of cooperatives.

Publications

The NCUI has been publishing journals of repute with a national perspective. "The Cooperator" is an illustrated monthly journal of topical issues which carries articles, features, interviews, success stories and reports on the areas concerning cooperative sector. "Indian Cooperative Review" a quarterly published by NCUI which contains research articles and case studies on various segments of the cooperative movement. NCUI has a rich in house store of publications comprising of books on success stories, legal aspects and major cooperative trends. The Statistical Profile updates policy makers and planners with changing trends in cooperative movement in various sectors.

International Cooperative Relations

Being the apex organisation of the Indian Cooperative Movement, the NCUI collaborates with ICA, UNO, FAO, ILO, UNDP, UNIDO and other international agencies involved in cooperative development. The Union takes active part in various Standing Committees/Regional Assembly of ICA, particularly the Regional Office for Asia and Pacific, New Delhi. In furtherance of the inter-cooperative relations, the NCUI deputs a number of staff working in cooperative institutions for training and for attending conferences/seminars abroad.

Under the MoU signed with selected countries, NCUI encourages exchange of information to improve bilateral cooperation with other countries / organizations through international study exposure visit. This enables the participants to learn about the best practices adopted by the cooperatives in other countries. NCUI also facilitates the visit of fraternal delegates to the different cooperative institutions/organizations to share the experience of Indian cooperatives in order to promote professional, social & cultural bonding.

To commemorate the occasion of International Cooperative Day celebrated on the first Saturday of July every year, NCUI organises Symposium on a prescribed theme. On this occasion, Children's Paintings contest is organised in which the children in the age group of 6-15 years are invited and the paintings are sent to IE NO HIKARI Association of Japan for the Annual World Children's Picture Contest.

Source: www.ncui.coop

NATIONAL AGRICULTURAL CO- OPERATIVE MARKETING FEDERATION (NAFED)

It is the apex body constituted with co-operative principles existing at the national level. It deals with procurement, distribution, export and import of selected agricultural commodities. It promotes inter – state as well as foreign trade of farm commodities. The main export commodities are onions, chillies, ginger, garlic, cardamom etc. Export of pulses, groundnut, onion and potatoes is mainly canalized through NAFED in the country. It further undertakes the movement of essential commodities from surplus areas to scarce areas. In the co – operative sector, NAFED is the central nodal agency for operating price support operations for pulses and

oilseeds. It undertakes market intervention operations for horticultural products like onions, potatoes, grapes, black pepper, red chillies, etc. In 1995-96 its turnover was more than Rs.870 crore. NAFED is exercising a healthy influence on market operations in stabilizing the market prices for favour of producers and consumers.

Other organizations working in co-operative sector at the national level are (1) National Co-operative Tobacco Growers Federation (NCTGF) (2) National Consumers Co-operative Federation (NCCF)(3) Tribal Co-operative Marketing Development Federations of India Ltd.(TRIFED).

NATIONAL CO- OPERATIVE DEVELOPMENT CORPORATION (NCDC)

It was set up in 1973 with a prime aim of planning and promoting programmes for production, processing and marketing of agricultural produce through co-operative societies. Of course, these commodities should be notified by the corporation before they are being marketed. The corporation supports various marketing programmes for which financial assistance comes from the respective state Governments. Co- operative marketing and processing activities are being developed under the supervision of NCDC with a provision of requisite financial assistance and expertise and training. NCDC is now extending its activities to the various areas of co-operative dairies, fisheries, minor forest produce, etc., which are basically aimed at economic development of the rural poor. Since its inception i.e., from 1963 up to 1996, it has provided financial assistance to the tune of Rs. 2,800 crore besides striving hard for the development of co-operative marketing, storage. Processing and distribution of consumer goods.viz. Food grains, sugar, edible oils, kerosene, salt, soft drinks etc., through services co-operative.

NAFED

Natioanal Agricultural Co-operative Marketing Federation

At the national level the Natioanal Agricultural Co-operative Marketing Federation(NAFED) was established in October 1958. The state level marketing federations and National Co-operative Development Corporation are its members. The head branch office are located at Mumbai. Calcutta and madras. NAFED are operation extends to the whole country. It has established branches in all major part town and capital cities of the country.

Objects:

1. To coordinate and promote the marketing and trading activities of the affiliated co-operative institutions
2. To make arrangement for the supply of Agricultural input required by member institutions.
3. To promote inter state and inter national trade in Agricultural and other activities.
4. To act as an agent of the Government for the purchase, sale, storage and distribution of agricultural products and inputs.

Activities;

1. Inter state trade
2. Export of Agric. Product
3. Import Agric. Product
4. Maintain expert staff which conduct market studies.

NCUI

National Co-operative Union of India

The National Cooperative Union of India, (NCUI) is the apex organisation representing the entire cooperative movement in the country. It was established in 1929 as All India Cooperative Institutes Association and was re-organised as Indian Cooperative Union through the merger of Indian Provincial Cooperative Banks' Association with All India Cooperative Institutes Association and later in 1961 as National Cooperative Union of India. The National Cooperative Union of India has travelled a long way since then to now emerged as the sole representative of the Cooperative movement in the country. Being the apex organisation of the Indian cooperative movement in the country, the NCUI is committed to lend dynamism and vibrancy to the cooperative sector in the twenty first century. To make the voice of cooperation as strong as ever is NCUI's supreme motto.

Objectives

The objectives of the Union are “to promote and develop the cooperative movement in India, to educate, guide and assist the people in their efforts, to build up and expand the cooperative sector and to save as an exponent of cooperative opinion in accordance with cooperative principles”. In furtherance of these objectives, the Union may either by itself or in collaboration with other cooperative institutions :

- Express opinion on matters of cooperative policy and act as the accredited representative of the Indian Cooperative Movement in the national and international spheres;
- Organise cooperative education and training programmes and popularise the principles and practices of cooperation;
- Organise, conduct, collaborate and assist in carrying out research, investigations of cooperative problems and formulation of projects for cooperative development;
- Arrange for the production and publication of literature and audio-visual aids including films, filmstrips on cooperation and allied subjects;
- Give publicity to the achievements of cooperatives through periodicals, journals, newspapers, pamphlets, brochures, books, films, broadcasts, T.V. and the like for creating favourable atmosphere for the development of the cooperative movement;
- Maintain an information bureau and a library;
- Convene and hold the National Cooperative Congress and Co-operative Seminars, Meetings, Conferences, Exhibitions etc.;
- Select delegates, representative and observes on behalf of the Union for participation in the International, National and State Conferences;
- Facilitate the promotion of cooperative institutions and assist the member societies in resolving their problems and difficulties and formulation of programmes and their implementation and preserve and safeguard the democratic character of the cooperative movement in the country;
- Confer/honour on the eminent cooperators;
- Promote international co-operative relations through active collaboration with ICA, UNO, FAO, ILO, UNDP, UNIDO and other international agencies involved in cooperative development;
- Help, promote international marketing on cooperative to cooperative basis by documenting necessary information and to act as nodal agency for the benefit of Indian Cooperative Movement; and
- Provide consultancy services to the cooperatives.

The Functioning

The working of NCUI reflects the democratic yearnings of the cooperators and the cooperative institutions involved in cooperative development. The membership of NCUI is broad-based comprising of cooperative institutions at national level, state level and multi-state cooperative societies representing all sectors of the Indian cooperative movement. At present, there are 207 institutions which are members of NCUI.

The supreme authority of NCUI vests with its General Body which meets once in a year to decide the policy and programmes for cooperative development and also elects the Governing Council of NCUI once for a period of five years. The Governing Council meets once in every quarter and functions through the Executive Committee and other functional committees. The President is the head of the organisation and is supported by the Chief Executive who operates through various functional divisions of the NCUI Secretariat.

ICA

International Co-operative Alliance

The International Co-operative Alliance is a non-profit international association established in 1895 to **advance the co-operative model**.

The Alliance is the **apex organisation for co-operatives worldwide**, representing 313 co-operative federations and organisations across 109 countries (figures of June 2018). The members of the Alliance are national level co-operative federations, individual co-operative organisations and government offices concerned with co-operatives.

One in every six people on the planet are co-operators. Through its membership, the Alliance represents **1,2 billion people from any of the 2.6 billion co-operatives** worldwide.

The International Co-operative Alliance works with global and regional governments and organisations to **create the legislative environments that allow co-operatives to form and grow**. Find out more about our global advocacy [here](#).

Towards the public, the Alliance promotes the importance of the **co-operatives' values-based business model**. The Alliance has made available its global strategy for co-operatives to become the fastest growing form of enterprise by 2020, in the [Blueprint for a Co-operative Decade](#).

Yearly, the Alliance publishes the [World Co-operative Monitor](#), the index of the world's largest co-operative and mutual enterprises. The Monitor demonstrates the economic impact of co-operative enterprises worldwide. The sixth edition of the World Co-operative Monitor has revealed a **global turnover of 2.1 trillion USD** for the world's top 300 co-operatives. Co-operatives generate partial or full-time employment for at least 280 million individuals worldwide, either in or within the scope of co-operatives, making up almost **10% of the entire employed population**.

Alliance regional offices

Operating from a global office in Brussels, Belgium, the Alliance is organised with four Regional Offices:

Alliance sectoral organisations

The Alliance further has eight Sectoral Organisations:

- Banking
- Agriculture
- Fisheries
- Insurance
- Health
- Housing
- Consumer Co-operatives
- Industry and Services

Strategic plan 2010-2020

The [Blueprint for a Co-operative Decade](#) is the Alliance's global strategy for co-operatives across sectors and regions to make co-operatives:

1. the acknowledged leader in economic, social and environmental sustainability;
2. the model preferred by people;
3. the fastest growing form of enterprise by 2020.

The Blueprint rests on 5 Pillars where game-changing strategies are necessary in order to meet the goals of the decade. These are:

- Participation
- Sustainability
- Identity
- Legal Frameworks
- Capital

Each Pillar has its own specific objective, which co-operatives should aim to achieve if the global co-operative movement is to achieve the goals of the decade. The Alliance continuously establishes initiatives that facilitate meeting these goals:

- Elevate participation within membership and governance to a new level;
- Position co-operatives as builders of sustainability;
- Build the co-operative message and secure the co-operative identity;
- Ensure supportive legal frameworks for co-operative growth;
- Secure reliable co-operative capital while guaranteeing member control.

NCDC

National Co-operative Development Corporation

National Cooperative Development Corporation राष्ट्रीय सहकारी विकास निगम

Formed	1963

Jurisdiction	India
Headquarter	New Delhi
Minister	Radha Mohan Singh , Minister of Agriculture
Managing Director	Shri Sundeep Kumar Nayak, IAS (2017-incumbent)
Ministry	Ministry of Agriculture & Farmers Welfare
website	[http://www.ncdc.in/ www.n  Contents 1Functions 2Organisation & Management 3References 4External links Functions[edit] Planning, promoting and financing programmes for production, processing, marketing, storage, export and import of agricultural produce, food stuffs, certain other notified commodities e.g. fertilisers, insecticides, agricultural machinery, lac, soap, kerosene oil, textile, rubber etc., supply of consumer goods and collection, processing, marketing, storage and export of minor forest produce through cooperatives, besides income generating stream of activities such as poultry, dairy, fishery, sericulture, handloom etc. NCDC Act has been further amended which will broad base the area of operation of the Corporation to assist different types of cooperatives and to expand its financial base. NCDC will now be able to finance projects in the rural industrial cooperative sectors and for certain notified services in rural areas like water conservation, irrigation and micro irrigation, agri-insurance, agro-credit, rural sanitation, animal health, etc. Organisation & Management[edit] The Management vests in 51 member widely represented General Council to give shape to its policies and programmes and Board of Management with 12 members to cater to day-to-day activities. Besides its Head Office, NCDC functions through 18 Regional/State Directorates. The Managing Director is the Chief Executive. Various

functional divisions look after the programmes. The field offices play an important role in project identification/formulation and oversee its implementation. NCDC is endowed with in-house technical and managerial capabilities in the areas of Cooperation, Organisation & Methods, Financial Management, Management Information Systems, Sugar, Oilseeds, Textiles, Fruits & Vegetables, Dairy, Poultry and Live stock, Fishery, Handlooms, Civil Engineering, Refrigeration and Preservation to help cooperatives to identify/formulate projects and successfully implement them.

Currently[when?] it has eighteen Regional Directorates at Bengaluru, Bhopal, Bhubaneswar, Chandigarh, Chennai, Dehradun, Gandhinagar, Guwahati, Hyderabad, Jaipur, Kolkata, Lucknow, Patna, Pune, Raipur, Ranchi, Shimla and Thiruvananthapuram to provide the financial assistance to Cooperatives/Societies/Federations.[1]

Ag. Econ. 3.2

Q.1 Define Co-operation. Explain Co-operative principles in detail.

Q.2 Define Credit. Give the classification of credit in detail.

Q.3 Credit institution in agriculture.

Q.4 Explain 3 Rs of credit.

Q. 5 Explain 7 Ps of credit.

Q. 6 Explain rural indebtedness in detail.

Short notes:

1. Single window system	2. NABARD
3. RRB	4. RBI
5. Payback period	6. KCC
7. Nationalization of bank	8. Amortized decreased or even R. P.

Do as directed:

1. Write the objectives of Nationalization of bank.
2. List out the factors influencing the scale of finance.
3. List out the advantages and limitations of crop insurance.
4. Functions of PACS under single window system.
5. List out the primary and secondary principles of Co-operation.
6. Give the suggestions made by the Mac Lagan for effective functioning of co-operative societies.
7. List out the objectives of RRB/ NABARD.
8. List out the characteristics of good agril. Credit.
9. Give the malpractices followed by Money Lenders.
10. Give the functions of PLDs.
11. Enlist the causes for poor repayment capacity.
12. Enlist measures to strengthen the repayment capacity.
13. Give the sources of risk in farming.
14. List out the measures to strengthen the risk bearing ability of farmers.
15. Enlist five Cs of credit & explain any one in detail.
16. List out the name of the banks nationalized during second phase.
17. List out the four phases of Co-operative movement during pre-independence era.
18. Give the formula of NPW, IRR and Payback period.
19. List out the merits and de-merits of NPW.
20. List out the merits and de-merits of Payback period.

Define / Explain

1. Agril. Finance	2. Credit	3. Production loan	4. Marketing loan
5. Short term loan	6. Long term loan	7. Medium term loan	
8. Chattel loan	9. Co-operation	10. Collateral Security	

Give the full form of the following:

1. During first phase of nationalization fourteen banks were nationalized each having deposits of more than 50 Crores on 19th July, 1969.

2. During second phase of nationalization six banks were nationalized each having deposits of more than 200 Crores on 15th April, 1980.
3. RRBs came into existence on 2nd October, 1975.
4. The operational areas are to be covered by each RRB varies from one to two districts for efficient functioning.
5. The main function of RRB is to grant the loans and advances particularly to small and marginal farmers, agril. Labourers etc. within the operational area of the RRB.
6. The RBI was established in the year 1935.
7. World Bank (IBRD) was established in the year 1945.
8. NABARD came into existence on 12th July, 1982.
9. The single window system is a three tier structure in co-operative credit and two tier structure in co-operative marketing.
10. GIC first introduced the crop insurance scheme in 1973 in selected centers of Gujarat and it implemented for only cotton H₄.
11. In the year 1985, Comprehensive Crop Insurance Scheme (CCSI) was introduced by GIC in all the states.
12. Eighty percent of the average annual yield of the crop in a given area over the last previous five years is considered as a threshold yield of the crop in the area.
13. RKBY was introduced in the year 1999 under the NAIS.
14. Under the NAIS, premium rates are 3.5 per cent of sum insured for Bajra and Oilseeds, 2.5 per cent for other Kharif crops, 1.5 per cent for wheat and 2.0 per cent for other Rabi crops.
15. In Amortized Decreased Repayment Plan, the principal component remains constant over the entire repayment period, while interest part decreases continuously.
16. In Amortized Even Repayment Plan, the annual installment over the entire loan period remains the same, while the principal portion of the installment increases continuously.
17. In variable repayment plan various level of installments are paid by the borrower over the loan period.
18. Repayment of loan is made by the borrowers in areas which are subject to high income variability of farms through a reserve repayment plan.
19. RRB is also called Gramin Bank.
20. Initially five RRBs first opened in the country.
21. The Government of India introduced Kisan Credit Card scheme by banks during 1998-99 and it was designed by NABARD.
22. The aim of KCC is to provide adequate and timely support from the banking system to the farmers for their short term production credit needs in cultivation of crops.
23. The KCC should normally valid up to three years and subject to annual review.
24. World Bank was established in the year 1945.
25. The Deposit Insurance Corporation came into existence on January 1, 1962.
26. Demand for credit in industry is directly related to the output.
27. Loan advances towards agriculture sector is increased as a result of nationalization of banks.
28. A slogan "*Find Raiffeissen*" was given by Frederick Nicholson.

XXXXXXXXXX

Chapter – 4

Introduction to Higher Financing Institutions

Reserve Bank of India (RBI)

The Reserve Bank of India (RBI) was established in 1935 under the Reserve Bank of India Act, 1934. Its headquarters is located at Mumbai.

The RBI was set up to

- Regulate the issue of bank notes
- Secure monetary stability in the country
- Operate currency and credit system to its advantage

The role of RBI in agricultural credit was found in the establishment of Agricultural Credit Department (ACD).

The primary functions of ACD are

- To coordinate the functions of RBI with other banks and state cooperative banks in respect of agricultural credit.
- To maintain expert staff to study all the questions of agricultural credit and be available for consultation by central government, state governments, scheduled commercial banks and state cooperative banks.
- To provide legislations to check private money lending and checking other malpractices.

All India Rural Credit Survey Committee (AIRCSC) under the chairmanship of Sri. Gorwala in 1954 suggested several recommendations with regard to the activities of RBI in the sphere of rural credit. Based on this, two funds were established after amending RBI act, 1934.

1. National Agricultural credit (Long-term operations) fund-1955:

It has started with an initial capital of Rs.10 crores and annual contribution of Rs.5 crores and later this was increased to Rs. 15 crores. This fund was meant to provide long-term loans to various state governments so as to enable them to contribute to the share capital of different types of cooperative

societies including Land Mortgage Banks (LMBs). Loans and advances out of this fund are made to state governments for a period not exceeding 20 years.

2. National Agricultural credit (Stabilization fund)-1956:

It was started with RBI's initial contribution of Rs.1 crore and subsequent annual contribution of Rs.1 crore. This fund is utilized for the purpose of granting medium-term loans to State Co-operative Banks (SCBs), especially during the times of famines, droughts and other natural calamities when they are unable to repay their loans to RBI.

The functions of RBI in the sphere of rural credit can be dealt with seen under three aspects:

1. Provision of finance
2. Promotional activities, and
3. Regulatory functions

Provision of Finance:

- Reserve Bank of India provides necessary finances needed by the farmers through the commercial banks, cooperative banks and RRBs on refinance basis.
- It advances long-term loans to state governments for their contribution to the share capital of the cooperative credit institutions like State Cooperative Banks (SCBs) and District Cooperative Central Banks (DCCBs).
- It advances medium-term loans to State Cooperative Banks.
- It extends refinance facility to the RRBs only to an extent of 50 per cent of outstanding advances.

Promotional activities:

Reserve Bank of India constitutes study teams to look into the organization and operation of the cooperative credit institutions all over the country. It also conducts number of surveys and studies pertaining to rural credit aspects in the country. The RBI felt that the cooperatives are the major force in the field of agricultural credit and hence following measures were framed for the strengthening of cooperatives.

- Reorganization of the state and central cooperative banks on the principle of one apex bank for each state and one central bank for each district.
- Rehabilitation of those central cooperative banks, which are financially weak due to mounting overdue, insufficiency of internal finances, untrained staff, poor management etc.
- Strengthening of PACS to ensure their financial and operational viability.
- Arranging suitable training programmes for the personnel of cooperative institutions.

Regulatory functions:

- Reserve bank of India is concerned with efficiency of channels through which credit is distributed.
- Banking Regulation Act, 1966 makes the RBI to exercise effective supervision over cooperative banks and commercial banks.
- As per the Credit Authorization Scheme (CAS) of 1976, the cooperative banks should get prior authorization from RBI for providing finances beyond a certain limit.
- The Cash Liquidity Ratio (CLR) and Cash Reserve Ratio (CRR) are fixed by RBI for cooperatives, Farmer's Service Societies (FSS), Regional Rural Banks (RRBs) and Agricultural Development Banks (ADB's) at lower levels than those fixed for commercial banks. For these cooperative banks the bank rate is 3 per cent less than that of commercial banks. They are permitted by RBI to pay 0.5 per cent higher rate of interest on deposits.

Asian Development Bank (ADB)

Asian Development Bank was conceived in the early 1960s as a financial institution that would be Asian in character and foster economic growth and cooperation in one of the poorest regions in the world. A resolution passed at the first Ministerial Conference on Asian Economic Cooperation held by the United Nations Economic Commission for Asia and the Far East in 1963 set that vision on the way to becoming reality. The Philippines capital of Manila was chosen to host the new institution, which opened on 19 December 1966, with 31 members that came together to serve a predominantly agricultural region. Takeshi Watanabe was ADB's first President.

A major landmark was the establishment in 1974 of the Asian Development Fund to provide low-interest loans to ADB's poorest members. By the end of the decade, some Asian economies had improved considerably and no longer needed ADB's assistance.

Asian Development Bank envisions a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty in the region. ADB in partnership with member

governments, independent specialists and other financial institutions is focused on delivering projects in developing member countries that create economic and development impact.

As a multilateral development finance institution, ADB provides:

- loans
- technical assistance
- grants

The clients of ADB are member governments, who are also the shareholders. In addition, ADB provide direct assistance to private enterprises of developing member countries through equity investments and loans.

ADB maximizes the development impact of its assistance by

- facilitating policy dialogues,
- providing advisory services, and
- mobilizing financial resources through cofinancing operations that tap official, commercial, and export credit source

To achieve its vision, ADB focus on seven operational priority areas. Support in these areas are delivered through both public and private sector operations, advisory services, and knowledge support. The areas are:

- addressing remaining poverty and reducing inequality
- accelerating progress in gender equality
- tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability
- making cities more livable
- promoting rural development and food security
- strengthening governance and institutional capacity
- fostering regional cooperation and integration

ADB raises funds through bond issues on the world's capital markets. ADB also rely on members' contributions, retained earnings from ADB's lending operations, and the repayment of loans. ADB also provide loans and grants from a number of special funds.

From 31 members at its establishment in 1966, ADB has grown to encompass 67 members—of which 48 are from within Asia and the Pacific and 19 outside. ADB's highest policy-making body is the Board of Governors, which comprises one representative from each member nation – 48 from the Asia-Pacific and 19 from outside the region. The Board of Directors is responsible for the direction of the general operations of the Bank. The Board

(i) takes decisions concerning policies of the Bank, and loans, guarantees, investments and technical assistance by the Bank,

(ii) approves borrowings by the Bank,

(iii) clears the financial accounts of the Bank for approval by the Board of Governors, and (iv) approve the budgets of the Bank.

The 12 Directors of the ADB Board of Directors are elected by the Board of Governors. Eight of the 12 are elected from within Asia and the Pacific and four others are elected from outside the region. The Board of Directors performs its duties full time at the ADB headquarters in Manila, Philippines. The President of ADB chairs the Board of Directors.

(Source: <https://www.adb.org/about/main>)

International Monetary Fund (IMF)

It was established on 27 December, 1945 as an independent international organisation and began its operations on 1 March, 1947 with headquarters in Washington D.C. Its relationship with the UN is defined in an agreement of mutual co-operation which came into force on 15 November 1947. The capital resources of the Fund come from Special Drawing Rights (SDRs) and currencies that the members pay under quotas calculated for them when they join the Fund.

The Fund is authorised under its 'Articles of Agreement' to supplement its resources by borrowing. In January 1962, a four year agreement was concluded with 10 industrial members (Belgium, Canada, France, Federal Republic of Germany, Italy, Japan, Netherlands, Sweden, UK and USA) which undertook to lend the Fund up to \$ 6,000 million in their own currencies. Switzerland subsequently joined the group. These arrangements, known as the General Agreement to Borrow (GAB) have been extended several times and the most recent five-year renewal ended in December 1993.

Purposes:

- (1) to promote international monetary co-operation, the expansion of international trade and exchange rate stability;
- (2) to assist in the removal of exchange restrictions and the establishment of a multi-lateral system of payments, and
- (3) to alleviate any serious disequilibrium in members, and international balance of payments by making the financial resources of the fund available to them.

Activities:

Each member of the Fund undertakes a broad obligation to collaborate with the Fund and other members to ensure the existence of orderly exchange arrangements and promote a system of stable

exchange rates. In addition, members are subject to certain obligations relating to domestic and external policies that can affect the balance of payment and the exchange rates. The Fund makes its resources available, under proper safeguards to its members to meet short-term or medium-term payment difficulties.

World Bank

The International Bank for Reconstruction and Development (IBRD) is an international organization established in 1945 and started its operations in the year 1946. It is the sister institution of another international financial agency, International Monetary Fund (IMF). The IBRD/world bank's main aim is to reduce the poverty by promoting sustainable economic development in member countries.

It pursues this goal primarily by providing loans, guarantees and related technical assistance for projects and programmes in its developing member countries. IBRDs objective is not to maximize profit, but to earn adequate net income to ensure its financial strength and to sustain its financial activities. The financial strength of IBRD is based on the support it receives from its shareholders and financial policies and practices adopted by it. The main activity of World Bank is to provide loans to the member- countries.

Functions of World Bank

Development Activities:

IBRD offers loans to its borrowing member countries to help meet their development need. It also provides technical assistance and other services to support poverty reduction in these countries.

Providing Loans:

Each loan must be approved by IBRD's executive directors. Apart from providing loans it also waives the loans under special circumstances i.e. occurrence of natural calamities. After providing loans, the appraisal of the projects is carried out by IBRD's operational staff comprising engineers, financial analysts, economists and other specialists.

Loan disbursements are subject to the fulfillment of conditions set out in the loan agreement. During the project implementation, IRDB staff with experience in the sector or the country involved periodically visit project sites to review progress, monitor compliance with IBRD policies and assist in resolving any problems that may arise.

After completion, projects are evaluated by an independent unit and the findings reported directly to the Executive Directors to determine the extent to which the projects major objectives were met.

Consultancy:

In addition to the financial help, IBRD also provides technical assistance to its member countries irrespective of loans taken from it or not. There is a growing demand from borrowers for strategic advice, knowledge transfer and capacity building.

Research and Training:

For assisting its member countries, the World Bank offers courses and training related to economic policy development and administration for governments and organizations that work closely with IBRD.

Trust–Fund Administration:

IBRD itself or jointly with International Development Agency (IDA), on behalf of donors restricts the use of funds for specific purposes only. The funds so obtained are not included in the list of assets owned by IBRD.

Investment Management:

IBRD provides investment management services for external institutions by charging a fee. The funds thus obtained are not included in the assets of IBRD.

Deposit Insurance and Credit Guarantee Corporation of India (DICGC)

The failure of two scheduled banks, viz., Palai Central Bank Ltd.(Kerala) and Laxmi Bank Ltd. (Maharashtra) in 1960 gave a rude shock to the stability of the banking system in the country. This forced RBI to frame legislative measures so as to arrest bank mortality and create confidence in depositors. In 1961, RBI formulated proposals for the establishment of Deposit Insurance Corporation (DIC) on the model of the Federal Deposit Insurance Corporation in USA. The Deposit Insurance Corporation bill was passed and the Corporation came into existence on January 1, 1962.

In order to provide safety to the banking system from risks involved in lending to priority sectors, the Government of India established Credit Guarantee Corporation of India limited (CGCI) in 1971. The CGCI is associated with Credit Guarantee Organization (CGO), set up in 1960 to provide guarantee in respect to lending to small-scale industries. Subsequently, in 1978 CGCI and CGO were merged with Deposit Insurance Corporation of India (DIC) and new institution by the name of Deposit Insurance and Credit Guarantee Corporation of India (DICGC) was established.

Role of the Corporation:

- The Corporation gives protection to the depositors particularly the small depositors, from the risk of loss of their savings in the event of a bank's failure; such protection increases the confidence of the depositors in the individual banks and reduces the occurrence of panicky withdrawals of deposits;
- The corporation contributes to the stability and orderly growth of the individual banks as well as collectively of the banking system; and
- It plays an active role in developing the banking habits of the people and ensures a larger mobilization of their savings.

DICGC is a wholly owned subsidiary of RBI with a paid up share capital of Rs. 50 crore, contributed entirely by RBI. The corporation maintains three funds viz., general fund, deposit insurance fund and credit guarantee fund. The share capital of the Corporation is held in the general fund and the administrative expenses are met from the interest from this fund. The deposit insurance fund is built up by the premium received from the insured banks and augmented by the interest earned on the fund investment. The deposit insurance fund is utilized exclusively for meeting the deposit insurance claims.

The credit guarantee fund is used for meeting the credit guarantee claims, among the guarantee schemes introduced by the Corporation. The small loan guarantee scheme, 1971, covers among others, the credit facilities granted by commercial banks and RRBs to farmers. The scheme covers advance granted to borrowers, undertaking various types of agricultural and allied activities such as raising of crops, poultry farming, dairy farming and animal husbandry. The guarantee cover has been varying from time to time. Currently the guarantee is provide at 60 per cent of the amount in default.

In 1982, the small loan (Co-operative Credit Societies) Guarantee Scheme was formulated with a view to providing guarantee cover for advance granted by co-operative credit institutions at the primary level for agriculture and allied activities.

Cost of Credit

The cost of credit is the additional amount, over and above the amount borrowed, that the borrower has to pay. It includes interest, arrangement fees and any other charges. Some costs are mandatory, required by the lender as an integral part of the credit agreement. Other costs, such as those for credit insurance, may be optional; the borrower chooses whether or not they are included as part of the agreement.

Microfinance

If one takes into account the definition, then microfinance means the provision of broad range of financial services such as deposits, loans, payment services, money transfers, and insurance to poor and low-income households, and their micro-enterprises.

There are three types of sources:

1. *Formal institutions, such as rural banks and cooperatives;*
2. *Semi-formal institutions, such as non-government organizations; and*
3. *Informal sources such as money lenders and shopkeepers*

The target groups for microfinance are generally marginalised sections of the society. They can be: poor women (widows, Scheduled castes/ scheduled tribes), women having low skill, women who want to start up (in group) with their own small scale enterprises such as soap industry, agarbatti etc. Microfinance initiatives can also target men.

The importance of trust (*which is an 'institutional' problem*) is of paramount importance in initiatives taken for microfinance. Often peer pressure acts as pressurising element to block the members from theft. However, agencies taking initiatives in microfinance can be more successful if they have taken community outreach programmes. Group discussions/ interface with the community becomes vital to 'know' the type/ kind of 'community', and their needs. Agencies can start with membership with token amount of donation. Work/ occupational pattern and income levels of the members should be known. Strategizing the goals for microfinance initiatives is vital.

Bank (commercial/ cooperatives)---> NGOs---> Target population (or SHGs)
NGOs (with support from donor agencies)---> Target Population (or SHGs)
Banks (commercial/ cooperatives)---> SHGs

For maximum impact, microfinance initiatives by NGOs can generally be taken in backward areas (*rural areas with low per capita income, areas with poor infrastructure, areas with high level of malnutrition among women and children, areas from where emigration takes place due to socio-*

economic distress, areas where people highly depend on primary sector for their livelihoods, urban slums). Such NGOs can work in co-operation with the community based organizations, political organizations, panchayats, govt. officials (*such as District Rural Development Agency*)etc. However, chances for effective intervention are high for those NGOs who have been attached to the ground/grassroots since a long duration. This does not mean that new entrants cannot succeed. For effective intervention, knowing the economic demands and occupation of the community members is of high importance. This can be done by going through group discussions, Participatory Rural Appraisals (PRAs) with the members. Area specific information on human development indicators from census, state Human Development Reports (HDRs), past studies can help in this regard. Instead of facilitating finance linkages only, there is need for building up strategies for social cohesion and empowerment. To prevent defaults, focusing not only on peer pressure but also generating mutual trust and respect is important, in the long run.

Lessons can be learnt from microfinance initiatives taken in other countries like Bangladesh. Monitoring and evaluation of initiatives can be done to check leakages of funds, corruption, and blurring of objectives.

One can go through case studies to know what kind of organization would be effective in microfinance. Some of the indicators can be looked at to cross check the success of microfinance initiative:

1. *Reduction in poverty level of the household/ members – movement from a Below Poverty Line (BPL) to Above Poverty Line (APL) household.*
2. *Rise in real income*
3. *Gender equality: literacy rate of female members, increase in child sex ratio of the intervened areas.*
4. *Rise in profits of the enterprises etc.*
5. *Sustainability of the MFIs in the long run—profits/ capital accumulated; reach of the MFIs etc.*

According to researchers, there exists lack of stable medium and long-term credit resources, which inhibit enterprises from investing in the productive and technological conversions for making them competitive. Microfinance can play a crucial role here. In many of the countries from South Asia formal financial system is plagued by inefficiency, ineffectiveness, and market failures. But there also co-exists the problem of moral hazards, which are mostly faced by the banks while lending. It is considered that microfinance institutions should target the poor since they have little or no access to credit and savings. However, the critiques say that microfinance does not have the ability to reach '*the poorest of the poor*'. There exists lack of consensus as to whether reaching the poorest should be ultimate goal of microfinance institutions since reaching out to the poor is a costly affair. The poorest of the poor need small individual loans with flexible repayment schedules, services, which are considered costly by the microfinance institutions. Instead of microfinance, there is need

for delivery of basic social services such as food, shelter, and sanitation to the poor, according to the critiques. Microfinance institutions can serve the poor in a better way only when their basic needs are taken care of by either a government service, or international relief and development organizations. Microfinance can serve the women who lack access to credit, skill and information to start up their own businesses. Capacity-building of women is needed before they are provided credit so that they become empowered and fight back gender injustice. According to feminists, the Structural Adjustment Programs (SAPs) initiated by the World Bank and the International Monetary Fund (IMF) for rescuing the heavily indebted countries have adversely affected the lives of women from the third world. SAPs consist of a set of policies and programs that include:

- *Severe cuts in government spending to balance federal budgets and reduce debt (both internal and external);*
- *Restrictive monetary policies created to control inflation (currency devaluations etc.)*
- *Privatization (de-industrialization) of government enterprises to increase the productivity and efficiency of private sector businesses*
- *A heavy emphasis on the export sector (agriculture and manufacturing) to foster international balances and increase foreign exchange reserves.*

It has been argued by the feminists that poverty alleviation models have overemphasized the importance of private funding and support. A shift has taken place from development as the responsibility of nation-states to development as the responsibility of the global community, including international markets, financial institutions, and private corporations and organizations. Microfinance industry is nowadays governed by the corporate barons and not by the government that relies upon the model of decentralization, self-employment, and individual entrepreneurship. Such a model relies on the strengths of individual women to help themselves, rather than focusing on structural changes in the economy.

Some pertinent questions:

- (i) Is HIV/ AIDS given more prominence over other diseases like malaria, typhoid, TB, cancer, hepatitis? Why?
- (ii) How far government and non-govt. programmes and organisations have helped in curbing the spread of HIV/ AIDS? Has there been enough evaluation and monitoring of the programmes done in this area to check the effectiveness and reach?
- (iii) Should family planning techniques like the use of condoms be delinked with the awareness generation campaign that using condoms reduces the risk of HIV/ AIDS, in order to provide a more rational model of capacity building? If there is such a link between the above, why is it so? Does this mean killing two birds with one bullet?

(iv) Should there be more focus on capacity building or pricing of ARV drugs?

There are three specific paradigms that link microfinance to women's empowerment:

I. Financial Self-Sustainability Paradigm: This paradigm is backed by international donor agencies such as USAID and CGAP. Its focus is to encourage and support financially self-sufficient microfinance programs with the goal of reaching the greatest number of end borrowers. This paradigm targets women since it assumes that women tend to have the highest repayment rates. It focuses on economic empowerment, the encouragement of self-employment and self-reliability, and individual initiative.

II. Poverty Alleviation Paradigm: This paradigm is inspired by interdisciplinary community development programs that are targeted at reducing poverty. The major policy focus is to use microfinance as one part of an integrated approach to alleviate poverty and improve the livelihoods of the poorest households. This paradigm targets women based on the belief that there are higher levels of poverty within the female population and women take part in unpaid domestic activities. This paradigm focuses on empowerment in terms of increased well-being, self-sufficiency, and community development.

III. Feminist Empowerment Paradigm: This paradigm is rooted in the international women's movement and is commonly found underlying the policies of many gender-oriented NGOs, which are run by feminists from elite backgrounds. It is the foundation for some of the earliest microfinance programs such as SEWA and WWF in India. This paradigm focuses on microfinance as a stepping stone for women to enter into social, economic, and political empowerment. Such NGOs target women in the name of gender equality and human rights. This paradigm focuses on empowerment in terms of a transformation of relationships of power throughout a society.

Ag. Econ.4.3
Agricultural Marketing, Trade and Prices (2+1)
(Theory Note)

Department of Agril.Economics
College of Agriculture
Navsari Agricultural University
Bharuch

Course Curriculum
Course No: Ag. Econ 4.3 Credit: 2 + 1 = 3
Course Title: Agricultural Marketing, Trade & Prices

Theory

Lecture No.	Title of the topic	Subject topics	Textbook/ Reference Book	Page Number
1,2,3	Agricultural marketing	Agricultural Marketing: Concepts and definitions of market, marketing, agricultural marketing, market structure	Reference Book 1	Page No.: 1-8, 21-24, 45-49
4		Market segmentation, classification and characteristics of agricultural markets	Reference Book 1 Reference Book 2	Page No.: 10-19, Page No.: 201-217
5	Demand, supply and producer's surplus of agril. commodities	Nature and determinants of demand and supply of farm products	Reference Book 1	Page No.: 24-33
6,7		Producer's surplus – meaning and its types, marketable and marketed surplus, factors affecting marketable surplus of agril.-commodities	Reference Book 1	Page No.: 51-57
8,9	Marketing mix (4 P's)	Product life cycle (PLC) and competitive strategies: Meaning and stages in PLC; characteristics of PLC; strategies in different stages of PLC	Reference Book 2	Page No.: 298-309
10		Pricing and promotion strategies: pricing considerations and approaches – cost based and competition based pricing	Reference Book 2	Page No.: 363-389
11		Market promotion – advertising, personal selling, sales promotion and publicity – their meaning and merits & demerits	Reference Book 2	Page No.: 471-497
12	Marketing process and functions	Marketing process-concentration, dispersion and equalization	Online Source-1	
13,14,15		Marketing functions; Exchange functions – buying and selling Physical functions – storage, transport and processing, Facilitating functions – packaging, branding, grading, quality control and labeling (Agmark)	Reference Book 1 Reference Book 2	Page No. 85-100, 103-104, 149-152, 349-360 Page No. 254-256,

16	Market functionaries and marketing channels	Types and importance of agencies involved in agricultural marketing	Reference Book 1	Page No. 205-210
17		Meaning and definition of marketing channel; number of channel levels; marketing channels for different farm products	Reference Book 1	Page No. 211-216
18	Market integration, efficiency and cost	Price spread: Meaning, definition and types of market integration	Reference Book 1	Page No. 428-431
19		Marketing efficiency; marketing costs, margins and price spread	Reference Book 1	Page No. 448-453
20		Factors affecting cost of marketing; reasons for higher marketing costs of farm commodities; ways of reducing marketing costs	Reference Book 3	Page No. 531
21	Role of Govt. in agricultural marketing	Public sector institutions- CWC, SWC, FCI	Reference Book 1	Page No. 130-136
22,23		CACP & DMI - their objectives and functions; cooperative marketing in India	Reference Book 1 Online Source-2,3	Page No. 405-408
24	Risk in marketing	Types of risk in marketing; speculation & hedging; an overview of futures trading	Reference Book 1	Page No. 188-196
25	Agricultural prices and policy	Meaning and functions of price; administered prices; need for agricultural price policy	Reference Book 1 Reference Book 3	Page No. 361-363 Page No. 622
26	Trade	Concept of International Trade and its need, theories of absolute and comparative advantage	Online Source-4	
27,28		Present status and prospects of international trade in agri-commodities; GATT and WTO	Reference Book 1	Page No. 531-534
29,30		Agreement on Agriculture (AoA) and its implications on Indian agriculture; IPR	Reference Book 1 Online Source-5	Page No. 534-538

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Agricultural Marketing

Concepts and Definition, Scope and Subject matter

Agricultural Marketing: Marketing is a critical to better performance in agric. as farming itself. Therefore market reform to be an integral part of any policy for agric. development. A considerable progress has been achieved in technological improvements in agric. by the use of high yielding varieties and chemical fertilizer.

Agricultural marketing was till recently not fully accepted as a credential element in agric. development in India. It occupies a fairly low place in agricultural development countries.

Concept & Definition:

The term agric. marketing is composed of two words agriculture & marketing.

Agriculture means activities aimed at the use of natural resources for human welfare i.e. all primary activities of production.

Marketing connects a series of activities involved in moving the goods from the point of production to the point of consumption. It includes all the activities involved in the creation of time, place, form and possession utility.

Form utility is imparted to commodity through processing; **Time utility** is added to commodity by the storage function. **Place utility** is created through transportation services as which when commodities are transferred from one person to another person in marketing channel through buying and selling activities, **possession utility** is imparted.

Objective, Scope & Subject Matter of Agric. Marketing:

The objective of the field of marketing can be examined from four angles viz. producers' interest, consumers' interest, traders interest & government role.

Farmers Interest: Farmers want the marketing system to purchase their produce without loss of time and provide maximum share in the consumer's rupee. They want to get input at cheaper rate and get higher price for their products.

Consumers Interest: Interest of consumers in a marketing system that can provide food and other items in the quantity and of the quality required by them at the lowest possible price.

Traders interest: They are interested in marketing system which provides them a steady and increasing income from the purchase and sale of agricultural commodities. It is possible that they purchase at lower price from farmers and sell at higher price.

Government: Above all three groups are indispensable to society. The Govt. has to act as watch dog to safeguard the interest of all the groups associated in marketing. They always wish to bring over all welfare to all the segments of society.

Agricultural Marketing concerned with the marketing of farm products and of farm inputs and services required by them in the production of farm

product. Thus the subject of agril marketing includes product marketing as well as input marketing.

As marketable surplus of the crops and other agril. commodities increased output marketing become more conspicuous. The market orientation of farming has increased.

Farmers in the past used farm sector inputs as local seeds and farm yard measure. Now a day the importance of farm inputs-improved seeds, fertilizers, insecticides, implements and credit in the production of farm products has increased. The new agril. technology is input -responsive. Thus, the scopes of agril marketing most include both product marketing and input marketing.

The subject matter of agril marketing has been dealt with both from the theoretical and practical point of view. It covers what the system is how it functions and how the given methods or techniques may be modified to get the maximum benefits.

Definition: Agril. Marketing is the study of all the activities, agencies and policies involved in the procurement of farm inputs by the farmers and the movement of agricultural products from the farms to consumers.

Importance of Agril. Marketing:

Agricultural marketing plays a important role not only in stimulating production and consumption, but in accelerating the pace of economic development.

The technological break through has led to a substantial increase in production and consumption through technological development, an assurance of remunerative price to the farmer is a pre-requisite. This assurance can be given to the farmer by developing an efficient marketing system.

The importance of agricultural marketing in economic development has been indicated in the following paragraphs.

1. Optimization of resources use and output management:

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

2. Increase in farm income:

An efficient marketing system ensures higher level of income for the farmers by reducing the number of middlemen or by restricting the commission on marketing services and malpractices adopted by them. An efficient

marketing system guarantees the farmers better prices of farm products and induces them to invest their surplus in the purchase of modern inputs to increase the production.

3. Widening of markets:

A well-knit marketing system widens the market for the products by taking them to areas far away from the production points. It helps in increasing the demand on a continuous basis, and thereby guarantees a higher income to the producer.

4. Growth of Agro based Industries:

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

5. Price signals:

An efficient system helps the farmers in planning their production in accordance the needs of economy. This work is carried out through price signals.

6. Adoption and spread of new technology:

The marketing system helps the farmers in the adoption of new scientific and technological knowledge.

7. Employment:

The marketing system provides employment to millions of persons engaged in various activities, such as packaging, transportation and processing. Persons like commission agents, broker's traders, retailers, weigh men, hamals and regular staff are employed in the marketing.

8. Creation of utility:

Marketing adds costs to the product, but the same time it adds utilities to the product. Four types of utilities are created by marketing.

- 1. Form utility:** The processing adds form utility to the product by changing the raw material into a more useful finished form. e.g. oil seeds are converted into oil, cotton into cloth.
- 2. Place utility:** Transportation adds place utility to products by shifting them to a place of need from the place of plenty.
- 3. Time utility:** The storage function adds time utility to the products by making them available at the time of when they are needed.
- 4. Possession utility:** The marketing function buying and selling helps in the transfer of ownership from one person to another.

NEW EMERGING PROBLEMS OF AGRICULTURAL MARKETING IN INDIA

The Rapid development in the agricultural research and the introduction of technological innovation, viz., high yielding varieties, improved agricultural implements, fertilizers and pesticides in the recent past, have brought about a breakthrough in Indian agriculture. This breakthrough popularly known as green/ white/ yellow/blue revolutions, has given rise to new problems in agricultural marketing. It is essential to maintain the tempo of these revolutions. The farmer should be assured of a fair price for their produce, failing which they may lose incentive to increase the agricultural production. There is an urgent need in the present context for tackling the emerging problems of agricultural marketing more resolutely and efficiently than ever before. The important problems which have emerged in the recent past pertain to the following areas:

(i) Increased in production levels and Market arrivals

With the increased market arrivals, it is necessary that a large number of market yards should be developed in rural areas with all the necessary marketing facilities. Without spacious market yards, it is not possible to centralise and effectively supervise the transactions taking place in the area. The development of spacious market yards is also essential to perform various marketing functions such as, grading, cleaning, sieving and weighing of agriculture produce.

Presently, most of the markets do not have spacious market yards and transactions carried out on in congested areas in the centre of the city. Recently, some market committee constructed spacious market yards; but majority of market committees do not have them because of paucity of funds and non availability of land.

(ii) Price Instability

Agricultural prices are very instable and fluctuate violently. These prices fall in the post-harvest months and increase later in the year. The increasing instability in agricultural prices adversely affects the income of farmers as well as the tempo of increasing production. There is, therefore, a need to reduce the price instability. Several steps may be taken for farmer to get better share in consumer's rupee. Some of the steps to check the price instability are: fixation of minimum support price of the crops by the government; purchase of commodities if market price falls below that level and development of warehousing facilities to check post harvest sales among the farmers.

(iii) Market Intelligence

Market intelligence is another problem that has emerged and is an important adjunct of orderly marketing. With the increased marketed surplus and opening up of trade, the importance of marketing intelligence has increased. Farmers market the produce in the village and nearby assembling market out of their ignorance of the price prevailing in the nearby primary wholesale, secondary wholesale and terminal markets. Traders take advantage of the ignorance of the farmer because they have full knowledge of prices prevailing in the market.

(iv) Marketing of Agricultural Inputs

The marketing procedure of agricultural inputs has to be improved. This is most essential in the present context of the use of new technology. The new –evolved HYV seeds are more responsive to other inputs, and arrangements for their timely availability are a prerequisite for the success of the programmes of agricultural development.

(v) Ancillary Facilities in the market

The existing markets lack the ancillary facilities, which banks, a post office, telegraph office and shopping centres. Also the facilities of sorting, grading and packing in the villages or primary markets are not available. These should be increased to provide full benefits to the farmers.

(vi) Finance for Market Development

Market development with all the ancillary facilities is highly capital-intensive and return on investment in it accrues slowly over a period of year. For market development, a special arrangement for financing is necessary.

(vii) Education of Farmers

It is equally necessary to educate the farmer in marketing of agricultural produce so that they may derive necessary benefits of their activities. Without proper education, benefits cannot reach to the farmers fully. These are more so in the present context with the availability of increased marketed surplus with producer-farmer.

(viii) Superfluous Middlemen

Since the farmer sells a substantial portion of his produce in the village and nearby markets, there is always intervention of a number

of middlemen between him and the consumer and naturally share of consumer's price received by the producer's is reduced.

(ix) Inadequate Storage and Transportation Facilities

There is general inadequacy of good storage facilities both in rural and urban areas. The indigenous methods of storage adopted by in village do not adequately protect the produce. As the result physical loss goes on increasing if the period of storage lengthened.

With the rise in production and marketed surplus, farmers and traders are faced with the problem of adequate and quick means of transportation of the produce at the village level inter market and interstate level.

(x) Bulkiness and Perishability of the produce

Compare to other products, agricultural products are bulkier in nature. Bulkiness affects marketing functions concerned mostly with physical handling. Further, the products that occupy a lot of space in relation to their value automatically raise unit transportation and storage costs.

In relation to other products, agricultural products by nature are perishable. These perishable products require speedy handling and often special refrigeration which raises the cost of marketing.

MARKET

Meaning & Definitions, Components of a Market and Classification

Market: - A market is the areas within which the forces of demand and supply converge to establish a single price.

The term market means not a particular market place in which things are bought and sold but the whole of any region in which buyers and sellers are in such a free intercourse with one another that the prices of the same goods tend to equality, easily and quickly.

Classification of markets:

1. On the basis of location:

1) Village markets: 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.

2) Primary wholesale markets: These markets are located in big towns near the production centers. In these markets, a major part of the produce is brought for sale by the farmers themselves. Transaction in these markets usually takes place between the farmers and traders.

3) Secondary wholesales markets: these markets are located generally at district headquarters or important trade centre of near railway junction. The major transactions in commodities take place between the village traders and wholesalers or between wholesaler's retailers. The bulk of the arrivals in these markets is from other markets. The produced is handled in large quantities and specialized operations become necessary for the performance of different services viz. storage, handling and banking. Etc.

4) Terminal markets: A terminal market is one where the produce is either finally disposed off to the consumers or processors, or assembled for export. Merchants are well organized and use modern methods of marketing. Such markets are usually at the

ports, which possess sufficient warehousing and storage facilities and cover a very wide area extending over even a state or two.

5) Seaboard markets: which are located near the seashore and are meant mainly for the import/export of goods is known as seaboard markets. E.g. Bombay, Madras, Calcutta.

2. On the basis of area/coverage:-

On the basis of the area from which buyers and sellers usually come for transactions, market may be classified as.

1. Local or village markets: Buying and selling among the buyers and sellers are done from the same village or nearby villages. They exist mostly for perishable commodities in small lots e.g. local milk market, vegetable market.

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

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

4. World markets: A market in which the buyers and sellers are drawn from the whole world. These markets exist in the commodities which have a world wide demand and / or supply, such as coffee, agric. machinery. Gold etc.

3. On the basis of time:

1) **Short period markets:** These are held only for a few hours. The products dealt in these markets are of a highly perishable nature, such as fish, vegetables, and milk. In these markets, the prices of commodities are governed by the extent of demand, rather than by the supply of the commodity.

2) **Long period markets:** These are held for a longer period than the short period market; the commodities traded in these

markets are less perishable and can be stored for some time.
E.g. food grains and oilseeds.

- 3) **Secular markets:** These are markets of a permanent nature. The commodities trades are durable in nature and can be stored for many years. E.g. agril. Machinery fertilizer etc.

4. On the basis of volume of transactions:

- a) **Wholesale markets:** A wholesale market is one which commodities are bought and sold in large lots or in bulk. Transaction in these markets is take place mainly between traders.
- b) **Retail Markets:** A retail market is one in which commodities are bought by and sold to the consumers as per their requirements. Transactions take place between retailers and consumers. The retailer purchase in wholesale markets and sell in small lots to the consumers. They are near to the consumers.

5. On the basis of nature of transaction:

- 1) **Spots or cash markets:** A market in which goods are exchanged for money immediately after the sale.
- 2) **Forward markets:** A market in which the purchase and sale of a commodity takes place at time 't' but the exchange of the commodity take place on some specified date in future i.e. t+1. Sometimes the difference in the purchase and sale prices are paid or taken. E.g. groundnut oil market.

6. On the basis of number of commodities in which transaction takes place:

- 1) **General market:** A market in which all types of commodities, such as food grains, oilseeds, fiber crops, gur. Are bought and sold is known as general markets.

- 2) **Specialized markets:** For every group of commodities, separate markets exist. The examples are food grain markets, vegetable markets, wool market, and cotton market.

7. On the basis of degree of competition:

- 1) **Perfect markets:** A perfect market is one in which the following conditions hold good.
- 1) There are a large number of buyers and sellers.
 - 2) All the buyers and sellers in the market have perfect knowledge of demand, supply and prices.
 - 3) Prices at any one time are uniform over an area + or - the cost of transportation.
 - 4) The prices of different forms of a product are uniform + or - the cost of processing.

Shape of demand curve in pure / perfect competition.

Average revenue curve (AR) or demand curve of a firm is a horizontal straight line it means that any firm can sell any qty. at the prevailing price.

A market is said to be imperfect when some buyers or sellers or both are not aware of the offers being made by others. Therefore, different prices are paid for the same commodity at the same time in an imperfect market.

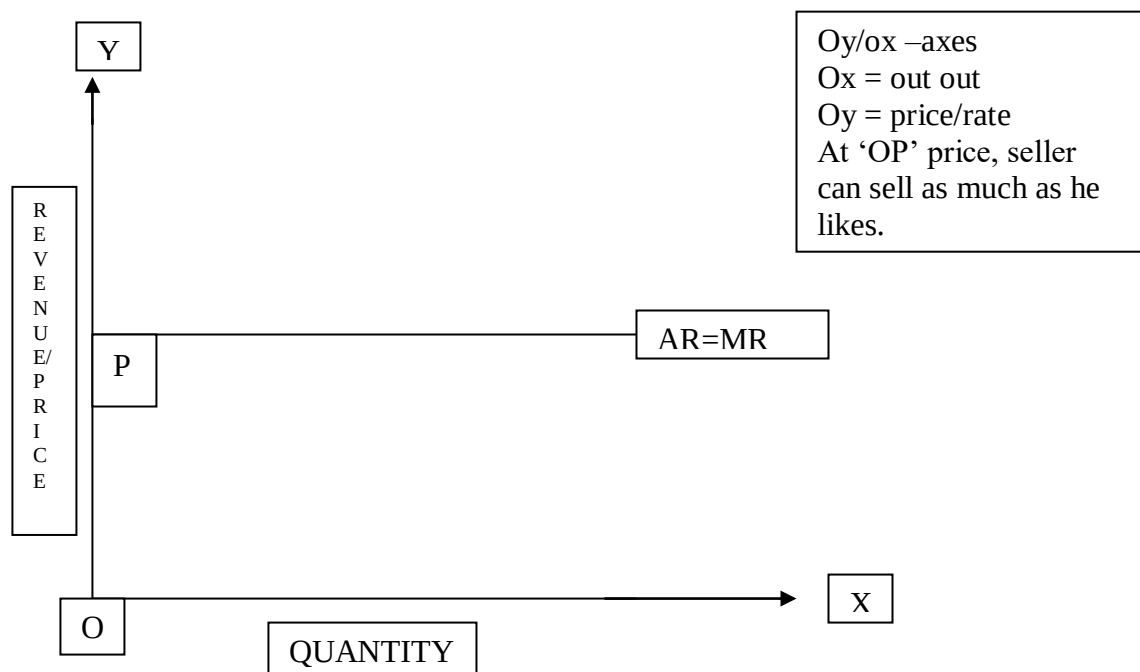


Fig. : Average revenue curve or sales curve of a firm under perfect competition

e.g. farm products, wheat, rice, Bajra, Cotton.

- Firms will be making just normal profit. In perfect competition purchaser & seller is so small relative to the entire market that he cannot influence the market price by increasing or decreasing his purchases or his output.

Thus the prevalence of the same price for the same commodity at the same time is the essential characteristics of a perfect market.

(2) Imperfect competition:

A market is said to be imperfect when some buyers or sellers or both are not aware of the offer being made by others. Therefore different prices prevail for the same commodity at the same time in a imperfect market

Imperfect competition is of three forms

- (a) Monopolistic competition
- (b) Oligopoly
- (c) Monopoly

(a). Monopolistic competition :

When a large number of sellers deal in heterogeneous and differentiated form of a commodity, the situation is called monopolistic competition.

Main features:

1. No. of sellers are not large
2. Products are heterogeneous – different branded tractor.
3. Either in ignorance or on account of transports cost or lack of mobility of the factors of production, same price does not rule.
4. AR or MR or Price curve is not a horizontal but downward
5. Demand for the product is not perfectly elastic; it is responsive to changes in price. The products are not complete substitutes for one another, but they are close substitutes.

(b).Oligopoly: (Perfect oligopoly & Imperfect oligopoly)

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 oligopsony market.

eg.-Toothpaste producers

In perfect oligopoly homogenous commodity.

In imperfect oligopoly commodity is heterogeneous.

(c) Monopoly:

Monopoly is a market situation in which there is only one seller of a commodity. The price of a commodity is generally higher than in other markets. Indian farmers operate in monopoly market when purchasing electricity for irrigation. When there is only one buyer of a product the market is termed as a **monopsony market**.

There are no substitutes for his product. He controls the entire supply and he can fix the price. In monopoly, there is no need to differentiate products because no close substitutes are available

It is one product, homogenous and completely under the control of the monopolist. Average revenue is the revenue per unit of the commodity sold.

The average revenue (AR) curve (or demand curve) always slopes downwards to the right as in monopoly competition, but it is less elastic in monopoly than in monopolistic competition

Total average and marginal revenue schedules.

No. of units sale	Price or Average revenue	Total revenue AR* Quantity sale	Marginal Revenue (addition made to total revenue.)	
1	22	22	22	
2	21	42	20	(42-22)
3	20	60	18	(60-42)
4	19	76	16	(76-60)
5	18	90	14	(90-76)
6	17	102	12	(102-90)
7	16	112	10	(112-102)
8	15	120	8	(120-112)
9	14	126	6	(126-120)
10	13	130	4	(130-126)

Total Revenue

AR = -----

No. of unit sold

Average revenue (AR) curve of the firm is really the same thing as demand curve of the consumer

On the other hand marginal revenue at any level of firm's output is the net revenue earned by selling another (additional) unit of the product.

The MR can also be directly found by taking out the difference between the total revenues before and after selling the additional unit.

MR= Difference in total revenue in increasing the sale from n-1 to n units

(i) Total revenue = price x quantity

$$TR = P \times Q$$

Total Revenue

(ii) Average Revenue = -----
Quantity

$$AR = \frac{TR}{Q}$$

(iii) Marginal Revenue = $\frac{\text{Change in total revenue}}{\text{Change in quantity}}$

$$MR = \frac{\Delta TR}{\Delta Q}$$

By converting the schedules of AR given in table along side into curves, we get two downward sloping curves and find that marginal revenue curve is below average revenue curve, because a falling price must mean some loss on the sale of additional supply. When competition is perfect, the Average revenue curve of the firm is a horizontal straight line, because additional units are sold at the same price as before

2) Imperfect markets: The markets in which the conditions of perfect competition lacking are known as imperfect markets. They may be

- 1) **Monopoly market:** A market situation in which there is only one seller of a commodity. He has sole control over the supply or price of a commodity. The price of commodity is generally higher than in other markets. Indian farmers operate in monopoly market when purchasing electricity for irrigation. When there is only one buyer it is termed as a monopsony market.
- 2) **Duopoly market:** A duopoly market is one which has only two sellers of commodity. They mutually agree to charge a common price which is higher than the price in a perfect market. eg. fertilizer companies
- 3) **Oligopoly market:** A market in which there are more than two but still a few sellers of a commodity is termed as oligopoly market. eg. insecticide/pesticide companies
- 4) **Monopolistic competition:** When a large number of sellers deal in heterogeneous and differentiated form of a commodity, it is called monopolistic market. The difference is made conspicuous by different trade marks on the product. Different prices prevail for the same basic product. For example farmers

have to choose between various makes of insecticides, fertilizers and equipments.

8. On the basis of extent of public intervention:

- 1) **Regulated markets:** Markets in which business is done in accordance with the rules and regulation framed market organization and represent different sections involved in markets. The marketing costs in such markets are standardized and practices are regulated.
- 2) **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, such as unauthorized charge for marketing functions.

9. On the basis of visibility:

- 1) **Black market:** In black markets, scarce commodities are sold at a very high price not openly but in a secret manner. Black market is an anti-social activity which gives way to black money.

MARKET STRUCTURE

The term structure refers to something that has organization & dimension – shape, size and design, and which is evolved for the purpose of performing a function **or** It refers to the size & design of the market.

Market structure refers to those organizational characteristics of a market which influence the nature of competition and pricing, and affect the conduct of a business firms.

Market structure to those characteristics of the market which affect the trader's behavior and their performances.

Components of Market Structure:

The components of the market structure, which together determine the conduct and performance of a market, are

1. **Concentration of Market Power:** It measured by the number and size of firms existing in the market. The export of concentration represents the control of an undivided firm or a group of firms over the buying and selling of the produce. A higher degree of market concentration restricts the movement of goods between buyers and sealers at fair & competitive prices, and creates an oligopoly or oligopsony situation in the market.
2. **Degree of Product Diffractions:** It the products are homogonous, the price variations in the market will not be wide. When products are heterogeneous, firms have the tendency to charge different prices for their products.
3. **Conditions for Entry of Firms in the Market:** Some times a few big firms do not allow new firms to enter the market.
4. **Flow of Market Information:** A well organized market intelligence information system helps all the buyers and sellers to freely interact with one another in arriving at prices and striking deals.
5. **Degree of Integration:** The behavior of an integrated market will be different from that of a market where there is no integration either among the firms or of their activities. The structural characteristics of the market

govern the behavior of the firms in planning strategies for their selling and buying operations.

- **The type of market structure depends on the degree of competition prevailing in the market.**

Classification of Market Structure:

Market Structure	Number of Firms or producers or sellers	Degree of Product Differentiation	Firm's degree Of control over Price	Part of Economy where Prevalent
1. Perfect-Competition	Many sellers	Homogeneous Product	No control Over price	Farm Commodities
2 Imperfect Competition				
a. Monopolistic competition	Many sellers	Differentiated Product	Some control Over price	Retail trade
b. Pure oligopoly	Few sellers	Homogeneous Product	Some control Over price	Steel, Chemicals, etc.
c. Differentiated oligopoly	Few sellers	Differentiated Product	Some control Over price	Automobiles, Computers, etc.
d. Monopoly	One seller	Product with No close substitutes	Control over price	Railway Post, electricity etc.

(1) Perfect competition or pure competition:

A market is said to be perfect when all the potential sellers and buyers are promptly aware of the prices at which transactions take place and all the offers made by other sellers and buyers and when any buyer can purchase from any seller and conversely.

Conditions of perfect competition:

- (a) **Large number of buyers & sellers:**

No individual purchaser can influence the market price by varying his own demand and no single firm is in a position to affect the market price by varying its own output.

- (b) **Homogenous product:** When the quality is the same, the commodities are perfect substitutes for one another & their cross elasticity is infinities. If firm raises its price, it will lose all customers
- (c) **Free entry or Exit:** There is no restrictions' on the entry or exists of firms from the trading.
- (d) **Perfect Knowles:** Both buyers and sellers are aware of the nature of product and prevailing market price. Therefore, no buyer will offer a price higher than the prevailing one and no seller willing to sell the product at the price, lower than the prevailing one. As a result, single price for the product prevails in the market.
- (e) **Absence of transport cost:**
- (f) **Perfect mobility of the factor of production:**

(2) Imperfect competition:

A market is said to be imperfect when some buyers or sellers or both are not aware of the offer being made by others. Therefore different prices prevail for the same commodity at the same time in an imperfect market

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There are no substitutes for his product. He controls the entire supply and he can fix the price. In monopoly, there is no need to differentiate products because no close substitutes are available.

CHARACTERISTICS OF AGRICULTURAL COMMODITIES

Agricultural commodities have special characteristics' that are different from industrial goods and due to these the subject of agricultural marketing is treated in isolation. These characteristics bring changes in the supply and demand pattern.

- (1) **Seasonality of Agricultural production:** Over the length and breadth of the country agricultural production is subjected to change based on rainfall distribution and availability of irrigation facilities.
- (2) **Perishability of the product:** Most of the farm products are perishable in nature; but the period of their Perishability varies from a few hours to a few months. Their Perishability makes it almost impossible for producers to fix the reserve price for their farm products. The supply of agricultural products is irregular; the prices of the crop therefore fluctuate both during the year and from year to year. The extent of Perishability of farm products may be reduced by the processing function.
- (3) **Bulkiness of Agricultural Products:** It adds to the transportation, storage and labour costs. The price spread is very high when the products are bulky in nature.
- (4) **Quality of Products:** There is a large variation in the quality of agricultural products such as size, color, freshness, maturity, appearance, smell etc. which makes their grading and standardization some what difficult.
- (5) **Irregular Supply of Agricultural Commodities:** Due to seasonality of Agricultural products, supply is subject to fluctuations over space and time.
- (6) **Small Size of Holding and Scattered Production:** Most of the producers are small in size which makes the estimation of supply difficult and creates problems in marketing.
- (7) **Processing:** Most of the farm products have to be processed before their consumption by the consumers. This processing function increases the price spread of agricultural commodities.

MARKETING FUNCTIONS

Define: *Any single activity performed in carrying a product from the points of its production to the ultimate consumer may be termed as a marketing function.*

Marketing function is an act, operation or service by which the original producer and the final consumer linked together.

With the marketing system getting more complex, there arises the need for number of new functions. It includes all the functions and process involved in the movement of the produce from farmers to the consumers. Number of functions is involved in marketing of farm product. Neither the producers nor the consumers of farm products are located at one place. They are spread all over the country.

The marketing function may be classified in various ways. **Thompson** has classified the marketing functions into three broad groups. These are:

1. Primary functions	a) Assembling or procurement b) Processing(preparation for consumption) c) Dispersion or distribution
2. Secondary functions	a) Packing or packaging b) Transportation c) Grading standardization and quality control d) Price determination or discovery e) Risk taking f) Financing g) Buying and selling h) Demand and creation i) Dissemination of market information
3. Tertiary functions	a) Banking b) Insurance c) Communication (post and telegraph) d) Supply of energy (electricity)

(1) Primary functions:

a) Assembling:

In agriculture the goods are mostly produced by small farmers, scattered over a wide area. Collection of small quantities from them, before further processes of marketing are under taken, is necessary. Assembling therefore means bringing together, collecting and concentrating goods of the same type from the various sources of supply at centrally located places.

Advantages:

- 1) economy in transportation
- 2) Availability of goods in large quantity
- 3) Widen the markets
- 4) Grading is possible
- 5) Processing can be done economically.

b) Processing:

We find very few agriculture products at farm level which are ready for final consumption. In most cases, **marketing system** must convert them into suitable form before they can dispose of consumers. Further when there is excess farm production, poses a serious problem of surplus. Processing can help to convert this surplus into durable items and creates new demand. **Processing defined as the act or series of acts by which a product is converted into a more usable form.**

C) Dispersion:

Dispersion is a process exactly opposite to that of assembling. After collecting the products of many farmers of scattered locality and processing the same, the process of dispersion begins. Dispensing functions involves finding where potential buyers are located, how much and what products they prefer and what price they are ready to offer. It also includes selling of the goods, their physical movement and handling, transfer of funds back to central and assembling markets. From the major wholesale markets the process of dispersion starts. It is seen through various marketing channels.

(2) Secondary functions:

These are the facilitative functions which are essential for smooth running of main functions viz. assembling, processing and dispersion.

1) Packing and packaging:

Packing is the first function performed in the marketing of agricultural commodities. It is required for nearly all farm products at every stage of marketing process. The type of the container used in the packing of commodities varies with the type of the commodity as well as with the stage of marketing. **Packing** means the wrapping and carting of goods before they are transported.

Packing is done for (Advantages):

a) Facilitating handling **(b)** reducing freight **(c)** reducing storage and handling cost **(d)** preventing deterioration and loss by damage **(e)** making produces more attractive **f)** enabling consumers to buy in convenient units **(g)** broadening of markets & **(h)** prolong storage life.

2) Transportation:

Transportation is one of the most important functions of the agricultural marketing system because of bulky and perishable nature of agricultural produces. Normal the produce is moved from the farm to the

assembling centre, from farm to the urban market and to the consuming centre. All forms of transport rail, air and water are used in moving the produce from the farm to its ultimate destination. Efficiency in transport depends upon the speed with which the goods are delivered and care taken during transit. Transportations create place utility.

Advantages:

- 1) Widening of the market
- 2) Narrowing price difference over space
- 3) Creation of employment
- 4) Facilitation of specialized farming
- 5) Transformation of economy
- 6) Mobility of the factors of production like capital and labour.
- 7) It helps in development of markets
- 8) Reduction in spatial price differences.

3) Grading and standardization:

Agricultural produce differ in size, color quality and nutritive value, to take into consideration these aspects, agricultural produce is standardized, e.g. food grains are graded as coarse and fine. Standardization means to determine the classes or grades of product or services.

Grading is the process of sorting individual specimen of a given product to the standard grades of classes to which they belong. Grading is done for getting better prices.

4) Storage and warehousing:

Agricultural produce is of seasonal nature, it is produce at a particular point of time. However, demand for agricultural produce is constant throughout the years. This particular characteristics increased importance of storing.

Storage is an exercise of human foresight by means of which commodities are protected from deterioration and surplus products are stored for release in future scarcity to get the better prices.

Warehousing: Warehouses are scientific storage structures especially constructed for the protection of the quantity and quality of stored products. Warehousing may be defined as the assumption of responsibility for the storage of goods. It may be called the protector of national wealth. The warehousing scheme in India is an integrated scheme of scientific storage, rural credit, price stabilization and market intelligence and is intended to supplement the offers of co-operating institutions. The important function of warehouses is:

1) Scientific storage. 2) Financing. 3) Price stabilization.

4) Market intelligent co.

5) Price determination and price discovery:

Under the marketing system there is the responsibility of realizing the value of the goods delivered to the final consumers and distributing it to various marketing product at each stage as they move through the marketing channels. Prices are determined by the aggregate forces of demand and supply in a market, while prices are discovered at each stage in the marketing channel. Price is discovered in an individual market by retailer and consumers, whereas price determination takes place in the total market by the forces of demand and supply.

6) Risk taking and risk bearing:

There is always a time lag between the harvesting and final consumption. Risk is imminent under such a situation and this is borne by the producers, traders and others involved in marketing process.

Hardy has defined risk as uncertainly about cost, loss or damage.

Risk bearing ability means ability to withstand losses or adverse conditions faced while carrying out various marketing functions. There is risk of losses due to fire, flood, famine, rodents, quality deterioration, price fall, change in taste, habit or fashions etc. It is three types.

1) Physical Risk: is caused during weightment, bagging, transportation, storage, etc. It consists of loss of quantity.

2) Price risk: Because of the special characteristics of agricultural products, price risk is common phenomenon. Price fluctuation during the same day, from week to week from month to month and year to year.

3) Institutional Risk: Government policies like movement restrictions of food grains, imposition of levies, etc. bring losses to the markets.

It reduces by, improving storage structures, insurance and market information.

7) Financing:

Money or credit is an important means to carry out various marketing functions. The financing function of marketing involves the use of capital to meet the financial requirements of agencies engaged in various marketing activities. A farm product takes time for goods to reach into the hands of the ultimate consumers. Therefore it needs the service of providing the credit and money to meet the cost of selling merchandise into the hands of the final users. This is commonly referred to as the finance functions in market.

8) Buying and selling:

Buying and selling are the most important activity in the marketing

process. The buying activity involves the purchase of right goods at the right place, at the time of right price and in right quantity.

Selling is one of the dispersing functions. Selling in business would mean the transfer of ownership of goods or services to a buyer in exchange for money.

Selling consist of sub-functions vig. product planning and development, contractual function, demand creation and the function of negotiation.

Selling accurse at various stages, initially farmer sells to village merchant or to a merchant in a regulated market, again wholesale merchant sells produce to retailer and retailer sells to consumers

Method of selling:

- 1) **Under cover a cloth (hatha system):** Price is fixed between buyer and commission agent the sellers by pressing the fingers of each other. Seller does not aware about price settle between buyer and commission agent.
- 2) **Private negotiations:** Direct contact between the buyer and sellers. The seller meet to the buyer with a sample of the produce .The buyer quotes the price & if satisfied then deal is completed.
- 3) **Quotation on samples:** In this method commission agents approach the buyers with the sample and who offered the highest price per unit of the produces.
- 4) **Dara sale method:** By this method, the produce in different lots is mixed and then sold at one lot. The advantage of this method is that, within a short time, a large number of lots are sold off.
- 5) **Moghum sale method:** In this harvest price is the selling price. It is a common method of sale found in villages when the farmers borrow funds from the local moneylenders.
- 6) **Open auction method:** It prevails in most of the regulated markets. The prospective buyers examine the lots of the produce kept for sale and offer their bids openly. Highest bidder has the right to take the possession of the commodity and amount is settled immediately after the sale.
- 7) **Close tender system:** This is, more or less, the same as that of the open auction system except that the bids are offered in the form of closed tenders. Considering the lots of produce, buyers offer their price on a slip of paper and put in a sealed box. Highest bidder has the right to take the possession of the produce in a lot.

9) Dissemination of market information function:

Market information is an important marketing function which ensures to smooth and efficient operation of the marketing system. Accurate, adequate and timely availability of market information facilitates decision about where and when to market product. Market information is published by trader's organization, or by individual firm in the form of publication of daily, weekly, market reports, news bulletins, monthly journals etc. Market intelligence is a continuous study of market behaviors and price situation. Market news provides current information about prices, arrivals and change in market conditions.

10) Demand creation:

It includes all the special affords that are made to stimulate the desire of goods of prospective buyers with the ultimate objective of sale at a profit. Some of the common methods which may be used to create a demand for the products are.

1. Personal contact by salesman
2. Advertisement
3. Display of goods in stores, railway stations etc.
4. Arranging trade fairs, exhibition
5. Distribution of free samples
6. Offers of various types of facilities these practices used in creation of demand add do the cost of marketing.

PRODUCERS SURPLUS

Meaning, types of Producers surplus, Marketable & Marketed Surplus, Importance Factors affecting marketable surplus
Defining producer surplus:

Producer surplus is a measure of **producer welfare**. It is measured as the difference between what producers are willing and able to supply a good for and the price they actually receive. The level of producer surplus is shown by the area above the supply curve and below the market price and is illustrated in this diagram.

Marketing Margins: In the marketing of agricultural commodities, the difference between the price paid by consumer and the price received by the producer for an equivalent quantity of farm produce is often known as price spread. Sometimes, this is termed as marketing margin.

The total margins include:

- 1) The cost of marketing functions and
- 2) Profits of the various market functionaries involved in moving the produce from production to ultimate consumer.

Marketing margin varies from channel to channel, market to market, time and commodity to commodity.

CONCEPTS OF MARKETING MARGINS:

- 1) **Concurrent margins:** these refer to the difference between the prices prevailing at successive stages of marketing at a given point of time. For example, the difference between the farmers selling price and retail price on a specific date is the total concurrent margin. It does not take into account the time that elapses between the purchase and sale of the produce.
- 2) **Lagged margins:** it is the difference between the prices received by a seller at a particular stage of marketing during an earlier period. It is a between concept because it takes into account the time that elapses between the purchase and sale by a party and between the sale by the farmer and the purchase by the consumer.

MARKETABLE SURPLUS:

It is residual left with the producer farmer after meeting his requirements for family consumption, farm needs for seeds and feed for cattle, payment to laborer in kind, payment to landlord as rent and social and religious payments in kind. This may be expressed as-

$$MS = P - C$$

Where, MS= Marketable surplus

P= total production

C= total requirements

Marketed surplus: it is that quantity of the produce which the producer-farmer actually sells in the market, irrespective of his requirements for family consumption, farm needs other payments.

Relationship:

1) Marketable surplus < Marketed surplus

I.e. forced sale OR Distressed sale

When the farmer retains a smaller quantity of the produce than his actual requirements for family and from needs.

2) marketable surplus > marketed surplus

When farmers retains some of the surplus produce. Large farmers generally sell less than the marketable surplus because of their better retention capacity and in the hope that they would get a higher price in the later period.

3) marketable surplus = marketed surplus

When farm neither retains more nor less than his requirement. This holds true for perishable commodities.

FACTORS AFFECTING MARKETABLE SURPLUS:

- 1) **Size of holding:** there is a positive relationship between the size of holding and marketable surplus.
- 2) **Production:** the higher the production on a farm, the larger will be the surplus & viceversa.
- 3) **Price of the commodity:** the price of a commodity and the marketable surplus have a positive relationship as depending upon whether one considers the short and long run or the micro and macro levels.
- 4) **Size of family:** the larger the no. of members in a family, the smaller the surplus on a farm.
- 5) **Requirement of feed:** the higher the requirement for these uses, the smaller the marketable surplus of a crop.

MARKETING CHANNELS:

Meaning, Definition, Channels for different Products

Marketing channels are routes through which agricultural Products move from producer to consumers, the length of the channel varies from commodity to commodity, depending on the quantity to be moved, the form of consumer demand and degree of regional specialization in production and country to country.

Channels of distribution:

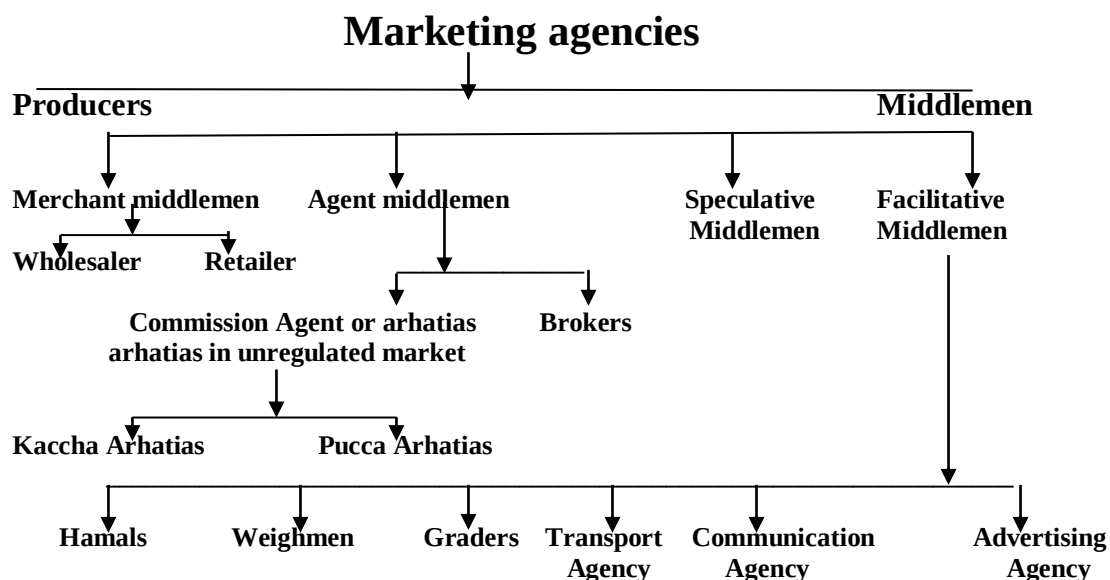
Generally following channels of distribution are follows

- 1) Producer- consumer
- 2) Producer -Retailer- Consumer
- 3) Producer-wholesaler-Retailer- Consumer
- 4) Producer- Agent- Retailer-Consumer
- 5) Producer- Agent-Wholesaler- Retailer-Consumer

Factors affecting the choice of marketing channels:

The choice of the particular channels depends upon following factors.

1. **Perishable nature:** choice of channels depends upon the durability of commodity. Commodities like vegetables and fruits are perishable and must be distributed through shorter channels otherwise quality of the produce will be deteriorated before it reaches to consumers.
2. **Bulk and weight:** when product is bulky and heavy transportation cost becomes significant one has to reduce this cost and for that selection of channel should be such that transportation cost is minimized.
3. **Financial position:** Financially sound organization grant credit for long period while financially weak organization have to take help of other middlemen and thus distributing channel is affected.
4. **Marketing cost:** the particular channel is better if per unit marketing cost is lower than other channel.
5. **Degree for control channels:** If the producers or co- operatives society of consumer has strong desire to control the existing channel they can do so by avoiding some of the middleman.
6. **Storage facilities.** If producer do not have good storage facilities then, they take help of some middleman who possesses storage facilities.
7. **Terms of payment of price:** If a particular channel offered easy terms of payment price of a commodity producer prefer that channel than other which does not give any concessions in paying the price of that commodity.
8. **Number of consumer:** If the numbers of consumer are more than producers have to employ some middlemen if consumers are less in number than normal sell will do the job.



In the marketing of agricultural commodities, the following agencies are involved

1. **Producer:** Most of farmers perform one or more marketing function. They sell the surplus either in the village or in the market. Some big farmers assemble the produce of small farmers, transport it to the nearby market, to markets a constant touch with market functionaries, they have a fair knowledge of market practices.
2. **Middlemen:** Middlemen are those individuals or business concerns which specialize in performing the various marketing functions. They can be classified as
 - a) **Merchant Middlemen:** Merchant middlemen are those who take title of the goods they handle they buy and sell on their own gain or lose, depending on the difference in the sale and purchase prices. Merchant middlemen are of two types:
 - 1) **Wholesalers:** who buy and sell commodities from farmers and other wholesalers in large quantities. They sale to retailers, other wholesalers and processors either in the same market or in other markets.
 - 2) **Retailers:** Retailers buy goods from wholesalers and sale them to the consumers in small lots. They are producer's personal representatives to consumers. Retailers are the closest to the consumer in the marketing channels.

Itinerant traders and village merchants also come under this group. Itinerant traders are petty merchants who move from village to village, and directly purchase the near by primary or secondary market and sell it their small establishment in villages they

purchases the produce of those farmers who have either taken finance from them or those who are not able to go to the market. They either sell the collected product in the nearby market or retain it for sale at a later date in the village itself.

b) **Agent Middlemen:** Agent middlemen act as representative for their clients. They do not take title to the produce. They merely negotiate the purchase and /or sale. They sell services and not the goods or commodities. They receive income in the form of commission or brokerage. Agent middlemen are of two types.

1) **Commission agents or arhatias:** A commission agent normally takes over the physical handling of the produce. Arranges for its sale, collects the price from the buyer, deducts his expenses and commission, and remits the balance to the seller. All these facilities are extended to buyers as well, it asked for.

Commission agents or arhatias in unregulated markets are of **two types:** Kuchha arhatias and pacca arhatias.

Kuchha Arhatias: They act primarily for the sellers including farmers. They sometimes advance to farmers and itinerant traders on condition that the produce will be disposed off through them. They charge arhat or commission in addition to the normal rate of interest on the money they advance.

Pacca arhatias: They act on behalf of the traders in the consuming market. The processors and big wholesalers in the consuming market employ pacca arhatias as their agents for the purchase of a specified quantity of goods within a given price range. In regulated markets, only one category of commission agent exists under the name of 'A' class trader.

2) **Brokers:** Brokers render personal services to their clients in the market. But unlike the commission agents, they do not have the physical control of the product. The main function of the broker is to bring together buyers and sellers on the same platform for negotiations. Their charge is called brokerage. They may claim brokerage from the buyer, the seller or both. Brokers have no establishment in the market. They simply wander about in the market and render services to clients.

c) **Speculative middlemen:** Those middlemen who take title to the product with a view to making profit on it are called speculative middlemen. They are not regular buyers or sellers of produce. They are specialized in risk-taking. They buy at low prices when arrivals are substantial and sell in the off season when prices are high.

d) **Facilitative middlemen:** These middlemen assist in the marketing process. Marketing can take place even if they are not active, but the efficiency of the system increases when they are present. These middlemen receive their income in the form of fees from those who used services. They are.

A. Hamals or laborers are: They do unloading from and loading on to bullock carts or truck. They assist in weighing, clearing, sieving and refilling and stitch the bag of commission agent.

B. Weigh men: They facilitate the correct weightment of the produce. Generally the scale- beam balance used. They get payment for their services through the commission agent.

C. Graders: Those middlemen sort out the product into different graders, based on some defined characteristics, and arrange them for sale.

D. Transport agency: This agency assists in the movement of the produce from one market to another. The main transport means are railways, trucks, bullock carts, camel carts, or tractors.

E. Communication Agency: It helps in the communication of the information about the prices prevailing, and quantity available in the market. The post and telegraph, telephone, newspaper, radio and informal links are the main communication channels in agricultural marketing.

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

Market Integration

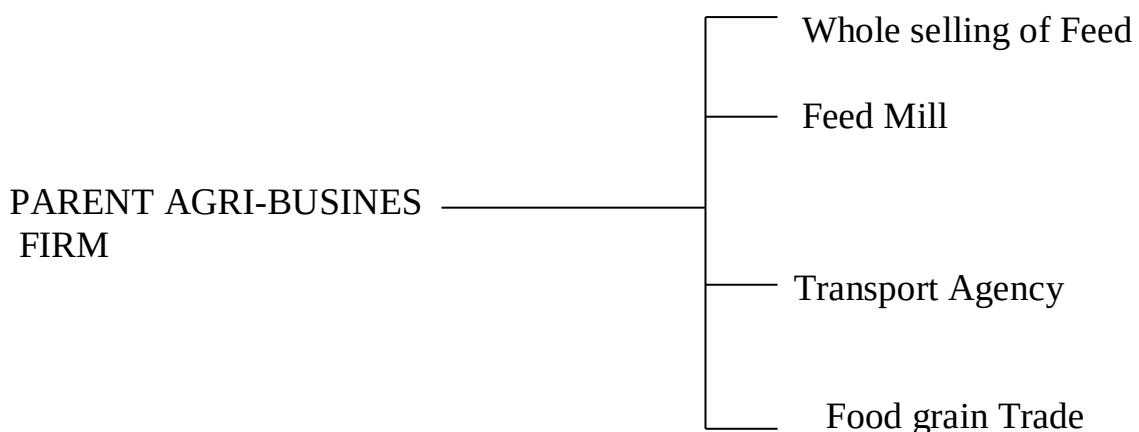
Integration shows the relationship of the firms in a market. The extent of integration influences the market conduct of the firms and consequently their marketing efficiency.

Kohls and Uhl have defined market integration as a process which refers to the expansion of firm by consolidating additional marketing functions and activities under a single management.

- (i) Horizontal Integration:** This occurs when a firm or agency gains control over other firms performing similar activities at the same level in the marketing channel. Horizontal integration is advantageous for the members who join the group. Horizontal of selling firms is not in the interest of the consumers or buyers.

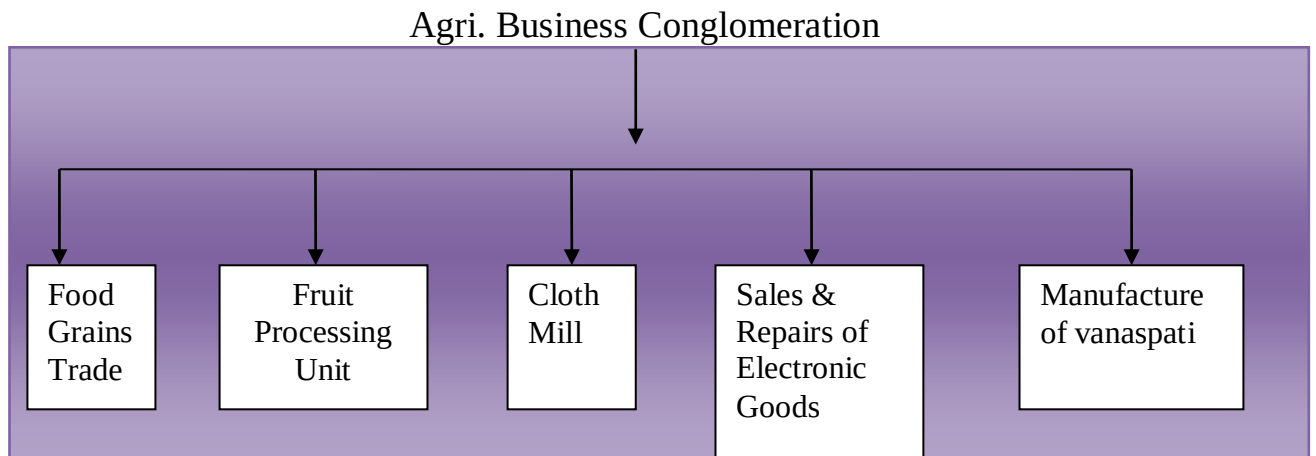


- (ii) Vertical Integration:** Vertical integration occurs when a firm performs more than one activity in the sequence of the marketing process. e.g. A wholesaler doing the functions of both wholesaler and retailer. Vertical integration reduces the number of middlemen in the marketing channel.



(iii) Conglomeration:

A combination of agencies or activities not directly related to each other may, when it operates under a unified management termed as conglomeration. Eg. Hindustan Unilever Limited



MARKETING EFFICIENCY

Marketing efficiency is essentially the degree of market performance. In this sense, the concept is broad and dynamic. It encompasses many theoretical manifestations and practical aspects. Broadly, one may look at efficiency of a market structure through the following:

1. Whether it fulfils the objectives assigned to it or expectations from the system at minimum possible cost or maximizes the fulfillment of objectives with given level of resources (or cost); and
2. Whether it is responsive to impulses generated through environmental changes and whether impulses are transmitted at all levels in the system.

Expectation from or objectives assigned to the system are of critical importance in assessing the efficiency because various participants have different expectations from the system, which quite often conflict with each other. For example

1. Farmers expect quick market clearance and higher prices for their produce. They expect the market to buy the products when they are offered for sale at reasonable prices.
2. Consumers expect ready availability of products in the form and quality desired by them at lower prices.
3. Traders and other functionaries expect steady & increasing incomes.
4. Government expects the system to safeguard the interest of all the three sections and in a proportion which is considered to be fair so that overall long-run welfare of the society is maximized.

Kohls and Uhl: Marketing efficiency is the ratio of market output (satisfaction) to marketing input (cost of resources). An increase in this ratio represents improved efficiency and a decrease denotes reduced efficiency. A reduction in the cost for the same level of satisfaction or an increase in the satisfaction at a given cost results in the improvement in efficiency.

Jasdanwall: The term marketing efficiency may be broadly defined as the effectiveness or competence with which a market structure performs its designed function.

Clerk: Marketing efficiency has been defined as having the following three components:

- a. The effectiveness with which a marketing service is performed;
- b. The cost at which the service is performed; and
- c. The effect of this cost and the method of performing the service on production and consumption.

Measurement of Marketing Efficiency

Marketing efficiency is measured by Shepherd's formula as follows:

$$ME = 100 - \left[\frac{\text{Total cost of marketing}}{\text{Total value of the product marketed}} * 100 \right]$$

Efficient Marketing

The movement of goods from producers to consumers at the lowest possible cost, consistent with the provision of the services desired by the consumer, may be termed as efficient marketing. A change that reduces the costs of accomplishing a particular function without reducing consumer satisfaction indicates an improvement in the efficiency.

MARKETING COSTS, MARGINS AND PRICE SPREAD

Marketing Costs: Marketing cost is the actual expenses required in bringing goods and services from the producer to the consumer. The difference between the final price paid by the consumer for a commodity and the price the price received by the primary producer may be taken as the marketing cost. Marketing cost normally includes handling charges, assembling charges, transport and storage costs, processing costs, profit margin to different intermediaries etc.

Marketing Margins: It reveals the remuneration that the intermediaries receive for their services in moving the commodity in the marketing channels. Estimation of marketing margins helps to estimate the efficiency of the marketing system.

Price Spread: In the marketing of agricultural commodities, the difference between the price paid by consumer and price received by the producer for an equivalent quantity of farm produce is often known as price spread.

Concepts of Marketing Margins:

1. Concurrent Margins: These refer to the difference between the prices prevailing at successive stages of marketing at a given point of time. For example, the difference between the farmers selling price and retail price on a specific date is the total concurrent margin.

2. Lagged Margins: It is the difference between the prices received by a seller at a particular stage of marketing during an earlier period. It takes into account the time that elapses between the purchase and sale by a party and between the sale by the farmer and the purchase by the consumer.

Price Spread: In the marketing of agricultural commodities, the difference between the price paid by consumer and price received by the producer for an equivalent quantity of farm produce is often known as price spread.

Producer's Share in the Consumer's Rupee: It is the price received by the farmer expressed as a percentage of the retail price or the price paid by the consumer.

How to Reduce Marketing Costs

There are various ways of reducing marketing costs. No single factor can bring about any perceptible reduction in these costs. However, a combination of factors may bring about a significant reduction in the cost of marketing. Some ways of reducing marketing costs for farm products are:

1. Increase the efficiency

An increase in the efficiency of marketing can be brought about by a wide range of activities between producers and consumers. Some major areas in which improved efficiency may result in a reduction in marketing costs are:

(a) Increase the volume of business

By increasing the quantity to be handled at a time one can effectively reduce marketing costs and increase marketing efficiency.

(b) Improves the handling method

The new methods of handling, such as pre-packing of perishable products, the use of fast transportation means, the development of cold storages and an efficient use of labour are some of the methods by which efficiency may be increased and cost reduced.

(c) Managerial control

The adoption of proven management techniques increases efficiency. By a constant monitoring of costs and returns, the efficiency at each stage in marketing may be stepped up.

(d) Change in marketing practices

Change in marketing practices (such as sale of orange juice instead of orange, retailing food services through super markets, and integration of marketing functions) reduce marketing costs and increase efficiency.

2. Reduce profit in marketing

Profits in the marketing of agricultural commodities are often the largest because of the inherent risk at various stages of marketing. The risk may be reduced by:

- (a) The adoption of hedging operations, improvement in market news service, grading and standardization; and
- (b) Increasing the competition in the marketing of farm products.

MARKET INFORMATION

Market information may be broadly defined as a communication or reception of knowledge or intelligence. It includes all the facts, estimates, opinions and other information which affect the marketing of goods and services.

TYPES OF MARKET INFORMATION

Market information is of two types:

- (i) **Market Intelligence:** This includes information relating to such facts as the prices that prevailed in the past and market arrivals over time. These are essentially a record of what has happened in the past. Market intelligence is, therefore, of historical nature. An analysis of the past helps us to take decision about in the future.
- (ii) **Market News:** This term refers to current information about prices, arrivals and changes in market conditions. This information helps the farmers to take decisions about when and where to sell his produce.

Criteria for Good Market Information:

- i. Comprehensive
- ii. Accuracy
- iii. Relevance
- iv. Confidentially
- v. Equal Accessibility
- vi. Timeliness

FACTORS AFFECTING THE COST OF MARKETING OF AGRICULTURAL COMMODITIES

The factors which affect marketing cost are:

1. **Perishability of the Product:** The cost of marketing is directly related to the degree of Perishability. The higher the Perishability, the greater the cost of marketing, and vice versa.
2. **Extent of Loss in Storage and Transportation:** If the loss in quality and quantity of product, arising out of wastage, spoilage or shrinkage during the period of storage or in the course of transportation, is substantial, the marketing cost will go up.
3. **Volume of the Product Handled:** The larger the volume of business or turnover of a product, the less will be the per unit cost of marketing.
4. **Regularity in the Supply of the Product:** If the supply of the product is regular through out the year, the cost of marketing on per unit basis will be less than in a situation of irregular supply.
5. **Extent of Packaging:** The cost of marketing is higher for the commodities requiring packaging.
6. **Necessity of Demand Creation:** If substantial advertisement is needed to create the demand of prospective buyers, the total cost of marketing will be high.
7. **Bulkiness of the Product:** The marketing cost of bulky products is higher than that of which are not bulky.
8. **Need for retailing:** The greater the need for the retailing of a product, the higher the total cost of marketing.
9. **Necessity of Storage:** The cost of the storage of a product adds to the cost of marketing, whereas the commodities which are produced and sold immediately without any storage attract lower marketing costs.
10. **Extent of Risk:** The greater the risk involved in the business for a product, the higher is the cost of marketing.

REASONS FOR HIGHER MARKETING COSTS OF AGRICULTURAL COMMODITIES

Generally, the cost of marketing of agricultural commodities is higher than that of manufactured products. The factors responsible for this phenomenon are:

1. **Widely Dispersed Farmers and Small Output per farm:** There are innumerable producers of agricultural products, each producing a small quantity. Producers are widely dispersed. Hence the cost of assembling is high.
2. **Bulkiness of Agricultural Products:** Most farm products are bulky in relation to their value. This results in a higher cost of transportation.
3. **Difficult Grading:** Grading is relatively difficult for agricultural products. Each lot has to be personally inspected during purchase and sale – a fact which increases marketing costs.
4. **Irregular Supply:** Agricultural products are characterized by seasonal production. Their market supply, therefore, fluctuates during the year. In time of glut, prices go down and the cost of marketing functions, on value basis, goes up.
5. **Need for Storage and Processing:** There is a greater need for the storage of agricultural products because of the seasonality of their production. The processing of agricultural products is a necessity because all the agricultural products are not consumed in the raw form. Storage and processing add to the cost of marketing. Losses of agricultural products in storage are also high because of their Perishability.
6. **Multiplicity of Middlemen:** In food grain marketing, the number of middlemen is larger because there is no restriction on their entry in the trade. The larger the number of middlemen, the higher the marketing costs.
7. **Risk Involved:** The risk of price fluctuations is higher in agricultural products. The higher risk leads to higher risk premium, which adds to the marketing cost.

FORMS OF GOVERNMENT INTERVENTION IN MARKETING SYSTEM

In the interest of public welfare, the government intervenes in the marketing system. The extent of intervention depends on the objectives of the government and the extent of defects and malpractice prevailing of the system. Government intervention may be direct or indirect; and it may take any or a combination of the following forms;

- (i) The framing of rules and regulations for the protection of the interest of some sections of the population. These may relate to the grant of monopolies, restriction on the activities of traders, licensing and market regulation.
- (ii) Promotional activities such as storage and warehousing, transportation and communication facilities, credit facility, grading and standardization and encouragement of co-operative marketing.
- (iii) Administration of prices at different levels of marketing guaranteeing minimum support prices to producers, providing commodities at fair prices to consumers and fixing the rates of commission charged by commission agent.
- (iv) Influencing supply and demand by import, export, internal procurement and distribution.

In India, the government has intervened in the marketing system in various ways at different points of time. The section which follow deal with the description of the government's efforts to improve the marketing technique of agricultural commodities.

The government of India has intervened in the marketing system in various ways described as under.

1. Establishment of Directorate of Marketing and Inspection (DMI) (1935)

The Directorate of Marketing and Inspection is an attached office of the Ministry of Agriculture, Government of India located at Faridabad (Haryana) and branch head office at Nagpur (Maharashtra). It is headed by the Agricultural Marketing Adviser (AMA) who is assisted by a joint AMA, Deputy AMAs, Directors of Laboratories and other technical staff.

Functions:

1. Market research and commodity surveys
2. Market extension
3. Statutory regulation of markets and market practices
4. Promotion of grading and standardization
5. Training of marketing personal
6. Marketing improvement and development cell
7. Publication of journal

8. Setting up of State marketing Department.

2. Regulation of Agricultural Marketing

To improve marketing condition with a view to creating fair competitive conditions to increase the bargaining power of producer-sellers was considered to be the most important pre-requisite of orderly marketing. Most of the defects and malpractice under the marketing system of agricultural products have been more or less removed by the exercise of public control over markets, i.e., by the establishment of regulated markets in the country.

3. State Trading Corporation (STC)

One of the responsibilities of the government is to ensure the supply of essential commodities to the people. This may require direct intervention in trading of agricultural commodities. The objectives of state trading include; supply of essential commodities at reasonable price regularly, to ensure a fair price to farmers, price stability, supply of inputs, buffer stock maintenance to arrange for storage, transportation and processing to conduct required statistics and to check hoarding, black marketing and profiteering. Export and import of agricultural commodities has also been undertaken by government through STC.

4. Food Corporation of India (FCI)

The FCI was established on January 1, 1965. The FCI, today, is the unrivalled food marketing agency, serving the interests of both the farmers and consumers. Operationally, the FCI reaches the remotest corners of the country through its vast network of offices and storage centers. Financially, it is the largest public sector undertaking, with an annual turnover of over Rs. 4000/- crores. Function of FCI includes, procuring a sizeable portion of marketable surplus of various agricultural commodities to build up a sizeable buffer stock and to make timely releases of the stocks through the public distribution system. It also helps in minimizing seasonal price fluctuations and inter-regional price variations in agricultural commodities by establishing a purchasing and distribution network.

5. Buffer Stock, Procurement and Distribution

The term buffer stock of food grains refers to the stock of food grains maintained by the government to be used as a buffer to cushion against unforeseen fluctuation in the demand or scarcity of any commodity especially with regard to food grains, cotton, sugar, tea etc. The buffer stock is also encouraged in order to regulate market supply and maintain prices at a particular level.

6. Quality Control

Quality control of agricultural commodities is the responsibility of the Directorate of Marketing and Inspection. The directorate has prescribed grade and standards for various agricultural products under the Agricultural Produce (Grading and Marketing) Act 1937. Agricultural commodities are graded under this Act on the basis of the specification laid down under the grade standards. Grade products bear the AGMARK label, indicating the purity and quality of products.

7. Price Support and APC/CACP

The Agricultural Price Commission (APC) was set up by the Government of India in January 1965, to advise the government on price policy of agricultural commodities, with a view to evolving a balanced and safeguard price structure in the perspective of the overall needs of economy with due regard to the interest of the producer and consumer. Recently this commission is known as Commission for Agricultural Costs and Prices (CACP). The commission generally recommends the minimum support prices which are in the nature of an insurance against an excessive price fall. It also recommends procurement prices at which the government should procure the considering price trend, size of crop and need for public distribution.

8. Statutory Price Control and Rationing

Statutory rationing of food grains was undertaken in the country because of severe shortages. The main purpose is to keep the increasing demand of food grains under control. This is a social measure which has been adopted by the government to protect mainly the vulnerable sections of society who cannot afford to purchase food grains at open market prices because of their poverty. The main purpose of rationing is to provide to the poor.

9. Act Passed for Improving Agricultural Marketing

The beginning of marketing legislation is from 1886 in India. Various Acts were enacted by the government to improve the agricultural marketing in the country.

10. Co-operative Marketing

The establishment of co-operative societies is another step which has been taken to overcome the problems arising out of the present system of marketing agricultural produce. The objective of economic development and

social justice can be furthered by channelling agricultural produce through co-operative institutions.

INSTITUTION FOR MARKETING

REGULATED MARKET

A regulated market is one which aims at the elimination of the unhealthy and unscrupulous practices, regarding marketing charges and providing facilities to producers-sellers in the market. Any legislative measure designed to regulate the marketing of agricultural produce in order to establish, improve and enforce standard marketing practices and charges may be termed as one which aims at the establishment regulated market.

Regulated markets have been established by State Government and rules and regulations have been framed for the conduct of their business. In regulated markets, the farmer is able to sell his marketed surplus in the presence of several buyers through open and competitive bidding.

The regulated market committee consisting 17 members of which, 8 are farmers representative, 4 are traders representatives, 2 are co-operative marketing society, 1 is Panchayat or Municipality, 1 is revenue officer and 1 is Government representative.

Regulated market is functioning under this committee by the staff working under it. Marketing committee has to see that all the traders obtain licenses for working in the market produce is sold by open auction. It is properly weighted by the licensed weight man, purchaser and sellers are recorded, payment is made at the spot to the farmers. There are no illegal deductions. The bad practices of marketing are eliminate and banking facilities, storage function, lodging and boarding facilities, shed for carts and bullocks and other needs and information services are provided.

Benefits of Regulated Market:

1. They provide all the facilities needed by farmers in the marketing centers which will attract them to coming to the markets where buying and selling is regulated.
2. In such market due to open auction system farmer and trader are bought on equal stage.
3. The prices are quoted open and are paid in cash on the spot.
4. The farmers are assured by fair price in the market.
5. Illegal deduction and other bad practices of marketing are avoid, eliminates and farmers are protected from paying extra charges.

6. Proper weight is done, in some market grading is also done and warehouses are there to keep the produce. The farmers get to day information regarding price and arrivals of market.

Market Area:

The area covered by regulated market is generally limits of taluka which is known as market area.

A Market yard:

That is a place where actual buying and selling takes place and banking facilities, storage function, loading boarding facilities etc. are provided.

Food Corporation of India (FCI)

The FCI was established on January 1, 1965. The FCI, today, is the unrivalled food marketing agency, serving the interests of both the farmers and consumers. Operationally, the FCI reaches the remotest corners of the country through its vast network of offices and storage centers. Its market operations prevent the speculative trader from acting against the interest of the farmer by assuring him a remunerative price for his produce. Financially, it is the largest public sector undertakings, with an annual turnover of over Rs. 4000/- crores. Function of FCI includes, procuring a sizeable portion of marketable surplus of various agricultural commodities to build up a sizeable buffer stock and to make timely releases of the stocks through the public distribution system. It also helps in minimizing seasonal price fluctuations and inter-regional price variations in agricultural commodities by establishing a purchasing and distribution network.

Functions:

1. To procure marketable surplus of food grains at incentive prices from the farmers on behalf of Government.
2. To make timely releases of the stocks through public distribution system i.e. fair price shops and controlled items shop. So that consumer prices may not rise unduly and unnecessarily.
3. To minimize seasonal price variation in Agricultural commodities by establishing purchasing and distribution net work.
4. To build up a sizable buffer stock of food grains to meet the situations that may arise as a results of short falls in internal procurement and import.

NAFED

The National Agricultural Co-operative marketing Federation (NAFED) is an apex organization of marketing cooperatives in the country. It deals in procurement, processing, distribution, export and import of selected agricultural commodities. The NAFED is also the central nodal agency for undertaking price support operations for pulses and oilseeds and market intervention operations for other agricultural commodities.

At the national level the National agricultural Co-operative Marketing Federation (NAFED) was established in October 1958. The state level marketing federations and National Co-operative Development Corporation are its members. The head office of NAFED is at Delhi, and its branch offices are located at Bombay, Calcutta and Madras. NAFED's operation extends to the whole country. It has established branches in all major part town and capital cities of state in the country.

Objectives:

1. To co-ordinate and promote the marketing and trading activities of its affiliated co-operative institutions.
2. To make arrangement for the supply of agricultural input required by member institutions.
3. To promote inter state and inter national trade in Agricultural and other activities.
4. To act as an agent of the Government for the purchase, sale, storage and distribution of agricultural products and inputs.

Activities:

1. Inter state trade
2. Export of Agricultural Produce
3. Import Agricultural Produce
4. Maintain expert staff which conducts market studies.
5. Production and Marketing of Agricultural inputs.
6. Setting of Scientific Storage System.
7. Processing for Fruits and Vegetables.

CO-OPERATIVE MARKETING SOCIETY

Private agencies dominate the Indian foodgrains trade. Farmers complain of the marketing system because they get lower prices, due mainly to high marketing charges and the prevalence of malpractices. The efforts of the government to improve the marketing system of agricultural commodities have been partially successful in creating healthy conditions for efficient marketing. Moreover, the progress of regulated markets is not uniform in all areas. The need for strengthening co-operative organizations has, therefore, been recognized for the marketing of the produce of the farmer and for making inputs available for them at the right price and time.

It is a voluntary business organization of farmers, with the aim of marketing the agriculture produce of the members and to get a remunerative price to the producers, under take services as may as possible and to supply agriculture inputs for the benefit of the member, wherever possible processing activities are also to be undertaken.

Objectives of Co-operative marketing Society;

1. To collect farm produce of members and sale on behalf of members in the market.
2. To give remunerative price for agriculture produce (marketed) to the members.
3. To perform marketing services assembling, grading, storing, transporting, financing and processing of the produce of the members to perform the above services efficiency and to give benefits to the members.
4. To help in recovery of loan of members by linking marketing of credit. Thus, crop loans will be recovered through marketing of members produce.
5. To provide marketing finance or giving waiting capacity for better price.
6. To supply agricultural inputs and daily necessities of life to the members.
7. To carry out or to under take processing activities of agro based industries.

Structure of Co-operative Marketing in India;

In Assam, Bihar, Kerala, MP, Karnataka, Orissa, Rajasthan and West Bengal, there is a **two –tier system** with primary marketing societies at the taluka level and State marketing federation at an Apex body at the state level.

In other states, there is **three-tier system**

- Primary co-operative marketing society (at taluka level)
- Central co-operative marketing union or federations (at district level)

- Apex co-operative marketing societies (at state level)

In our state GUJCOMASOL (Gujarat State Co-operative Marketing Society Ltd.) is state level co-operatives for marketing and central level NAFED (National Agricultural Co-operative Marketing Federation).

In milk marketing, there are two tier structures. At primary level or base level village milk producer societies and at district level milk producers societies union.

In poultry two tier structure- poultry producer co-operative societies which are directly linked to state Co-operative Poultry Federation.

Suggestions for Improvement

1. The area of operations of the societies should be large enough so that they may have sufficient business and become viable.
2. Co-operative Marketing Societies should develop sufficient storage facilities in the mandi as well as in the villages.
3. Member should be educated and encouraged and persuaded to market their produce through co-operative societies.
4. Honest and sincere person should be elected to manage societies.
5. Co-operative Marketing should be included processing activities, credit and finances to make them successful.
6. The societies should acquire the transport facility to bring the produce of the members from the villages to the mandi in time and at a lower cost.
7. Co-operative Marketing Societies should diversify their activities. They should sell the produce and inputs, and engage in the construction of storage facilities.

THEORIES OF INTERNATIONAL TRADE:

Domestic & Free trade, GATT, World Trade Organization (WTO), Co-Operative Marketing, State Trading

Meaning of Trade:

The requirement of primitive man was limited. So trade did not exist with the invention of agriculture, division of labour become possible, so increase the human need which satisfies by exchange. Initially exchange only goods service against other goods

(Barter system) this method had many short comings but with the introductions of money exchange of goods and services become easier. This gave to new birth to trade.

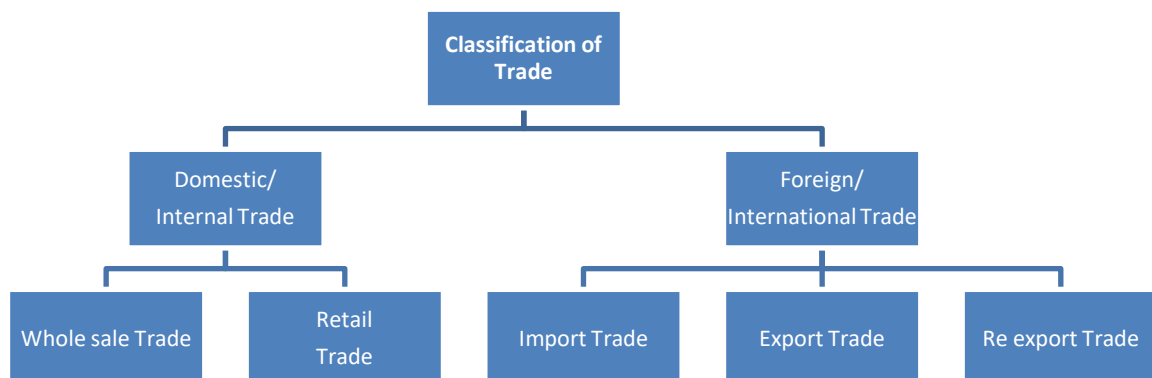
Definition of Trade:

Prof. Savarkar: Trade as exchange of goods for money and exchange of money for goods.

Trade means an activity performed between two parties with an intention of earning profit by exchange of goods or services.

Characteristics of Trade:

1. Exchange: Exchange is base of trade.
2. Transfer of ownership: Purchaser obtains ownership rights from seller.
3. Two parties: In trade one party is purchaser and another is seller.
4. Economic activity: Trade is an internal part of economic activity and there is an intension of earning financial benefits in the form of profit.
5. Consideration: Consideration in the form of goods or services or in the form of money against goods and services.
6. Continuous: In trade, the process of purchase and sale should be continual process and transaction should be consistent. Only one time transaction of selling & purchasing can not be called trade



1. Domestic/ Internal Trade:

Trade taking place within the boundary of the country between various cities or state e.g. to obtain wheat from Punjab to Gujarat.

2. International/ Foreign Trade:

With the introduction of the process of globalization of the economy and the advantage of WTO, the degree of inter-dependence among the countries of the world has increased. Many factors have favored international specialization and international trade in tangible goods & in intangible goods and services.

Definition: Foreign trade/ international trade mean “Trade done outside the boundaries of country and with other countries.

e.g. Tea is exported from India to England.

a. Import Trade: It means purchase goods or services from other countries.

E.g. Machineries Purchased from USA and brought to India.

b. Export Trade: It means to sale the goods, services or technology produced in our country to other countries. e.g. Mango Juice sell in Australia

c. Re-export Trade: It means to purchase goods from other country and to sale the same directly to other country.

e.g. Machinery purchase from Russia and unloaded at Bombay port and from Bombay, sent to Srilanka.

Different between Inter Regional Trade (Domestic Trade) and International Trade

The classical economist proposed a specific theory of international trade which is popularly known as the Theory of “**Comparative Costs**” or the theory of “**Comparative advantage**”

While modern economists views against of classical economist and state that the difference between inter Regional trade and international trade are of only in degree rather than in the kinds of trade.

1. Factor Immobility: The factors of production are perfectly **mobile** between the regions of a country while they are perfectly **immobile** between the countries entering into international trade. Labour and capital are regarded as immobile between countries while they are perfectly mobile within a country. The factor prices are almost equal in a country but differ widely between countries.

It was due to the differences in languages customs, tastes and preference, operational skills, economic, social, political and regal restrictions etc. But above problems do not arise in the case of inter regional trade.

2. Differences in Natural Resources Endowments: The production of those commodities in which they are richly endowed and trade them with other countries where such resources are scarce.

In Australia land is in abundance while labour and capital are relatively scarce, whereas in England the capital is abundant and cheap, while land is scarce and dear.

Countries trade with each other on the basis of **comparative cost differences in the production** of different commodities.

3. Geographical, Ecological and Climatic Differences: Every country can not produce all commodities due to geographical, ecological and climatic conditions except at prohibitive

cost.

4. Different Markets: International markets are separated by differences in language, usage, customs, habits, styles etc. e.g. the car models in France and the USA are quite different and they are trade better within the country rather than across the country. Thus the goods differ for sale in the inter-regional markets and international markets.

5. **Different Currencies:** The principal difference between inter-regional markets and international markets lies in the use of different currencies in the international markets but the same currencies in the inter-regional markets.
To overcome this problem a common currency has been introduced in the European countries (Euro-dollars)
6. **Problems of Balance of payment:** The problems of BOP are perpetual in the international trade, but there is no such problem in inter-regional trade because of greater mobility of capital within different regions of country.
The problem of BOP is due to the problems of deflection, devaluations, import restrictions, restrictions on the movement of currency etc.
7. **Transport Costs:** International trade involves huge transport costs while it was less in inter-regional trade.
8. **Different Economic Policies:** Different country follow different economic policies with regards of taxation, tariff, commerce and trade considering a policy of free trade. Therefore, than classical economics assented that international trade is quite different from inter regional trade and they valued a separate therefore **international trade based on the profile of comparative cost differences.**
International trade alone will lead to a complete equalization of factory prices.

The Terms of Trade:

Terms of trade may be defined as the ratios of the average price of a country's or a group of countries Exports to the average price of its Imports.

Three Main Concepts of Term of Trade: That is

- (i) Net barter terms of trade
- (ii) Gross barter terms of trade.
- (iii) Income terms of trade.

Advantage of International Trade:

The advantage of international trade rests on international division of labour. There is world wide specialization in industries which results in increased total production and other advantages which are as follows.

1. The productive resources of the world are utilized to the best advantage.
2. A country is able to consume goods which it cannot produce at all or only at an impossible high cost.
3. Violent price fluctuations are turned down.
4. Shortage in time of famine and scarcity can be met from the imports.
5. Countries economically backward but rich in unused resources are able to develop their industries.

6. Trade develops racial sympathies and creates common interests.
7. The existence of international trade promotes peace.

Disadvantages:

1. The worst effect of foreign trade on backward countries is the destruction of their handicrafts and cottage industries.
2. The empire builder follows the trader e.g. a powerful country can easily find some excuse for attacking a weak country.
3. Dependence on foreign goods creates difficulties in time of war when the country is cut off by enemy action.
4. Countries which sell primary commodities and buy manufactured goods in return are losers.
5. Foreign trade may completely exhaust a country's natural resources.
6. Imports of harmful drugs and luxuries, as opium in china, ruin the health of the nation, negative and vulgar movie etc. affects the cultural value of the country.
7. Through foreign trade, the economic troubles of one country are transmitted to other. For example, the collapse of American market in 1929 resulted in a world wide depression.

Free Trade v/s Protection:

A policy of no restriction on the movement of goods between countries is known as the policy of free trade. Restrictions placed with a view to safe guarding home industries constitute the policy of protection.

External Trade in Agricultural Products:

(Export and Import of different agricultural Commodities)

One of the important aspects of agricultural marketing is the marketing of agricultural commodities across the nation's borders usually termed as external trade. As far as an individual country is concerned, external trade is done in the form of either exports or imports.

Export provide the market support for the country's surpluses and generate foreign earning which increase the country's capacity to imports other goods, but at the same time in the short run, they reduce the domestic availability of the commodities exported and consequently raise the domestic price level.

Existing markets for Export of Major Agricultural commodities from India.

Commodity	Countries
Tea	Russia, UK, Iran, Japan, Germany, Egypt, UAE, Saudi Arabia, Poland, Afghanistan, Australia, Czechoslovakia, USA, and Yugoslavia.
Coffee	Russia, Yugoslavia, Italy, Japan, Germany, Romania, Australia, Belgium, Finland, France, Iraq, Kuwait, Norway, Spain, UAE, and UK.
Basmati rice	Saudi Arabia, Russia, UK, UAE, Kuwait and Canada.
Wheat	Vietnam Socialist Republic.
Tobacco(manufactu	Saudi Arabia, Russia, Japan, Oman, Nepal and Kuwait.

red)	
Spices	Russia, UK, Iran, Japan, Germany, Egypt, UAE, Saudi Arabia, Poland, Czechoslovakia, USA, Yugoslavia, Canada, Italy, Nepal, Netherlands, and Pakistan.
HPS Groundnut	Russia, UK, Germany, Czechoslovakia, USA, Netherlands, and Singapore.
Oil cakes	Russia, UK, Germany, Czechoslovakia, USA, Netherlands, Poland and Singapore, Saudi Arabia.
Row Cotton	Russia, UK, Japan, Germany, Poland, Afghanistan, Czechoslovakia, USA, Romania, China, Hong Kong, Korea, Switzerland, and Yugoslavia.
Fresh fruits	UAE, Saudi Arabia, Kuwait, Qatar, UK, Bangladesh and Russia.
Onion	Malaysia, Sri Lanka and Middle East
Processed fruits and vegetables	Russia, UK, and Middle East.

WARE HOUSING CORPORATION: Central & State, Objectives, Functions & Advantages

Warehouses are scientific storage structures especially constructed for the protection of the quantity and quality of stored products. Warehousing may be defined as the assumption of responsibility for the storage of goods. It may be called the protector of national wealth, for the produce stored in warehouses in preserved and protected against rodents, insects and pests, and against the ill-effect of moisture and dampness.

The warehousing scheme in India is an integrated scheme of scientific storage rural credit, price stabilization and market intelligence and is intended to supplement the efforts of co-operative institutions.

The important functions of warehouses are:

1. **Scientific Storage:** Here, a large bulk of agricultural commodities may be stored. The production is protected against quantitative and qualitative losses by the use of such methods of preservation as are necessary.
2. **Financing:** Warehouses meet the financial needs of the person who stores the product. Nationalized banks advance credit on the security of the warehouse receipt issued for the stored products to the stored products to the extent of 75 percent of their value.
3. **Price Stabilization:** Warehouses help in price stabilization of agricultural commodities by checking the tendency to making post-harvest sales among the farmers. Farmers or traders can store their products during the post harvest season, when prices are low because of the glut in the market. Warehouse helps in staggering the supplies throughout the year. They thus help in the stabilization of agricultural prices.
4. **Market Intelligence:** Warehouses also offer the facility of market information to persons who hold their produce in them. They inform them about the prices prevailing in the period, and advise them on when to market their products.

This facility helps in preventing distress sales for immediate money needs or because of lack of proper storage facilities. It gives the producer holding power he can wait for the emergence of favorable market conditions and get the best value for his product.

WAREHOUSING IN INDIA:

In 1928, the Royal Commission on Agriculture underscored the need for a warehousing system in India. The Central Banking Enquiry Committee, 1931, too, drew attention to this need. The Reserve Bank of India emphasized the need for warehouses as early as in 1944, and proposed that every State Government should enact legislation to regulate the functioning of warehouses. The All-India Rural Credit Survey Committee of the Reserve Bank of India (was set up in 1951 and submitted its report in 1954) also made comprehensive recommendations for the development of warehousing as an integrated scheme of rural credit and marketing. As a result of the recommendations of the Committee, the Government of India enacted the Agricultural Produce (Development and Warehousing) Corporation Act, 1956.

The Act provided for:

- a) The establishment of a National Co-operative Development and Warehousing Board (which was set up on 1st September 1956);
- b) The establishment of the Central Warehousing Corporation (which was established at Delhi on 2nd March 1957); and
- c) The establishment of State Warehousing Corporation in all the States in the country (which were established in various states between July 1957 and August 1958).

In 1962, the Government of India decided to break up the Act of 1956 into two separate Acts-the National Co-operative Development Corporation Act, 1962, and the Warehousing Corporations Act, 1962. The Warehousing Corporations Act came into operation on 18th

March, 1962. The Act defines the specific functions and the area of operations of Central and State Warehousing Corporations. It enlarged the list of the number of commodities meant for storage.

(a) National Co-operative Development and Warehousing Board

This was set up on 1st September 1956 to perform the following functions:

- I. To advance loans and grants to State Governments for financing Co-operative societies engaged in the marketing, processing or storage of agricultural produce, including contributions to the share capital of these institutions;
- II. To provide funds to warehousing corporations and the State Governments for financing co-operative societies for the purchase of agricultural produce on behalf of the Central Government.
- III. To subscribe to the share capital of the Central Warehousing Corporation and advance loans to State Warehousing Corporations and the Central Warehousing Corporation;
- IV. To administer the National Warehousing Development Fund.

(b) Central Warehousing Corporation (CWC)

This Corporation was established as a statutory body in New Delhi on 2nd March, 1957. Under the new Act, the Central Warehousing Corporation was formally re-established on March 18, 1963. This Corporation which made modest start with seven warehouses, with 7,000 tones capacity, in December 1957, had set up 458 warehouses in different places in the country, with a total storage capacity of 65.92 lakh tones at the end of March 1991. Of this, the utilization is nearly 85 percent of the total available capacity. The central warehousing corporation provides safe and reliable storage facilities for about Warehousing Corporation provides safe and reliable storage facilities for about 120 agricultural and include centers of all-India and inter-state importance.

The functions of the Central Warehousing Corporation are:

- (i) To acquire and build godowns and warehouses at suitable places in India.
- (ii) To run warehouses for the storage of agricultural produce, seeds, fertilizers and notified commodities for individuals, co-operatives and other institutions;
- (iii) To act as an agent of the government for the purchase, sale, storage and distribution of the above commodities;
- (iv) To arrange facilities for the transport of above commodities;
- (v) To subscribe to the share capital of State Warehousing Corporation
- (vi) To carry out such other function as may be prescribed under the Act. While food grains. Sugar and fertilizers occupy 78 percent of the total utilized storage capacity; in the remaining 22 percent are stored cement, chemicals and other commodities. Warehouses of the corporation are fairly full all through the year.

Besides the conventional storage god owns, the Central Warehousing Corporation is running air-conditioned godowns at Calcutta, Bombay and Delhi, and provided by the Central Warehousing Corporation for the preservation of hygroscopic and fragile commodities. The Corporation has been able to evolve a technique for a proper and scientific preservation of jiggery during the hot and rainy seasons by selective aeration and controlled conditions. It has set up special warehouses at some centres for the storage of jaggery. The jaggery stored in warehouses fetches a premium price in the market. The Corporation has also evolved techniques for the storage of spices, coffee, seeds and other commodities.

The Corporation is operating a number of customs bonded warehouses at important centers in Delhi, Amritsar, Ludhiana, Calcutta, Kandla, Ahmedabad, Baroda, Surat, Bhopal,

Cochin, Ernakulam and Bombay to enable exporters/ importers to keep their commodities in a good condition, pending their shipment. It has also undertaken the taken the storage and handling of export and import cargo at including inspection and clearance by customs, the payment of duty into the in to the bank, and space for clearing agents, have been provided by the corporation. It has put up a similar air cargo complex at Amrutsar for the export/import of goods. It has been expanding its capacity at the port towns to serve the industry and co-operative bodies. It has already established a sizeable capacity at Bombay, Calcutta, Cochin, Chennai, Mangalore, Paradeep, Kandla, Haldia and Vizag.

The Corporation has introduced a scheme, called the Farmers Extension Service at selected centres to educate farmer in the benefits of a scientific storage and use of public warehouses. The Central Warehousing Corporation also provides a package of services, such as handling and treansport; safety and security of goods; insurance, standardization, documentation; and other connected services and facilities.

(C) State Warehousing Corporation (SWCs)

Separate warehousing corporations were also setup in different state of the Indian Union. The first warehouse was set up in Bihar in 1956. At the end of March 1994, State Warehousing Corporation were operating 1364 warehouse with a total capacity of over 98 lakh tones.

The area of operation of the State Warehousing Corporations are enters of district importance. The total scare capital of the State Warehousing Corporations is contributed equally by the concerned State Governments and the Central Warehousing Corporation. The SWCs. Are under the dual control of the State Government and the Central Warehousing Corporation

WORKING OF WAREHOUSES

Acts: The warehouses (CWC and SWCs) work under the respective Warehousing Acts passed by the central or state governments. They are licensed under the provision of the Act.

Eligibility: Any person may store notified commodities in a warehouse on agreeing to pay the specified charges. The person is required to bring his produce to the warehouse for storage. The commodity is inspected, and the quality of the product is determined.

Warehouse Receipt (warrant): This is receipt/warrant issued by the warehouse manager /owner to the person storing his produce with them. This receipt mentions the name and location of the warehouse, the date of issue, a description of the commodities, including the grade, weight and approximate value of the produce based on the present price.

The warehouse warrant is a negotiable instrument and can be transferred by a simple endorsement and delivery. A delivery of part of the goods may be taken through this warrant by the depositor. Sometimes, the warrant may be non-negotiable.

Use of Chemicals: The produce accepted at the warehouse is preserved scientifically and protected against rodents, insects and pests and other infestations. Periodical dusting and fumigation and done at the cost of the warehouse in order to preserve the goods.

Financing: The warehouse receipt serves as a collateral security for the purpose of getting credit. Commercial banks advance up to 75 percent of the value of the produce stared in the warehouse.

Delivery of Produce: The warehouse receipt has to be surrendered to the warehouse owner before the withdrawal of the goods. The holder may take delivery of a part of the total produce stored after paying the storage charges.

LICENCE FOR RUNNING WAREHOUSE

The main provisions of the Act governing the grant of a license to run warehouses are:

- (a) Any person, including a company, association or corporate body may apply to the State Government for the grant of a license to carry on the business of warehousing.
- (b) The government grants the license after examining the warehouse building and the financial soundness of the party, and after the realization of the prescribed fees.
- (c) The license has to be renewed periodically on payment of prescribed fees.
- (d) The warehouse owner is authorized to receive only notified commodities for storage in his warehouse and issue receipts in a prescribed form.
- (e) It is the responsibility of the warehouse owner to keep the premises clean, keep different lots of goods separately in the warehouse, and carry on such operations as are necessary to protect the goods against losses from damage and pilferage.

Topic-12

Inspection and Quality Control

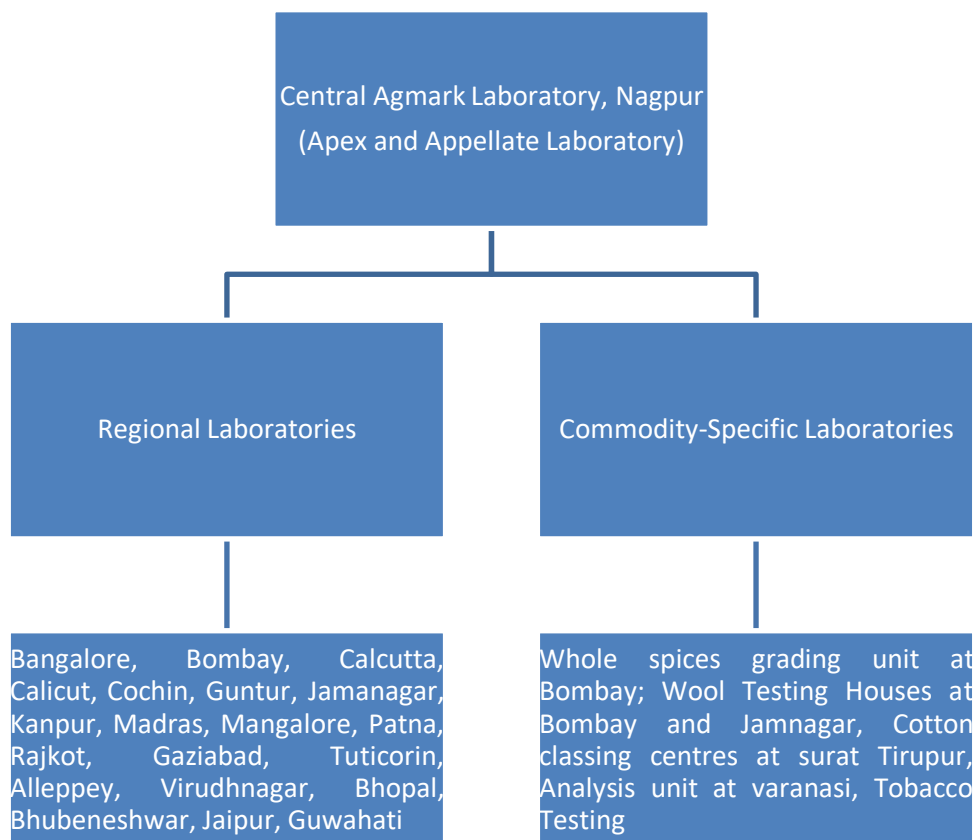
Quality control of agriculture commodities is the responsibility of the Directorate of Marketing and Inspection (DMI) (1935). The Directorate has prescribed grade and standards for various agriculture products under the Agricultural Produce (Grading and Marketing) Act 1937. Agricultural commodities are graded under this Act on the basis of the specification laid down under the grade standards. Graded products bear the AGMARK label, indicating the purity and quality of products.

To ensure the confidence of consumers, it is essential that grading is done in accordance with the standards that have been set. For this purpose, the inspecting of the goods at regular intervals by a third party is essential.

Inspection involves the testing of the graded goods with a view to determining whether they conform to the prescribed standards. It ensures quality control for purposes of inspection; samples of the product are drawn at various stages from the manufacturer, then market middleman or the consumer at his doorstep and are tested in the laboratory. These

inspections are carried out by inspectors appointed by the government, and not by a producer or a buyer.

The network of Agmark laboratories in the country is shown below:



Regular inspection creates confidence among the buyers. Producers, too, know that there is someone who checks the standards of the produce graded by them. This avoids the temptation of adopting such malpractices in the grading as mixing of inferior grade produce, etc. After laboratory test, if the produce is found to be below standards, the license of the grader is cancelled and legal action is initiated against him.

There were 566 approved grading and/or testing laboratories in the country at the end of March, 1984. Their number increased to 633 in 1990-91 and further to 700 in 1991-92. Presently, there are 111 state-owned grading laboratories, 549 laboratories of the licenses (private packers), nine laboratories in co-operative sector and 49 private and commercial laboratories with a total of 718 approved grading and / or testing laboratories in the country which are engaged in the analysis and determination of AGMARK grades.

Labeling:

The graded products, according to the standard fixed by the Agricultural Marketing Advisor, Government of India, bear the label '**AGMARK**'.

AGMARK is the abbreviation of Agricultural Marketing. It is a quality certification mark under the Central Agricultural Produce (Grading and Marking) Act, 1937. This label indicates the purity and quality of the product on the basis of the standards that have been laid down. The labels of different colors are used to indicate the grade of the product. The AGMARK labels are printed on special quality paper and issued by the Agricultural Marketing Advisor. They are serially numbered, and the firm is required to maintain the account of the labels, which are issued to the grader, in a register. It is a voluntary scheme Interested traders and manufactures are given license to manufacture their products under AGMARRK quality certification mark.

AGMARK label is attached to the container of the product in such a way that it will not be possible to remove the contents of the package without tampering the AGMARK labels. Each AGMARK package bears the date of packing and date of expiry of the product. AGMARK products are presented and certified for adulterated and spurious goods. If any AGMARK product purchased by the consumer is found defective, the consumer gets the product replaced or gets the money back as per the procedure laid out. There are about 14,000 licensees manufacturing and marketing their products under AGMARK quality certification marks.

RECOMMENDATIONS OF NATIONAL COMMISSION ON AGRICULTURE

The National Commission on Agriculture (NCA) had made the following suggestions to make grading and standardization popular in the country:

1. Grading and standardization have to be made compulsory for transactions in agricultural commodities at all levels for local, inter-state and export trade
2. Grading and standardization must cover all types of agricultural commodities, viz, crops, including horticultural and plantation crops, livestock and livestock products, fish and fish products, and minor forest products. Grade standards should be formulated for the commodities which have not been covered so far.
3. The duplication and overlapping of functions linked with the formulation of grades and grade standards for agricultural commodities must be done away with. Only one authority should be entrusted with the function of formulating grade standards by different authorities for the same product, which include the Health Ministry, the Bureau of Indian Standards and the Directorate of Marketing and Inspection.
4. The work should be distributed among the Central and State Government departments to avoid duplication. The authority to enforce grading at the inter state level and for the export trade should be vested in the Directorate of Marketing and Inspection, Government of India, and for internal trade in raw, semi processed and processed form in the State Marketing Departments.
5. Samples of graded commodities should be displayed in all the markets for verification, both by graders and participating consumers.
6. The grading system should be made efficient and fool-proof. For this purpose, trained and well qualified graders should be appointed, and they should be unconnected, with either buyers or sellers.

POPULARISATION OF GRADING

Notwithstanding the commendable progress achieved in the sphere of grading and difficulties encountered therein, the advantages of grading are so numerous that there is need to popularize AGMARK products and expand their coverage. This can be done by-

1. creating awareness about the advantages of using AGMARK products among the consumers;
2. education of the producers in respect of economic benefits of selling graded products;
3. performance budgeting of AGMARK products to assess the problems and drawbacks in their marketing and initiating steps to resolve them; and
4. introducing some compulsion in grading of some crucial products even for the domestic market.

OTHER PROVISIONS OF GRADE STANDARDS AND QUALITY SPECIFICATIONS.

Apart from the Agricultural Produce (Grading and Marking) Act, 1937, there are quite a few other legal provisions which lay down standards for food products. Some of the important Acts in this category are:

- I. The Prevention of Food Adulteration Act, 1954:** Under this Act, certain purity standards for food articles have been laid down which are mandatory. This Act is administered by the Directorate of Vanaspati Vegetable Oils and Fats under the Central Ministry of Civil Supplies and Consumer Affairs.
- II. The Fruit Products Order, 1956:** This order lays down mandatory standards for processed fruits. The responsibility of administering the standards under this order was transferred from Directorate of Marketing and Inspection to the Food and Nutrition Board in 1972.
- III. The Meat Food Products Order, 1973:** This Act lays down standards for production, storage and transportation of meat products. This order is administered by the Directorate of Marketing and Inspection.
- IV. Solvent Extracted Oil, De-oiled Meal and Edible Flour (Control) Order, 1967:** This order regulates quality of solvent extracted vegetable oils and vegetable oil products and is administered by the Central Ministry of Civil Supplies and Consumer Affairs.
- V. Vegetable Oil Products (Standard of Quality) Order, 1975:** This order is also administered by the Directorate of Vanaspati, Vegetable oils and Fats under the Central Ministry of Civil Supplies and Consumer Affairs and lays down the standards of quality for vegetable oils.
- VI.** For the purpose of minimum price support operations, the central nodal agencies have also laid down quality standards for various commodities. This is necessary as the minimum support price fixed by the government is applicable to the fair average quality (FAQ) of the produce and FAQ needs to be defined properly. The central nodal agencies for this purpose are as follows:
 - a)** Food Corporation of India – For Cereals.
 - b)** NAFED – For Pulses and Oilseeds including Copra.
 - c)** Cotton Corporation of India – For Raw Cotton.
 - d)** Jute Corporation of India – For Raw Jute.
- Vii** The Central/state warehousing corporations lay down standards for Agricultural commodities for accepting them for storage.
- VIII** The Bureau of Indian Standards (BIS) under the Indian Standards Institution (Certification Marks) Act, 1952, enables the manufacturers having requisite production and testing facilities to use ISI mark on the products if these conform to the specifications laid down by the BIS.

- IX In addition, the domestic manufacturers, particularly those who are entering the export trade have obtained international grade certificates under ISO (International Standards Organization) series.

International Organization for Standardization:

International Organization for Standardization (ISO) and the Codex Alimentations Commission (CAC) are the two prominent international organizations engaged in standardization of agricultural products.

International Organization for Standardization (ISO) came into existence formally on 25th February, 1947. The objective of ISO is to promote the development of standards in the world with a view to facilitating international exchange of goods and services and to develop cooperation in the spheres of intellectual, scientific, technological and economic activities. At present, 89 countries are members of ISO and 117 countries are corresponding members. India is a founder member of ISO and is presently engaged in the formulation of standards for a large number of agricultural commodities, covering spices and condiments, lac, essential oils, cereals and pulses, food products and stimulant foods. The results of ISO technical work are published as International Standards. This work is carried out by a setup of 191 technical committees covering different commodities traded internationally. One of the ISO Technical committees deals with agricultural food products. This technical committee has 15 sub-committees dealing with various food commodities groups such as fruits and vegetables; milk and milk products; meat and meat products; and species and condiments. The sub-committees have participating members, observer members and liaison members. The ISO standards published for different commodities are subject to periodical review every five years with a view to keeping the standards up-to-date under the working procedure of ISO. The ISO-9000 is a series of international standards for a quality oriented system and is applicable both to manufacturer and service industry.

The Codex Alimentations Commission (CAC) was established in 1963 by the Food and Agriculture Organization of the United Nations and the World Health Organization (WHO). The CAC establishes food standards which are termed as Codex Alimentations. The primary objective of the commission is to offer protection to consumers and facilitate world trade by establishing uniform international standards. These standards include guidelines, code of practices and other advisory provisions that aim at promoting the purpose of these standards. At present, there are 144 members (countries) of this commission. The establishment of the international food standards under CAC is a long-drawn process. The commission appoints subsidiary bodies or committees to prepare preliminary proposed draft standards. The standards so formulated are circulated to all member countries for getting their comments. Finally, the draft standards are circulated for implementation. The commission meets periodically to review these standards.

QUALITY CONTROL AND CERTIFICATION:

To retain the confidence of the farmers and provide them protection against unscrupulous practices, maintenance of quality and its certification is very important. For this purpose, the Indian Seeds Act was passed in 1966, which came into force from October 1, 1969 in all the states and union territories of the country. Later, Seed Control Order, 1983 came into existence.

The Indian Seeds Act (1966) aims at regulating the quality of seeds sold to the farmers. The Act envisages a two-pronged approach namely, compulsory labeling and voluntary certification. Under compulsory labeling any one selling seed of a notified variety should ensure that the seed conforms to the prescribed limits of germination and purity and its container is labeled in the prescribed manner. Under voluntary certification, any one desirous of producing certified seeds may apply to a certification agency for the grant of a

certificate to the applicant after satisfying that the seed has been produced according to the prescribed norms and that it conforms to the prescribed standards. The Act stipulates that any person offering to sell seeds of notified varieties should label them and give information about germination, purity and moisture percentage them and give information about germination, purity and moisture percentage all conforming to the minimum standards. Any discrepancy between the label and the contents is a criminal offence.

The main provision of the Seeds Act and the Rules thereof are:

- I. Standard of seeds – The Central Seed Committee of the Government of India through its sub-committees – Central Sub-Committee on Crop Standards and Notification and Central Sub-Committee on Release of Varieties-has prescribed Varieties-has prescribed the standards for the seeds of notified varieties so that the uniformity is maintained throughout the country. In addition, the Central Seed Certification Board also goes into the standards of certified seeds.
- II. Certification of seed – This is voluntary in nature and is done by 19 seed certification agencies set up in various states under the provisions of the Seeds Act. Certification of seed includes field inspection, proper grading, representative sampling and careful laboratory testing. The certificate is affixed securely to each sealed bag or container to show that the seed is certified.
- III. Seed Testing – Seeds are tested for purity and other qualities in seed testing laboratories. There are 86 state seed testing laboratories in the country.
- IV. Enforcement of Seeds Act – Enforcement of the seeds Act has been entrusted to the state governments. The seed inspectors of the government visit the premises of distribution agencies, check up the quality and take samples in case of doubt for testing in laboratories.
- V. The Central Seed Committee is the apex body to administer the Act in the country and to offer the technical advice to the State Governments.

PRICE CHARACTERISTICS OF AGRICULTURAL PRODUCT PROCESS,MEANING,NEED FOR AGRICULTURAL PRICE POLICY

Meaning:

Agricultural prices or farm prices are exchange value of agricultural products determined by Buyers and Sellers in the market and expressed in term of money. Prices are determined by two forces; demand and supply.

Characteristics of Agricultural/ Farm prices:

1. They are flexible as compared to industrial prices.
2. Prices are determined as a result of demand and supply in the market.
3. Prices differ from market to market, place to place and time to time.
4. Prices are not remain steady, varies with the demand and supply and some other factors also.

Important terms and concept in Agricultural Prices

1. Farm Harvest Price (FHP)

The farm harvest price of a commodity is the average wholesale price at which it is sold by the producer-farmer to the trader on the farm or at the village site during the specific harvest period, which is six to eight weeks after the commencement of the harvest season.

2. Harvest Season price

This is the price received by the farmer in the primary assembling market during the specified marketing period of six to eight weeks after the commencement of the harvest season. Thus, Farm Harvest Price represents the price received by the farmer at the farm site while harvest season price represents the price received by the farmer in the primary assembling market, the period under reference being the same.

3. Wholesale Price (WSP)

The price at which the bulk of the produce is transacted during the peak marketing period in a wholesale market is considered the wholesale price of a commodity. The transaction takes place between the farmer and wholesaler, between one wholesaler and another or between a wholesaler and a retailer.

4. Retail Price (RP)

The retail price is the price at which a commodity is made available to the consumers by retailers/traders.

At the retailer level, the commodity is transacted between the retailer and consumers in small lots.

5. Producer's Price

Producer's price is defined as the net price received by the farmer on selling his produce.

$$PP = FHP \text{ or } WSP - MC$$

Where MC = Marketing cost per unit of a commodity incurred by the farmer.

6. Free on Rail (FOR)

The system of quoting the price for a commodity varies. The FOR price of a commodity is the price inclusive of railway freight up to the railway station nearest to the buyer's place of business. In other words, at this price the commodity is delivered by the seller at the railway station named by the buyer. The cost of transportation or railway freight is borne by the seller.

7. Free on Board (FOB)

When the deal between a buyer and seller in two different countries is such that the seller agrees to deliver the goods at the agreed price at the specified seaport.

8. Free at Ship

In the case of FAS even the cost of loading in the ship at seaport is to be borne by the buyer.

9. Border Price

This term is used in cross country trading. The price of a traded good at a country's border is known as border price.

10. Price According to Time Frame

1. Short-period price or market price

The market price is the price at which a certain commodity is transacted at a particular time and place. There are variations in the market price of a commodity even during the course of a day in a market. Hence it is also termed as the Short-period price. The factors which influence this price are the levels of arrivals of a commodity on a particular day, sudden change in weather, the marriage season and blockage of road.

2. Long-period price or Normal price

The concept of normal price is theoretical one. This price is an average price telescoped over a period of time; say a season, year or several years. Since the normal price is some sort of an average price it does not refer to a particular time, place or quality of a commodity.

3. Cash / Spot price

Cash or spot price is the price at which commodities are transacted on the spot in the market or when the payment is made immediately after taking delivery. The markets where such prices prevail are termed as spot or cash price.

4. Forward price

The forward price of a commodity is the price which is settled for delivery of goods on future date. The deal finalized on the spot and delivery takes place later.

11. Administered Price

The administered price of a commodity is the price fixed by the government with the objectives of protecting farmers against a decline in prices during years of bumper production, protecting consumers from excessive price increases during lean production years and ensuring procurement for the maintenance of the buffer stock or operation of the public distribution system (PDS). A brief description of the different administered prices is given below:

(i) Minimum Support Price

This is the price fixed by the government to protect producer-farmer against excessive fall in prices in the even of bumper production. Minimum support prices for different are announced by the government before the start of the sowing season to provide a price guarantee to the farmers. This guarantee means that a not lower than the minimum price will be paid to the farmers when they bring their produce for sale. In case the market price of the commodity falls below the minimum price due to bumper production or a glut in the market, the government will purchase the entire quantity offered by the farmers at the minimum price.

Statutory Minimum Price

The minimum price has been assigned a statutory status in case of sugarcane and as such the announced price is termed as statutory minimum price. There is statutory binding on sugar factories to pay the minimum announced price and all those transactions on purchase at a price lower than this are taken as illegal.

(ii) Maximum or Ceiling Price

The maximum or ceiling price denotes the upper price level of a commodity fixed by the government. This provision prohibits a trader from charging a price higher than the maximum price. The ceiling price is fixed by the government to protect the consumers from unwarranted price increases. As far as the farmers are concerned, there is no ceiling price for sale of their produce.

Manufacturers of farm inputs, fix the maximum price of their products (MRP) which prohibits their sales at a price higher than the ceiling level. The government may also exercise control over the maximum prices for cement, fertilizers, insecticides, tractors and pumping equipment to safeguard the interest of farmers.

(iii) Fixed Administered Price

Fixed administered price is neither the minimum nor maximum price but denotes the level at which a seller has to sell his produce. Obviously, this can exist where the seller is in the organized sector. As far as the agricultural sector is concerned, examples of fixed administered prices cover electricity supplied to farmer and price of water from canals.

(iv) Procurement price

Procurement price of a commodity refers to the price at which the government procures it from producers /manufactures to maintain a buffer stock and feed public distribution system. These prices are announced by the Government of India on the recommendations of the CACP before the harvest season of the crop.

At these announced prices government procure the food grains in the needed quantity either for maintaining the buffer stock or for the distribution through fair price shops.

(v) Issue price

Another form of administered price is the issue price. This is the price at which the commodity is made available to consumers at fair price shops. The objective of this price is to safe guard the interest of consumers.

Other Terms

(i) Remunerative Price

A price is remunerative when it not only meets the farmer's cost of production but also ensure him a profit margin. The level of profit margin cannot be objectively defined but it should be sufficient to induce the farmer to continue farming operations and maintain a standard of living.

(ii) Fair Price

Fair price of a commodity is one which remunerative to farmer-producer and reasonable to the consumer.

(iii) Incentive Price

Incentive price for a commodity denotes the price which meets the cost of production and provides a profit margin to the farmer, so that he is motivated to expand production. This term is very close to remunerative price.

(iv) Input Price

The price of the resources used in the production process of a commodity is termed as the input price. e.g. price of seeds, fertilizer etc.

(v) Product price

The price of the product or output produced by the farmer in the production process through the use of various resources is termed as the product price.

(vi) Prices Paid by Farmers

Farmers are not only producer-seller but also buyers. They purchase various inputs like fertilizers, seeds, diesel and farm machinery. They also hire labour and pay wages. An index of the prices of all these items (which farmers purchase) represents the level of prices paid by farmers.

(vii) Prices received by Farmers

Prices received by farmers are some average or net prices received by the farmer-producer through sale of farm produce.

(viii) Real Price

Some times there is a difference in the price paid for a commodity by an individual and what he should have paid.

ROLE AND FUNCTIONS OF PRICE

ROLE OF PRICE

In agricultural based countries like India, prices of farm products undergo wide variations than the prices of industrial goods. They have profound effect on the growth, equity and stability of the economy. The incomes and living standard of the farmers, labourers and non-farming population i.e. consumers are very much affected by price fluctuation.

High and rising prices in general provide incentive to the producers to increase the output. The reverse may happen when prices are low and falling.

FUNCTIONS OF PRICE

1. What and how much to produce

In the competitive economy system prices of the commodities give signals to the producers regarding the type and quantity of the commodity to be produced in particular place at a particular point of time.

2. How to produce

Prices play an important role in deciding methods of production. The choice of resources depends on their relative prices. The producers should adopt least cost methods of production to survive in the business.

3. Prices serve basis for allocation of resources in the production process

4. It helps to strike a balance between Demand and Supply

This means when the demand is more than the supply, prices would give incentives to the producers. Similarly when the supply is more than the demand, prices are brought down to the lower level.

5. Price helps the consumers to allocate their income in the purchase of goods and services

6. Distribution of income among different groups of farmers

Marketable surplus would be high with the large farmers relative to small farmers. If the prices rise for agricultural commodities, large farmers with substantial marketable surplus would be more benefited by the price rise of the commodity compared to small farmers with low marketable surplus.

7. They regulate movement of commodities over time and space

Transportation of commodities from one area to another area i.e. from surplus area to deficit area takes place due to changes in price. As commodities are produced based on agro-climatic characteristics and seasons, there is a great need for marketing of the commodities over space and time due to price differential and consumption need.

8. Prices affect the rate of capital formation in the agricultural and the other sector

Higher prices for farm products lead to increased value of farm output. Consequently farm investment increases and with the increased investment, there will be further increase in the value of farm output and this further leads to higher consumption and standard of living. Thus, capital formation takes place through **acceleration** and **multiplier** effect. Farm workers demand higher wages when prices are increased. This in turn squeezes farm profit and lowers the incentives to the farmer.

On the other hand, the increased value of farm output would lead to investment in the non-farm sector partly. Thus capital formation would also take place in the non-farm sector.

9. Prices help to monitor and forecast economic conditions

If the prices are persistently increasing, it leads to inflationary trends in the economy. As a result, a large number of economic variables like per capita income, per capita consumption, interest rate policies etc. are very much affected by the price rise.

10. Prices help to gauge the impact of monetary and fiscal policies

When prices are changing we require appropriate monetary and fiscal policies to be formulated in the economy. The policies related to money supply, interest rates, deficit financing, direct and indirect taxes, subsidies etc. are to be regulated when prices are fluctuating widely in the economy.

INSTABILITY IN AGRICULTURAL PRICES (FLUCTUATION IN AGRICULTURAL PRICES)

Price instability means lack of stability in prices.

Instability in prices is defined as the state in which the prices continue to change over time and space.

Agricultural product prices are very unstable and fluctuate violently. Instability in prices affects the income of farmers as well as the tempo of agricultural production adversely.

Types of price Instability

There are four types of instability or fluctuations in agricultural prices

- (i) Day to day fluctuation (Short -term instability)
- (ii) Seasonal fluctuation (Intra -year instability)
- (iii) Annual fluctuation (Inter -year instability)
- (iv) Cyclical fluctuation (Long -term instability)

(i) Day to day fluctuation (Short -term instability)

This refers to the fluctuation in prices which last for comparatively short-period of time. Prices may change from week to week, from day to day and within the day.

Factors which affect magnitude of short –term fluctuations:

- i. Unexpected changes in markets receipts or arrivals.
- ii. Unexpected changes in off take from the markets.
- iii. Bottlenecks in the movement of commodities like strikes by transporters and blockage of rail or road transport.
- iv. Announcement of relevant government policy

(ii) Seasonal fluctuation (Intra –year instability)

This is due to behaviour of prices seasonally in a year.

Seasonally or intra-year price fluctuations are regularly occurring upswing and downswings in prices that occur with some regularity during the year.

The general pattern of seasonal variation in prices i.e. lower prices during the post-harvest months and higher prices during pre-harvest or off-season months is a normal feature for food grains and is repeated year after year.

Seasonality is also observed in the demand for some agricultural commodities. The demand for eggs and wool is generally more in winter months while that of milk product is more in the summer months. Thus, seasonality either in production (supply) or in consumption (demand) in the corresponding months/season leads to a seasonal variation in prices.

The seasonal nature of production affects the prices of agricultural commodities in two ways:

1. Perishable commodities:

Perishable commodities have to be moved to consumption points as soon as the produce is harvested. In that part of the year when supplies are large, there is bound to be decline in prices and vice versa. This is true for vegetables, fruits, milk and other perishable products.

2. Non-perishable commodities:

Non-perishable commodities like food grains, cotton and wool can be stored after harvest. The prices of such commodities fall during the harvest season and rise thereafter in proportion to the storage cost.

The intra-year fluctuation (seasonal fluctuation) in prices of non-perishable commodities is less as compared to that in the prices of perishable commodities.

Factors affecting Intra-year seasonal fluctuation

- i. Seasonal nature of production
- ii. Perishability of product
- iii. Bulkiness of products (storage cost)
- iv. Seasonal nature of demand for certain products
- v. Change in cost of storage

(iii) Annual fluctuation (Inter-year instability)

Inter-year instability means the price movements from year to year.

This occurs in those commodities whose production is influenced by change in acreage and yield, regular and irregular monsoon and the change in technology cause annual variation in productivity and production, which affect the annual price fluctuation.

Factors affecting the magnitude in of inter-year fluctuations in prices of agricultural commodities

- i. Fluctuations in production due to variation in rainfall
- ii. Fluctuations in production due to change in weather parameters at sowing time, crown initiation, flowering and seed formation stage
- iii. Fluctuations in supply due to floods, fire etc. during harvesting and threshing stage
- iv. Change in import –export policy. Change in public intervention policies like support or procurement prices, quantum of procurement, storage facilities

(iv) Cyclical fluctuation (Long –term instability)

It is related to price behaviour over a period of time. It is related to the secular or long-term trend in prices. The trend is not concerned with the movement in prices from one year to another but for a large number of years, say 10 or more. **Regularly occurring upswings and downswings in prices are termed as cyclical fluctuations in prices.**

The forces affecting demand for agricultural commodities in the long run are growth in population, growth in per capita income or purchasing power of the consumers and change in taste and habits of the people.

The factors affecting supply of agricultural commodities in the long run are growth in cultivated area, expansion in irrigation facilities and technology improvements.

Thus, change in technology like evaluation of high yielding varieties and control measure for pests and diseases, change in money supply, change in credit and interest rate policy, change in administered prices of inputs like electricity, diesel, fertilizers and canal water, change in pay scales, wage rate and income tax, change in import and export policies, extent of processing facilities available for farm products, change in policies of other countries towards our imports and exports.

Irregular and Episodic Price Fluctuations

Irregular and episodic price movement represents that part of the behaviour prices which is not systematic. A particular price movement may not recur in the future. No generalizations can be made about such price fluctuation because of the diversity in their nature and irregularity of the cause and effect relationship in their occurrence. They may be of shorter or longer duration.

Causes – wars, drought, floods, earthquake, strikes

If the causes are known (like war, flood, famine or a strike) the price fluctuation are termed as episodic. But if no cause can be assigned the price movements are termed as irregular or accidental. Irregular price movements are random in nature.

STABILIZATION OF AGRICULTURAL PRICE

Meaning:

Price stabilization is not the same thing as holding the price line. It is a much broader concept and signifies a policy aiming prevention of violent fluctuation in the price of both sides.

NEED FOR PRICE FIXING FOR STABILIZATION

1. To protect the farmers from heavy losses due to vagaries of weather and damaged by insect pests and price fluctuations, price should be guaranteed.
2. To safeguard the interest of consumers it is necessary that the prices should be prevented from rising beyond prescribed minimum.
3. The fair price should be such as would leave to the producer an income sufficient to maintain himself and his family in reasonable standard of living.
4. The minimum and maximum prices should be fixed for principal food grain like bajra, wheat, paddy, maize etc. as their prices are likely to influence those of other food grains.
5. Farm product account for a considerable part of the consumption expenditure of a majority of the population. Uncertainty in farm product prices leads to uncertainty in real incomes.
6. The farm sector provides raw material for industries like cotton, jute, edible oils, sugar and processed foods. Therefore, stability in farm product prices helps maintain the tempo of production, profitability and employment in these industries.
7. Prices of agricultural commodities have a high weightage in the general price index. Food grain prices occupy a high weightage in the cost of living index. If prices of food articles rise, labour unions mount presser for wage hike and an inflationary spiral gets into motion. Thus, industrial development is hampered.
8. In the industrial sector, output can be adjusted according to fluctuations in prices. But in the agricultural sector, farmers can not reduce production when prices fall rigidities on account of seasonality and committed resources. Therefore, falling prices affect farmers adversely. Rigidity in supply affects farmers adversely both in a situation of rising prices as well as one of falling prices. Stability in prices is necessary on this count also.

Agricultural Price Policy

Price policy plays an important role in the development of agriculture. It has been recognized both as incentive to greater production and as insurance against market risks. An important aspect of agricultural price policy is the assurance to the farmer that his efforts to augment production through adoption of improved technology would not become unremunerative through the price factor, biological character of agricultural production and its dependence upon the weather condition leads to variation in the output of the agricultural production year to year. It has been observed that due to inadequacy of marketing facilities, in years of increased production prices tends to fall sharply. Sometimes to such low levels that they act as a disincentives to increased agricultural production.

Objectives of Agricultural Price Policy

1. To ensure reasonable relation between the prices of food-grains and non food-grains.
2. To ensure a reasonable relationship between the prices of agricultural commodities and manufactured articles.
3. By allowing the prices to move within the maximum and minimum range.
4. To maintain the appropriate relationship between the competing crops.
5. To smooth seasonal and cyclical fluctuations of prices of agricultural commodities.
6. To remove price difference between two regions.
7. To ensure proper price relation between commodity prices and input prices.
8. To make available food to the consumers in the time of shortage.
9. To encourage or discourage production of certain crops in the interest of the economy.

Fixation of Agricultural Prices

Fixation of agricultural prices means action intentionally taken to affect or limit the movement of prices or to set specific prices. It refers to the price rising, price manipulation, price stabilization, price control etc.

Objectives of Price Fixing

1. To stabilize farm price and income.
2. To make available the food to the consumers in the time of shortage at reasonable prices.
3. To encourage or discourage production of certain goods in the interest of the economy.

RISKS IN MARKETING: Meaning & Importance, Types of Risk in Marketing

Risk is apparent in all marketing activities. Loss of produce occurs in the marketing activity due to fire, rodents, storage pests, moisture, etc,

Price Risk:

Price fluctuations for commodities are seen due to changes in supply and demand, which in turn are due to time lag between production and consumption. The longer is the time lag, the greater would be the magnitude of marketing risks.

Physical Risk:

Physical risk is caused during weighing, bagging, transportation, storage etc. Physical loss consists of loss of quantity as well as loss of quality of the product.

Institutional Risk:

Institutional risks arise due to changes in Government policies, changes in taxes and tariffs, changes in the movement restrictions of food grains between the states and regions etc.

MARKETING RISK-MANAGEMENT STRATEGIES:

Middlemen involved in the marketing adopt different practices to minimize market risks. Marketing risks are associated with not only profits to middlemen but also losses. Persons who don't take risks in marketing activities, cannot get higher profit, i.e. higher profits in the marketing necessarily involve higher marketing risk. Let us examine some of the risk management practices. These are broadly grouped under the management of physical losses and the marketing practices to minimize price risks.

1. Management of Physical Loss

The physical losses or quantity losses of the product are reduced by the adoption of the following measures.

1. Using the improved storage structures and following the preventive measures of avoiding fire and quantity loss due to various factors in the storage process.
2. Using appropriate chemicals for avoiding storage losses.
3. Using better and quicker transport methods and better handling practices during transportation.
4. Using proper package practices and storage practices, and
5. Insuring the produce with the concerned insurance agencies, etc.

2. Marketing Practices to Minimize Price Risk

The following practices are adopted to minimize the price risk.

1. Fixation of minimum and maximum prices for major commodities by the Government and allowing the prices to move within the defined price ranges.
2. Strengthening the marketing facilities for dissemination of information on prices, demand and supply of commodities over time and space to all the concerned with the marketing.
3. Strengthening of advertising system and strengthening of forward marketing through hedging and speculation.

SPECULATION AND HEDGING

It is a process of transacting the goods or financial obligation that assumes risks in the hope of favorable price movements. Speculation is done in the marketing to keep the marketing activities competitive and to keep the average cost of future transaction or future trading as low as possible. It also creates the volume of trading to allow producers to get into contract or to go out of contracts. Speculation generally refers to the process of gambling but to the economists it is not so. A gambler unnecessarily takes risks and the gambler deliberately creates risks and he does not serve the society with fixed purpose. On the other hand, speculator assumes risks in marketing. Speculation means doing the business with the sole objective of making profits by correctly guessing the price movements. Speculation leads to hoarding which creates artificial scarcity. The physical delivery of the produce is neither taken nor given. Speculation is not a regular marketing practice. It is of two types viz., speculation proper (legitimate speculation) and speculation improper (illegitimate speculation).

Speculation Proper:

In the process of speculation proper, speculators devote their whole time in the marketing activity. They collect relevant information with regard to future price movements to make intelligent forecasts and do speculation. These actions are beneficial to the economy.

Speculation Improper

Illegitimate speculation is a sort of gamble. In this method of speculation, the speculators create artificial scarcity leading to rise in the prices of commodities in the future for making very large profits. Their actions are not rational and hence the economy suffers due to their actions.

HEDGING

It is a trading technique of transferring the future price risk. According to Shepherd (1965) ***“hedging is executing opposite sales or purchases in the future markets to affect the purchases or sales of physical products made in the cash market”***. Through hedging practice, the future buying and selling the produce at a specified date is done to offset and equal and opposite price trend in the cash markets. By doing so the traders avoid the risk of uncertain fluctuations in the prices of commodities. In this approach each unit sale of the commodity transaction is entered with an equivalent unit purchase of commodity in two different markets. Hence it is assumed that the prices in two markets move exactly parallel to strike a balance. This means losses arising in one market are offset by the profits in the other markets.

Advantages of Hedging

1. It avoids price risk and enables the trader to earn normal trade profits.
2. It keeps the margins at a very low level and ensures no risk in the future.
3. It facilitates financing of inventories.

In the developed countries hedging is a common practice in livestock marketing. In India hedging is done in the food grain marketing.

TABLE 43.1 Hedging.

May 15 th 1998: Buys 100 Q of rice @ Rs.1200 per Q	Sept 15 th 1998: Sells 100 Q of rice @ Rs. 1200 per Q
Sept 15 th 1998: Sells 100 Q of rice @ Rs. 1,140 per Q Rs. – 60 (loss)	Sept 15 th 1998: Buys 100 Q of rice @ Rs.1140 Per Q

How Hedging Helps in Price Risk Management?

The hedging practice adopted by wholesale trader in rice is assumed and provided in Table 43.1 On 15th May 1998 he buys 100 Q of rice @ Rs. 1200 per quintal from the cash market and makes agreement to sell the same quantity at the same price i.e. Rs. 1200 per quintal in future market on 15th Sept. 1998. Similarly, the wholesalers are also fearful regarding price fall for rice in future date. To safeguard his trading practice against price fall, he would also resort to future trading in future market on September 15, 1998. He would make an agreement to buy 100 quantities at the same price of Rs. 1140 in the cash market.

This practice is adopted by the wholesaler to overcome the price risk (price fall) In the above illustration the loss of Rs. 60 per quintal incurred in the cash market is offset by an equivalent gain from future trading (hedging). Thus through hedging processes the traders safeguard themselves against price fall in future. The gain obtained in future market covers the cost of holding the inventory plus normal rate of return on investment i.e. normal profit for undertaking the business.

Difference between Speculation and Hedging

Sr. No.	Speculation	Sr. No.	Hedging
1	Purchase and sales in the cash as well as in futures markets are made with the objectives of making profit.	1	Purchase and sales in the cash as well as in futures markets are made to protect oneself against excessive price fluctuations.
2	The activities of buying and selling are not necessarily opposed to each other.	2	The activities of buying and selling are always opposed to each other.
3	It is not necessarily that two types of transactions should be of equal quantity.	3	It is obligatory to buy and sell the goods in equal quantities in the two markets.
4	Under speculation, the speculator purchases goods and sell them when prices rise as per his expectations.	4	The commodities are not stored by traders. Only the differences in the prices is given or taken on the due date.

CONTRACT FARMING/CONTRACT MARKETING (Farmer - Processor Linkages)

MEANING

Contract farming or contract marketing essentially is an arrangement between the farmer-producers and the agri-business firms to produce certain pre-agreed quantity and quality of the produce at a particular price and time. It can only be a pure procurement transaction or can extend to the supply of inputs or even beyond.

Contract farming is emerging as an important mode of procurement of raw materials by agri-business firms in India due to the developments in the field of agricultural marketing, changes in food habits and in agricultural technology in the new economic environment. This is an important initiative for reducing transaction costs by establishing farmer-processor linkages in addition to the already existing methods of linking the farmers to the consumers.

In contract farming, companies or organizations engaged in processing and marketing of agricultural products are entering into contracts with the farmers. They provide inputs to the farmers and buy back the product at a rate specified in advance. Following type of inputs and services are normally provided by the company to the farmers:

1. Seeds of the variety they need for processing/marketing
2. Guide lines to grow the crops
3. Pesticides which do not result in residual toxicity
4. Extension services
5. Fertilizers required for the crop
6. Other material if not locally available.

The contract may be entered into by parties anytime from the start of the sowing or planting to the harvesting, processing, packaging and marketing stage of the crop. Normally, the contract is entered before the start of the sowing or planting because the buyer can then stipulate the conditions of cultivation, use of the seed variety needed by them, use of pesticides and insecticides, and requirement of on farm grading, sorting, packaging and processing. The buyer of the product generally keeps the right to monitor the crop at every stage of its growth.

Following documents are obtained/given to selected farmers by the companies:

1. Application /Registration form
2. Contract farming agreement
3. Issue of pass book
4. Issue of ID Card

ADVANTAGES OF CONTRACT FARMING:

Contract farming/marketing, is beneficial both for the producer-farmers as well as to the processing company in several ways:

To the farmer, contract farming

- (i) Reduces the risk of price/production
- (ii) Ensures the price as market is assured
- (iii) Increases the quality consciousness
- (iv) Ensures higher production because of better quality seeds and pesticides
- (v) Reduces marketing costs
- (vi) Provides financial support in cash or kind
- (vii) Ensures efficient/timely technical guidance almost free of cost.

To the processing company, contract farming-

- (i) Ensures supply of quality agricultural produce at right time and at lesser cost to the company.
- (ii) Channels direct private investment in agricultural activities.
- (iii) Ensures that the toxicity level is reduced as per requirement for export or for

domestic market.

Government is increasingly looking towards the corporate sector to augment the rural incomes and employment through agro-processing. In this context; policy makers' see the contract farming/marketing as an important avenue to ensure greater private sector participation in agriculture.

METHODS OF PRICE FIXATION IN CONTRACT FARMING

There are several forms of price fixation methods under the contract farming. One is when price fixation is done by the negotiation between the farmers and the company. The farmer enters into contract production with an assured price. The terms and conditions of contract are decided informally and are often liable to be distorted by the company. There may be frequent breaches of contracts from both sides as there is no arbitration mechanism. It is considered, as an exploitative model in contract farming.

The second method is where some government agency is involved in this model, the processing/procuring firms make contract with the farmer and the price fixation is done by a government agency in consultation with both the parties. None of the parties is expected to breach the contract. In the event of breach of the contract, "there can be' a penalty for non-compliance of the terms and conditions of the contract. The basic point is that-the contract is enforced by the government agency.

The third model is operating in Tamil Nadu where both farmers and company are free to settle the price mutually, but once the price is settled, it is submitted to the Enforcement Officer of the state government. In the case of dispute, the Enforcement Officer does arbitration, which is a method of settling the differences between the parties. Both parties are liable to comply with the award of arbitration.

RISKS IN CONTRACT FARMING

. There are several risks in contract farming both for farmers and sponsorers (processing units). These are of the following nature.

Risk for Farmers

- (i) Farmers face the risk of both market failure and. production, particularly while adopting new and unfamiliar crops and their varieties.
- (ii) All . contracted production may not be purchased due to inefficient management and marketing problems of the contracting company.
- (iii)Sponsored may be tempted to manipulate quality. standards to reduce purchases due to inefficient management and over production of the crop output.
- (iv)) Sponsoring companies may exploit their monopsony position.
- (v) The staff of the sponsoring organization may adopt corrupt practices especially in allocation of quota.
- (vi) Farmers may become indebted in the long run due to low production, poor technical advice, significant changes in market conditions, company's failure to honor contracts or excessive amount of advances given by the company.

General Agreement on Tariff & Trade (GATT)

International trade is not a new or recently started activity. Trade between countries has been an age-old practice. In reality, it was free and there were not many restrictions. Transportation and settlement systems were the problems of trade between countries. However, several

Restrictions on international trade started creeping in

- (1) To protect domestic industry
- (2) To protect the prices of the goods in local markets
- (3) Due to balance of payment problems and
- (4) Due to extraneous reasons like political favoring one country while discriminating the other.

They started working with **the objective** of finding a system which would:

1. Help to remove the restrictions on trade.
2. Ensure free convertibility of currencies (which was suspended during the inter war period due to exchange controls) and
3. Maintain stability in exchange rates among the currencies.

An international conference on Trade and Employment was held in **Havana** in **1947-48**. A charter was drawn and signed by **53 countries** for setting up of an International Trade Organization (ITO). ITO could not be established because the Havana charter was not ratified by the US Congress. However **23 countries** had agreed to continue the exercise of negotiating for trade concessions, which were incorporated in the **General Agreement on Tariff and Trade (GATT)**. This agreement was signed on 30 October 1947 and come into **force with effect from 1 January 1948**. India was the founder member of GATT. The main purpose of GATT was to ensure competition in commodity trade through the removal or reduction of trade barriers so as to bring about all round economic prosperity.

OBJECTIVES OF GATT

The preamble of the GATT mentions the following as its important objectives.

1. Rising of standard of living of public world over.
2. Ensuring full employment and a large and steadily growing volume of real income and effective demand in all the countries.
3. Developing full use of resources of the world and
4. Expansion of production and international trade.

Conventions and Principles of GATT

GATT embodies certain conventions and general principles governing international trade among the member countries that adhere to the agreement. The rules of conventions of GATT require that:

1. Any proposed change in the tariff or other type of commercial policy of a member country should not be undertaken without consultation of other parties to the agreement and
2. That the countries that adhere to GATT should work towards the reduction of tariffs and other barriers to international trade which should be negotiated within the framework of GATT.

GATT has adopted the following principles.

1. **Non-discrimination:** The principle of non-discrimination requires that no member country shall discriminate between the members of GATT in the conduct of international trade. To ensure non-discrimination, the members of GATT agree to apply the principle of most favored nation (MFN) to all member countries on import and export duties. As far as quantitative restrictions are permitted, they too are to be administered without favors to any country. Each nation shall be treated as well, as the most favored nation.
2. **Prohibition of Quantitative Restrictions (QRs):** GATT rules seek to prohibit quantitative restrictions as far as possible and limit the restrictions on trade to the less rigid tariffs. However, certain exceptions to this prohibition are granted to countries confronted with balance of payments difficulties and to developing countries confronted with balance of payments difficulties and to developing countries confronted with balance of payments difficulties and to developing countries.
3. **Consultation:** By providing a forum for continuing consultations, GATT seeks to resolve disagreements through consultation. On account of persistent follow up by member developing countries for removing or modifying the provisions which are perceived to be based against them, eight rounds of trade negotiations were held during the period from 1947 to 1994. They were Geneva Round (1947), Anney Round (1949) Torquay Round (1950), Tokyo Round (1950) Geneva Round (1955-56), Dillon Round (1959-62) Kennedy Round (1663-67) Tokyo Round (1973-79) and Uruguay Round (1986-90)

ORIGIN OF WTO:

The eighth round of multilateral trade negotiations held under the auspices of the GATT is known as the Uruguay round because it was launched in punta del Esta in Uruguay in September 1986. Arthur Dunkel, the then Director General of GATT presented a draft act embodying the negotiations of the Uruguay round. This was popularly known as Dunkel draft. This was replaced by an enlarged and modified final text which was approved by delegations from the member countries of the GATT on 15th December 1993. This final act was signed by **Ministers of 125 Governments on 15th April 1994**. The results of the Uruguay Round are to be implemented within ten years-different time periods are given for effecting the different agreements.

The most important decision at the Uruguay round was setting up of World Trade Organization (WTO) to replace GATT. **The World Trade Organization located at Geneva (Switzerland) came into effect on 1-1-1995**. WTO is the international organization dealing with the global rules of trade between nations. Its objective is to help trade flow smoothly, freely, fairly and predictably. It does this by:

1. Administering trade agreements.
2. Acting as a forum for trade negotiations.
3. Settling trade disputes.
4. Reviewing national trade policies.
5. Assisting developing countries in trade policy issues through technical assistance and training programmes, and
6. Co-operation with other international organizations.

Objectives

The following are the objectives of WTO spelt out in the preamble to the WTO agreement.

1. In the field of trade and economic development, its relations will be guided by the following
 - a) Raising the standards of living.
 - b) Achieving full employment and increasing the volume of real income and effective demand and
 - c) Expanding the production and trade in goods and services.
2. Towards the fulfillment of the overall objective of sustainable development to ensure the optimal use of world's resources by
 - a) Promoting the protection and preservation of environment and
 - b) Augmenting resources commensurate with the respective needs and concerns at different levels of economic development.

3. For ensuring that the developing countries, particularly the poorest countries, may get a share in the growth of international trade consistent with their needs of economic development.
4. For achievement of these objectives to enter into mutually beneficial arrangements aiming at reduction of barriers and elimination of discrimination in international trade.
5. Based on the past agreements and efforts and their results to develop a more viable and durable multilateral trading system.
6. For coordinating policies in the field of trade, environment and economic development, to take effective steps.

The main functions of the WTO can be described in very simple terms. These are:

- To oversee implementing and administering WTO agreements;
- To provide a forum for negotiations; and
- To provide a dispute settlement mechanism.

Objectives:

The important objectives of WTO are:

1. To improve the standard of living of people in the member countries.
2. To ensure full employment and broad increase in effective demand.
3. To enlarge production and trade of goods.
4. To increase the trade of services.
5. To ensure optimum utilization of world resources.
6. To protect the environment.
7. To accept the concept of sustainable development.

Functions:

The main functions of WTO are discussed below:

1. To implement rules and provisions related to trade policy review mechanism.
2. To provide a platform to member countries to decide future strategies related to trade and tariff.
3. To provide facilities for implementation, administration and operation of multilateral and bilateral agreements of the world trade.
4. To administer the rules and processes related to dispute settlement.
5. To ensure the optimum use of world resources.

6. To assist international organizations such as, IMF and IBRD for establishing coherence in Universal Economic Policy determination.

Main Three Pillars of AOA:

The Agreement on Agriculture has three pillars

A. Domestic Support:

It includes the classification of agricultural subsidies into 'boxes' depending on their effects on production and trade-

- **Amber Box:** Provides Aid to avoided and reduced, Measures to support prices, subsidies most directly linked to production level and quantities meanwhile, all domestic support considered to distort production and trade (with some exception like except that placed in the Green and Blue Box. It subject to limits expressed in terms of a "Total Aggregate Measurement of Support" (Total AMS) which combines all supports for specified products, together with supports that are not for specific products, into one single figure.

For example- When European Union buys up cereals and dairy products at guaranteed prices from its producers; (Like Indian Minimum Support Prices but AOA didn't object to Indian MSP programmes) it is amber-box aid.

- **Blue Box:** Production limiting programmes that still distort trade. Subsidy is permitted under the blue box, cover certain direct payments to farmers where the farmers are required to limit production called 'Blue Box' measures, comprises government assistance programmes to encourage agricultural and rural development in developing countries. Any support that would normally be in the amber box is placed in the blue box if the support also requires farmers to limit production.

For e.g. Blue box contains aid to livestock or land not linked to prices but to fixed figures for surface and yield.

- **Green Box:** It follows under the Permitted subsidies, Minimal Distortion, and typically includes those to research and development (R&D), environmental protection and animal welfare. Blue box subsidies are also permitted, but on the condition that they must not lead to increased production as amount spent on government services. Green subsidy allow in terms of support example: MSP or subsidies. It includes the payments made directly to farmers that off limits stimulate production, such as certain forms of direct income support, assistance to help farmers to restructure the agriculture, direct payment under environmental and regional assistance programmes.

- **Market Access:**

Market access refers to the reduction of tariff (or non-tariff) barriers to trade by WTO members. The 1995 Agreement on Agriculture required tariff reductions of:

- 36% average reduction by developed countries, with a minimum per-tariff line reduction of 15% over six years.
- 24% average reduction by developing countries with a minimum per-tariff line reduction of 10% over ten years.

Least developed countries (LDCs) were exempt from tariff reductions, but they either had to convert non-tariff barriers to tariffs—a process called tariffication or "bind" their tariffs, creating a ceiling that could not be increased in future.

- **Export Subsidies:**

The Agriculture Agreement prohibits export subsidies on agricultural products unless the subsidies are specified in a member's lists of commitments. Where they are listed, the agreement requires WTO members to cut both the amount of money they spend on export subsidies and the quantities of exports that receive subsidies. Taking averages for 1986-90 as the base level, developed countries agreed to cut the value of export subsidies by 36% over the six years starting in 1995 (24% over 10 years for developing countries). Developed countries also agreed to reduce the quantities of subsidized exports by 21% over the six years (14% over 10 years for developing countries). Least-developed countries do not need to make any cuts.

Organization Set-up:

1. Ministerial Conference: It is the supreme authority and takes decisions on all matters falling within the purview of an agreement. It consists of all the member countries. It meets at least **once in 2 years**.
2. General Council: It comes next to the ministerial conference and consists of the representatives of all the member countries. It oversees the operations of the WTO agreement and ministerial decisions. Besides, it acts as a dispute settlement body (DSB) and a Trade Policy Review Body (TPRB). It meets once in a month on an average. The general council works through
 - (a) Council for trade in goods
 - (b) Council for trade in services and
 - (c) Council for trade related aspects of intellectual property rights (TRIPS).

There are three committees that perform the functions assigned to them under WTO agreement, the multilateral trade agreements and any other functions assigned by the general council. The three committees are

1. Committee on trade and development.
2. Committee on balance of payments restrictions.
3. Committee on budget, finance and administration.

3. Director General: The head of the WTO secretarial is appointed by the general council. The term of the director general is **four years**.

WTO AGREEMENTS:

Trade Related Investment Measures (TRIMS)

This agreement seeks to bring about multilateral disciplines on investment practices that distort trade flows. According to this agreement all measures obstructing foreign investment and distorting trade should be removed within two years by developed countries, five years by developing countries and seven years by the least developed countries. The important features of the TRIMS are as follows:

1. All restriction on foreign capital/investors/companies should be scraped.
2. The foreign investor should be given the same rights in the matter of investment as a national investor.
3. Restrictions will not be placed on any area of investment.
4. There should not be any limitation on the extent of foreign investment
5. There should not be restrictions on the imports of raw materials and components.
6. Foreign investor will not be obliged to use local products and materials.
7. It is not mandatory on the part of foreign investor to export a part of the output.
8. Elimination of restrictions on repatriation of dividend, interest and royalty.

Trade Related Intellectual Property Rights (TRIPS)

The TRIPS agreement encompasses seven areas of intellectual property rights viz (i) copy right (ii) trade marks (iii) trade secrets (iv) industrial designs (v) geographical indications (vi) patents which also includes microorganisms and plant varieties (vii) layout designs of integrated circuits.

It allows a transition period of one year for developed countries, five years for developing countries and eleven years for the least developed countries to make their laws and practices to conform to the rules and conditions laid in the agreement.

General Agreement on Trade in Services (GATS)

This agreement is based on the desire to establish a multilateral framework of principles and rules for trade in services with a view to expanding such a trade under conditions of transparency and progressive liberalization. The services refer to banking and insurance, transport, communication, mobility of labour etc.

Under GATS, Most Favored Nation (MFN) principle will apply to all member countries i.e. if a service of any kind is open to one member country, it should be extended to all member countries in equal measure.

Export – Import

To understand the meaning of Export and Import, we have to understand the meaning of international trade first. The term international trade refers to the exchange of goods between citizens of different countries. This kind of trade across national frontiers has grown in size with improved means of transportation and development of technology. Export and Import are two aspects of International Trade.

Meaning of Export:

When one country sells any commodity or manufactured items, goods or services to another country, it is known as Export. Export means goods and services sold abroad.

Meaning of Import:

When one country purchases any commodity or manufactured items, goods or services from another country, it is known as Import. Import means goods and services bought from abroad.

Definitions of Globalization:

1. Globalization has been defined as the process by which the development of a “global ideology” has begun to transcend national boundaries, with far-reaching consequences for both; the conduct of business transactions and the theory and practice management.
2. Globalization is the process of a growing similarity in what citizens of different countries want to buy.

Meaning of Liberalization:

Liberalization in reference to Economic refers to the liberalization in Trade and Economics. This is one financial policy which is adopted by different countries with the objective to accelerate the economic growth. This policy is related with the open market. Restriction on production, prices, permission for manufacturing goods or services, distribution, exchange, consumption, import, export and other economic are liberalized or abolished. Market forces are allowed to operate freely. Foreign investment is also welcomed with the objective of improving the existing technology and infrastructure facilities in the country. Globalization has made significant changes in economical and social environment.

Market

The market actually refers to a set up where potential buyers and sellers can meet to exchange goods or services. It is basically a medium that facilitates these transactions in an economy. It allows for the exchange of goods, services, information under the protection of the law and generally in exchange for consideration.

Traditionally a market is a physical location or place, like a bazaar or a shopping mall. The kind of market it is will depend on a lot of factors. Some of the ways in which we can characterize markets are,

- According to the products being sold. Example: cotton market, iron market, share market
- Based on geographical locations, like a local market or international market
- By the types of buyers involved, example: consumer market, industrial market etc
- The quantity of goods transacted between parties like a wholesale market or a retail market

Marketing

Marketing is a very wide term. It includes all the activities involved right from the production of the goods, until their consumption. Every activity in between, like designing, pricing, promotion, distribution, transportation, warehousing etc are activities of marketing.

Important Features of Marketing

- ***Satisfy Needs and Wants:*** The main focus of all marketing activities is consumer satisfaction. When a group of individuals (potential customers) express their needs, the companies strive to satisfy these needs via marketing activities.
- ***Creating a Market Offering:*** Then the companies must dedicate their efforts to create an ideal market offering based on their study of potential customers. This product/service offered must try to fulfil all of the requirements of the potential customer in a given market.
- ***Customer Value:*** The customers buying decisions will be greatly dependant on the price of the product. It must satisfy their needs at the cost that they think is fair. So the sellers must add value to the product and price it accordingly, so the customer is willing and gets value for his price.
- ***Exchange Mechanism:*** Marketing is not a one-way process. The seller must satisfy the needs of the buyer. And the buyer in an exchange must provide consideration for the goods/services, which can be money or something else. It must be an exchange mechanism.

Market	Marketing
Market is the point of interaction between buyers and sellers	Marketing is the social process by which human needs are identified and eventually satisfied
Market is a set-up, or a place, or a point of interaction	Marketing is a process involving roughly 12 activities
Market can be of many types based on the goods traded, quantity traded, geographical location etc	Marketing philosophy is generally uniform for any type of goods or services.

Strategy of launching new products: Four p's of Marketing (Marketing Mix)

Definition of Marketing Mix:

According to Kotler, the marketing mix refers to the set of controllable variables and their levels that the firm uses to influence the target market.

Marketing mix refers to the range of competitive dimensions along which firms promote their products to customers and potential customers including the styling, quality etc. of the goods and services themselves, their prices, their advertising, and promotion, their packaging, their distribution, and their selling and servicing.

Product

A product is generally categorized as a tangible good but it can also be an intangible service. Companies take a lot of time and effort to develop quality products that are in demand in the market. A good product is the very basic requirement of an effective marketing mix.

All products follow a logical [product life cycle](#) and it is vital for marketers to understand and plan for the various stages and their unique challenges.

Products are broadly classified into two categories – consumer products and industrial products. Consumer products are products that the ultimate consumer purchases himself for direct use. The consumer purchases these consumer products to satisfy his personal needs and desires. Some examples of consumer products are toothpaste, eatables, textiles, computers etc and various such products.

Now there are many types of consumer products as well. Let us take at the classification of consumer goods based on the shopping effort involved:

- **Convenience Products:** These are consumer goods that are very convenient to purchase. They are bought frequently and with very little effort. Examples include medicines, newspapers etc. Such convenience products have ongoing and continuous demand. Such goods are also bought in small quantities and are also generally lowly priced. Farm product

- **Shopping Products:** To shop for these consumer products, consumers devote considerable time and effort. They compare prices and features and a lot of thought is involved before making the decision to buy. Some such examples are electronics, furniture, jewelry etc. These products generally fall in the higher price range. Such products are pre-planned purchases. Processed products.
- **Specialty Products:** For specialty products, consumers make special efforts to buy them. They are not your regular run of the mill consumer products. The buyer is willing to go through a lot of effort to purchase such products. Take for example any artwork, paintings, sculptures etc. The demand for such specialty products is usually pretty and the prices are high.

Industrial Products

These are products which are used as input for manufacturing other products. Unlike consumer goods, these are not for direct consumption. These are meant for business and non-personal use. Some examples of industrial products are raw materials, machines, tools etc.

Here the demand for industrial products is limited. Since they are not consumer goods the demand for them is not vast. The three broad categories of Industrial goods are as follows:

- **Machine and Machine Parts:** These goods are used entirely in the manufacturing process. These include raw materials like cotton, petroleum etc. They also include manufactured products like glass, rubber etc.
- **Capital items:** These are goods/products used to manufacture finished goods. They include installations (lifts, mainframe computers etc) and equipment (hand tools, personal computers etc)
- **Business Services and Supplies:** These are industrial goods and services that facilitate the manufacturing process. They include services such as painters, technicians, maintenance, and repairs. And products such as lubricants, stationary etc.

Product Life Cycle

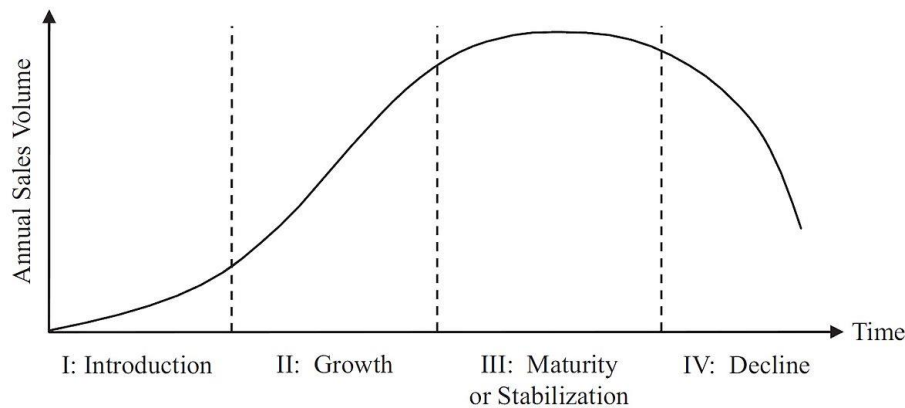
Product life cycle is a representation of the cycle through which each product goes through from introduction to decline and eventual demise of the product. The Product Life Cycle helps us recognize which stage the products are in. Accordingly, the company can adjust their marketing strategy to make most of the conditions.

There are four distinct stages in a product's lifecycle. Right from the introduction of the product in the market to its end. Every stage has its own distinct features. And the company should change its marketing strategy every time the product makes its move from one stage to another. Let us take a look at the four stages.

1] Introduction

As the name suggests this is the stage of introduction of the product to the market. At this stage, the demand for the product is only a proved demand and not effective demand. This stage is categorized by the following features

- The product's sale is at its lowest and is increasing but very slowly
- During the introduction, the promotion expense is very high. Extensive promotions have to be undertaken to create awareness and demand for the product.
- The products are put in limited outlets. The distribution is also kept limited to a few channels. The point is to try out the product before expanding distribution.



2] Growth Stage

This is the second stage of the product lifecycle. Now the sales begin to take off and the product becomes well known. Some other characteristics are

- The promotion expenses still remain high. Now the focus will be on brand recognition and brand image. This helps the product maintain and extend its selective demand.
- With a rise in sales, the profits also rise sharply
- This is the stage where new competitors may enter the market with better research and better products. To keep up with their products, the company may make improvement and modifications to their products

3] Maturity Stage

- This is the stage where the market saturates and sales growth of the firm slow down and finally stabilizes at a stage.
- Competition in the market will intensify in this stage. All competitors will want to maintain a production level to enjoy economies of scale
- This stage may also see a price war in order to keep their market share. Reducing prices may affect the profit margin of the company.

4] Decline Stage

This the terminal stage of the products, they are no longer relevant in the market. So the end of this stage is the eventual demise of the product in the market.

A few characteristics of the decline stage are as follows,

- There is a rapid fall in the sales
- The prices reduce further. The point is to have a large market share to gain maximum benefit at the least profit margin
- There are virtually no promotion or advertising expenses in this stage of the product lifecycle.

Price

Price covers the actual amount the end user is expected to pay for a product. How a product is priced will directly affect how it sells. This is linked to what the perceived value of the product is to the customer rather than an objective costing of the product on offer. If a product is priced higher or lower than its perceived value, then it will not sell. This is why it is imperative to understand how a customer sees what you are selling. If there is a positive customer value, then a product may be successfully priced higher than its objective monetary value. Conversely, if a product has little value in the eyes of the consumer, then it may need to be underpriced to sell. Price may also be affected by distribution plans, value chain costs and mark-ups and how competitors price a rival product.

Promotion

The marketing communication strategies and techniques all fall under the promotion heading. These may include advertising, sales promotions, special offers and public relations. Whatever the channel used, it is necessary for it to be suitable for the product, the price and the end user it is being marketed to. It is important to differentiate between marketing and promotion. Promotion is just the communication aspect of the entire marketing function.

Place

Place or placement has to do with how the product will be provided to the customer. Distribution is a key element of placement. The placement strategy will help assess what channel is the most suited to a product. How a product is accessed by the end user also needs to compliment the rest of the product strategy.

Pricing

- A price is a value in monetary terms that one party pays to another in a transaction in exchange for some goods or services. So the definition of price is the amount of money the buyer will pay as consideration to the seller in exchange for goods or services.
- Pricing isn't always as easy as setting a price the seller hopes to obtain. It involves aspects such as demand and supply, cost of the product, its perception and value for the customer and many such factors.
- So while pricing a product, the company has to take immense care and consideration. If the price is too high or even too low the product will fail in the market. This is also the reason why the determination of price is not a one-time event. A company changes the prices according to the market conditions and other circumstances.

Factors Affecting Price Determination

A company has to keep in mind various factors while determining the price of a product. Some such important factors are given here.

1] Cost of the Product

The most important factor affecting the price of a product is the product cost. The same principle also applies in case of services. The product cost will be inclusive of the cost of production, the distribution costs and the selling and promotion costs. This cost will act as a benchmark for setting the price.

In the long run, the company will obviously try to cover the entire cost of the product. And in addition, it will set for itself a profit margin over and above such cost. But perhaps in the short run, the company may set a price lower than the cost of the product. This is a marketing strategy to boost sales and capture a share in the market. But in the long run, no company can survive unless the prices of the products/services do not even cover their costs.

Let us also learn about the two types of costs of a company

- **Fixed Cost:** These costs are fixed. They have no relation to the level of activity or production of the company. Even if there is no production of goods these costs will occur. For example, the rent of the factory is a fixed cost.
- **Variable Cost:** These are the costs that vary in direct proportion to the production levels of an entity. Higher the production, higher the cost and vice versa. The raw material is a classic example of a variable cost.

2] The Demand for the Product

The cost of the product will only give you a benchmark to determine the price. The upper limit of the price range will depend on the utility the product has and hence its demand in the market. So the cost of the product is the seller's concern. The buyer's concern is the utility of the product. The demand for the product will depend on its utility and its price. The law of demands states that lower the price higher the demand.

Another factor to consider when determining the price is the elasticity of demand. This means the corresponding change in demand to the change in the price of a product. If the demand is inelastic then the company can charge a higher price for their products.

3] Price of Competitors

One factor that affects price termination is the price the competition charges for their product. Not only their price but their products, its features and other factors like distribution channel, promotions etc. should also be studied.

In a market, with free competition, the prices have to be very competitive. You cannot risk pricing yourself out of the market. But on the other hand, if your products have special additional features this must be reflected in the price.

4] Government Regulation

The government has a duty to protect its citizens from unfair practices and pricing. So it may impose certain laws and regulations with regards to the pricing of a product. It can even regulate the prices of goods that it considers essential goods.

This generally happens in the pharmaceutical industries. Manufacturers charge exuberant prices for life-saving drugs and the buyers have no choice but to pay. In such cases, the government may step in and regulate the prices of these essential medicines.

Branding is a process which involves creating a specific name, logo, and an image of a particular product, service or company. This is done to attract customers. It is usually done through advertising with a consistent theme.

Branding aims to establish a significant and differentiated presence in the market that attracts and retains loyal customers. A brand is a name, term, symbol, or other feature that distinguishes an organization or product from its rivals in the eyes of the customer. Brands are used in business, marketing, and advertising.

Labelling is the display of label in a product. A label contains information about a product on its container, packaging, or the product itself. It also has warnings in it. For e.g. in some products, it is written that the products contain traces of nuts and shouldn't be consumed by a person who's allergic to nuts. The type and extent of information that must be imparted by a label are governed by the relevant safety and shipping laws.

Labelling is also an important part of the brand of the product and the company. It helps the product stand out in the market, and identifies it as a part of a particular brand. This is important in the era of high and intense competition.

Packaging

As we know first impressions go a very long way in how people perceive anything. This is the same idea that companies implement via their packaging. The outer appearance of the product (the package) is the first thing a potential customer will see, and so it can be a great marketing tool for the product.

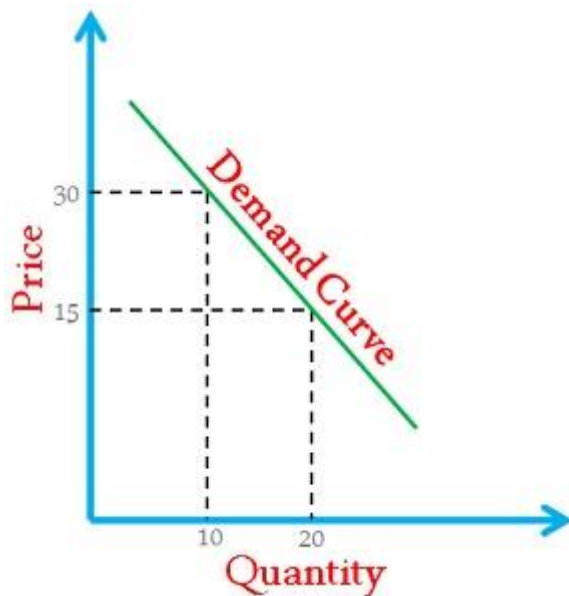
In fact, the package of a product serves multiple practical purposes as well.

Let us take a look at some of the uses and functions that it serves.

- **Protection:** The first and the most obvious use of packaging is protection. It physically protects the goods from damage that may be caused due to environmental factors. It is the protection against breaking, moisture, dust, temperature changes etc.
- **Information Transmission:** Packaging and labelling are essential tools to inform the customer about the product. They relay important information about directions for use, storage instructions, ingredients, warnings, helpline information and any government required warnings.
- **Convenience:** Goods have to be transported, distributed, stored and warehoused during their journey from production to consumption. Packaging will make the process of handling goods more convenient for all parties involved.
- **Security:** To ensure that there is no tampering with the goods packaging is crucial. The package of a product will secure the goods from any foreign elements or alterations. High-quality packages will reduce the risk of any pilferage.

Definition of Demand

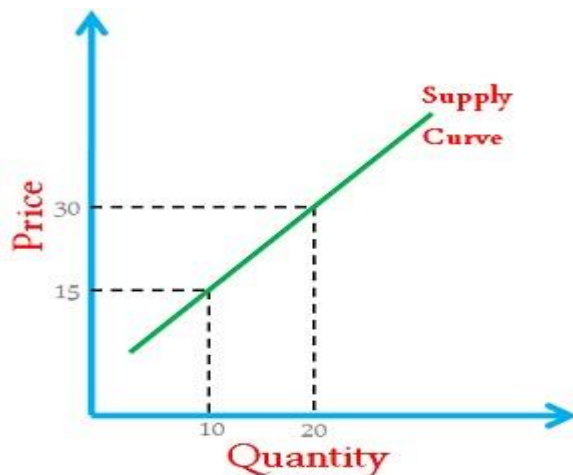
In economics, demand represents the customer's desires and preferences for a particular product, for which he is ready to pay. The quantity (how much) of the product is demanded at a certain price, i.e. the equilibrium between quantity demanded and price, is demand for a particular product.



Demand curve is an indicator of inverse relationship between price and quantity demand.

Definition of Supply

The amount of a particular product and services offered by the manufacturers or producers at a certain price to customers is known as supply. The quantity (how much) of the product is supplied at a particular price i.e. the equilibrium between quantity supplied and price is known as the supply of that commodity or service. It represents the firm.



Supply curve represents direct relationship between price and quantity supplied.

Key Differences Between Demand and Supply

1. The equilibrium between the quantity demanded and the price of a commodity at a given time is known as demand. On the other hand, the equilibrium between the quantity supplied and the price of a commodity at a given time is known as supply.
2. while demand curve slopes downward, supply curve is upward sloping.
3. Demand is the willingness and paying capacity of a buyer at a specific price while Supply is the quantity offered by the producers to its customers at a specific price.
4. Demand has an inverse relationship with supply, i.e. if demand increases supply decreases and vice versa.
5. Demand has an indirect relationship with the price i.e. if price increases the demand decreases and if the price decreases the demand increases, however, the price has a direct relationship with supply, i.e. if price increases the supply will also increase and if the price decreases supply also decreases.
6. Demand represents the customer's taste and preferences for a particular commodity demanded by him, whereas Supply represents the firms, i.e how much of a commodity is offered by the producers in the market.

Factors Affecting Demand and Supply

- **Price of the commodity**
If the price of the commodity rises, then it is less demanded by the people, because people finds less utility in the product, and at that much price they can buy the other products having more utility for them. In this way, demand decreases while the supply increases.
- **Price of inputs**
The price of the inputs has a great impact on the price of the commodity, i.e. if the cost of production rises, it ultimately results in the fall of demand and supply for the goods will also fall because now at the same amount less quantity of goods are produced and vice versa.
- **Price of related goods**
It can simply be understood by an example- If the price of the petrol or diesel rises the demand for motorcycles or cars falls while its supply increases, but if the prices of petrol or diesel falls, then people can easily afford to travel on motorcycles or cars and this will result in the rise in demand while the supply decreases.
- **Substitute Products**
This can also be understood by an example- If there is a rise in the price of a coffee, then most people will drop consuming coffee and will start consuming tea this will suddenly affect the demand and supply for both the products, i.e. the demand for tea will rise and its supply will fall while the demand for coffee will fall and supply will rise.
- **Personal Disposable Income**
If there is an increase in the income of the consumer then a slight change in the price of the commodity will not affect its demand and supply. While, if the income of the consumer remains same or decreases, then a slightest change in the price will affect its demand and supply because the consumer have to spend more income on the same product which he was previously purchasing at a low price. In this way either he will demand less or will switch to some other product.
- **Consumer choices and preferences**
If the product offered by the supplier suits the consumer choice, then he will surely demand more and its supply will fall short because of its high demand.

Demand and Supply for money

The amount of money needed for various purposes, such as purchase of commodities, acquisition of land, hiring of labor etc, that creates demand for money in the economy. On the other hand, supply for money largely depends on the country's credit control policies, which are governed by the banking system of the economy.

Conclusion

The market is flooded with several substitutes in each product category and a sudden rise or fall in the prices will have an impact on these products and their demand and supply may increase or decrease. In such a situation, an equilibrium must be maintained in the quantity demanded and the quantity supplied without neglecting the price factor at which the product is supplied.

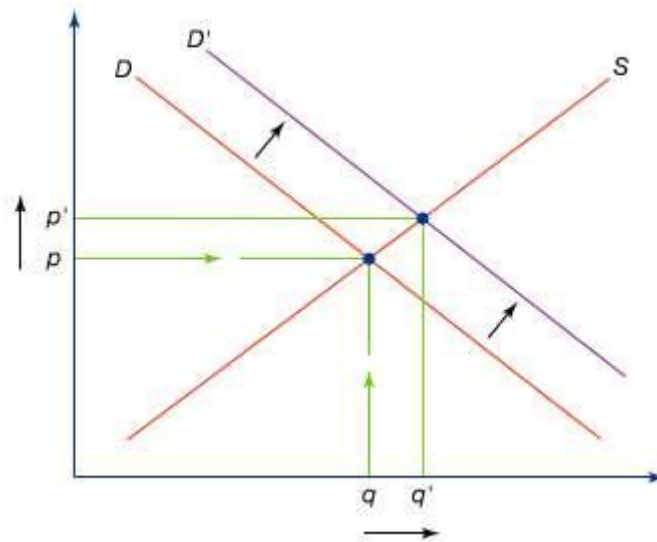
The equilibrium in the quantity demanded and supplied will help the firm to stabilize and survive in the market for a longer duration while the disequilibrium in these will have severe effects on the firm, markets, other products and the whole economy will suffer as a whole.

Supply and demand, in [economics](#), relationship between the quantity of a commodity that producers wish to sell at various [prices](#) and the quantity that consumers wish to buy. It is the main model of [pricedetermination](#) used in economic theory. The price of a commodity is determined by the interaction of supply and demand in a [market](#). The resulting price is referred to as the [equilibrium](#) price and represents an agreement between producers and consumers of the good. In equilibrium the quantity of a good supplied by producers equals the quantity demanded by consumers.

Demand Curve

The quantity of a commodity demanded depends on the price of that commodity and potentially on many other factors, such as the prices of other commodities, the incomes and preferences of consumers, and seasonal effects. In basic economic analysis, all factors except the price of the commodity are often held constant; the analysis then involves examining the relationship between various price levels and the maximum quantity that would potentially be purchased by consumers at each of those prices. The price-quantity combinations may be plotted on a curve, known as a [demand curve](#), with price represented on the vertical axis and quantity represented on the horizontal axis. A demand curve is almost always downward-sloping, reflecting the willingness of consumers to purchase more of the commodity at lower price levels. Any change in non-price factors would cause a shift in the demand curve, whereas changes in the price of the commodity can be traced along a fixed demand curve.

A shift in demand

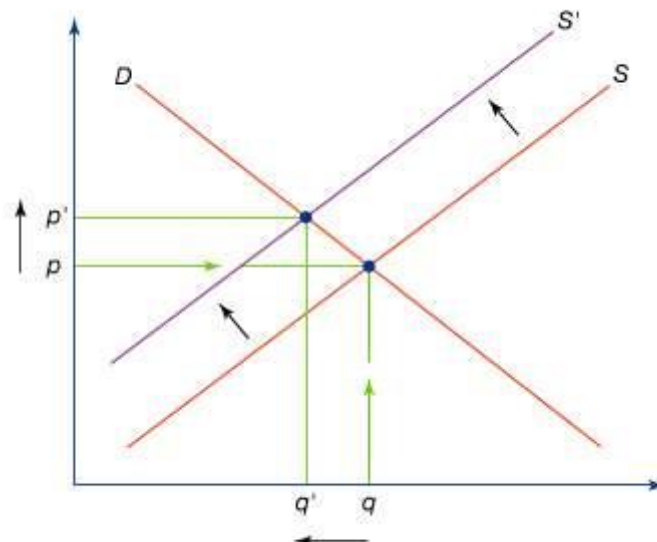


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increase in demand

The quantity of a commodity that is supplied in the market depends not only on the price obtainable for the commodity but also on potentially many other factors, such as the prices of substitute products, the production technology, and the availability and [cost of labour](#) and other [factors of production](#). In basic economic analysis, analyzing supply involves looking at the relationship between various prices and the quantity potentially offered by producers at each price, again holding constant all other factors that could influence the price. Those price-quantity combinations may be plotted on a curve, known as a [supply curve](#), with price represented on the vertical axis and quantity represented on the horizontal axis. A supply curve is usually upward-sloping, reflecting the willingness of producers to sell more of the commodity they produce in a market with higher prices. Any change in non-price factors would cause a shift in the supply curve, whereas changes in the price of the commodity can be traced along a fixed supply curve.

A shift in supply



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decrease in supply

Comparison Chart

BASIS FOR COMPARISON	DEMAND	SUPPLY
Meaning	Demand is the desire of a buyer and his ability to pay for a particular commodity at a specific price.	Supply is the quantity of a commodity which is made available by the producers to its consumers at a certain price.
Curve	Downward-sloping	Upward-sloping
Inter-relationship	When demand increases supply decreases, i.e. inverse relationship.	When supply increases demand decreases, i.e. inverse relationship.
Effect of Variations	Demand increases with the supply remaining the same leads to shortage while demand decreases with the supply remaining the same leads to surplus.	Supply increases with the demand remaining the same leads to surplus while supply decreases with the demand remaining the same leads to shortage.
Impact of Price	With an increase in price the demand decreases and vice versa i.e. indirect relationship.	Supply increases along with the increase in price. So it has a direct relationship.
Who represents what?	Demand represents the consumer.	Supply represents the firm.

Market segmentation is the process of dividing a **market** of potential customers into groups, or segments, based on different characteristics. The segments created are composed of consumers who will respond similarly to **marketing** strategies and who share traits such as similar interests, needs, or locations.

Definition: Market Segmentation

Market segmentation is a process of dividing the entire market population into multiple meaningful segments based on marketing variables like demographics (age, gender etc), geographic, psychographics (lifestyle, behaviour) etc.

Market segmentation in marketing is identifying a set of homogenous segments having similar needs, properties & demands which can be used by a company to sell their product/service more effectively.

Types of Market Segmentation:

The most important variables in market segmentation are based on demographics, geographic, psychographics & behavioural. These are explained in detail below:

1. Demographic Segmentation:

Slicing the market on criteria based on demographics like age, gender, income, family members, educational qualification, socio-economic status etc, is called [demographic segmentation](#). This type of market segmentation helps in profiling the customers based on demographic parameters & help to form homogeneous groups.

2. Geographic Segmentation:

When a population is divided on the basis on geographies i.e. country, state, city, village, region, postal code etc, it is referred to as [geographic segmentation](#). This market segmentation type helps form clusters based on location, topography, location etc.

3. Psychographics Segmentation:

Market segmentation done based on personality of people, their characteristics, their life style, social status etc is called as [psychographic segmentation](#).

4. Behavioural Segmentation:

When companies divide the market based on the customer behaviour or usage patterns, it is known as [behavioural segmentation](#). This type of market segmentation considers the past behaviour of consumers.

Advantages of Market Segmentation:

Market segmentation can have many benefits for companies which can benefit their business. Some are discussed below:

1. Segmenting a market gives focus to company as it helps to understand the market better
2. Unnecessary costs are avoided by efficient market segmentation as only the required population can be tapped
3. Segmentation can help companies identify newer markets where existing products can be launched
4. If certain overlapping markets are identified, companies can create new products to capture them
5. Once proper market segmentation is done, after identifying target groups accurately, advertising & marketing can be more effective rather than having loosely created ad campaigns
6. Homogeneous groups can themselves promote the products or services even more if they like it
7. Systematic market segmentation helps in market expansion and also helps in customer retention

Disadvantages of Market Segmentation:

Apart from the several advantages, there are also certain drawbacks of market segmentation. Some disadvantages are:

1. A company having multiple segments would have to cater to them separately i.e. more costs
2. Giving products/ services to multiple segments can be a time-consuming process for companies

3. If a company selects a wrong segment, their entire business can collapse
4. Smaller clusters/ niche markets often get neglected in the bigger scheme of things

Sales Promotion

Sales promotion is one of the elements of the promotional mix. It uses both media and non-media marketing communications for a pre-determined, limited time to increase consumer demand, stimulate market demand or improve product availability.

Examples coupons, prizes, product samples, and rebates.

Advantages of sales promotion

1. When compared with advertising and personal selling, sales promotional activities are less expensive.
2. It enables both the dealers and the consumers to enjoy certain tangible benefits, e.g., free samples, gifts, price reductions, etc.
3. Certain sales promotional activities also enable the consumers to gain knowledge. For example, displays and demonstrations help them to, understand the product mechanism. The customers can also raise their queries and get clarification immediately. Pamphlets distributed to the consumers also provide useful information.
4. Advertising approaches the buyer indirectly and personal selling approaches the buyer directly. Whereas sales promotional activities involve both direct and indirect approaches.
5. Sales promotion helps to supplement and support both advertising and personal selling. No business can totally rely on advertising and personal selling alone.
6. Most of the sales promotional activities can be undertaken by the manufacturers themselves. Distribution of free samples and gifts, money refund and coupon offers, demonstrations, exchange of old for new and so on can be made by the manufacturers themselves. They may, at the most, need the help of the dealers only. Whereas, in the case of advertisement, media are required, e.g., Radio, TV and newspapers. Personal selling requires efficient and committed salesmen.
7. The salesmen of a business cannot perform their work effectively without the use of sales promotional tools like pamphlets, audiovisual aids, cell phones and pagers.
8. When compared with advertising, sales promotional activities can create better and quicker impact. Free sample, gifts, demonstrations etc., can induce the consumers to act fast. One can, therefore, say that sales promotion satisfies the 'A I D A formula' to a greater extent.
9. The business can have better control over its sales promotional activities. The financial aspects, in particular, pertaining to sales promotion can be effectively managed. This may not be possible in the case of advertisement and personal selling.
10. Measuring the effectiveness of sales promotion can be easy when compared to measuring the effectiveness of advertising and personal selling.

Disadvantages of sales promotion

1. The number of sales promotional activities to be performed are too many, distribution of free samples and gifts, making such offers as price off and money refund, holding contests, participating in trade fairs and exhibitions, display and demonstration of goods and so on.
2. Sales promotion, by itself, cannot produce results. It can only supplement advertising and personal selling which are vital for a business.
3. Sales promotion is non-recurrent in nature. It cannot, therefore, be used continuously. The marketer has to select the most appropriate tool of sales promotion and the same shall be introduced at the right time.
4. It involves additional expenditure on the part of the business. Apart from the heavy expenditure to be incurred on advertisement and personal selling, the business may have to spend further on sales promotion. This leads to an overall increase in promotional costs.
5. The marketer cannot use any sales promotional tool at any time. Certain tools are to be used only in the introduction stage of a product, while others will be used in the growth and maturity stages. Indiscriminate use will not produce the expected results.
6. Another drawback of sales promotion is that there is a tendency on the part of all the competitors to use the same method of sales promotion at the same time. Such an approach may not benefit all. For example, if all the manufacturers of air-conditioners offer off season discount (during winter), the consumer may only decide based on brand popularity.
7. Sales promotion is generally required to promote sales of those brands which are not so very popular. Popular brands move fast in the market without much effort. Brand popularity can be secured mainly by means of advertisement and personal selling.
8. Sales promotion offers such as price cut, discount, free gift etc., may sometimes create an impression that these are being done to sell a poor quality product.
9. As far as the various types of discounts (cash discount, off-season discount and festival discount etc.) are concerned, there is always a feeling that these are not real and the price would have already been hiked.
10. As the sales promotional activities are short-lived, the results of such activities will also be short-lived. The moment the various inducements offered by the marketer are withdrawn, the demand is bound to fall.

Publicity

The word publicity is derived from the French word “publicite”. It is the movement of information to the general public from the media.

Publicity is gaining public visibility or awareness for a product, service or your company via the media.

Personal selling

Personal selling is where businesses use people (the "**sales force**") to sell the product after meeting **face-to-face** with the customer. The sellers promote the product through their attitude, appearance and specialist product knowledge.

They aim to inform and encourage the customer to buy, or at least trial the product.

A good example of personal selling is found in department stores on the perfume and cosmetic counters. A customer can get advice on how to apply the product and can try different products. Products with relatively high prices, or with complex features, are often sold using personal selling.

Advantages of personal selling

- High customer attention
- Message is customised
- Interactivity
- Persuasive impact (Asar kare tevu)
- Potential for development of relationship
- Adaptable
- Opportunity to close the sale

Disadvantages of personal selling

- High cost
- Labour intensive
- Expensive
- Can only reach a limited number of customers

Regulated market

Under the traditional system of marketing of the agricultural products, producer-sellers incurred a high marketing cost, and suffered from unauthorized deductions of marketing charges and the prevalence of various malpractices. To improve marketing conditions and with a view to creating fair competitive conditions, the increase in the bargaining power of producer-sellers was considered to be the most important prerequisite of orderly marketing. Most of the defects and malpractices under, the then existing marketing system of agricultural products have been more or less removed by the exercise of public control over markets, i.e., by the establishment of regulated markets in country.

Definition of regulated market:

It is one which aims at the elimination of the unhealthy and unscrupulous practices, reducing marketing charges and providing facilities to producer-sellers in the market. Any legislative measure designed to regulate the marketing of agricultural produce in order to establish, improve and enforce standard marketing practices and charges may be termed as one which aims at the establishment of regulated markets. Regulated markets have been established by State Governments and rules and regulations have been framed for the conduct of their business. The establishment of regulated market is not intended at creating an alternative marketing system.

The basic objective has been to create conditions for efficient performance of the private trade, through facilitating free and informal competition. In regulated markets, the farmer is able to sell his marketed surplus in the presence of several buyers through open and competitive bidding. The basic philosophy of the establishment regulated markets is the elimination of malpractices in the system.

Objectives

The specific objectives of regulated markets are:

1. To prevent the exploitation of farmers by overcoming the handicaps in the marketing of their products,
2. To make the marketing system most effective and efficient so that farmers may get better prices for their produce and the goods are made available to consumers at reasonable prices.
3. To provide incentive prices to farmers for inducing them to increase the production both in quantitative and qualitative terms,
- 4 To promote an orderly marketing of agricultural produce by improving the infrastructural facilities.

Important features of regulated markets

1. **Market area:** The area from which the produce naturally and abundantly flows to a commercial centre, i.e., the market, and which assures adequate business and income to the market committee
2. **Principle assembling market:** It is the main market which is declared as a principal market yard on the basis of transactions and income generated for the market committee
3. **Sub market yard:** It is sub yard of the principle assembling market. This is a small market and does not generate sufficient income to declare as a principal assembling market
4. **Market yard:** This is a specified portion of the market area where the sale, purchase, storage and processing of any of the specified agricultural commodities are carried out.

Powers, duties and functions of the Market Committee

- (i) maintain and manage the market yards and sub-market yards within the market area;
- (ii) provide the necessary facilities for the marketing of agricultural produce within the market yards and outside the market yards and within the sub-market yards and outside the sub-market yards in the market area;
- (iii) register or refuse registration to market functionaries and renew, suspend or cancel such registration, supervise the conduct of the market functionaries and enforce conditions of Registration;
- (iv) regulate or supervise the auction of notified agricultural produce in accordance with the provision and procedure laid down under the rules made under this Act or bye-laws of the Market Committee ;
- (v) conduct or supervise the auction of notified agricultural produce in accordance with the procedure laid down under the rules made under this Act or bye-laws of the Market Committee ;

Organizational set Up o the Corporation:

According to Section 20(a) of the Warehousing Corporation Act 1962, the General Superintendence and Management of the affairs of the State Warehousing Corporation are vested in a Board consisting of 11 Directors of whom 5 are nominated by the Central Warehousing Corporation, The remaining 6 Directors are from the State. The Chairman of the Board is appointed by the State Government with the prior approval of the Central Warehousing Corporation.

Co-operative marketing

Meaning

A co-operative sales association is a voluntary business organization established by its member to market farm products collectively for their direct benefit. It is governed by democratic principles, and savings are distributed to the members on the basis of their share. The members are the owners, operators and contributors of the commodities and are the

direct beneficiaries of the savings that accrue to the society. Co-operative marketing organizations are associations of producers for the collective marketing of their produce and for securing for the members the advantages that result from large-scale business which an individual cultivator cannot secure because of his small marketable surplus. In a co-operative marketing society, the control of the organization is in the hands of the farmers, and each member has one vote irrespective of the number of shares purchased by him. The profit earned by the society is distributed among the members on the basis of the quantity of the produce marketed by him. In other words, co-operative marketing societies are established for the purpose of collectively marketing the products of the member farmers. It emphasizes the concept of commercialization. Its economic motives and character distinguish it from other associations. These societies resemble private business organization in the method of their operations; but they differ from the capitalistic system chiefly in their motives and organizations.

Objectives of Co-operative marketing Society:

1. To collect farm produce of members and sale on behalf of members in the market.
2. To give remunerative price for agriculture produce (marketed) to the members.
3. To perform marketing services assembling, grading, storing, transporting, financing and processing of the produce of the members to perform the above services efficiency and to give benefits to the members.
4. To help in recovery of loan of members by linking marketing of credit. Thus, crop loans will be recovered through marketing of members produce.
5. To provide marketing finance or giving waiting capacity for better price.
6. To supply agricultural inputs and daily necessities of life to the members.
7. To carry out or to undertake processing activities of agro based industries.

Types

On the basis of the commodities dealt in by them, the co-operative marketing societies may be grouped into the following types:

(i) Single Commodity Co-operative Marketing Societies

They deal in the marketing of only one agricultural commodity. They get sufficient business from the farmers producing that single commodity. The examples are Sugarcane Co-operative Marketing Society, Cotton Co-operative Marketing Society and Oilseed Growers Co-operative Marketing Society.

(ii) Multi-Commodity Co-operative Marketing Societies

They deal in the marketing of a large number of commodities produced by the members, such as foodgrains, oilseeds and cotton. Most of the co-operative marketing societies in India are of this type.

(iii) Multi-purpose, Multi-commodity Co-operative Marketing Societies

These societies market a large number of commodities and perform such other functions as providing credit to members, arranging for the supply of the inputs required by them, and meeting their requirements of essential domestic consumption goods.

Functions

The important functions carried out by the co-operative marketing societies are:

(i) Sale on Commission Basis

Co-operative marketing societies act as commission agents in the market, i.e., they arrange for the sale of the produce brought by the members to the market. The produce is sold by the open auction system to one who bids the highest price. The main advantage, which the farmer-members get by selling the produce through co-operative marketing societies instead of a commission agent, is that they do not have to accept unauthorized deductions or put up

with the many malpractices, which are indulged in by individual commission agents. As there is no individual gain to any member in the marketing of the agricultural produce through co-operative marketing societies, no malpractices are expected to be indulged in. This type of marketing is not risky for co-operative societies. But sometimes traders in the market form a ring and either boycott the auction or bid a low price when the produce is auctioned on the co-operative marketing societies shops. Therefore, farmers hesitate to take their produce for sale in the market through co-operative marketing societies.

(ii) Purchase of Members' Produce

Co-operative marketing societies also enter the market as buyers. A society participates in bidding together with other traders, and creates conditions of competition. The commodities thus purchased by a society are sold again when prices are higher. This system of the outright purchase of the produce by the society involves the risk of price fluctuations. If the managers of societies lack business experience, they hesitate to adopt the outright purchase system. In 1964-65, the National Cooperative Development Corporation recommended that the outright purchase system should be adopted only by a society which possesses the following qualities:

- (a) The society has a trained manager, i.e., one who is capable of understanding the intricacies of the trade;
- (b) The society is financially sound and has adequate borrowing facilities;
- (c) The society is affiliated to a good viable central level society; and
- (d) The society possesses processing facilities.

(iii) Advancement of Credit

Co-operative marketing societies advance finance to farmers against their stock of foodgrains in the godowns of the societies. This increases the holding power of the farmers and prevents distress sales. Generally, societies advance credit to the extent of 60 to 75 per cent of the value of the produce stored with them. The recoveries are affected from the sale proceeds of the produce of the farmer. This function involves no risk to the society. Moreover, it increases the business.

(iv) Procurement and Price Support Purchases

Co-operative marketing societies act as agents of the government in the procurement of foodgrains and other agricultural commodities at the announced procurement or support prices.

(v) Other Functions

The following functions are also carried out by them, depending upon the availability of funds and other facilities:

- (a) They assemble the marketable surplus of small and marginal farmers and transport this surplus from villages to the society headquarters for disposal;
- (b) They make arrangements for the grading of the produce and encourage producers to sell the produce after grading so that they may get better prices;
- (c) They undertake the processing of produce;
- (d) They make arrangements for the export of agricultural commodities in collaboration with the State Level Co-operative Marketing Federation and the National Agricultural Co-operative Marketing Federation;
- (e) They undertake inter-state trade in agricultural commodities; and
- (f) They distribute agricultural production inputs, such as fertilizers improved seeds, pesticides, agricultural implements, and such essential consumer articles as sugar, kerosene oil and cloth.

FORMS OF GOVERNMENT INTERVENTION IN MARKETING SYSTEM

In the interest of public welfare, the government intervenes in the marketing system. The extent of intervention depends on the objectives of the government and the extent of defects and malpractice prevailing of the system. Government intervention may be direct or indirect; and it may take any or a combination of the following forms;

- (i) The framing of rules and regulations for the protection of the interest of some sections of the population. These may relate to the grant of monopolies, restriction on the activities of traders, licensing and market regulation.
- (ii) Promotional activities such as storage and warehousing, transportation and communication facilities, credit facility, grading and standardization and encouragement of co-operative marketing.
- (iii) Administration of prices at different levels of marketing guaranteeing minimum support prices to producers, providing commodities at fair prices to consumers and fixing the rates of commission charged by commission agent.
- (iv) Influencing supply and demand by import, export, internal procurement and distribution.

In India, the government has intervened in the marketing system in various ways at different points of time. The section which follow deal with the description of the government's efforts to improve the marketing technique of agricultural commodities.

The government of India has intervened in the marketing system in various ways described as under.

1. Establishment of Directorate of Marketing and Inspection (DMI) (1935)

The Directorate of Marketing and Inspection is an attached office of the Ministry of Agriculture, Government of India located at Faridabad (Haryana) and branch head office at Nagpur (Maharashtra). It is headed by the Agricultural Marketing Adviser (AMA) who is assisted by a joint AMA, Deputy AMAs, Directors of Laboratories and other technical staff.

Functions:

1. Market research and commodity surveys
2. Market extension
3. Statutory regulation of markets and market practices
4. Promotion of grading and standardization
5. Training of marketing personal

6. Marketing improvement and development cell
7. Publication of journal
8. Setting up of State marketing Department.

2. Regulation of Agricultural Marketing

To improve marketing condition with a view to creating fair competitive conditions to increase the bargaining power of producer-sellers was considered to be the most important pre-requisite of orderly marketing. Most of the defects and malpractice under the marketing system of agricultural products have been more or less removed by the exercise of public control over markets, i.e., by the establishment of regulated markets in the country.

3. State Trading Corporation (STC)

One of the responsibilities of the government is to ensure the supply of essential commodities to the people. This may require direct intervention in trading of agricultural commodities. The objectives of state trading include; supply of essential commodities at reasonable price regularly, to ensure a fair price to farmers, price stability, supply of inputs, buffer stock maintenance to arrange for storage, transportation and processing to conduct required statistics and to check hoarding, black marketing and profiteering. Export and import of agricultural commodities has also been undertaken by government through STC.

4. Food Corporation of India (FCI)

The FCI was established on January 1, 1965. The FCI, today, is the unrivalled food marketing agency, serving the interests of both the farmers and consumers. Operationally, the FCI reaches the remotest corners of the country through its vast network of offices and storage centers. Financially, it is the largest public sector undertaking, with an annual turnover of over Rs. 4000/- crores. Function of FCI includes, procuring a sizeable portion of marketable surplus of various agricultural commodities to build up a sizeable buffer stock and to make timely releases of the stocks through the public distribution system. It also helps in minimizing seasonal price fluctuations and inter-regional price variations in agricultural commodities by establishing a purchasing and distribution network.

5. Buffer Stock, Procurement and Distribution

The term buffer stock of food grains refers to the stock of food grains maintained by the government to be used as a buffer to cushion against unforeseen fluctuation in the demand or scarcity of any commodity especially with regard to food grains, cotton, sugar, tea etc. The buffer stock is also encouraged in order to regulate market supply and maintain prices at a particular level.

6. Quality Control

Quality control of agricultural commodities is the responsibility of the Directorate of Marketing and Inspection. The directorate has prescribed grade and standards for various agricultural products under the Agricultural Produce (Grading and Marketing) Act 1937. Agricultural commodities are graded under this Act on the basis of the specification laid down under the grade standards. Grade products bear the AGMARK label, indicating the purity and quality of products.

7. Price Support and APC/CACP

The Agricultural Price Commission (APC) was set up by the Government of India in January 1965, to advise the government on price policy of agricultural commodities, with a view to evolving a balanced and safeguard price structure in the perspective of the overall needs of economy with due regard to the interest of the producer and consumer. Recently this commission is known as Commission for Agricultural Costs and Prices (CACP). The commission generally recommends the minimum support prices which are in the nature of an insurance against an excessive price fall. It also recommends procurement prices at which the government should procure the considering price trend, size of crop and need for public distribution.

8. Statutory Price Control and Rationing

Statutory rationing of food grains was undertaken in the country because of severe shortages. The main purpose is to keep the increasing demand of food grains under control. This is a social measure which has been adopted by the government to protect mainly the vulnerable sections of society who cannot afford to purchase food grains at open market prices because of their poverty. The main purpose of rationing is to provide to the poor.

9. Act Passed for Improving Agricultural Marketing

The beginning of marketing legislation is from 1886 in India. Various Acts were enacted by the government to improve the agricultural marketing in the country.

10. Co-operative Marketing

The establishment of co-operative societies is another step which has been taken to overcome the problems arising out of the present system of marketing agricultural produce. The objective of economic development and social justice can be furthered by channelling agricultural produce through co-operative institutions.

NAFED

The National Agricultural Co-operative Marketing Federation (NAFED) is an apex organization of marketing cooperatives in the country. It deals in procurement, processing, distribution, export and import of selected agricultural commodities. The NAFED is also the central nodal agency for undertaking price support operations for pulses and oilseeds and market intervention operations for other agricultural commodities.

At the national level the National agricultural Co-operative Marketing Federation (NAFED) was established in October 1958. The state level marketing federations and National Co-operative Development Corporation are its members. The head office of NAFED is at Delhi, and its branch offices are located at Bombay, Calcutta and Madras. NAFED's operation extends to the whole country. It has established branches in all major part town and capital cities of state in the country.

Objectives:

1. To co-ordinate and promote the marketing and trading activities of its affiliated co-operative institutions.
2. To make arrangement for the supply of agricultural input required by member institutions.
3. To promote inter state and inter national trade in Agricultural and other activities.
4. To act as an agent of the Government for the purchase, sale, storage and distribution of agricultural products and inputs.

Activities:

1. Inter state trade
2. Export of Agricultural Produce
3. Import Agricultural Produce
4. Maintain expert staff which conducts market studies.
5. Production and Marketing of Agricultural inputs.
6. Setting of Scientific Storage System.
7. Processing for Fruits and Vegetables.

CO-OPERATIVE MARKETING SOCIETY

Private agencies dominate the Indian foodgrains trade. Farmers complain of the marketing system because they get lower prices, due mainly to high marketing charges and the prevalence of malpractices. The efforts of the government to improve the marketing system of agricultural commodities have been partially successful in creating healthy conditions for efficient marketing. Moreover, the progress of regulated markets is not uniform in all areas. The need for strengthening co-operative organizations has, therefore, been recognized for the marketing of the produce of the farmer and for making inputs available for them at the right price and time.

It is a voluntary business organization of farmers, with the aim of marketing the agriculture produce of the members and to get a remunerative price to the producers, under take services as may as possible and to supply agriculture inputs for the benefit of the member, wherever possible processing activities are also to be undertaken.

Objectives of Co-operative marketing Society;

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4. To help in recovery of loan of members by linking marketing of credit. Thus, crop loans will be recovered through marketing of members produce.
5. To provide marketing finance or giving waiting capacity for better price.
6. To supply agricultural inputs and daily necessities of life to the members.

7. To carry out or to under take processing activities of agro based industries.

Structure of Co-operative Marketing in India;

In Assam, Bihar, Kerala, MP, Karnataka, Orissa, Rajasthan and West Bengal, there is a **two –tier system** with primary marketing societies at the taluka level and State marketing federation at an Apex body at the state level.

In other states, there is **three-tier system**

- Primary co-operative marketing society (at taluka level)
- Central co-operative marketing union or federations (at district level)
- Apex co-operative marketing societies (at state level)

In our state GUJCOMASOL (Gujarat State Co-operative Marketing Society Ltd.) is state level co-operatives for marketing and central level NAFED (National Agricultural Co-operative Marketing Federation).

In milk marketing, there are two tier structures. At primary level or base level village milk producer societies and at district level milk producers societies union.

In poultry two tier structure- poultry producer co-operative societies which are directly linked to state Co-operative Poultry Federation.

Suggestions for Improvement

1. The area of operations of the societies should be large enough so that they may have sufficient business and become viable.
2. Co-operative Marketing Societies should develop sufficient storage facilities in the mandi as well as in the villages.
3. Member should be educated and encouraged and persuaded to market their produce through co-operative societies.
4. Honest and sincere person should be elected to manage societies.
5. Co-operative Marketing should be included processing activities, credit and finances to make them successful.
6. The societies should acquire the transport facility to bring the produce of the members from the villages to the mandi in time and at a lower cost.
7. Co-operative Marketing Societies should diversify their activities. They should sell the produce and inputs, and engage in the construction of storage facilities.

INSTITUTION FOR MARKETING

REGULATED MARKET

A regulated market is one which aims at the elimination of the unhealthy and unscrupulous practices, regarding marketing charges and providing facilities to producers-sellers in the market. Any legislative measure designed to regulate the marketing of agricultural produce in order to establish, improve and enforce standard marketing practices and charges may be termed as one which aims at the establishment regulated market.

Regulated markets have been established by State Government and rules and regulations have been framed for the conduct of their business. In regulated markets, the farmer is able to sell his marketed surplus in the presence of several buyers through open and competitive bidding.

The regulated market committee consisting 17 members of which, 8 are farmers representative, 4 are traders representatives, 2 are co-operative marketing society, 1 is from Panchayat or Municipality, 1 is revenue officer and 1 is Government representative.

Regulated market is functioning under this committee by the staff working under it. Marketing committee has to see that all the traders obtain licenses for working in the market produce is sold by open auction. It is properly weighted by the licensed weight man, purchaser and sellers are recorded, payment is made at the spot to the farmers. There are no illegal deductions. The bad practices of marketing are eliminate and banking facilities, storage function, lodging and boarding facilities, shed for carts and bullocks and other needs and information services are provided.

Benefits of Regulated Market:

1. They provide all the facilities needed by farmers in the marketing centers which will attract them to coming to the markets where buying and selling is regulated.
2. In such market due to open auction system farmer and trader are bought on equal stage.
3. The prices are quoted open and are paid in cash on the spot.
4. The farmers are assured by fair price in the market.
5. Illegal deduction and other bad practices of marketing are avoid, eliminates and farmers are protected from paying extra charges.

6. Proper weight is done, in some market grading is also done and warehouses are there to keep the produce. The farmers get to day information regarding price and arrivals of market.

CO-OPERATIVE MARKETING

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5. MINIMUM SUPPORT PRICE..... “The Farmer’s Armor”

6. Posted June 25, 2010 by smcinvestmentindia
in [agriculture](#), [commodity](#), [Economy](#), [india](#), [smc capitals](#), [SMC Depository](#), [SMC Global](#), [SMC online trading](#), [SMC Research Based Advisory Services](#). Tagged: [Cabinet Committee on Economic Affairs](#), [CACP](#), [Central Government](#), [Commission on Agricultural Costs and Prices](#), [edible oils](#), [farmers](#), [FCI](#), [Food Corporation of India](#), [minimum support price](#), [MSP](#), [pulses](#). **Leave a Comment**

7. **MSP is a part of agricultural pricing policy of the central government. It is considered as a form of market intervention and also as one of the supportive measures (safety nets) to the agricultural producers.**



8. **In the phase of liberalization, MSP has a strong linkage to the market. In this situation, three important aspects deserve attention:**
9. (i) **insulating the farm producers against the unwarranted fluctuations in prices, provoked by higher production and the international price variations and**

10. (ii) creation of an incentive structure for the farm producers in order to direct the allocation of resources towards desired crops and
11. (iii) insulating consumers against sharp price rise, which may have been created by monsoon failure or even by vested interest by creating artificial scarcity. The focus is to providing remunerative prices for the cultivators.
12. **ROLE OF CACP**

The Commission on Agricultural Costs and Prices (CACP) discusses the price situation of various commodities with the representatives of the State government and various stakeholders to declare the prices of any agricultural product. The CACP while recommending MSPs takes into account factors such as cost of production, change in prices of inputs, demand and supply, market price trends and cost of living among other factors. MSP is determined by the principle of full cost of production that includes the rental value of land, an imputed value of family labor and returns to farmers.

In fixing the support prices, CACP relies on the cost concept which covers all items of expenses of cultivation including in that the imputed value of inputs owned by farmers such as rental value of owned land and interest on fixed capital. Some of the important cost concepts used by CACP are the C2 and C3 costs.

C2 cost includes all actual expenses in cash and kind incurred in production by actual owner plus rent paid for leased land plus imputed value of family labour plus interest on value of owned capital assets (excluding land) plus rental value of owned land (net of land revenue). Now, C3 cost is derived as: Cost C2 + 10 percent of cost C2 to account for managerial remuneration to the farmer.

Costs of production are calculated both on per quintal and per hectare basis. Since cost variations are large over States, CACP recommends that MSP should be considered on the basis of C2 cost.

Role of FCI

On behalf of the Central Government, Food Corporation of India (FCI) along with State Governments and their agencies responsible for procurement of agri product on MSP fixed by CACP. But FCI procure the commodities from such states where production of any specific product is surplus. The main areas for procurement of wheat and rice are the surplus states like Punjab, Haryana, and some parts of Uttar Pradesh for both crops and Andhra Pradesh for rice. This has led two kinds of problems. One, growing buffer stock with FCI and our go-down are overflowing stocks of food grains, but, at the same time some parts of the country reported starvation. Second rest part of country producing these commodities doesn't access the advantage of MSP.

13. Farmers of those states do not fully get the benefit of the support price. This has created serious imbalances in demand and supply of principal crops in the country.

14. Similarly, the country has been facing large shortages of pulses and edible oils .

15. Latest Development

16. The Cabinet Committee on Economic Affairs, chaired by Prime Minister Manmohan Singh, increased the minimum support price (per quintal): Arhar-Rs. 3,000, Moong-Rs. 3,170, Urad- Rs. 2,900, Paddy (common variety) Rs.1,000, and for grade A at Rs.1,030, Groundnut- Rs.2,300, Sunflower-Rs. 2,350, Niger seed Rs. 2,450, Soyabean (black)- Rs.1,400, Soyabean (yellow)- Rs.1440 and sesame- Rs.2900, Jowar (hybrid), bajra and maize, the minimum support price has been raised by Rs. 40 and fixed at Rs. 880. MSPs of Jowar (Hybrid), Bajra and Maize each have been raised by Rs. 40 per quintal and fixed at Rs.880 per quintal.

17. Conclusion

18. The policy has a favorable impact on farm income and has led to an economic growth. The implementation of Minimum Support Prices (MSP) has played an important role in meeting the ultimate goal of improving the agricultural production and the welfare of the agricultural community. Presently, 25 major crops are covered under the minimum support price program. Thus now MSP is oriented to crop diversification which had not encouraged earlier. Our policy makers are trying to effective implementation of MSP in all over the country.

19. OUR

Websites:

<http://www.smcindiaonline.com>, <http://www.smccapitals.com>,
<http://www.smctradeonline.com>, <http://www.smcwealth.com>

22

Marketing Mix

22.1 Introduction

The basic task of marketing is the delivery of product(s) to consumers so that their needs are fulfilled and organisational objectives are also achieved. This involves several important decisions, e.g. deciding about the product or products which should be offered for sale, price of the product, markets where products may sell and the means of communication with the consumer for the sale of the product. All these decisions form part of marketing-mix. In this lesson we shall study about the concept of marketing mix, its components and the relationship among various components of marketing mix.

22.2 Objectives

After studying this lesson, you will be able to :

- explain the concept and characteristics of marketing mix;
- describe various components of marketing-mix;
- establish the relationship amongst various components.

22.3 Concept and Characteristics of Marketing Mix

The process of marketing or distribution of goods require particular attention of management of business because production has no relevance unless products are sold. Marketing mix, simply stated, is the process

of designing and integrating various elements of marketing in such a way as to ensure the achievement of enterprise objectives. The elements of marketing mix have been classified under four heads - product, price, place and promotion. That is why marketing mix is said to be a combination of 4 P's. Decisions relating to the product include product designing, packaging and labelling and varieties of the product. Decision on 'Price' is very important because sales depend to a large extent on product pricing. Whether uniform price will be charged or different prices will be charged for the same product in different markets are examples of decision pertaining to the price of the product. The third important element is 'place', which refers to decision regarding the market where products will be offered for sale. 'Promotion' involves decisions bearing on the ways and means of increasing sales. Different tools or methods may be adopted for this purpose. The relative importance to be attached to the various methods is decided while concentrating on the element of 'promotion' in marketing mix., Lastly, the marketing manager has to take into account the impact of external factors like consumer behaviour, competitors' strategy, and Government policy on each element of marketing mix.

In short, marketing mix involves decisions regarding products to be made available, the price to be charged for the same, the incentives to be provided to the consumers in the markets where products would be made available for sale. These decisions are taken keeping in view the influence of marketing forces outside the organisation.

Characteristics of Marketing Mix

(i) Marketing-mix is the crux of marketing process:

Marketing mix involves many crucial decisions relating to each element of the mix. The impact of the mix would be the best when proper weightage is assigned to each element and they are integrated so that the combined effect leads to the best results.

(ii) Marketing mix has to be reviewed constantly in order to meet the changing requirements :

The marketing manager is required to constantly review the mix and conditions of the market, and make necessary changes in the

marketing mix according to changes in the conditions and complexion of the market.

(iii) Changes in external environment necessitate alterations in the mix:

Changes keep on taking place in the external environment. For many industries, customer is the most fluctuating variable of environment. Customers' tastes and preferences change very fast. Brand loyalty and purchasing power too change over a period of time. The marketing manager has to carry out market analysis constantly to make necessary changes in the marketing mix.

(iv) Changes taking place within the firm too necessitate changes in marketing mix:

Changes within the firm may take place due to technological changes, or changes in the product line, or changes in the size and scale of operation. Such changes call for correspondent changes in the marketing mix.

Intext Questions 22.1

State which of the following statements are 'true' and which are 'false'.

1. Marketing mix is a one time decision
 2. Marketing mix consists of four elements.
 3. External environment doesnot affect marketing mix.
 4. Marketing mix needs continuous review.
 5. Marketing mix should be so planned that it fulfills the needs of the consumer as well as the organisation.
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22.4 Elements of Marketing Mix

As mentioned earlier the elements or constituents of marketing mix may be grouped broadly under four heads :

- (i) Product
- (ii) Price
- (iii) Place
- (iv) Promotion

Product

Product refers to a physical product or a service or an idea which a consumer needs and for which he is ready to pay. Physical products include tangible goods like grocery items, garments etc. Services are intangible products which are offered and purchased by consumers. Services may involve also an innovative idea on any aspect of operation. Products is the key element of any marketing mix. The decisions concerning product may relate to -

- a) Product attributes
- b) Branding
- c) Packaging and labelling
- d) Product support service
- e) Product mix.

Product attributes refer to the quality, features and design of the product. A product should serve the purpose for which it is made, in terms of utility and quality. In a competitive market, products are differentiated on the basis of certain features or design. For example, in the whirlpool washing machine, 'Agitate wash' is the distinctive feature.

Branding is a crucial decision. In a competitive market, many products are sold by brand names. You might have come across Indian brand names, like Maruti, HMT, Godrej, TATA. Amongst foreign brand names Sony, Samsung are well known. Brand is an identification of product. It plays an important role in creation of demand while branding a product, it should be ensured that the name is simple, easy to read and pronounce and if possible, it should have an appeal.

Packaging and labelling of product are quite important decisions. Packaging means putting the products in suitable containers or packets such as tin, plastic jar or card board box, etc. Packaging should be such that product is protected and easily handled. Sometimes, the container may have its own usefulness. For instance Baidyanath chyawanprash (pack) is available in a plastic jar which can be reused after consuming the chyawanprash. Certain polythene and plastic are not considered good as packaging material from the environment point of view. Their usage should be avoided.

Labelling serves the purpose of indicating the contents, weight or measure, instructions for use, price, name of the producer, date of manufacture and expiry, etc. The information on the label is essential for various reasons. For example, the date of expiry in case of medicines, and date of manufacture in the case of eatables prevent the sale of products which may prove harmful.

Product support service is another important element of product decision. It includes decision pertaining to the type of service and availability of the service. Service may be by way of installation service, training in product use, after sale service, credit and financing service, etc. It should be decided whether services would be provided free or against separate charge. Secondly, how the services would be made available by the producers or agencies, are also important decisions to be made particularly with respect to durable consumer goods like TV, washing machines electric fans, etc.

The markets in which products will be offered is yet another important decision. A company may decide to a single or a variety of products, add new products, or withdraw certain products. Relevant decisions are made keeping in view the scope of marketing. Such decisions are called product line or product mix decisions. Product life cycle is a guiding factor while decisions are made.

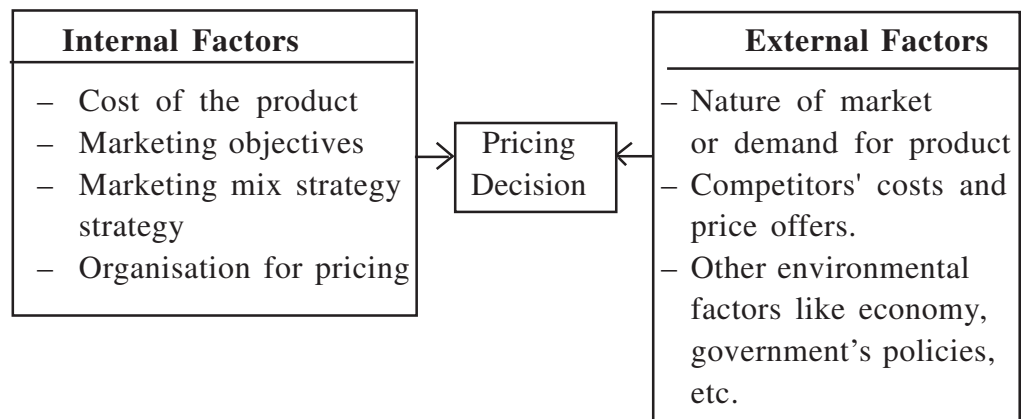
Product life cycle

Product life cycle denotes different stages through which the sale of any product changes over a period of time. Generally, there are four stages in the life of each product—introductory stage, growth stage, maturity stage, and declining stage. When any product is introduced in

the market, heavy expenditure is incurred on advertising and other methods of increasing the sale. This is known as introductory stage. During the growth period, sale of the product increases fast and cost of production comes down due to increase in scale of production. Profits earned increase substantially. During the maturity stage, the growth in sale of the product slows down. Profits also start declining. After the maturity stage there is a stage of decline, when the product starts losing its acceptance. There is a pressure for price cut. Firms generally start withdrawing the product after maturity stage. Some firms start preparing for introducing alternative product at the end of growth stage. Product life cycle, thus, helps in deciding about the product or products which should be offered in different markets.

Price

Price is the amount charged for a product or service. It is the consideration paid by consumers for the benefit of using any product or service. Price fixation is an important aspect of marketing. Pricing decisions of a company are affected by both internal as well as external factors.



Internal factors :

Internal factors, affecting the price of a product, are many. Cost of the product sets the floor. Any company would like to charge a price which covers the cost of the product and a fair rate of return.

Cost of the product means total cost i.e., fixed plus variable costs. Fixed costs do not change with the change in volume of production upto a certain level. Variable costs change proportionately. In the period

of recession, companies continue to supply at a rate which covers variable costs and as much of costs as possible.

The Company's marketing objective is yet another important variable for price fixation. If it is survival, the company would stay in the market as long as it covers variable costs fully and fixed costs partly. In case it is market leadership, a low price will be fixed initially. Afterwards prices may be enhanced. 'Surf Excel' is an example. At the time of introduction, its price was just equal to other close substitutes, but today it has its own market. It is bought by consumers without comparing its price with other substitutes.

The relative importance of pricing decision in marketing mix, also affects price fixation. Sometimes pricing decision is the control decision and all other decisions are taken afterwards.

It may also happen that other variables of marketing mix like promotion become more important. Price is fixed after considering other variables.

Who will fix the price is yet another important decision. In small organisations, top management sets the price. In large companies, product line managers perform this job. For industrial markets, sales managers are permitted to negotiate prices within a specified range. These days many companies set up a separate department to handle pricing decision.

External factors

Besides internal factors, external factors also influence the pricing decision of a company. These factors are called environmental factors. Nature of demand, competitors' costs, price offers and government policy are very important factors to be considered while fixing prices. The relationship between price and demand should be analysed properly. No company can ignore the costs, prices and offers of substitute items from competitors. Economic factors, like rate of interest, state of industry (boom or recession), inflation, etc. affect the price-fixing decision. In case of certain products, e.g. products which fulfil basic needs, government may impose price control. Thus, it would also affect price of the product.

There may be two methods of price-fixation:

1. Cost-based approach
2. Competition-based approach

Cost-based approach :

This is the simplest method of pricing. Generally companies add a certain percentage of Profit, to the total cost of the product. The total cost of the product is calculated after taking all types of costs into consideration. While following this approach, no other factors e.g. prices of substitute goods, nature of demand, etc. are considered.

Competition-based approach :

In competitive market, cost-based approach is not always practicable. The prices are determined on the basis of conditions in the market. Companies may follow any one of the following three approaches.

- a) Price-in-line
- b) Market-plus
- c) Market-minus

Price-in-line means prices fixed nearly equal to the prices of close alternatives. Generally this happens under free market conditions i.e. when the number of buyers and sellers is so large that they cannot affect the prices. Prices are decided by the market forces of demand and supply.

When companies charge (fix up) a price which is more than the price of existing substitutes, it is called market plus pricing. This approach is adopted when the quality of a product is better, or it has a popular brand name, or its packaging is attractive and useful. Consumers will pay more only when they find distinctive differences in the product and its substitutes.

Sometimes business enterprises get ready to supply products at a price lower than the market price. It may be adopted to grab a larger market share or to make a newly introduced product more popular. This approach is called market-minus approach. Companies having shorter channels of distributions or direct selling facilities can afford to fix a price lower than the prevailing market price.

Intext Questions 22.2

A. Fill in the blanks :

1. Products are more identified by their _____ name.
2. Plastic jars are nowadays quite popular for _____.
3. _____ refers to the decision concerning product line or which product (s) will be offered in different markets.
4. Services which are provided with the product and may be before or after sale are known as _____ services.
5. Different stages through which the sale of a product passes over a period of time denote _____.

B. State which of the following statements are 'true' and which are 'false'.

- (i) Cost is the main consideration while setting the price of a product.
- (ii) Govt. policies have no influence on the price fixation policy of a company.
- (iii) Both internal as well as external factors affect price fixation.
- (iv) Under cost-based approach, only the variable costs of a product are considered.
- (v) Competition-based approach of price fixation forces a company to supply the product at existing prices.

Promotion

Promotion refers to using methods of communication with two objectives : (i) informing the existing and potential consumers about a product, and (2) to persuade consumers to buy the product. It is an important element of marketing mix. In the absence of communication, consumers may not be aware of the product and its potential to satisfy their needs and desires. Various tools of communication form part of promotion mix. Companies must decide which tool(s) should be used

for larger sales and in what proportion. The tools should be combined. These decisions are known as promotion-mix decisions.

There are four components of promotion-mix i.e., advertising, personal selling, sales promotion and public relations. Thus, promotion mix is a company's total communication programs which consists of different blends of its components and which is used to achieve the company's marketing objectives.

Tools of Promotion-mix

Advertising, personal selling, sales promotion and publicity are the major tools. The marketing manager must recognise the characteristics of each tool and costs involved while deciding on the promotion-mix.

Advertising

Advertising is an impersonal form of communication for which the seller pays in order to promote a physical product or service. It may be in print form as in newspapers and magazines, or in audio form as on the radio and other similar methods, or in audio-visual forms as on the Television, cinema screen, etc.

The merits of advertising is that it reaches a larger number of people, the message can be repeated, its cost is not high, and with the development of art and computer graphics, simple statements can be transformed into forceful messages.

The other side of advertising is that it doesnot provide any feed back, it is not as forceful as personal selling, it is not flexible, and good advertisements cost a lot.

Personal selling

Personal selling is a personal communication with one or more prospective buyers for the purpose of selling a product or service. These days, personal selling is considered to be the most effective tool because of various characteristics which are listed below:

- it involves personal interaction, hence feed back is received immediately;
-

- it is quite flexible, salesman can adjust communication according to the level of customer's understanding.
- it is more persuasive; buyers can be convinced about the utility of the product;
- impressive salesman leaves an impression on the prospective buyer; it may increase sales in the future.

Personal selling suffers from a few drawbacks too. It is the most expensive tool of promotion. Secondly, it requires too much dependence on sales force.

Sales Promotion

Sales promotion means the use of short-term incentives which are designed to encourage immediate purchase of a product or service by the buyer. It may include offer of discounts, free gifts, free sample, coupons, demonstration, store display, etc. One tooth brush free with one 100gm. Close-up dental cream is an example of sales promotion. Generally this tool supplements the efforts made through personal selling and advertisement.

Most of the sales promotion activities come in the form of some incentive for the buyer; hence sales generally increase immediately. Big business enterprises use sales promotion tools while introducing a new product. It adds to the effectiveness of total promotional efforts of a company.

Sales promotion has certain demerits e.g. it does not leave a lasting effect. Some customers also feel that sales promotion schemes are launched to clear old stocks.

Publicity :

Publicity takes place when a favourable presentation is made through mass media about a product or service. People believe more on such news than in advertising. It covers people who do not entertain personal selling and sales promotion approaches. It is a non-paid form of communication but sometimes it is not regarded as a promotional tool within the reach of a company. Very few products or services are covered by publicity.

Packaging is also considered as a powerful sales promotion tool these days. It immediately attracts the buyer and makes him buy the product. This tool has produced good results in case of consumer goods. To some extent, packaging has replaced the counter salesman.

You have now learnt about the various tools of promotion. Each tool has certain merits and demerits. It is very important that promotion mix is so devised that it achieves marketing objectives optimally. It is not an easy task. There are no hard and fast rules of promotion mix. Hence every factor should be paid due attention while deciding on the promotion mix.

Factors governing Promotion-mix

1. Nature of product

Different types of products require different promotion mix. In case of consumer goods, advertisement is considered to be the most important because the goods are non-technical and produced on a large scale. But for industrial goods personal selling is regarded as the most important tool because the products are technical in nature, costly and persuasion is considered essential for their sale.

2. Type of the market

If the number of customers is quite large and they are spread over a vast area, advertisement is more helpful because it can reach people everywhere. However if number of customers is not very large and they are concentrated geographically, personal selling and sales promotion may be more effective.

3. Stage of the product life cycle

The promotional mix depends upon the stage of the product in product life cycle. During introduction, heavy expenditure is incurred on advertisement followed by personal selling and sales promotion. During the growth stage, customers are aware of the benefits of product. Hence advertisement alongwith personal selling will be more effective. At the maturity stage, competition is more intense. Sales promotion becomes the most important tool to boost sales.

4. Budget

Funds available for promotion also decide promotion mix, e.g. advertisement is a costly tool. If sufficient funds are not available this tool may not be adopted. Personal selling involves continuous spending. Thus, budget is a deciding factor for promotion-mix.

5. Push vs. Pull Strategy

When the firm pushes the product to the middlemen they in turn push it to the consumers, it is known as 'push' strategy. In this case, personal selling or display should be more effective.

Pull strategy refers to the policy of a company to strive to build up consumer demand without recourse to middlemen. Generally advertising is considered more important in case of pull strategy.

To sum up, it may be said that all promotional tools are complementary and not competitive. The degree of emphasis on each tools will differ depending upon the influence of certain factors. A proper combination of promotional tools should be designed to attain better results.

Place

Place is another important element of marketing mix. Once the goods are manufactured, packaged, priced and promoted, they must be made available to the consumers. Activities related to placing the products are covered under this element of marketing-mix. It consists of decisions relating to channels of distribution and physical distribution. Channels of distribution refer to the individuals and organisations which facilitate moving the goods from manufactures to consumers. It is important that regular and smooth flow of goods is maintained so that products are not spoiled and supplies are not delayed. To ensure this, various facilitating services need to be arranged like transportation, warehousing, inventory control, and order processing. These are known as components of physical distribution. Let us now study the two sub-elements of 'place'-

(A) Channels of distribution

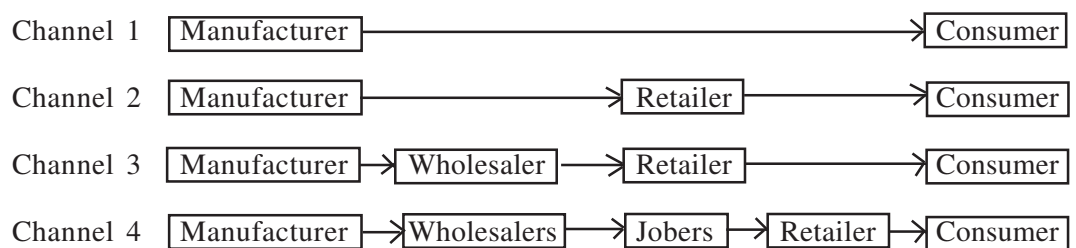
(B) Physical distribution

(A) Channels of Distribution :

Channel of distribution denotes the intermediaries involved in the process whereby a product passes from the manufacturer to consumers. It is very important for the producers to involve middlemen in order to reach consumers. Middlemen reduce the problems of both producers and consumers. Secondly, middlemen help in distributing the products over a large area. Middlemen also supply useful market information to the producer for improving the product. Involvement of middlemen adds to the convenience of consumers because they are able to lay many items from a single store. Some people feel that by involving more middlemen in the process of distribution, the final price of a products is considerably raised which is ultimately paid by the consumer. Therefore the number of middlemen involved should be limited, if at all necessary: There can be various levels of channel. It is for the producer to decide which level would suit the sale of his product.

Number of Channel Levels

Distribution channel starts from the producer and ends with the consumer. Each layer of middleman that performs some work in bringing the product closer to the final layer is a channel level. The diagram given below shows the various channel levels.



Channel 1 is called a direct marketing channel. It has no intermediary level. Producers sell products directly to the consumers. Channel 2 includes one intermediary which is generally a retailer. Retailers buy products directly from the manufacturer and sell these to the consumers. Generally electronic goods like televisions, computers, are sold through this channel level. Channel 3 consists of two levels, typically a wholesaler and a retailer. This channel is often used by small

manufacturers of food items, and other products. Channel 4 contains three middlemen levels. Jobbers usually come between wholesalers and retailers. They buy from wholesaler and sell to small retailers who generally are not served by wholesalers. There can be even more levels in distribution channel but from producers point of view, greater number of levels means less control and greater complexity of channel.

Choice of channel of distribution

There are a number of factors which govern the choice regarding channel of distribution. These are listed below:-

(i) Nature of product

For perishable goods, shorter channel is preferred whereas for durable goods channel 3 is more popular. If goods are made to order, direct selling may be effected. For technical products and costly products, manufacturers generally go for direct selling through agents specially hired for this purpose.

(ii) Nature of market

If the market is concentrated and not scattered, producers may go for direct selling but for scattered market, middlemen are involved. If there are more buyers, there may be a need to include more middleman. For consumer product market retailers are essential but in case of industrial products a shorter channel is preferred, hence middlemen may be eliminated.

(iii) Middlemen

Middlemen who can provide desired marketing services are given preference. The availability of middlemen also affect channel decision. The middlemen must be co-operative and honest. The channel which generates largest sales volume at lower unit cost will be given priority.

(iv) Size and Policy of the Company

There are many factors related to company which influence channel decision. A big size company with broader product line can afford to have shorter channel. New companies heavily rely

on middlemen. A company with sufficient financial resources can spend heavily on advertisement and its own outlets. Hence need for middleman is reduced. Companies desiring efficient control over channel members will always prefer shorter channel.

(v) Marketing Environment

During recession or depression shorter channels are preferred because of being less costly. In times of prosperity a wide choice is available. Technological inventions also have an impact e.g., distribution of perishable goods to distant places has become possible due to cold storage facilities in warehousing and transporting. Such facilities have expanded the role of intermediaries.

(vi) Competitors

Channels of distribution used by competitors also influence this decision. Some organisation may like to follow the same chains as used by competitors. On the other hand, some organisation may avoid channels already customary. They may have their own decisions.

Thus after visualising the impact of the factors mentioned above a company adopts the best channel from among the available alternatives.

(B) Physical Distribution :

Physical distribution comprises all those activities which deliver customer satisfaction by supplying right type of products at right place and at right time regularly. Economical and satisfactory customer service is the primary goal of physical distribution. Providing the right type of goal at right place and at right time is the ultimate goal of any marketing department. These goals may be conflicting, sometimes, e.g., for meeting sudden and unforeseen demand for goods, maintenance of large inventory is suggested but this involves cost as well as risk. This means that a proper balance between the cost and service should be achieved.

Components of physical distribution :-

(i) Order Processing:

Physical distribution begins with customers' order. Both the

company and customer are benefitted if order processing is carried out quickly and accurately. These days computers are used which establish a link between retailers and producers. Producers keep a watch on the stock position at retailers' place retailers may also place orders through computer. This facility speeds up the process.

(ii) Warehousing

Every company must store goods to maintain a proper flow. Storage facilities are important because production and consumption cycles generally do not match. Companies need to decide the number, space and location of warehouses. The cost of these should be in balance with customer service. Companies may own warehouses or take them on rent.

(iii) Inventory

Inventory level also affects customer satisfaction. Marketers would like that company having enough stock to full fill all customers' order immediately. But it involves heavy cost. Companies should, therefore, carefully plan when to order and how much to order.

(iv) Transportation

Transportation has infact, facilitated the physical distribution of goods and services over a larger area. Modes of transportation may include road, rail, water, air, etc. The choice of mode of transport affects the pricing and condition of goods. Hence this is an important decision and requires lot of thinking.

Intext Questions 22.3

A. Match the phrases under column 'A' with those under column 'B'.

A

B

(i) Channels of distribution and physical distribution.	(a) Middleman/Intermediary
(ii) Manufacturer to Consumer	(b) Components of place-mix
-

(iii) Person/Agent between manufacturer & consumer	(c) Perishable goods
(iv) Warehouses with cold storage arrangements	(d) Direct channel

B. Fill in the blanks with suitable tools of promotion mix:-

- (a) For industrial goods _____ gets maximum weightage.
- (b) _____ is more effective for non-technical and low cost goods.
- (c) No-cost tool of promotion mix is _____.
- (d) The effect of _____ is temporary and short lived.

C. Match the phrases under column 'A' with those under column 'B'

'A'	'B'
(i) Highest Reach	(a) Publicity
(ii) Most persuasive	(b) Advertising
(iii) Immediate effect on sale	(c) personal selling
(iv) No cost involved	(d) Sales promotion
-

22.5 Inter relationship between different components of marketing-mix:

You have learnt that there are four elements of marketing mix, viz, product, price, promotion and place. You have also read in details about each element. Each element of the mix is so wide that it needs careful alteration and lot of concentration. Yet the job of the marketing manager is not over. What he has to design is an optimum marketing-mix which takes care of both customers' satisfaction and organisational objectives. Each element of marketing mix is related with other element. Thus tools of promotion depends upon the nature of product, the price that can be charged for that product, and the process through which it would reach the consumer. Likewise while deciding on the price of product, the important considerations are manufacturing cost of the

product, cost of promotion and money spent on distribution. Thus, all the elements are mutually inter-related. It would be unwise to take a decision on marketing mix without going deep into every elements of marketing mix. The marketing manager is a mixer of all the marketing elements or resources. Marketing mix should be such that it helps in achieving organisational objectives of profit, sales volume, market share, etc. It should meet the competition in the market. It must click with the demand from different markets. It must deliver consumer satisfaction. All this requires an ideal blending of all the elements of marketing mix as the elements are complementary and mutually supporting.

22.6 What you have learnt:

1. Marketing-mix is the combination of various elements of marketing which aims at consumer satisfaction and achievement of organisational objectives.
 2. There are four element of marketing mix viz product, price, promotion and place. These are also called 4P's of marketing mix.
 3. Under the element 'product' decisions need to be taken regarding attributes of product, packaging and labelling, product line, product support service etc.
 4. The 'price' element deals with the factors related to price fixation, methods of price fixation, etc.
 5. Promotion is the third element of marketing mix. Promotion-mix refers to mixing of different tools through which sales may be increased.
 6. The element of place has two sub elements- channels of distribution and physical distribution.
 7. Channel of distribution is the path along which a product passes from manufacturer to consumers.
 8. Physical distribution comprises all activities which deliver customer satisfaction by supplying right type of goods at right place and at right time.
 9. All the elements of marketing mix are interrelated and mutually inter-dependent.
-

Terminal Exercise

1. What is meant by marketing mix ?
2. Write briefly on each component of marketing-mix.
3. Why is packaging important ?
4. Explain briefly the difference between advertisement and publicity.
5. Give the names of any three products for which you think personal selling will be most suitable. Give reasons for your answer.
6. What is the difference between personal selling and sales promotion? Limit your answer to 70 words only.
7. Explain briefly the different approaches to price fixation.
8. What is meant by physical distribution ? Briefly write about its components.
9. Why are middlemen important ? Give any two types of channels of distribution.

Answer to Intext Questions

- 22.1 1. False 2. True 3. False 4. True 5. True
- 22.2 (A) 1. brand 2. packaging 3. Product-mix
4. product support services 5. product life cycle
- (B) 1. True 2. False 3. True 4. False 5. False
- 22.3 (A) i) b ii) d iii) a iv) c
- (B) a. Personal selling b. Advertisement c. Publicity
d. sales promotion
- (C) i) b ii) c iii) d iv) a
-

Course No. : Ag. Econ. 6.4

Credit: 2+1

Course Title: Farm Management, Production, and Resource Economics

Contents:

- A. Theory Lectures:**
- B. Practical Exercises**
- C. References**

A. Theory Lectures:

Sl. No.	Title of theory lectures	Details of sub-topics	Textbook/Reference book	Pg. No.	Remarks
1.	Production economics	Introduction, Objectives, Scope, Subject Matter, Basic terms & Concepts	Ref. (1) Ref. (2)	(1-15); (155-161)	
2.	Law of returns	Law of variable proportions, Types of returns and estimation	Ref. (2)	(159-163)	
3.	Seven cost concepts	Meaning and Concept of Cost, types of costs and their relationships	Ref. (3)	(80-101)	
4.	Factor-Product relationship	Optimal input and output levels	Ref. (1) Ref. (2)	(16-26); (166-171)	
5.	Factor-Factor relationship	Isoquant, iso-cost line, least cost combination	Ref. (1) Ref. (2)	(40-55) & (58-61); (177-186)	
6.	Product-Product relationship	Production possibility curve, isorevenue line, Optimal product combination, ridge line and expansion path	Ref. (1) Ref. (2)	(64-90); (187-198)	
7.	Returns to scale	Concept and Types	Ref. (2)	(200-201)	
8.	Farm cost concepts and Income measures	Importance of cost in managing farm business, Estimation of gross farm income, net farm income, family labor income and farm business income	Ref. (2)	(345-349)	
Sl. No.	Title of theory lectures	Details of sub-topics	Textbook/Reference book	Pg. No.	Remarks

9.	Farm management	Introduction, Meaning & Concept, Objectives, Scope, Relationship with other sciences	Ref. (1) Ref. (3)	(96-100); (1- 7)	
10.	Farm resource management	Meaning and Definition of Farm, its types and characteristics, factors determining types and size of farms	Ref. (1) Ref. (2)	(129-133); (242-247)	
11.	Farm management decisions	Strategic, administrative and marketing decisions	Ref. (1) Ref. (2)	(97-98) (222)	
12.	Economic principles applicable in farm management	Equi-marginal, opportunity cost, time comparison principles, comparative advantage	Ref. (1) Ref. (2)	(107-109), (232-234)	
13.	Farm records and accounts	Advantages, characteristics, difficulties, systems & types	Ref. (1) Ref. (2)	(152-155); (305-330)	
14.	Farm inventory	Methods of valuation	Ref. (1) Ref. (2)	(162-164); (333-334)	
15.	Farm financial statements	Balance sheet, Cash flow statement and Profit & loss Statement	Ref. (2)	(452-463)	
16.	Farm planning	Types, characteristics, steps	Ref. (1) Ref. (2)	(187-190); (248-249)	
17.	Farm budgeting	Complete budget, Enterprise budget, Partial budget	Ref. (1) Ref. (2)	(190-193); (249-252)	
18.	Appraisal of farm resources	Measures of efficiency of land, labour, capital and management	Ref. (2)	(350-359)	
19.	Risk & Uncertainty in agriculture	Types and management strategies	Ref. (2)	(361-366)	
Sl. No.	Title of theory lectures	Details of sub-topics	Textbook/ Reference book	Pg. No.	Remarks

20.	Insurance in agriculture	Crop, livestock, machinery and weather based crop insurances, Features and Determinants of compensation	Ref. (7) Online resource (1)	(59-62)	
21.	Resource Economics: Concept & Properties	Natural resource classification & characteristics; Management of renewable and non-renewable resources	Ref. (6)	(323-336)	
22.	Positive & Negative Externalities in agriculture	Externalities & types; Market failure, Market imperfections; Policies for externalities	Ref. (6)	(99-101)	
23.	Inefficiencies and welfare loss	Efficiency and types; Market efficiency levels; Reasons for inefficiency in resource utilization; Solutions	Ref. (6)	(102-104)	
24.	Issues in economics and management of Common property resources	Major issues in use of natural resources, Productivity equity, sustainability	Ref. (6)	(111-115)	

B. Practical Exercises:

Sl. No.	Title of practical exercise	Details of sub-topics	Textbook/ Reference book	Pg. No.	Remarks
1.	Determination of optimum input and output levels	Factor-Product relationship, Concept, examples	Ref. (1)	(26-29)	
2.	Determination of least cost combination of inputs	Factor-Factor relationship, Concept, examples	Ref. (1)	(53-56)	
3.	Determination of optimum combination of products	Product-Product relationship, Concept, examples	Ref. (1)	(87-90)	
4.	Allocation of farm resources using equi-marginal returns and opportunity cost principle	Classical production function, Concept, examples	Ref. (1) Ref. (2)	(107-109), (232-234)	
5.	Methods of computing depreciation of farm assets	Meaning, types, examples	Ref. (1)	(164-172);	
6.	Methods of computing CACP cost concepts related to farm management	Farm cost concepts, Income measures	Ref. (1)	(182-186)	
7.	Preparation of farm financial statements	Networth Cash flow and Profit-loss statements	Ref. (1)	(172-175)	
8.	Analysis of farm financial statements	Concept and test ratios	Ref. (2)	(47-464)	
9.	Preparation of farm plan and budgets	Concept, types of plans and budgeting	Ref. (1) Ref. (2)	(187-204); (248-252)	
10.	Farm inventory analysis	Types of valuation methods	Ref. (1)	(162-164)	
11.	Farm records and accounts	Characteristics, Systems of book keeping, Examples	Ref. (1) Ref. (2) Ref. (3)	(152-161); (305-330) (220-285)	
12.	Valuation of analysis of natural resources	Market and non-market valuation methods	Ref. (4) Ref. (5) Ref. (6)	(108-113) (29-30) (111-115)	

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(ii) Online resources:

1. Handbook on Crop Insurance, Insurance Regulatory and Development Authority Of India (IRDAI), Hyderabad. Available at: http://www.policyholder.gov.in/Crop_Handbook.aspx

Chapter 1

AGRICULTURAL PRODUCTION ECONOMICS:

An Introduction

1.1 MEANING

- **Agricultural Production Economics** is a division of Agricultural Economics.
- It is concerned with **the selection of production patterns** and **resource use efficiency** in order to maximize the objective function of a farmer or farming community or the nation within a framework of limited resources.

1.2 DEFINITION

Agricultural Production Economics is an applied field of science wherein the **principles of choice** are applied to the use of land, labour, capital and management resources in the farming industry.

1.3 SUBJECT MATTER

Agricultural Production Economics involves:

- Analysis of production relationships
- Principles of rational decisions.
- Productivity of resources
- Resource use efficiency
- Resource combination
- Resource allocation
- Resource management

The subject matter of production economics involves topics like factor-product relationship, factor-factor relationship, product-product relationship, size of the farm, returns to scale, credit, risk and uncertainty, etc.

The agricultural production economics is therefore concerned with any phenomena, which have a bearing on **economic efficiency** in the use of resources. Any Agricultural problem that falls under the scope of **resource allocation** and **marginal productivity analysis** is the subject matter of Agricultural Production Economics.

1.4 GOAL

- **At an individual farm level:** To provide guidance to individual farmers in using their resources most efficiently.
- **At national level:** To rationalize the use of resources from the standpoint of economy.

1.5 OBJECTIVES OR IMPORTANCE

The main objectives of Agricultural Production Economics are:

- To determine the conditions which provide for optimum use of resources.
- To determine the extent to which the existing use of resources deviates from the optimum use.
- To analyze the forces which are responsible for existing production pattern and resource use.
- To find out means and methods for changing the existing use of resources to the optimum level.

1.6 BASIC CONCEPTS AND TERMS

Farm	It is a piece of land, where crop s and livestock enterprises are taken up under a single management and has specific boundaries.
Farm – firm	It is an economic unit which is run under one management.
Land holding	The total area of land owned by an individual or joint family whether cultivated by the family or rented out.
Operational holding	Total land area held under a single management for the purpose of cultivation. It excludes any land leased-out to another person but includes any land leased-in.
Economic holding	It is defined as one which could provide a reasonable standard of living to the cultivators and give full employment for a family of normal size.
Marginal farmer	Farmer owning up to 1 ha land is called marginal farmer.
Small farmer	Farmer owning more than 1 ha to 2 ha land is called small farmer.
Medium farmer	Farmer owning more than 2 ha to 4 ha land is called medium farmer.
Large farmer	Farmer owning more than 4 ha land is called large farmer.
Resources	Anything that aids in production is called resources. They physically enter the production process to transform into output. Examples: inputs such as seeds, fertilizers, water, etc.
Resources services	The work done by person, machine or livestock is called resource service. Here only services are available for production. Examples: services of land, labour, machinery, livestock etc.
Fixed resources / Fixed cost	Resources which remain unchanged irrespective of the level of production are called fixed resources. The costs which are associated with fixed resources are called fixed costs. Examples: land, building, permanent labour, implements etc.
Variable resource / Variable cost	Resources which changed with the level of production are called variable resources. The costs which are associated with variable resources are called variable costs. Examples: seeds, fertilizers, casual labour, etc.
Flow resources	The resources which cannot be stored and should be used as and when they are available. Examples: services of land, labour, machinery etc.
Stock resources	The resources which can be stored and should be used as and when required. Examples: seed, fertilizers etc.
Mono-period resource	It is the resource which is used only once in production. Examples: seeds, fertilizers, petrol, diesel, electricity, etc.
Poly-period resource	It is the resource which is used in the production process over several periods. Examples: land, labour, machinery, implements etc.

Variable	Any input which can have different quantities/values in the production process.
Independent variable	It is a variable whose value does not depend on other variable. Such variables influence the dependent variable. Ex: labour, seed, fertilizer, land etc.
Dependent variable	A variable that is governed by another variable. Example: Crop output.
Product	It is an outcome of the production process. Ex: Paddy, wheat, sugarcane, milk etc.
Production	The transformation of inputs into outputs is called production. In economics, production means creation of utilities.
Production function	A systematic and mathematical way of measuring the relationship between input and output.
Short-run production function	The planning period during which one or more resources are fixed.
Long-run production function	It is a planning period during which all resources are varied.
Productivity	Productivity denotes the efficiency with which various inputs are converted into products. It is a measurement of output per unit of the factor used. $\text{Productivity} = \frac{\text{Total Output}}{\text{Total Input}}$
Technical coefficient	The amount of input used per unit of output is called technical coefficient.
Efficiency	It means using resources most effectively to satisfy the farmer's needs and goals.
Technical efficiency	It is the ratio of output to input. It can be achieved if the same output can be produced using fewer inputs. Technical Efficiency means output produced using the fewest possible inputs.
Economic efficiency / Productive efficiency	It is the expression of technical efficiency in monetary value by attaching prices. In other words, the ratio of value of output to value of input is called economic efficiency. It is also called Productive efficiency. It can be achieved where the same output could be produced at lower cost. Productive Efficiency means output produced at the lowest possible cost.
Allocative efficiency	It occurs where the goods and services being produced match the demand by consumers.
Social efficiency	It occurs where the private and social cost of production is equal to the private and social benefits derived from their consumption. It is a measure of social welfare .

Choice indicator	It is a yardstick indicating which of the two or more alternatives maximizes a given end. Choice indicator always expressed in ratio . Ex: Price ratio, MRTS, MRPS, etc.
Cost of cultivation	The expenditure incurred on all inputs and input services in raising a crop on a unit area, is referred to as cost of cultivation. Ex: costs in Rs/ha, Rs./acre, etc.
Cost of production	The expenditure incurred in producing a unit quantity of output is called cost of production. Ex: Cost in Rs/quintal, Rs/kg, etc.
Optimality	It indicates a level of production where net profit is maximum (output may be or may not be maximum).
Profit maximisation	It is assumed to be the standard motive of firms in the private sector. Profit maximisation occurs where Marginal Cost = Marginal Revenue (MC = MR). The firm will continue to increase output up to the point where the cost of producing one extra unit of output is equals to the revenue received from selling that last unit of output.
Marginal Cost (MC)	It is the cost of producing one extra unit of production.
Marginal Revenue (MR)	It is the addition to total revenue as a result of producing one more unit of output. It is the price received from selling that extra unit.
Farm entrepreneur	He is the person who organizes and operates the farm business and bears responsibility of the outcome of the business.
Farm manager	He is a person appointed by the entrepreneur to manage or supervise the farm business and paid for his services. He carries the instruction of the entrepreneur.

2.4 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. $AP = \frac{\text{Total Product (TP)}}{\text{Total Inputs (X)}} = \frac{Y}{X}$

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. $E_p = \frac{\% \text{ change in Output}}{\% \text{ change in Input}} \quad \text{or} \quad \frac{MP}{AP}$ Solution: $E_p = \frac{\frac{\Delta Y}{Y} \times 100}{\frac{\Delta X}{X} \times 100} = \frac{\frac{\Delta Y}{Y}}{\frac{\Delta X}{X}} = \frac{\Delta Y}{Y} \div \frac{\Delta X}{X} = \frac{\Delta Y}{Y} \times \frac{X}{\Delta X}$ $= \frac{\Delta Y}{\Delta X} \times \frac{X}{Y} = \frac{\Delta Y}{\Delta X} \div \frac{Y}{X}$ We know that $\Delta Y / \Delta X = MP$, and $Y / X = AP$ Therefore, $E_p = \frac{MP}{AP}$

Chapter- 2

LAWS OF RETURNS

3.1 INTRODUCTION

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.

3.1.1 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 ($\Delta Y/\Delta X$)
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

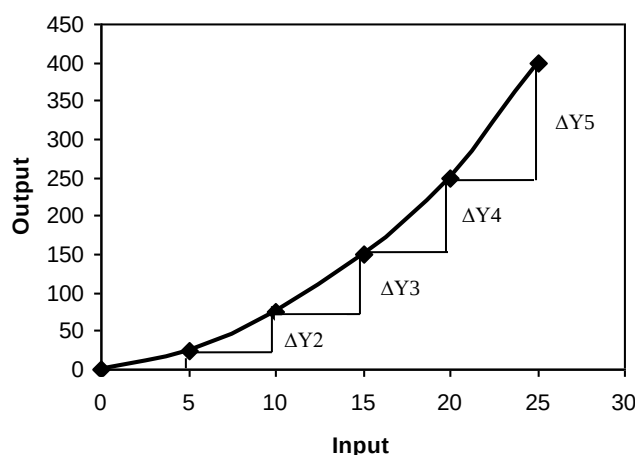


Fig. 1: Law of increasing Returns

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:

$$\frac{\Delta Y_1}{\Delta X_1} < \frac{\Delta Y_2}{\Delta X_2} < \frac{\Delta Y_3}{\Delta X_3} < \dots < \frac{\Delta Y_n}{\Delta X_n}$$

- The law of increasing returns states that the ratio $\Delta Y/\Delta X$ 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.

3.1.3 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 ($\Delta Y/\Delta X$)
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

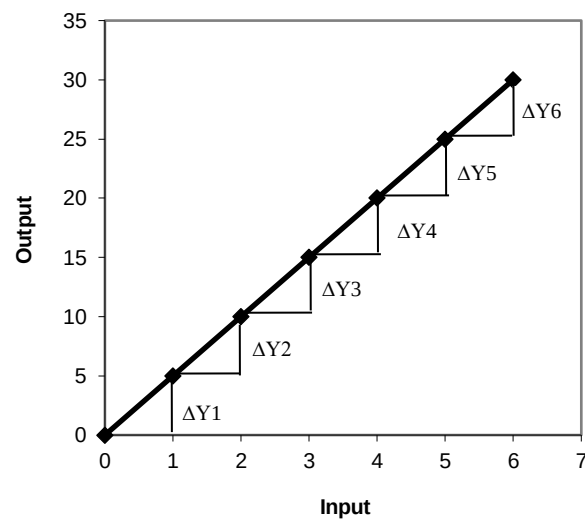


Fig. 3: Law of Constant Returns

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:

$$\frac{\Delta Y_1}{\Delta X_1} = \frac{\Delta Y_2}{\Delta X_2} = \frac{\Delta Y_3}{\Delta X_3} = \dots = \frac{\Delta Y_n}{\Delta X_n}$$

- The law of constant returns states that the ratio $\Delta Y/\Delta X$ 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.

3.1.2 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 ($\Delta Y/\Delta X$)
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

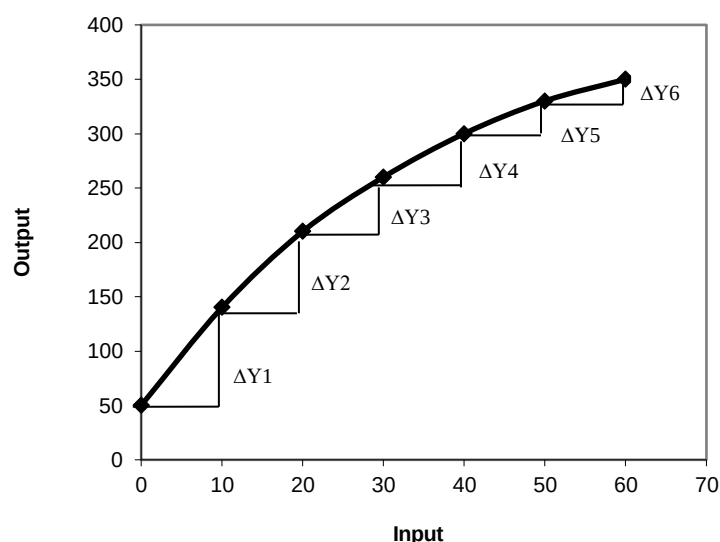


Fig. 2: Law of Decreasing Returns

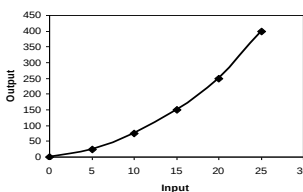
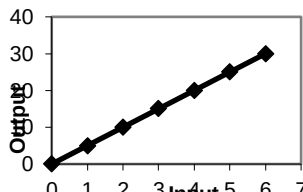
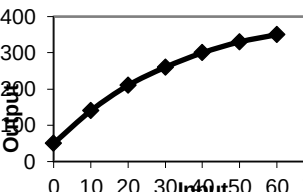
The slope of the curve will **concave** to the origin with the added unit. This relationship can also be expressed as:

$$\frac{\Delta Y_1}{\Delta X_1} > \frac{\Delta Y_2}{\Delta X_2} > \frac{\Delta Y_3}{\Delta X_3} > \dots > \frac{\Delta Y_n}{\Delta X_n}$$

- 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.

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

3.2 THE COMPARISON OF THE LAWS OF RETURNS

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 adds more 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 adds less to total product than the previous unit.
$\frac{\Delta Y_1}{\Delta X_1} < \frac{\Delta Y_2}{\Delta X_2} < \dots < \frac{\Delta Y_n}{\Delta X_n}$	$\frac{\Delta Y_1}{\Delta X_1} = \frac{\Delta Y_2}{\Delta X_2} = \dots = \frac{\Delta Y_n}{\Delta X_n}$	$\frac{\Delta Y_1}{\Delta X_1} > \frac{\Delta Y_2}{\Delta X_2} > \dots > \frac{\Delta Y_n}{\Delta X_n}$
		
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.
This law operates in the economies where non-human and non-animal power resources are used or where automatic self-adjusting mechanism is applied.	This law operates in manufacturing industries where non-human like machineries play a greater role.	This law operates widely in agriculture, fisheries, mining, etc. where human and animal 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 .		

Chapter-3 Seven cost concepts

Cost refers to the money value of effort expended or sacrifice made in producing a commodity or rendering a service or achieving a specific objective.

Costs and revenues are the two major factors that a profit maximizing farm firm needs to monitor continuously. It is the level of cost relative to revenue that determines the farms overall profitability. In order to maximize profits, a farm tries to increase its revenue and lower its cost.

The firm's output level is determined by its cost. The purpose of this exercise is to explore cost and its relevance to decision-making.

Classification of costs :

The manner in which costs are classified or deferred is largely dependent on the purpose for which the cost data are being outlined. There are many different types of costs relevant for decision making under varying situations.

1. Fixed cost and Variable costs

Fixed Costs	variable Costs
1. Fixed costs are those costs which do not vary with changes in output	1. Variable costs are those costs which increase with the level of output
2. The costs associated with fixed resources are called fixed costs	2. The costs associated with variable resources are called variable costs
3. Fixed costs are associated with the very existence of a production unit and therefore must be paid even if the output is zero.	3. Variable costs are paid when there is some output
4. Ex.:Interest on borrowed capital, rental payments, portion of depreciation charges on equipment and buildings, salaries of permanent employees and managers, taxes etc	4. Ex : Payments for raw materials, seed, fertilizers, pesticides, charges on fuels and electricity, wages of casual labour and salaries of temporary staff etc.
5. The distinction is only for the short run	5. In long run all costs are variable
6. Fixed costs are not relevant for decision making purpose	6. Variable costs are relevant for decision making purposes

2. Explicit and Implicit costs :

Explicit costs are those that are recorded in their books as representing an actual transfer of money. These are explicit or nominal costs and often do not represent full economical costs, that should be considered on a given decision. Actual outlay of cash relevant for managers to exercise control over it. Out of pocket costs Economists use implicit costs or imputed cost in evaluating a decision. Time cost in money terms can be referred as implicit cost. Do not involve actual outlay of cash. Assumed costs or hypothetical costs. Do not affect business funds and costs of operation of farm business. Ex : Interest on owned capital, contribution of family labour and owners, rental charges on owned land.

3. Direct costs and indirect costs :

There are some costs which can be directly attributed to production of a given product. The use of raw materials-seed, fertilizers, labour input and machine-time involved in the production of each unit can easily be determined. There are certain costs like depreciation of machinery and buildings, electricity charges, administrative expenses and stationery charges, that cannot

easily and accurately be separated and attributed to individual units of production, except on arbitrary basis. While referring to the separable costs of first category accountants call them direct or prime costs per unit. The joint costs of the second category are referred to as indirect or over-head costs. Direct and indirect costs are not exactly synonymous to what economists refer to as variable costs and fixed costs.

4. Private costs versus social costs : Private costs are those that accrue directly to the individuals of firms engaged in relevant activity. External costs, on the other hand are passed on to persons not involved in the activity in any direct way, they are passed on to society at large.

5. Relevant costs and irrelevant costs : The relevant costs for decision-making purposes are those costs which are incurred as a result of the decision under consideration. These costs are also referred as incremental costs. There are three main categories of relevant or incremental costs. 1. Present period explicit costs 2. Opportunity costs implicitly involved in the decision 3. Future cost implications that flow from the decision Costs that have been incurred already and costs that will be incurred in future regardless of the present decision are irrelevant costs.

6. Separable and Common costs : Costs can also be classified on the basis of their traceability. The costs that can be easily attribute to a product, a division or a process are called separable costs and the rest are called non-separable or common costs. They are also referred as direct and indirect costs. The distinction between direct and indirect costs is of particular significance in a multi product firm for setting up economic prices for different products.

7. Opportunity costs and Actual costs : Opportunity cost refers to the value of benefits of a foregone alternative. The cost of using one resource in production of a product is the return that would have been received from the same resources if used in its most profitable alternative use. It is the cost, equivalent to the returns foregone from the next best alternative. Actual costs are the costs actually increased by spending costs.

Seven production costs concepts

In short run a firm incurs some costs that are also associated with variable factors and others that result from fixed factors. The seven production costs are ;

1. Total variable costs
2. Total fixed costs
3. Total costs
4. Average variable costs
5. Average fixed costs
6. Average total costs or average cost

7. Marginal cost

1) Total Costs (TC): Total costs are the sum of total variable costs and total fixed costs.

2.) Total Variable Costs (TVC): These are also called out of pocket costs. The total variable cost represents the sum of expenditure on variable inputs for any level of output. They are short-run costs. Because the farmer has control of all the variable inputs, TVC must be covered in the short-run, or else the farmer will not incur expenditure on these variable inputs.

3.) Total Fixed Costs (TFC): Sum of expenditures which will be incurred irrespective of output level. These are relatively long-run costs.

4. Marginal Costs (MC): Marginal cost is the additional cost necessary to produce one more unit of output. Marginal cost depends entirely upon the nature of production function and the unit costs of the variable inputs. Marginal cost is comprised entirely of variable costs. No fixed costs are part of marginal costs, because they are neither increased nor decreased by additional production.

5. Average Variable Costs (AVC): Average variable cost is worked out by dividing total variable costs by the amount of output. AVC varies with the level of production. AVC is inversely related to average physical product, i.e. when APP (Average physical product) is increasing, AVC is decreasing, when APP is maximum AVC is minimum.

6. Average Fixed Costs (AFC): It is worked out by dividing total fixed costs by the amount of output. As output increases, AFC (Average fixed cost) decreases.

7. Average Total Cost (ATC): It can be computed by two ways (a) by dividing the total costs by output or (b) by adding AFC and AVC. The shape ATC depends upon the shape of the production function. ATC is often referred as the unit cost of production. ATC decrease as the output increases.

1. $TC = TFC + TVC$
2. $ATC = TC + \text{No. of output units (or AFC + AVC)}$
3. $TFC = \text{Sum of fixed costs}$
4. $AFC = TFC + \text{No. of output units}$
5. $TVC = TC - TFC$, or sum of all variable costs
6. $AVC = TVC + \text{No. of output units}$
7. $MC = (TVC \text{ or Change in Total cost}) / MPP \text{ (marginal physical product)}$

Relationship Between Average Fixed Cost, Average Variable Cost, Average Total Cost:

- As output increases, average fixed cost (AFC) decreases, as shown graphically in Fig. 1.1.
- When output is zero, $AFC = TFC$, AFC always slopes downwards regardless of production function. As shown graphically in fig.1.1.
- Like AFC, AVC cannot be computed when output is zero.
- AVC is inversely related to the Average fixed product.
- AVC first falls due to economies of large scale production and then rises due to diseconomies of scale in production.
- When AVC is decreasing, the efficiency of the variable input is increasing.
- The efficiency is at maximum when AVC is at minimum.
- ATC decreases as the output increases, attains a minimum and increases thereafter.
- Average fixed cost (AFC) curves will continue to decline and never show upward moment because after maximum product is achieved, inputs beyond this become irrational.
- As the production expands, the AVC keeps on declining. It reaches the lowest point and then bends upwards. At this point APP (average physical product) is highest.

- ATC curve has the same shape as AVC. Difference is that the lowest point in case of AVC reaches earlier as compared to ATC.

Relationship Between Marginal and Average Cost:

- Average variable cost continues to decline as long as the marginal cost is below it, but is start rising at the point where MC crosses AVC.
- MC Cost always rises more sharply than the AVC. Similar relationship holds between marginal cost and average cost. But increase in fixed cost will increase average total cost not to the marginal cost.
- When the MC is less than AC (average cost), average cost is falling and when MC is greater than AC, average cost is rising.
- At the point of intersection, where MC equals AC, average cost curve have just caused to fall, and afterward start to rise. Thus it is the minimum point on the AC curve.

Relationship of MC to AVC and ATC :

1. MC cuts both AVC and ATC at their minimum.
2. When both MC and AVC are falling, average cost will fall at a slower rate.
3. When MC and AVC are both rising, MC will rise at a faster rate. As a result MC will attain its minimum before the AVC.
4. MC is less than AVC ($MC < AVC$), AVC will fall. When MC exceeds AVC, ($MC > AVC$) AVC will rise.

5. At the point of intersection whose $MC = AVC$, AVC is minimum. AVC has just used to fall and attained its minimum but not yet begin to rise. $MC = AVC$ at the lowest point of AVC .
6. MC curve cuts the ATC at the latter's minimum point. $MC = AC$ at the lowest point of AC .
7. AVC and AC curves fall as long as the MC curve is below them and vice versa.

Chapter 4

FACTOR - PRODUCT RELATIONSHIP **Classical Production Function**

4.1 INTRODUCTION

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

4.2 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. It is, therefore, known as Law of Diminishing Marginal Return.

4.3 PRODUCTION FUNCTION USED

$$Y = f(X_1 | X_2, X_3, \dots, X_n).$$

Where, Y = output;

X₁ = variable input;

X₂, X₃, ..., X_n = fixed inputs.

4.4 OBJECTIVE

- 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?**

4.5 EXAMPLE

Input (X)	Output (TP) (Y)	Marginal Input (ΔX)	Marginal Output (ΔY)	AP (Y/X)	MP (ΔY/ΔX)	Remarks
0	0	-	-	-	-	Increasing at increasing rate
1	2	1	2	2.00	2	
2	5	1	3	2.50	3	
3	9	1	4	3.00	4	
4	14	1	5	3.50	5	Increasing at constant rate
5	19	1	5	3.80	5	
6	23	1	4	3.83	4	Increasing at decreasing rate
7	26	1	3	3.71	3	
8	28	1	2	3.50	2	
9	29	1	1	3.22	1	
10	29	1	0	2.90	0	
11	28	1	-1	2.54	-1	Decreasing (negative return)
12	26	1	-2	2.16	-2	

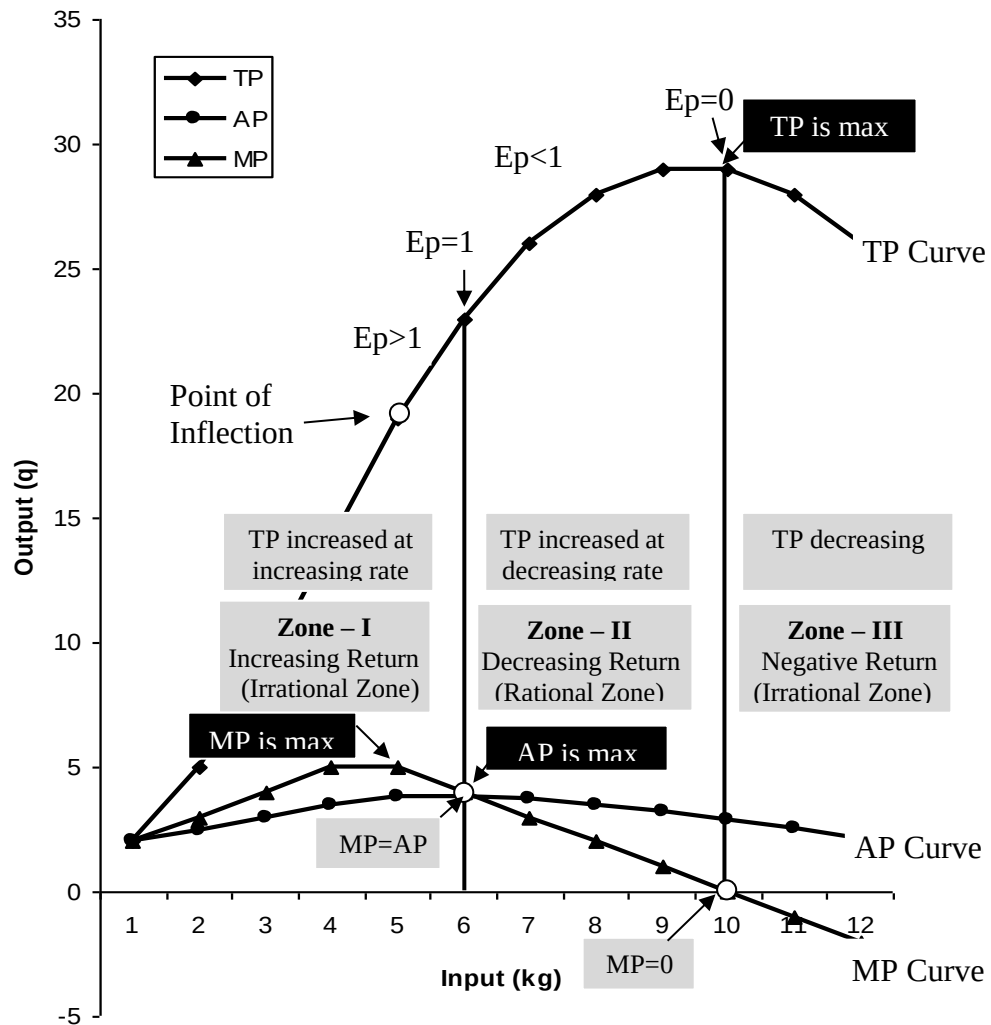


Fig.1: Classical Production Function

Nature of TP Curve	Nature of MP Curve	Nature of AP Curve
- TP increasing at increasing rate - TP increasing at decreasing rate - TP reaches 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 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; $E_p > 1$ • When $MP = AP$, AP is maximum; $E_p = 1$ • When $MP < AP$, AP decreasing; $E_p < 1$

4.6 THREE ZONES OF PRODUCTION FUNCTION

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.
$E_p > 1$	$E_p < 1$	$E_p < 0$
Stage of increasing return	Stage of decreasing return	Stage of negative return
Irrational zone	Rational zone	Irrational zone
Zone of underutilization of resources	Zone of optimum level of resources	Zone of overutilization of resources

4.7 OPTIMUM LEVEL OF INPUT USE

Optimum level of input use will be at the stage where the cost of additional input (MC) and the value of additional product (MR) are equal i.e., $MC=MR$. To calculate optimum level, data regarding price of input as well as output will be required.

Suppose, price of input is **Rs.5/unit** and price of output is **Rs.4/unit**.

Input (X)	Output (Y)	Total Cost	Total Return	Marginal Cost	Marginal Return	Net Return
0	0	0	0	-	-	0
1	2	5	8	5	8	3
2	5	10	20	5	12	10
3	9	15	36	5	16	21
4	14	20	56	5	20	36
5	19	25	76	5	20	51
6	23	30	92	5	16	62
7	26	35	104	5	12	69
8	28	40	112	5	8	72
9	29	45	116	5	4	71
10	29	50	116	5	0	66
11	28	55	112	5	-4	57
12	26	60	104	5	-8	44

In this example, the optimum use of resource is somewhere between 8 and 9 unit.

4.8 APPLICATION OF THE LAW

- The law is widely applicable to **agriculture**.
- Besides, agriculture, it also applies to **mining, fisheries** and also to **building industries** where **the nature has supremacy**.
- It is therefore, often remarked that the part that the **nature** plays in production corresponds to **diminishing returns** and the part which **man** plays conforms to the law of **increasing returns**.
- Thus, we can say that **agriculture**, where nature is supreme, is subject to **diminishing returns**, while **industry**, where man is supreme, is subject to **increasing returns**.

4.8.1 Reasons why agriculture is subject to the law of diminishing returns

1. Agricultural is related to nature. Man is not a complete master of nature. The operations are likely to be interrupted frequently by rain and other climatic changes.
2. The agricultural operations are spread out over a wide area, and consequently supervision cannot be very effective.
3. Scope for the use of specialized machinery is also very limited.
4. No scope for division of labour.

4.8.2 Reasons why industry is subject to the law of increasing returns

1. In case of manufacturing industries, **man** has the fullest scope to show his ability.
2. By the introduction of **division of labour** and the use of the most **modern technology**, production can be greatly increased.
3. Concentration of workers under one roof renders **supervision easy and effective**.

But, if the industry is **expanded too much**, supervision will become difficult and the costs will go up. In such situation, **law of diminishing returns will set in**. A prudent industrialist may not allow that stage to come at all.

Hence, we can say that the law of diminishing returns has wide applications. In agriculture it sets in earlier, while in industry, it sets in a later stage.

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Chapter 5

FACTOR - FACTOR RELATIONSHIP Law of Factor Substitution

5.1 INTRODUCTION

- Any production activity requires **different inputs** to produce a given quantity of output. There are many ways of **combining these resources** in production process.
- Farm production facilitates the **substitution of resources**. For example, a farmer producing crop does make a choice between **manures and chemical fertilizers, human labour and machinery**, etc. Similarly a dairy farmer has to decide upon the quantity of **fodder and concentrate** to arrive at feed ration.
- The factor-factor relationship is explained by the **law of factor substitution**.
- In this relationship, two factors or inputs are varied and the **output** is kept **constant**.

5.2 PRODUCTION FUNCTION USED

$$Y = f(X_1, X_2 | X_3, X_4, \dots, X_n)$$

Where, Y = a fixed level of output;

X₁, X₂ = variable inputs.

X₃, X₄, ..., X_n = inputs which remains constant.

5.3 OBJECTIVE

- The **objective** here is to find out the most appropriate combination of inputs that **costs the least** amount in producing a given level of output or **cost minimization**.
- The **management decision** associated with this analysis is **how to produce?** i.e. which combination of two factors to be used?

5.4 ISO-QUANT

- Iso** means equal and **quant** means quantity.
- The **curve representing all combinations of X₁ and X₂ that produce the equal quantity of output is called an iso-quant (Fig.1)**.
- It is also termed as iso-product curve or product indifference curve.

Example: The output of paddy amounting to 1000 kg/acre can be produced using the different combinations of two inputs viz., Manure (X₁) and Urea (X₂) as under.

Combination	Manure (X ₁) (qty. in cart-load/acre)	Urea (X ₂) (qty. in kg/acre)
A	1	200
B	2	125
C	3	80
D	4	50
E	5	30

F	6	17
G	7	10

From the above table, it is clear that all combinations with different quantities of X1 and X2 result in the same level of production. **Iso-quant (Fig.1)** represents all combinations of X1 and X2 that produce 1000 kg of paddy per acre.

Iso-quant can be shown for any level of output. As such, several iso-quant can be shown for various levels of output with different levels of inputs. **If a number of iso-quant are drawn in one graph, it is known as iso-quant map (Fig. 2).**

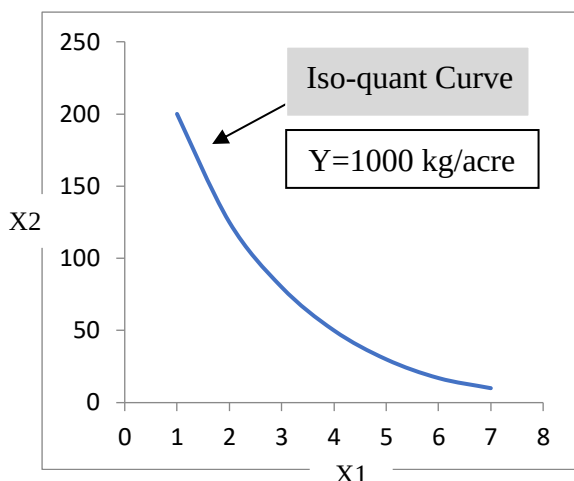


Fig. 1: Iso-quant Curve

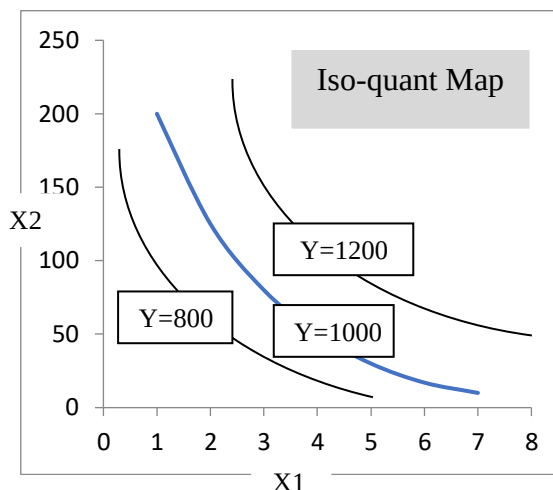


Fig. 2: Iso-quant Map

Characteristics or Properties of an iso-quant

- Iso-quant is downward sloping from left to right i.e. it is negatively sloped.
- Iso-quant is convex to the origin.
- Iso-quant placed above represent higher output and *vice-versa*.
- Iso-quant are non-intersecting.

5.5 MARGINAL RATE OF TECHNICAL SUBSTITUTION (MRTS)

- It is the **rate of exchange between two inputs** which are equally preferred.
- It indicates the absolute amount by which **one input is decreased or replaced to add a unit of another input.**
- Alternatively, **the quantity of one input to be sacrificed or given up in order to gain another input by one unit**, in process of substitution.

$$\text{MRTS} = \frac{\text{Quantity of replaced input}}{\text{Quantity of added input}}$$

MRTS of X1 for X2 is written as : $\text{MRTS}_{X_1X_2} = \Delta X_2 \div \Delta X_1$; and

MRTS of X2 for X1 is written as : $\text{MRTS}_{X_2X_1} = \Delta X_1 \div \Delta X_2$

The computation of MRTS is presented in following table.

Combi- nation	Manure (X1) (cart-load/acre)	Urea (X2) (kg/acre)	ΔX_1	ΔX_2	$\text{MRTS}_{X_1X_2}$ $= \Delta X_2 \div \Delta X_1$	$\text{MRTS}_{X_2X_1}$ $= \Delta X_1 \div \Delta X_2$
A	1	200	-	-	-	-

B	2	125	1	75	75	0.013
C	3	80	1	45	45	0.022
D	4	50	1	30	30	0.033
E	5	30	1	20	20	0.050
F	6	17	1	13	13	0.077
G	7	10	1	7	7	0.143

5.6 ISO-COST LINE

- **Iso-cost line** represents various combinations of two inputs that can be purchased with the given amount of money.
- It is known as **price line** or **budget line**.
- It can be drawn by locating the end points of X1 and X2 that can be purchased from the given amount of money.
- It plays an important role in **determining the combination of factors** that the farmer should choose for production.

Example:

Suppose, a farmer has a fund of Rs. 1000 and he has to spend on two inputs viz., X1 (Manure) and X2 (Urea). Price of X1 is Rs. 200/cart-load and that of X2 is Rs. 5/kg. Given the prices of X1 and X2, he can purchase a maximum 5 cart-load of Manure or 200 kg of Urea.

To draw **Iso-cost line** we need two extreme points X1 and X2 which can be obtained as under:

X1 (cart-load)	X2 (kg)
5	0
0	200

When these two points X1 (5,0) and X2 (0,200) are joined, we get **iso-cost line** (**Fig.3**). Similarly, iso-cost line for budget of Rs. 750 and Rs. 1250 can be drawn as under. They will be parallel to each other.

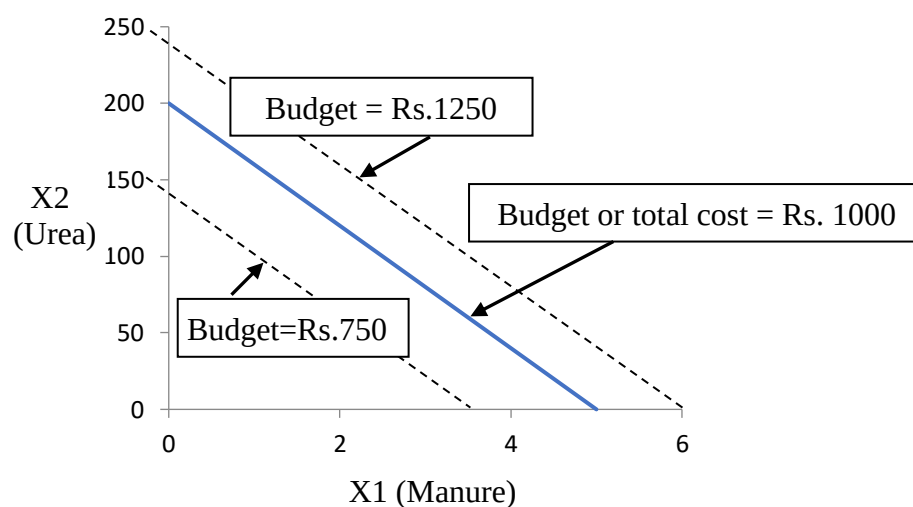


Fig. 3: Iso-Cost Lines

Characteristics of Iso-cost line

- Iso-cost line is always a **straight line**.
- The **slop** of iso-cost line **shows the inverse price ratio** of two inputs.
- Change in input prices will **change the slop** of the iso-cost line.
- When the **total outlay or budget is increased**, the iso-cost line **shifts upwards** to the right and it **moves farther** away from the origin and *vice-versa*.
- Iso-cost lines are **parallel to one other**, since relative price ratio remains constant.

5.7 LEAST COST COMBINATION

- Factor-factor analysis is mainly concerned with the **determination of least cost combination** of resources.
- There will be many combinations of two resources that produce the same level of output.
- The problem here is to find out particular combination of inputs, which produce a given quantity of output with **minimum cost**.

There are **three methods** of finding out least cost combination viz., Tabular Method, Algebraic Method and Graphic Method.

Example

A farmer wants to produce 1000 kg of paddy per acre of land. He has two types of fertilizers viz., Manures and Urea that can be used to produce the crop. The following different combinations of Manures and Urea produce the same quantity of output i.e., 1000 kg of paddy per acre.

Combination	Manure (X1) (qty. in cart-load/acre)	Urea (X2) (qty. in kg/acre)
A	1	200
B	2	125
C	3	80
D	4	50
E	5	30
F	6	17
G	7	10

Price of Manure is Rs. 200/cart-load and price of Urea is Rs. 5/kg.

Find out **least cost combination** using all three methods and give your advice to the farmer about how much quantity of Manure and Urea he should use to produce the required output.

Solution

5.7.1 Tabular Method

Combination	Manure (X1) (cart-load/acre)	Urea (X2) (kg/acre)	Cost of X1 (X1*PX1)	Cost of X2 (X2*PX2)	Total Cost
A	1	200	200	1000	1200

B	2	125	400	625	1025
C	3	80	600	400	1000
D	4	50	800	250	1050
E	5	30	1000	150	1150
F	6	17	1200	85	1285
G	7	10	1400	50	1450

Conclusion: Total Cost of “C” combination is the minimum (least) among all. Therefore, the farmer should use 3 cart-load of Manure and 80 kg of Urea to produce the given output.

5.7.2 Algebraic Method

Step-I : Compute the Marginal Rate of Technical Substitution (MRTS)

$$MRTS_{X_1X_2} = \frac{\Delta X_2}{\Delta X_1}$$

Step-II : Compute the Price Ratio (inverse)

$$PR_{X_2X_1} = \frac{PX_1}{PX_2}$$

Step-III : Find out least cost combination by equating MRTS with inverse PR

Calculation of MRTS and Price Ratio

Price of X₁ = Rs. 200/cart-load, Price of X₂ = Rs. 5/kg

Combi- nation	X ₁ (cart-load/ acre)	X ₂ (kg/acre)	ΔX ₁	ΔX ₂	MRTS _{X₁X₂} = $\frac{\Delta X_2}{\Delta X_1}$	PR _{X₂X₁} = $\frac{PX_1}{PX_2}$
A	1	200	-	-	-	-
B	2	125	1	75	75	40
C	3	80	1	45	45	40
D	4	50	1	30	30	40
E	5	30	1	20	20	40
F	6	17	1	13	13	40
G	7	10	1	7	7	40

OR

Combi- nation	X ₁ (cart-load/ acre)	X ₂ (kg/acre)	ΔX ₁	ΔX ₂	MRTS _{X₂X₁} = $\frac{\Delta X_1}{\Delta X_2}$	PR _{X₁X₂} = $\frac{PX_2}{PX_1}$
A	1	200	-	-	-	-

B	2	125	1	75	0.013	0.025
C	3	80	1	45	0.022	0.025
D	4	50	1	30	0.033	0.025
E	5	30	1	20	0.050	0.025
F	6	17	1	13	0.077	0.025
G	7	10	1	7	0.143	0.025

Conclusion: At Combination “C”, $MRTS=PR$ is observed. So, this combination is the least cost combination. Therefore, the farmer should use **3** cart-load of Manure and **80** kg of Urea to produce the given output.

5.7.3 Graphical Method

Step-I : Draw **Iso-quant** on a graph paper.

Plot X1 (added quantity) on X axis and X2 (replaced quantity) on Y axis to get Iso-quant.

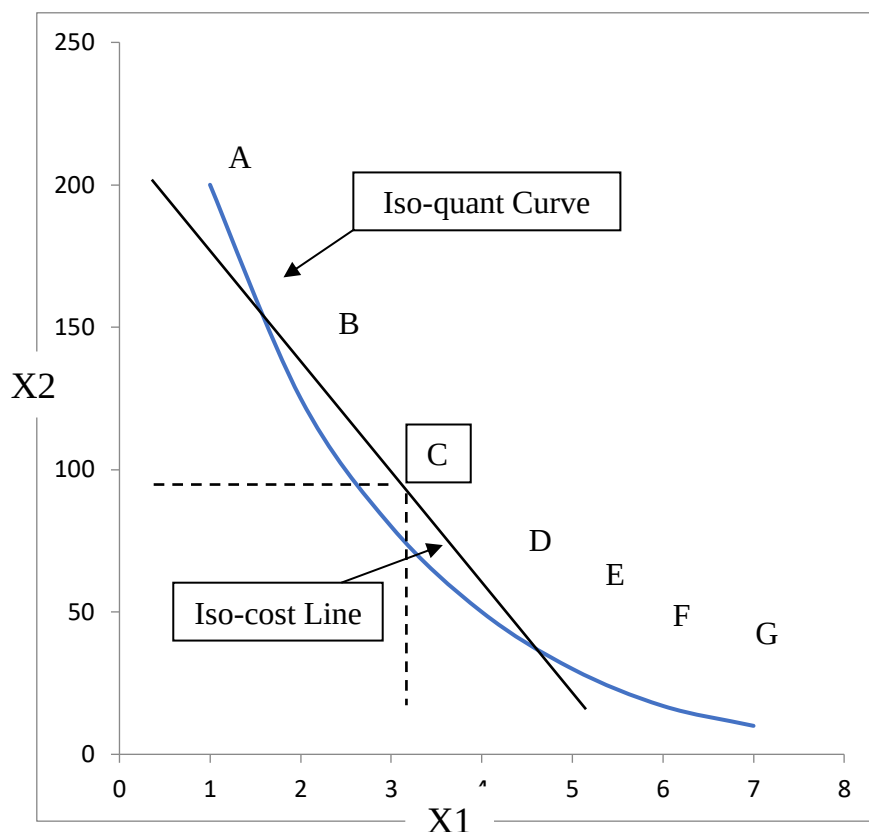
Step-II : Draw **Iso-cost Line** on the same graph paper.

To draw Iso-cost line we need two extreme points X1 and X2. Suppose, we have a budget of Rs. 1000. The Maximum quantity of X1 and X2 can be purchased as under:

X1 (cart-load)	X2 (kg)
5	0
0	200

Plot these two extreme points of X1 (5,0) and X2 (0,200) on the same graph. Join these two points X1X2. This line is called Iso-Cost Line.

Step-III : If required, move the Iso-cost line or draw the parallel line in such a way that **it intersects** the Iso-quant **at one point**. This point indicates the **least cost combination** of two inputs.



Conclusion: Combination “C” is found to be least cost because at this level Iso-quant curve and Iso-cost line **intersects** to each other. Therefore, the farmer should use 3 cart-load of Manure and 80 kg of Urea to produce the given output.

-:-:-:-:- Chapter 6

PRODUCT - PRODUCT RELATIONSHIP (Law of Product Substitution)

6.1 INTRODUCTION

The basic resources of farming viz., land, labour and capital are scare. However, these scare resources have many alternative uses. These can be used in producing different crops and livestock enterprise. Farmers have to decide whether to produce crops alone or livestock alone or their combinations. The farmer should choose such a **combination** of crops and livestock enterprise that **maximizes profit**.

- Product-product relationship deals with the **allocation of resources** among different crop and livestock enterprise.
- It is explained by the **law of product substitution**.
- In this relationship, resources or **inputs are kept constant** and **products are varied**.

6.2 PRODUCTION FUNCTION USED

$$Y_1 = f(Y_2 | X_1, X_2, \dots, X_n).$$

Where, Y1 and Y2 are variable output of two products;
X1, X2, ..., Xn are fixed inputs.

6.3 OBJECTIVE

- The objective of product-product relationship is **profit maximization**.
- The management problem associated with this analysis is **what to produce**.

6.4 PRODUCTION POSSIBILITY CURVE

- It represents **all possible combinations of two products** (Y1 and Y2) that could be produced with **given amount of resources**.
- It is known as **opportunity curve** because it represents all the production opportunities available with a given amount of resources.
- It is also called a **Production Frontier** because the limited resources cannot help to produce anything beyond production possibility curve. It demarcates what is possible at a given quantity of inputs.

Suppose a farmer has a limited input i.e., 5 acres of land. He has two alternatives i.e., the production of Maize (Y1) crop and/or Bajra (Y2) crop. Problem here is how to allocate his 5 acres between Y1 and Y2. Here, farmer can allocate entire 5 acres to Y1 alone or Y2 alone. In between these two extreme possibilities, he may have different options like, 1 acre to Y1 and 4 acres to Y2 or 2 acres to Y1 and 3 acres to Y2 and so on. For example, different levels of land and the corresponding levels of output of Y1 and Y2 are as under.

Land (acre)	Production (qtl)	
	Maize (Y1)	Bajra (Y2)
1	9	8
2	15	14
3	20	20
4	23	24
5	25	27

Here, possible allocation of land among two crops Y1 and Y2 can be done as under.

Combination	Allocation of Land in acres		Output (Production) in qtls	
	Maize (Y1)	Bajra (Y2)	Maize (Y1)	Bajra (Y2)
A	0	5	0	27
B	1	4	9	24
C	2	3	15	20
D	3	2	20	14
E	4	1	23	8
F	5	0	25	0

The **production possibility curve** for the above situation can be prepared by presenting the outputs of Y1 and Y2 in graphical form (**Fig.1**).

Qty in q

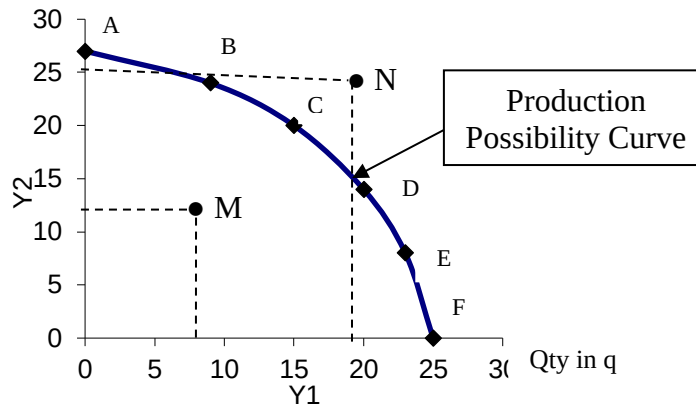


Fig 1. Production Possibility Curve

Characteristics of Production Possibility Curve

- It is **concave** to the origin.
- The slope of the curve indicates the marginal rate of product substitution.
- Any combination of Y1 and Y2 inside the curve (Point M) is possible but it reflects inefficient use of resources.
- Any combination of Y1 and Y2 on the curve (Point A to F) is possible to produce and it reflects efficient use of resources.
- Any combination of Y1 and Y2 outside the curve (Point N) is not possible to produce at given amount of resources.
- Change in input levels, shifts the production possibility curve.

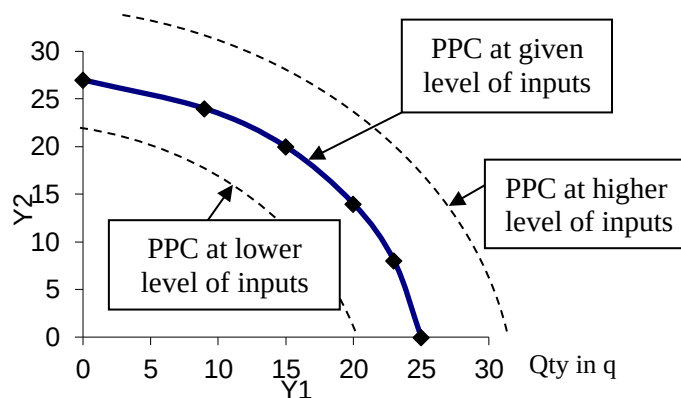


Fig. 2: Shifts in Production Possibility Curve

6.5 MARGINAL RATE OF PRODUCT SUBSTITUTION (MRPS)

- The absolute amount, by which **one product is decreased**, in order to **gain another product by a unit** is called marginal rate of product substitution.
- It is the **rate of exchange between two products** which are equally preferred.

$$\text{MRTS} = \frac{\text{Number of units of replaced product}}{\text{Number of units of added product}}$$

$$\text{MRPS of Y1 for Y2 (MRPS}_{Y_1Y_2}) = \frac{\Delta Y_2}{\Delta Y_1}$$

or

$$\text{MRPS of Y2 for Y1 (MRPS}_{Y_2Y_1}) = \frac{\Delta Y_1}{\Delta Y_2}$$

6.6 ISO-REVENUE LINE

It is line, which represents all possible combinations of two products which would yield equal revenue.

Suppose we wish to obtain a total revenue of Rs. 7000. If Price of Y1 is Rs.1000/q and price of Y2 is Rs.700/q, the expected revenue of Rs.7000 can be earned by producing 7 quintals of Y1 or 10 quintals of Y2.

Y1 (q)	Y2 (q)
7	0
0	10

Plot these two extreme points Y1 (7,0) and Y2 (0,10). Join these two points and the line that we get is called iso-revenue line (**Fig.3**). Similarly, the iso-revenue line for Rs. 4000 and Rs. 9000 can be drawn as under. They will be parallel to each other.

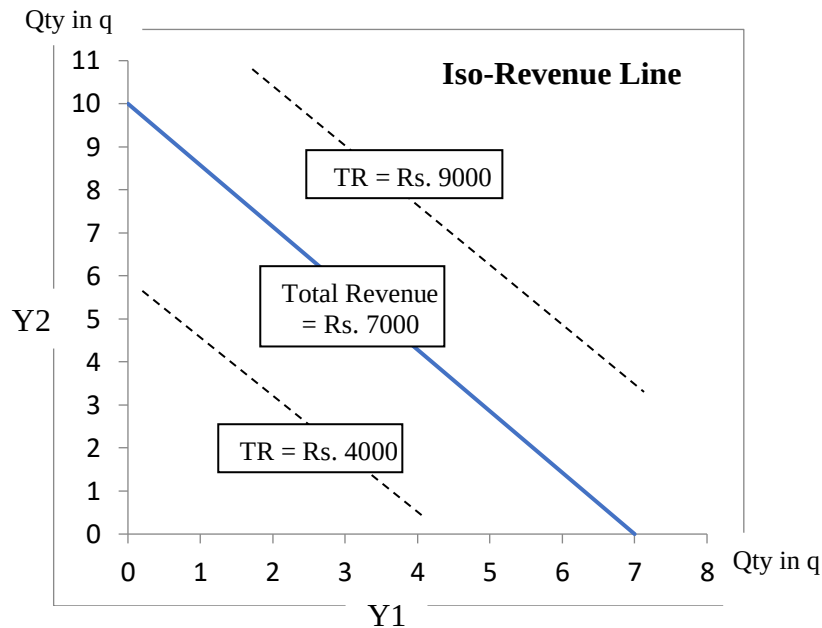


Fig. 3: Iso-revenue Line

Characteristics or properties of Iso-revenue Line

- Iso-revenue line is a straight line.
- As the total revenue increases, the iso-revenue shifts upwards and moves away from the origin and vice-versa.
- The iso-revenue lines are parallel to each other, since price ratio remains constant,
- The slope of the iso-revenue line indicates the inverse price ratio of the products. The slope is affected by price change.

6.7 PROFIT MAXIMIZATION

The objective of product-product relationship is to determine which out of all possible combinations is the most profitable. For this, we require the prices of Y1 and Y2 products. Suppose, the price of Y1 is Rs.1000/q and price of Y2 is Rs.700/q, for the given example, find out the combination of two crops which gives the maximum profit.

Solution

There are three methods to find out the best combination that gives maximum profit viz., **Tabular Method, Algebraic Method and Graphical Method.**

6.7.1 Tabular Method

Combination	Allocation of land (acre)		Production (qtl/acre)		Income		Total Income
	Y ₁	Y ₂	Y ₁	Y ₂	Y ₁ *PY ₁	Y ₂ *PY ₂	
A	0	5	0	27	0	18900	18900
B	1	4	9	24	9000	16800	25800
C	2	3	15	20	15000	14000	29000
D	3	2	20	14	20000	9800	29800
E	4	1	23	8	23000	5600	28600
F	5	0	25	0	25000	0	25000

Conclusion : Combination “D” gives highest Income. Therefore, out of 5 acres, farmer should grow **Y1 crop in 3 acres and Y2 crop in 2 acres of land.**

6.7.2 Algebraic Method

Step 1: Find out Marginal Rate of Product Substitution (MRPS)

Step 2: Find out inverse ‘Price Ratio’ for given prices of Y1 & Y2

Step 3: Compare both MRPS and PR ratio. MRPS=PR gives maximum returns.

Combination	Allocation of land (acre)		Production (qtl/acre)		ΔY_1	ΔY_2	MRPS _{Y₁Y₂}	PR _{Y₂Y₁}	MRPS _{Y₂Y₁}	PR _{Y₁Y₂}
	Y ₁	Y ₂	Y ₁	Y ₂						
A	0	5	0	27	-	-	-	-	-	-
B	1	4	9	24	9	3	0.33	1.43	3.00	0.70
C	2	3	15	20	6	4	0.66	1.43	1.50	0.70
D	3	2	20	14	5	6	1.20	1.43	0.83	0.70
E	4	1	23	8	3	6	3.00	1.43	0.50	0.70
F	5	0	25	0	2	8	4.00	1.43	0.25	0.70

Conclusion : Combination D represents **MRPS=PR**. Therefore, out of 5 acres, farmer should grow **Y1 crop in 3 acres and Y2 crop in 2 acres of land.**

6.7.3 Graphical Method

Step 1: Prepare a Production Possibility Curve

Plot Y1 (added quantity) on X axis and Y2 (replaced quantity) on Y axis to get production possibility curve.

Step 2 : Draw Iso-Revenue Line or Price Line using price data.

To draw iso-revenue line we need two extreme points of Y1 and Y2 which can be obtained as under:

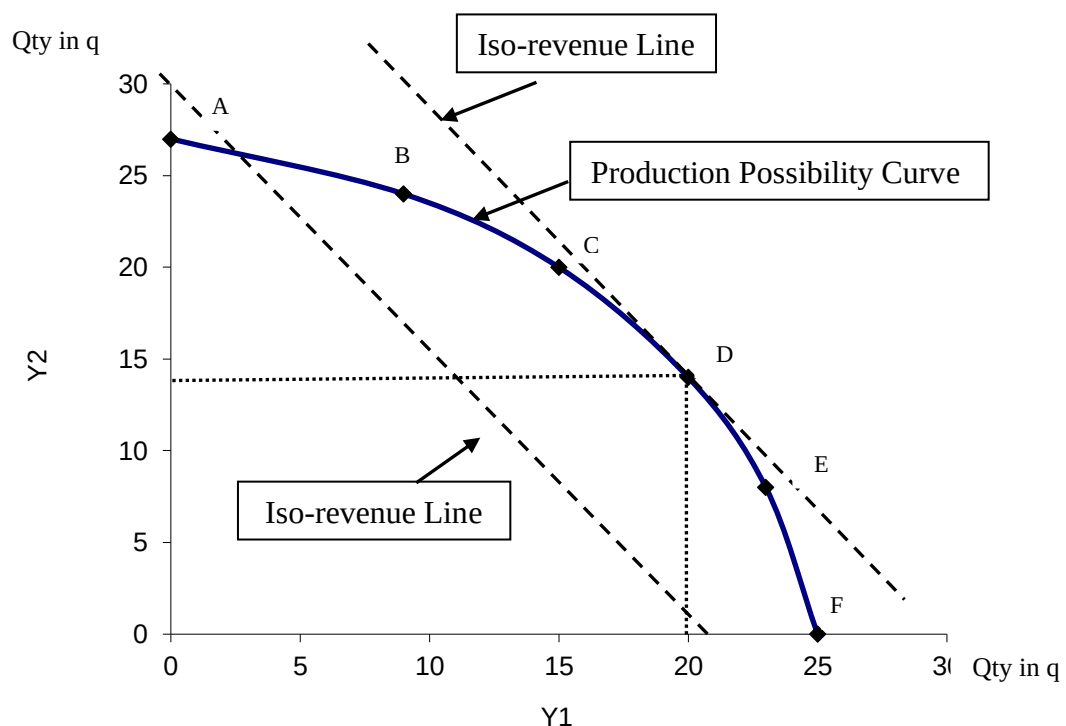
Suppose, we want to have a total revenue of Rs. 21,000. It is possible as under:

Y1 (q)	Y2 (q)
21	0
0	30

Plot these two extreme points of Y1 (21,0) and Y2(0,30) on the same graph. Join these two points Y1Y2. This line is called Iso-Revenue Line.

Step 3 : Move Iso-revenue line to intersect production possibility Curve at one point.

At the point where Production possibility Curve and Iso-revenue Line intersect is the point of maximum profit. At this point combination of two products Y1 & Y2 gives maximum profit.



Conclusion: The Production Possibility Curve and Iso-revenue Line intersect at D Point. Thus, combination D represents **MRPS=PR**. Therefore, out of 5 acres, farmer

should grow **Y1 crop in 3 acres and Y2 crop in 2 acres of land.**

6.8 SUMMARY OF THREE BASIC PRODUCTION RELATIONSHIPS

Factor – Product Relationship	Factor – Factor Relationship	Product – Product Relationship
It is explained by Law of Diminishing Return	It is explained by Law of Factor Substitution	It is explained by Law of Product Substitution
Management Problem: How much to produce?	Management Problem: How to produce?	Management Problem: What to produce?
Objective : Resource Optimization	Objective : Cost Minimization	Objective : Profit maximization
It is concerned with Resource use efficiency	It is concerned with Resource combination and substitution	It is concerned with Resource allocation
It is used for determination of optimum input use and optimum output to produce	It is used for determination of least cost combination of resources	It is used for determination of optimum combination of products to be produced
Functional relationship: $Y = f(X_1 X_2, X_3, \dots, X_n)$	Functional relationship: $Y = f(X_1, X_2, X_3, X_4, \dots, X_n)$	Functional relationship: $Y_1 = f(Y_2, X_1, X_2, \dots, X_n)$
One input varied, others are kept constant	Output is constant and inputs are varied	Inputs are constant and products are varied
Three Zones of Production	Iso-quant Curve and Iso-cost Line	Production Possibility Curve and Iso-revenue Line
Profit rule: MC=MR	Profit rule: MRTS=PR	Profit rule: MRPS=PR

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Chapter -7

RETURNS TO SCALE

8.1 INTRODUCTION

- Increasing successive units of a variable factor to a fixed factor will increase output but eventually the addition to output will start to slow down and would eventually become negative.
- To prevent diminishing returns setting in, **all factors need to be increased**. It is called **returns to scale**.
- It is also called **long-run production function**. In the long run, all factors can be changed.

8.2 DEFINITION

- Returns to scale studies the changes in output **when all factors are changed**.
- An increase in **scale** means that all inputs or factors are increased **simultaneously** in the **same proportion**.
- In other words, in return to scale, we analyze the effect of **doubling, tripling** and so on of all the inputs used in the production process.

8.3 THREE PHASES OF RETURNS TO SCALE

8.3.1 Phase-I: Increasing returns to scale

If the increase in all factors leads to a more than proportionate increase in output, it is called increasing returns to scale. For example, if all the inputs are increased by 5%, the output increases by more than 5%. In this case the marginal product will be rising.

8.3.2 Phase-II: Constant returns to scale

If we increase all the factors (i.e. scale) in a given proportion, the output will increase in the same proportion i.e. a 5% increase in all the factors will result in an equal proportion of 5% increase in the output. Here the marginal product is constant.

8.3.3 Phase-III: Decreasing returns to scale

If the increase in all factors leads to a less than proportionate increase in output, it is called decreasing returns to scale i.e. if all the factors are increased by 5%, the output will increase by less than 5%. In this phase marginal product will be decreasing.

8.4 EXAMPLE

Sr. No.	Scale of Production (Inputs)	Total Output / Returns (qtl)	Marginal Return (qtl)	Remarks
1	$2W^* + 1AL^*$	2	-	-
2	$4W + 2AL$	5	3	Stage-I Increasing Return
3	$6W + 3AL$	9	4	
4	$8W + 4AL$	14	5	
5	$10W + 5AL$	19	5	Stage-II Constant Return
6	$12W + 6AL$	24	5	
7	$14W + 7AL$	28	4	Stage-III
8	$16W + 8AL$	31	3	

9	18W + 9AL	33	2	Decreasing Return

* W = Worker; AL = Acres of Land

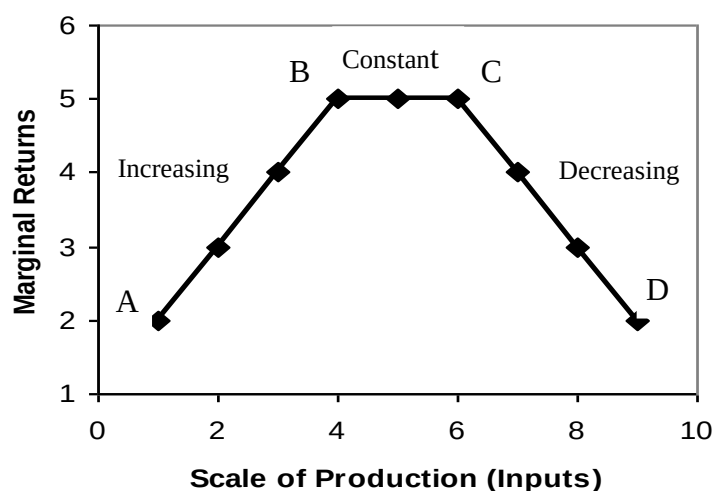


Fig. 4: Returns to Scale

In the table, we see that when we employ 2 worker on 1 acres of land, the total product is 2 qtls. Now to increase output, we double the scale, but the total production increases to more than double (to 5 instead of 4) and so on up to certain point. If the scale of production is further increased, the marginal product remains constant to a certain point, and beyond that, it (MP) starts diminishing. The same is explained by the figure where AB, BC and CD indicate increasing, constant and decreasing returns to scale, respectively.

8.5 IMPORTANCE AND LIMITATIONS

However, it is very important to state that, in actual life, the scale of production cannot be increased beyond a certain limit. To increase the scale of production means that all the factors being used in production can be increased at will and indefinitely. **But it is not so in practice.** While land, labour and capital can be increased at will, organization or entrepreneur does not admit for being increased, **since the entrepreneur or organizer remains the same.** In other words, there is at least one factor of production which cannot be varied at will, and, hence when more output is desired, the proportion among the factors of production used must change. Hence, returns to scale are **more theoretical interest** than being relevant to actual life.

8.6 DIFFERENCE BETWEEN LAWS OF RETURNS AND RETURNS TO SCALE

Laws of Returns	Returns to Scale
Short run Production function.	Long run Production function.
Only one factor is varied and all other factors are kept constant.	The Scale changes i.e., all factors are changed simultaneously in the same ratio.
Law does not apply when the factors are used in fixed proportions.	Law does apply when the factors are used in fixed proportions.
Widely applicable.	More of theoretical interest than being relevant to actual life.

Chapter-8

Farm cost concepts and Income measures

Cost concepts are widely used because of their relevance in the decision making process. This means that these costs serve as a basis to expand the size of the farm, to buy the requisite capital assets in the long run and the requisite input in the short run. For example variable cost have the bearing on the level of production in the short run, on the other hand the decisions like expanding the size of farm, buying the durable assets, etc., are based on the total costs.

Farm cost concepts:

Dr Sen's special expert committee for improving the cost of cultivation/production estimates (1979) recommended the following classification of costs to be adopted and later they were slightly modified. The different cost items that are to be included under each cost concept are detailed below with their imputational procedures.

CATEGORIZATION OF FARM COST CONCEPTS

The Commission on Agricultural Costs and Prices (CACP), Govt. of India, had categorized the farm costs concepts as follows.

1. Cost A1 : It includes all actual expenses in cash and kind incurred in production by the farmer.

- i) Value of hired human labour
- ii) Value of bullock labour (both hired and owned)
- iii) Value of machine power (both hired and owned)
- iv) Value of seeds (both owned and purchased)
- v) Value of insecticides and pesticides, weedicides
- vi) Value of manures (both owned and purchased)
- vii) Value of fertilizers
- viii) Depreciation of implements and farm buildings
- ix) Irrigation charges
- x) Land revenue, cess and other taxes
- xi) Miscellaneous expenses (electricity charges etc)

xii) Interest on working capital

2. Cost A2 : Cost A1 + rent paid for leased in- land

3. Cost B1 : Cost A2 + interest on value of owned capital assets (excluding land)

4. Cost B2 : Cost B1 + rental value of owned land

5. Cost C1 : Cost B1 + imputed value of family labour

6. Cost C2 : Cost B2 + imputed value of family labour

7. Cost C3 : Cost C2 x 1.10, (10% of cost C2 is added to cost C2) : this is a recently added concept to provide allowance for managerial functions undertaken by the farmer. It is the Total Cost or comprehensive cost of cultivation.

8. Cost of production = (Cost C3-Value of byproduct) / Yield

Farm business income measures : Workout the following farm business income measures or returns over different cost concepts.

1. Gross returns: Value of main product plus byproduct. The main products and byproducts are to be imputed taking into account the actual marketed prices, or the village level prices prevailed at the time of enquiry.

2. Farm business income = Gross return-Cost A1

3. Owned farm business income = Gross return-Cost A2

4. Family labour income = Gross return-Cost B2

5. Net income = Gross return-Cost C3

6. Intensive income = Net income + rental value of owned land+ interest of fixed capital

7. Farm investment income = Farm business income-Imputed value of family labour

Imputation procedure to be followed while estimating cost of cultivation of crops

1. Casual labour: Actual cash wages or kind wages and perquisites are to be imputed considering the ruling price in the village at the time of operations.

2. Attached servants: The per day wage rate is to be arrived based on total wages (cash + kind + perquisites) paid and the number of days.

3. Bullock labour: Hired – actual charges paid are considered. In case of owned bullock labour the per work day or per work hour cost of maintenance is to be taken into account.

4. Owned manures, seeds and other are to be imputed at the prices prevailed in the village at the time of their use.

5. **Interest on working capital** – Interest on entire cash costs are to be charged @ 7 per cent per annum, for half of the crop period only. Actual interest charges are to be considered in respect of borrowed capital.
6. **Depreciation on fixed assets** (other than the value of land such as farm implements, farm buildings, irrigation structures, work cattle, pump sheds, following the straight line method. The total amount of depreciation/year is to be appropriated to each crop according to the proportion of usage of assets and equipment in each crop or in proportion to the each crop acreage in the cropping pattern on the farm.
7. **Rent on owned land:** Local prevailing lease amount for land is to be considered or 30 per cent of the value of output (main product plus by product) is to be considered as rental value of owned land.
8. **Interested on owned fixed capital (other than the land value) :** It is to be charged @ 10 per cent per annum. The total amount is to be apportioned to each crop as per the proportion of each crop in the cropping pattern on the farm.
9. **Family labour:** Men family labour is to be charged on par with the attached servants (average wage value) of the village, while family women labour is to be imputed considering the wages paid to the women labour for the similar operation.
10. **The actual costs** plus transport charges are to be considered in case of other purchased inputs such as fertilizers, insecticides etc.
11. **Machine labour:** Actual hire charges are to be taken and in case of owned machine prevailing hire charges are to be adopted.

Chapter-9

Farm Management

Meaning of Farm Management: Farm Management comprises of two words i.e. Farm and Management. Farm means a piece of land where crops and livestock enterprises are taken up under common management and has specific boundaries. Farm is a socio economic unit which not only provides income to a farmer but also a source of happiness to him and his family.

It is also a decision making unit where the farmer has many alternatives for his resources in the production of crops and livestock enterprises and their disposal. Hence, the farms are the micro units of vital importance which represents centre of dynamic decision making in regard to guiding the farm resources in the production process. The welfare of a nation depends upon happenings in the organisation in each farm unit. It is clear that agricultural production of a country is the sum of the contributions of the individual farm units and the development of agriculture means the development of millions of individual farms.

Management is the art of getting work done out of others working in a group. Management is the process of designing and maintaining an environment in which individuals working together in groups accomplish selected aims. Management is the key ingredient. The manager makes or breaks a business. Management takes on a new dimension and importance in agriculture which is mechanised, uses many technological innovations, and operates with large amounts of borrowed capital. The prosperity of any country depends upon the prosperity of farmers, which in turn depends upon the rational allocation of resources among various uses and adoption improved technology. Human race depends more on farm products for their existence than anything else since food, clothing – the prime necessities are products of farming industry. Even for industrial prosperity, farming industry forms the basic infrastructure.

Thus the study farm management has got prime importance in any economy particularly on agrarian economy.

DEFINITIONS OF FARM MANAGEMENT.

1. The art of managing a Farm successfully, as measured by the test of profitableness is called farm management. (L.C. Gray)
2. Farm management is defined as the science of organisation and management of farm enterprises for the purpose of securing the maximum continuous profits. (G.F. Warren)

3. Farm management may be defined as the science that deals with the organisation and operation of the farm in the context of efficiency and continuous profits. (Efferson)
4. Farm management is defined as the study of business phase of farming.
5. Farm management is a branch of agricultural economics which deals with wealth earning and wealth spending activities of a farmer, in relation to the organisation and operation of the individual farm unit for securing the maximum possible net income. (Bradford and Johnson)

NATURE OF FARM MANAGEMENT.

Farm management deals with the business principles of farming from the point of view of an individual farm. Its field of study is limited to the individual farm as a unit and it is interested in maximum possible returns to the individual farmer. It applies the local knowledge as well as scientific finding to the individual farm business. Farm management in short be called as a science of choice or decision making.

OBJECTIVES

1. To examine **production pattern** and resource use on the farm.
2. To **identify the factors** responsible for the present production pattern.
3. To determine the **conditions of optimality in the resource** use and production pattern.
4. To analyze the **extent of sub-optimality** in the resource use.
5. To suggest ways and means in getting the present use of resources to optimality.

SCOPE OF FARM MANAGEMENT.

Farm Management is generally considered to be MICROECONOMIC in its scope. It deals with the allocation of resources at the level of individual farm. The primary concern of the farm management is the farm as a unit. Farm Management deals with decisions that affect the profitability of farm business. Farm Management seeks to help the farmer in deciding the problems like what to produce, buy or sell, how to produce, buy or sell and how much to produce etc. It covers all aspects of farming which have bearing on the economic efficiency of farm.

RELATIONSHIP OF FARM MANAGEMENT WITH OTHER SCIENCES.

The Farm Management integrates and synthesises diverse piece of information from physical and biological sciences of agriculture. The physical and biological sciences like Agronomy, animal husbandry, soil science, horticulture, plant breeding, agricultural

engineering provide input-output relationships in their respective areas in physical terms i.e. they define production possibilities within which various choices can be made. Such information is helpful to the farm management in dealing with the problems of production efficiency.

Farm Management as a subject matter is the application of business principles in farming from the point view of an individual farmer. It is a specialised branch of wider field of economics. The tools and techniques for farm management are supplied by general economic theory. The law of variable proportion, principle of factor substitution, principle of product substitution are all instances of tools of economic theory used in farm management analysis.

Statistics is another science that has been used extensively by the agricultural economist. This science is helpful in providing methods and procedures by which data regarding specific farm problems can be collected, analysed and evaluated. Psychology provides information of human motivations and attitudes, attitude towards risks depends on the psychological aspects of decision maker.

Sometimes philosophy and religion forbid the farmers to grow certain enterprises, though they are highly profitable. For example, islam prohibits muslim farmer to take up piggery while Hinduism prohibits beef production. The various pieces of legislation and actions of government affect the production decisions of the farmer such as ceiling on land, support prices, food zones etc.

The physical sciences specify what can be produced; economics specify how resources should be used, while sociology, psychology, political sciences etc. specify the limitations which are placed on choice, through laws, customs etc.

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Chapter -10

Farm Resource Management

Farm: It is a piece of land, where crop s and livestock enterprises are taken up under single management and has specific boundaries.

Size of Farm: The size of farm generally understood in terms of physical area, volume of production and value of production.

In general the size of farm refers to physical area, but in terms of economics this refers to either the volume of production or value of production.

Types and system of farming refer to the nature and degree of products and their combination and various methods followed in the production of the same.

1. SPECIALIZED FARMING

- When a farm business unit derives **more than 50 per cent of its income** from a single enterprise it is called as a specialized farm.
- This means that among the possible crops or livestock enterprises taken up by a farmer, one particular crop or livestock enterprise contributes **more than 50 per cent** of the income.
- The reasons for specialized farming are; 1) assured income from the enterprise; 2) its suitability to the area; 3) its relative profitability, etc.
- For example, paddy farming, sugarcane farming, tobacco farming, poultry, sheep farming, fish farming, etc.

Advantages

1. **Better Utilization of Land:** Land can be put to most productive use, by opting the enterprise that is best suited. A given type of land no doubt allows options for alternative crops; still there is a possibility of a particular crop capable of rewarding the farmer with better income.
2. **Better Management:** Specialization since is bestowing attention on a particular enterprise, it reduces the pressure on the farmer to care for several enterprises. Naturally it reduces the wastage of resources.
3. **Less Requirement of Equipment:** The farmer can carry on the business activity with the equipment that is required for the chosen enterprise. There are no pressing requirements to equip the farm with a variety of equipment.
4. **Increase in Skill of the Farmer:** The efficiency of the farmer increases as he can concentrate on one enterprise. His experience in the enterprise sharpens his skills in running the enterprise.
5. **Allows Better Marketing:** On marketing front, the farmer is better placed. He is saved from the pressure of finding market if he were to sell diversified products. It allows for better marketing functions i.e., assembling, transport, grading, etc.

Disadvantages

1. **Failure of crop:** The farmer runs the risk of heavy loss in case of crop failure. There is no possibility of compensation. This is the biggest drawback of specialized farming.
2. **Non-utilization of Productive Resources:** Since the farmer confines to one or few enterprises, the various farm resources like land, water, labour, capital, etc., may not be fully utilized. In view of the limited enterprises, some of the resources may remain untapped or under-utilized.
3. **Affect on Soil Health:** Continuous raising of one crop or few crops may be exerting greater pressure on soil health. This practice does not allow crop rotation, thereby affecting the soil health.

2. DIVERSIFIED FARMING

- It is also known as general farming.
- It means a number of enterprises are taken up on the farm at the same time.
- There is no much significance for a single enterprise under this situation.
- No single enterprise contributes as high as 50 per cent of the total income.

Advantages

1. **Better Utilization of Farm Resources:** In view of the diversified cropping and crop rotations, farm resources are better utilized compared to specialized farming.
2. **Reduction of Farm Risks:** As a variety of crops are found, failure of one or two crops will not much affect the income from farming.
3. **Flow of Income:** The farmer enjoys the advantage of deriving regular income, as different crops are grown.

Disadvantages

- **Ineffective Supervision:** The presence of a number of enterprises on the farm will stand in the way of the farmer in bestowing effective supervision. Effectiveness can be found when there is a limit to the number of enterprises. This is likely to affect the farm economy.
- **Less Possibility for Maintaining a Variety of Implements and Machinery:** It becomes expensive to purchase and maintain the required suitable implements and machinery for the various enterprises taken up on the farm.
- **Probable Marketing Insufficiencies:** The growing of a variety of crops is likely to bring in problems on marketing front. The farmers have to search for markets.

3. MIXED FARMING

- It represents a type of farming in which crop production and livestock production are combined to sustain and satisfy as many needs of the farmer as possible.
- There are limits specified regarding contribution of livestock production, poultry, fisheries, and bee keeping, etc., to the gross income on the farm. These enterprises are

supposed to contribute **at least 10 per cent** of gross income. However, this contribution **should not exceed 49 per cent**.

- It facilitates the application of organic manuring to soil, thus helping the maintenance of soil health.
- It provides employment to the farmer and his family throughout the year.
- Agricultural byproducts are properly used in mixed farming.
- It further provides a sort of stability to the farm business.

4. DRY FARMING

- Growing of crops entirely under rainfed conditions is known as dry land agriculture.
- Depending on the amount of rainfall received, dry land agriculture is categorized into dry farming, dry land farming and rainfed farming.
- **Dry farming** means cultivation of crops in areas where rainfall is **less than 750 mm** per annum. Crop failure is the most common due to prolonged dry spells during the crop period. Dry farming regions are equivalent to arid regions and moisture conservation practices are important in this region.
- **Dry land farming** is the cultivation of crops in regions with an annual rainfall of **more than 750 mm**. Dry spells during crop period occurs, but crop failures are relatively less frequent. Moisture conservation practices are necessary for crop production.
- **Rainfed farming** is crop production in regions with an annual rainfall of **more than 1150 mm**. It is practiced in humid regions where crop failures are rare and drainage is the important problem.
- **In dry farming and dry land farming**, emphasis is on soil and water conservation, sustainable crop yields and limited fertilizer use according to soil moisture availability.
- **In rainfed agriculture** the emphasis is on disposal of excess water, maximum crop yield, and high levels of inputs and control of water erosion.

5. RANCHING

Grazing of livestock on public pastures is called ranching. These lands are not fit for cultivation.

FACTORS INFLUENCING TYPES AND SIZE OF FARM

1) Physical Factors

1. **Climate:** It includes sunshine, rainfall, wind, length of sunlight, etc. These factors predominantly influence the choice of crops, thereby affecting the type of farming. Crops like paddy and sugarcane requires substantial water while others like oilseeds; millets and pulses can withstand low rainfall.
2. **Soil:** The type of soil, depth of soil and fertility status of the soil affects the selection of crops. Deep soils facilitate production of a variety of crops bringing prosperity to agriculture. If soils are fertile, manurial costs can be reduced thereby the cost of cultivation.

3. **Topography:** It means the general contour of the land, whether it is hilly or plain. Temperatures are low and growing seasons are shorter at higher elevation and therefore more suitable for establishment of plantation crops like tea, coffee, etc. Contour also determines the type of machinery that can be used and the rate of soil erosion, which in turn influences the choice of crop.

2) Economic Factors

1. **Relative Profitability:** Given the option of choosing among several crops in an area, farmers first look into the relative profitability of a given enterprise. A particular enterprise if found to be relatively profitable, farmers are inclined to go for it. In a dynamic situation the options are bound to change with changes in the relative profitability of crops. These changes occur in view of changes in yields, changes in prices, risk factors, introduction of incentives, crop restrictions, technology, etc.
2. **Availability of Funds:** Different enterprises require different levels of funds. For example, commercial enterprises like sugarcane, chillies, onion, prawn culture, etc., require large amount of funds over enterprises like oilseeds, millets, etc. Therefore availability of funds determines the type of farming.
3. **Availability of the Inputs:** All the inputs like labour, seed, fertilizer, etc., should be available as per the requirement. If labour shortages are common in an area during peak periods, certainly the farmers do keep this in mind in the selection of the enterprises. Timely availability of other inputs in required quantities also influences their decision with regard to selection of enterprises.
4. **Marketing Arrangements:** The marketing facilities available for the products are also given due weightage in the selection of enterprises. Mere assured output with inadequate marketing arrangements will not influence the farmers to opt for a given enterprise and
5. **Personal Choices:** Apart from aforesaid factors individual farmer's likes and dislikes have a say, in the selection of enterprises.

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Chapter-11

Farm Management Decision

Farm management Decision: It is seen that farm management is called the science of decision making or science of choice. It is a choice in the efficient utilization of available but limited resources among competing ends. The principal farm management decisions made by most of the farmers are:

1. Strategic Management Decisions

- (a) Deciding the best size of farm: Type of farming area, type of business, land under irrigation, mechanization, ability of the farmer to manage, etc.
- (b) Decisions on farm labour and machinery programme.
- (c) Decision on construction of building
- (d) Decision regarding irrigation, conservation and reclamation programmes.

2. Operational management decision

In the day to day operations of the farm business, the frequency of these decision is more as compared to strategic decision but the investment is relatively small and impact short lived.

- These type of decisions involve **less investment**.
- These are made **more frequently**.
- The effect of these decisions is **short lived**.
- Can be reversed **without incurring much cost**.
- These are also known as **tactical decisions**.

The decisions are generally as follows:

- 1. **What to produce?** - aims at **profit maximization (Selection of enterprises)**
- 2. **How to produce?** - aims at **cost minimization. (Selection of least cost efficient method)**
- 3. **How much to produce?** - aims at **resource optimization. (Enterprise mix)**
- 4. **When to produce?** – aims at **timing of production**

3. Administrative Management Decisions

Besides organizational management decisions, the farmer also makes several administrative decisions according to Government policies.

(a) Financing the Farm Business

From whom to borrow

When to borrow and

How much to borrow.

- _(b) Supervision of work
- (c) Accounting and book keeping
- (d) Adjustment the government programme and policies
- (e) Production for home consumption and market

4. Marketing Management Decisions

Marketing decisions are the most important under the changing environment of agriculture. These decisions include buying and selling.

Buying: A farmer has to decide the agency, the timing, and the quantity to be purchased.

Selling: What to sell, where to sell, whom to sell, when to sell and how to sell are the important selling decisions that are to be made by the farmer.

Chapter-12

ECONOMIC PRINCIPLES APPLIED TO FARM MANAGEMENT

INTRODUCTION

Basically farm management is the application of agricultural sciences and economic principles to the organization and operation of a farm business. The economic principles guide the manager in setting the goals and preparing plans on the basis of optimum resource allocation, resource substitution and enterprise combination.

The various economic principles applied to farm management are discussed below:

1. Law of diminishing returns
2. Principle of factor substitution
3. Principle of product substitution
4. Principle of equi-marginal returns
5. Opportunity cost principle
6. Minimum loss principle
7. Principle of comparative advantage
8. Time comparison and uncertainty principle

LAW OF DIMINISHING RETURNS

- It explains the **input-output or factor-product** relationship.
- This law states that if the **quantity of one input is increased**, keeping other resources constant, the **total product** may increase initially, but will **decrease after a certain**

point .

- This principle is associated with farmer's decision about **how much to produce?**
- This law is also known as the **law of variable proportions**. It is a **fundamental economic law**, applicable to any production activity.
- This principle guides the farmer/manager in choosing the **optimum level of production**.

Why the law of diminishing returns sets in quickly in farming?

1. **Excessive Dependence on Nature:** A farmer, however good he is in managing; the farm may not get the expected yields as he has little control over weather. A bad weather is just enough to make his expectation go topsy-turvy.
2. **Less Scope for Division of Labour:** There is no possibility of division of labour in farming as the farmer himself performs the role of labour, manager and capitalist, therefore the advantage of division of labour is not a possibility.
3. **Less Scope for Mechanization:** Though mechanization of the farms enhances the productivity, the small size of holdings stands against using the machines for various farm operations. Thus, the farmer fails to derive the advantage of mechanization.
4. **Continuous Cultivation:** Continuous cultivation of land drains out the fertility status of the soil, thereby leading to low productivity. It is a fact that no farmer can afford to keep the land fallow for a long period, to allow the land build its fertility status.

Profit Rule: The optimum production level can be obtained at point where $MC=MR$.

PRINCIPLE OF FACTOR SUBSTITUTION

- This involves **factor-factor** relationship.
- This principle is associated with farmer's decision about **how to produce?**
- It implies the choice of methods of production or technology or the type of **combination of resources**.
- This principle guides the farmer/manager in choosing the **most appropriate combination of inputs that** produces a given quantity of output with **least cost**.

Profit Rule

Least cost combination is at the point where $MRTS = PR$ or $\frac{\Delta X_2}{\Delta X_1} = \frac{PX_1}{PX_2}$

Where, **MRTS** = Marginal Rate of Product Substitution

PR = Price Ratio

10.4 PRINCIPLE OF PRODUCT SUBSTITUTION

- This principle involves **product-product** relationship
- This principle is associated with farmer's decision about **what to produce?**
- The objective of this principle is **profit maximization**.
- This principle guides the farmer/manager in choosing the **most appropriate combination of enterprises** that gives the **maximum profit**.

To apply this principle there is a need to understand the following product relationships:

- **Complementary Enterprise:** Two products are complementary, when increase output of one also results in an increase in the output of the other, with resources held constant.
- **Supplementary Enterprise:** Two products are supplementary, when an increase or decrease in the output of one product does not affect the output of the other.
- **Competitive Enterprise:** Two products are competitive, if output of one product can be increased only through a sacrifice in the output of the other.

Profit Rule

Profit maximizing combination is at the point $\text{MRPS} = \text{PR}$ or $\frac{\Delta Y_2}{\Delta Y_1} = \frac{PY_1}{PY_2}$

Where, **MRPS** = Marginal Rate of Product Substitution
PR = Price Ratio

10.5 PRINCIPLE OF EQUI-MARGINAL RETURNS

- This principle is associated with the appropriate use of **inputs** which are **limited**.
- This principle states that the **limited resources should be allocated** among alternative uses in such a way that the **marginal value product (MVP or additional returns) of the last unit of resources is equal in all uses**.
- This principle guides the farmer/manager that any limited input should be allocated in that use where it brings in the **greatest MVP**, so that the **profit can be maximized**.

Example

A farmer is having only 5 units of liquid capital each of Rs. 1000. These 5 units must be allocated among the three crops viz., bajra, maize and jowar in the follow manner based on MVPs.

Comparative Advantage (value in Rs/ha)

Amount of liquid capital used (1 unit=1000 Rs.)	marginal value product (MVP) per unit of 1000 Rs.		
	Bajra	Maize	Jowar
1	2000 (5)	3200 (1)	2200 (4)
2	1600	2700 (2)	1800
3	1300	2300 (3)	1400
4	1100	1900	1100
5	1000	1600	800

- Allocate the inputs where it brings in the greatest MVP.
- Thus, **Rs. 3000** should be allocated to **maize** and **Rs. 1000 each to jowar and bajra** to obtain maximum returns.

OPPORTUNITY COST PRINCIPLE

- The income of next best alternative that is sacrificed to produce any good is known as **opportunity cost**.
- Whatever must be **given up to obtain some item** is called **opportunity cost**.
- The opportunity cost is referred to as the **real cost** or **true cost** of an input.
- This principle guides the farmer/manager that If the returns from the current use of the input are **less than its opportunity cost**, then the **decision is to be changed**.

Example

Particulars	Crops		
	Bajra	Maize	Jowar
Actual cost of production	10000	11000	10000
Gross Returns	20000	23000	18000
Net Returns	10000	12000	8000
Opportunity cost	12000	10000	12000
Comparison	NR<OC	NR>OC	NR<OC
Decision	x	√	X

- Here, if the farmer is growing **bajra**, he sacrifices Rs. 12000 from maize which is the next best alternative and is called its opportunity cost. So, the actual cost is Rs. 10000, but the **real or opportunity cost is Rs. 12000**.
- Likewise, the opportunity cost of maize and jowar is Rs. 10000 and Rs. 12000, respectively.
- **If the Net Returns from the current use of the input are less than its opportunity cost, then the decision is to be changed.**

MINIMUM LOSS PRINCIPLE

- This principle is associated with the **fixed and variable cost**.
- **Fixed costs** are those costs, which do not vary with the level of output. Fixed costs incurred even in the absence of production. It includes depreciation, rental value of land, interest on fixed capital, land revenue, etc.
- **Variable costs** are those costs, which vary with the level of output. If there is no production, there are no variable costs. It includes cost of inputs, customs hiring, wages of casual labour, interest on working capital, etc.
- The farmers sometimes incur loss instead of profit **when price of farm produce goes down**. Then they should continue the farming with an objective of **minimizing losses**. Thus, this principle explains, as to how, the producer minimizes losses **under adverse price environment**
- The farmer should continue the farming till the loss is less than fixed costs. **If loss is more than fixed cost then the production should be stopped temporarily**, to minimize the loss. In the long run if selling price is less than ATC, continuous losses are incurred. In this situation, the producer should **stop the production permanently**.

Example

Costs and returns in groundnut cultivation

Price of groundnut (Rs./q)	3000	2000	1500
TFC (Rs/ha)	8000	8000	8000
TVC (Rs/ha)	16000	16000	16000
TC (Rs/ha)	24000	24000	24000
Production (q/ha)	10	10	10
Gross Income (Rs/ha)	30000	20000	15000
ATC (Rs./q)	2300	2300	2300
Net Profit (Rs/ha)	6000	-4000	-9000
Decision whether to cultivate groundnut or not? (on the basis of Minimum Loss Principle)			
Loss if cultivated	No loss	4000	9000
Loss if don't cultivate	8000	8000	8000
Decision	Should be cultivated	Should be cultivated	Should not be cultivated
	Because there is no loss	Because loss is less than TFC	Because loss is more than TFC
	Price > ATC	Should be permanently stopped if Price < ATC over the years	

PRINCIPLE OF COMPARATIVE ADVANTAGE

- This principle explains **regional specialization** in the production of crops and livestock enterprises.
- For example, **Wheat** farming is predominant in UP, Punjab and Haryana, **Rice** farming in AP, WB, TN, and Assam, **Cotton** farming in Gujarat and Maharashtra, **Sericulture** in Karnataka, **Apple** cultivation in Himachal Pradesh, etc.
- **The relative yields, costs and returns** are to be considered as the criteria for explaining the principle.

Example

Comparative Advantage (value in Rs/ha)

Particulars	Region A (Saurashtra)		Region B (Panchmahals)	
	Groundnut	Maize	Groundnut	Maize
Gross income	20000	15000	14000	18000

Total costs	10000	8000	8000	9000
Net Profit	10000	7000	6000	9000

- **Region 'A'** : The net profit from groundnut is Rs.10000 whereas it is Rs.6000 in Region 'B'. **Thus, Region 'A' has a comparative advantage in groundnut.** Therefore, farmers of Region 'A' should allocate larger area under **groundnut** to get benefits of comparative advantage.
- **Region 'B'** : The net profit from maize is Rs. 9000 whereas it is Rs. 7000 in Region 'A'. **Thus, Region 'B' has comparative advantage in maize.** Therefore, the farmers of Region 'B' should allocate more area under **maize** crop.

TIME COMPARISON PRINCIPLE

- This principle is associated with the **investment** made on **capital assets** or **fixed assets** viz., land, farm buildings, machinery etc.
- The costs and returns from investing in **operating resources** occur within a production period of a year or less. There is **no need to bring time element** into discussion, as both costs and returns were assumed to fall **within the same production cycle**.
- The situation is different in the case of **investment on capital assets**, where the costs and returns are in **different time periods**. To examine the profitability of these investments it requires the recognition of **time value of money**.
- Since, **capital expenditure** involves cash and benefits **over time**, it is necessary to adjust for the **time value of money** which is made through **compounding** and **discounting**.

Money has time value for the following reasons:

1. **Earning Power of Money** : The money possesses **earning power** which is represented by the **opportunity cost** of money (**rate of interest**).
2. **Inflation: Purchasing power** of money **varies inversely** with the **price level**. Thus, the value of money changes with inflation and deflation. **A rupee earned in future is less valuable than a rupee earned today.**
3. **Uncertainty**: Investment deals with **future** and **future is uncertain**. Investment is concerned with the **commitment of funds today** with the expectation of receiving a stream of **benefits in the future**. As an individual since he is not certain about future cash receipts, he prefers receiving cash now. This may be either due to the urgency of present wants or the risk of not being in a position to enjoy future consumption that may be caused by illness, death or inflation.

Compounding

- Compounding is the procedure to find the **future value of a present sum**, given the earning power (**interest rate**) of money and the **frequency of compounding**.
- **The future value of money** is the value of an investment on a particular date in the future. It includes the original investment, the interest it earns and the interest on the

accumulated interest.

- Compounding is the process used to determine costs and returns at the end of the planning period.

Example

Calculate the future value of Rs. 100 invested in a savings account for 4 years which earns 10 % interest compounded annually.

Future Value of Present Sum for Lumpsum Amount

Year	Amt. the beginning of the year (Rs)	Interest rate (%)	Interest earned (Rs)	Amt. at the end of the year (Rs)
1	100.00	10	10.00	110.00
2	110.00	10	11.00	121.00
3	121.00	10	12.10	133.10
4	133.10	10	13.31	146.41

- Thus, the future value of present sum of Rs. 100 would be Rs. 146.41 after 4 years.
- It means Rs. 100 invested in the current year is equivalent to Rs. 146.41 after 4 years.

The calculations can be simplified by using the following equation:

$$FV = P (1+i)^n$$

Where, FV = Future Value

P = Present Sum

i = Interest rate

n = Number of years

$$\begin{aligned} FV &= 100 (1+0.1)^4 \\ &= 100 (1.01)^4 = 100 (1.4641) = 146.41 \end{aligned}$$

Discounting

- Discounting is the procedure to find the **present value of future sum**.
- The present value refers to the **current value of a sum of money to be received in the future**.
- A future amount is **discounted because sum of money to be received in future is worth somewhat less now**, because of time difference assuming positive rate of interest.
- The current value of future amount depends up on the **rate of interest** and **length of time** before payment is received.

The formula to calculate the present value of future sum:

$$PV = \frac{P}{(1+i)^n}$$

Where, PV = Present Value

P = Amount to be received in future

i = Interest rate

n = Number of years

Example

Calculate the present value of Rs. 5000 to be received after 3 years. The interest rate is 10 per cent.

$$PV = \frac{5000}{(1 + 0.01)^3} = \frac{5000}{1.331} = 3756.57$$

It means:

- A payment of **Rs. 5,000** to be received after 3 years has present value **Rs. 3,756.57** at 10 per cent interest.
- In other words, **Rs. 3,756.57** invested today for 3 years at 10 per cent compound interest would have a future value of **Rs. 5,000**.
- It also implies that an investor **should not pay more than Rs. 3,756.57** for an investment which **can return Rs. 5,000 in 3 years**.

Chapter-13

Farm records and Accounts

Introduction

It is always said that Indian cultivator is good producer rather than good business man. He knows how to produce but he does not know how to keep accounts of the farm. Accurate and up-to-date records are essential to good management and successful farming. It is therefore very necessary to have knowledge about farm accountancy in order to handle the farm business efficiently.

Records are essential in any management operation. A good record keeping system will allow managers to monitor and evaluate the performance of their production system. It will help them identify problem area in the production plan, and to make the necessary corrective measures.

FARM RECORDS

Records are statements of fact or data concerning a specific subject which may be specified in physical, monetary, mathematical or statistical terms. Farm records pertain to information recorded on the day-to-day operation of a particular farm.

Farm records can be defined as systematic documentation of all activities taking place in a farm enterprise over a given period of time. It is an act of writing down every activity engaged in on the farm in every production season and at different stages of the production process up to the final disposal of the goods and services to the ultimate consumer.

Benefits or importance of Farm Records

The benefits of maintaining farm records are as under:

1. Means to higher income

Farm records are the sources to know the present income and net returns of the farm. They help to check the unproductive expenditure and identify profitable enterprise to improve the returns on the farm.

2. Basis for diagnosis and planning

Farm records provides data for farm planning. Analysis of farm records helps in diagnosing the omissions in current plan.

3. Way to improve managerial ability of the farmer

Systematic recording of farm business transactions helps the farmer in knowing the strengths and weaknesses of the business. It leads to the improvement in the management of farm. It helps to acquire business habits which can help in taking advantage of changes in the economic environment. The farmer gets a better insight into the working of his business, which helps in finding out the defects which can be set right by exercising better control and effecting economies. Farmer can avoid mistakes and losses which would otherwise result to dependence only on his memory for guidance.

4. Basic for credit acquisition

Properly kept records and accounts are authentic records with the help of which the lending agencies can sanction the loans easily.

5. Basic for research in agricultural economics

Research requires precise and correct data which is possible only if proper records and accounts are maintained on the farms included in the study.

6. Basic for government policies

The farmers need to continuously feed the facts for state and national farm policies such as land policies price policies and crop insurance. Records and accounts are helpful in obtaining the correct data for examining and developing such policies to be sound.

In general, farm records are essential to:

1. know financial status at a point of time.
2. know gains and losses over time.
3. know better source of income and items of costs.
4. keep a check on unproductive expenditure.
5. examine comparative profitability & costs involved in different enterprises
6. know weak points of farm organization.
7. develop rational short term and long-term production plans.

Limitations in the maintenance of farm records

1. Illiteracy
2. Small size of holding
3. Fear of taxation
4. Complicated nature of record keeping

Records maintained on an average farm as well as on commercial dairy farm

Records maintained on an average farm	Records maintained on commercial dairy farm
1. Land use records 2. Farm livestock records 3. Permanent dead stock register 4. Farm labour records 5. Input records 6. Feed records 7. Crop production and disposal records 8. Live stock production and disposal records 9. Input and feed stock register 10. Log book	1. Live stock register 2. Milk production register 3. Milk disposal register 4. Calf feeding register 5. Feeding schedule register 6. Insemination register 7. Calving register 8. Gynecological status register 9. Health and vaccination register 10. Mortality register 11. History sheet 12. Cash book

1. Land Use Records

Sr. No.	Particulars		Area (ha)
1	Land-use pattern		
	a. Total land holding		
	b. Land leased-in		
	c. Land leased-out		
	d. Cultivated land		
	e. Irrigated land		
	f. Un-irrigated land		
	g. Permanent fallow		
	h. Land under fruits/plantation crops/trees		
	i. Land under building		
	j. Problematic land		
2	Cropping pattern		
	Season	Name of crop	Area (ha)
	Kharif	a.	
		b.	
		c.	
		d.	
		Sub-total	

	Rabi	a.	
		b.	
		c.	
		Sub-total	
	Summer	a.	
		b.	
		Sub-total	
	Grand-total		

2. Farm Livestock Records

Sr. No.	Type	Number		Breed	Age	Year of purchase	Purchase value (`)	Rem
		Homebred	Purchased					
1	Milch animals							
	cows							
	She-buffaloes							
2	Draft animals							
	Bullocks							
	He-buffaloes							
3	Young stock							
	Heifers							
	Calves							
4	Other							
	Sheep							
	Goat							
	Poultry birds							
	Camel							
	Horse							

3. Permanent Dead Stock Register

Sr. No.	Particulars	Year of construction/ purchase	No. or Size	Rate (₹)	Construction purchase value (₹)	Amount spent on repairs/ maintenance (₹)	Rem.
1	Buildings						
	Farm building						
	Cattle shed						
	Wells / tube wells						
	Pump house						
2	Irrigation equipments						
	Oil engines						
	Electric motors						
	Submersible pump						
	Drip irrigation set						
3	Farm machinery / Equipments						

	Tractors						
	Trolley						
	Bullock cart						
	Threshers						
	Sprayers						
	Dusters						
	Seed drills						
	Iron ploughs						
	Wooden ploughs						
	Cultivates						
	Harrows						
	Crowbars						
4	Small implements / Minor equipments						
	Spades						
	Sickles						
	Hand hoes						
5	Other						

4. Farm Labour-Use Records

Season: Crop: Variety: Area:

Date	Farm Operation	Owned labour				Hired labour				Wages/rent paid (`)			
		TR	BL	Human		TR	BL	Human		TR	BL	Human	
				M	F			M	F			M	F

TR=Tractor (hours), BL=Bullock (pair-days),
M=Human man-days (Male), F=Human man-days (Female)

5. Input-Use Records

Season: Crop: Variety: Area:

Date	Input	Quantity		Rate (`)	Total Value (`)
		Farm Produced	Purchased		
	FYM				
	Cake				
	Seeds				
	Urea				
	DAP				
	SSP				

6. Feed-use Records

Type of feed : Amuldan

Date	Milch animals		Draft animals		Young stock		Total	
	Qty.	Value (₹)	Qty.	Value (₹)	Qty.	Value (₹)	Qty.	Value (₹)

7. Crop Production and Disposal Records

Season	Crop	Area (ha)	Date of harvest	Main Product Qty.	By Product Qty.	Household Consumption	
						Qty.	Value (₹)
Kharif	a.						
	b.						
	c.						
Rabi	d.						
	e.						
Summer	f.						
	g.						
Used as Seeds		Kind Payments		Sold		Balance	
Qty.	Value (₹)	Qty.	Value (₹)	Qty.	Value (₹)	Qty.	Value (₹)
a.							
b.							
c.							
d.							
e.							
f.							
g.							

8. Livestock Production and Disposal Records

Date/ Month	Milk						
	Production (lit)	Household Consumption		Conversion to Ghee		Sold	
		Qty. (lit)	Value (₹)	Qty. (lit)	Value (₹)	Qty. (lit)	Value (₹)
Date/ Month	FYM						
	Production (cart-load)	Household Consumption		Sold		Balance	

		Qty. (cart-load)	Value (`)	Qty. (cart-load)	Value (`)	Qty. (cartload)	Value (`)
Date/ Month	Eggs						
	Production Qty. (no.)	Household Consumption		Sold		Balance	
		Qty. (no.)	Value (`)	Qty. (no.)	Value (`)	Qty. (no.)	Value (`)

9. Input and Feed Stock Register

Name of Input	Opening Balance Qty.	Receipt		Usage		Balance Qty.	Source of purchase	Details of usage	Cost (`)
		Date	Qty.	Date	Qty.				
FYM									
Cake									
Seeds									
Urea									
DAP									
SSP									

10. Log Book

Name of Machinery:

Date of purchased:

Price `:

Date	Work/operation done	Time (hrs)	Power/fuel consumed		Lubricants		Repairs/ maintenance
			Qty	`	Qty.	`	

FARM ACCOUNTANCY

Account, Accounting and Accountancy

Account is a summary of business transactions. It is vertically divided into two parts in 'T' shape. The benefits received by that account are recorded on the **left hand side (Dr.)** and the benefits given are recorded on the **right hand side (Cr.)**.

Accounting is the art of recording, classifying and summarizing the business transactions. Recording refers to writing in journal. Classifying means writing in ledger and summarizing relates to preparation of trading account, profit and loss account and balance sheet. **Farm accounting** is an application of the accounting principles to the farm- business.

Accountancy means the art of keeping books of account in a regular and systematic manner. The farm **accountancy** is also called "Farm book keeping".

System of Book Keeping

1. Single Entry System

This is the system which ignores the double effect of transactions. Only personal account of debtors and creditors are kept and the impersonal accounts are ignored completely. Under this system, the trader does not get all the information which he generally likes to have. This system is incomplete and inaccurate.

2. Double Entry System

It is a method of recording each transactions in the books of accounts in its two fold i.e. two entries are made for each transaction in the same set of books, one being a debit entry and other a credit entry. Every business transaction involves two parties one, for receiving the goods or services and other for giving them. Every transaction, therefore, is entered at two places, for credit and for debit. **The fundamental rule here is debit the account which receives the benefit, and credit the account, which gives the benefit.** For example:

(a) Sale of Wheat for ` 25000/- on 25-3-11

Two accounts involved here are cash account and sale account. The cash is coming in (receiving), so cash account will be written on the debit side. The sale account will be giving account as wheat is going out, and hence the amount will be written on credit side.

(b) Purchase of fertilizers by cash for ` 5000/- on 26-3-11

Here, two accounts involved will be cash account and purchase account. Here ` 5000/ have been paid by cash. The cash is going out, so cash account should be credited. The purchases are coming in, so purchase account should be debited.

Advantages of Double Entry System

1. Both personal and impersonal accounts are opened in order to keep a complete record of business transaction.
2. It provides a check on the arithmetical accuracy with the help of trial balance.
3. It reduces the chances of errors. Hence, it is accurate and more reliable.

4. It helps to prepare Balance Sheet which explains financial position of the firm.
5. It is useful to the tax and legal authorities.

Difference between Double & Single Entry System

Double Entry system	Single Entry System
Record of both personal and impersonal accounts are kept.	Only personal accounts are kept.
Trial and balance account is possible.	Trial and balance account is not possible.
It is perfect, accurate and more reliable	It is imperfect, inaccurate, unscientific, and unreliable.

Types of Accounts

1. Personal accounts

- a. Natural person: e.g., Mahesh A/C, Vijay A/C, etc.
- b. Artificial person: e.g., Agri College A/C, Firms's name A/C, etc.
- c. Representative person: e.g. Salary A/C, Rent A/C, etc.

2. Real Accounts

The accounts relating to assets are known as real account. E.g., Cash A/C, Machinery A/C, Sales A/C, Purchase A/C, Building A/C, etc.

Journal

All business transactions are first recorded in a book called journal. It means a daily record. The journal is also called as a "book of original entry"

Ledger

The ledger is the chief book of accounts. A ledger is a book which contains various accounts to which the entries made in the journal are transferred. The act of transferring each entry from the journal to their respective accounts in ledger is called posting.

There are two sides in the ledger. The left side is called Debit (Dr.) side and the entry made in this side is called debit entry- the side of the value received. The right side of the ledger is called the credit side and the entry made is credit entry-the side meant for value given out. Every transaction entered into ledger affects two accounts in the ledger; one receives and the other gives.

Rules of posting

1. Every debit entry must have a corresponding credit entry and vice versa.
2. Every debit entry is recorded by a word 'To' and credit entry by a word 'By'.
3. Debit account receives and credit accounts gives.
4. Indexing in alphabetical order.
5. All debit items are posted first and then credit items to avoid mistakes.

Cash Book

Transactions relating to only cash are recorded in one book called cashbook. The principle here is, cash coming in is placed on debit side and cash going out is entered on credit side.

Ex: Journalize the following transactions, posting it to ledger and prepare trial balance.

(a) 25-3-11 Sale of Wheat for ` 25000/-

(b) 26-3-11 Purchase of fertilizers by cash for ` 5000/-

Journal

Date	Particulars	LF	Debit (`)	Credit (`)
25-3-11	To Cash A/C	Dr.	25000	
	By Sale A/C	Cr.		25000
25-3-11	To Purchase A/C	Dr.	5000	
	By Cash A/C	Cr.		5000

Ledger

Cash A/C

Dr.		Cr.	
To sales A/C	25000	By Purchase A/C	5000
To		By	
Total	25000	Total	5000
		By balance	20000
	25000		25000

Sale A/C

Dr.		Cr.	
To		By sales	25000
To		By	
Total	0	Total	25000
To balance	25000		
	25000		25000

Purchase A/C

Dr.		Cr.	
To cash A/C	5000	By	
To		By	
Total	5000	Total	0
		By balance	5000
	5000		5000

Trial Balance

Particulars	Debit (`)	Credit (`)
Cash A/C	20000	
Sales A/C		25000

Purchase A/C	5000	
Total	25000	25000

=====

Chapter-14

Farm Inventory

FARM INVENTORY ANALYSIS

Introduction

The list of all the physical property of a business along with their values at a specific point of time is called **farm inventory**. It is the complete list of farmer's assets. It is the first step in farm accounting as it forms the basis for the preparation of income statement, balance sheet, measures of income, *etc.*

Inventory for a business is taken at **two point's of time in a year** i.e., at the **beginning** of the agricultural year and at the **end** of the year. It constitutes cash assets, depreciable assets and non-depreciable assets. The difference in the inventory at the two points of time indicates the changes in the inventory.

The closing inventory for a year is the opening inventory for the next year.

Importance or Purposes

1. The farm inventory is a necessary step in complete farm accounting.
2. It provides information about all the assets with their values.
3. It shows what amount of capital accumulation goes back into the business.
4. It reveals the changes in assets through comparison of two inventories.
5. It enables to determine the depreciation costs.
6. It forms the basis of income statement.

Time

Actually, the time, the inventory is taken, is not an important factor; it can be done in any month of the year, but to be of the most value, it must be taken about the same time each year. The best time to take a farm inventory is **at the beginning of the agricultural year** i.e., on 1st June. Usually, at this time, the crop season is finished and work for the next season has not yet begun. Also, stored crops and feed supplies on hand are ordinarily low at this time, which makes the inventory jobs of physical measurement of these items and estimates of value relatively easy. Thus, **Lesser need of price estimates** and **Conveniences** are two important considerations in deciding the date for the preparation of inventory.

Process of taking farm inventory

Taking an inventory involves two processes:

- (i) Physical counting of assets, and
- (ii) Valuation of physical assets.

The farmer, with a critical eye, should walk over his farm to make a general inspection of the land, buildings, fences, equipment, livestock, and supplies. The physical count is necessary to verify numbers, weights and measurements. Next the farmer should place value on each item using an appropriate valuation method. Valuation of farm assets is a little difficult one because an error in the valuation of an inventory may render the accounting results misleading. Suppose, for example, a farmer has 200 q of wheat and he values ` 1350 instead of ` 1250 per quintal, resulting in an over valuation by ` 20000/-. If this is an end year inventory, it will inflate the net worth by the amount of over valuation. The inflated opening inventory may reduce the income in the next year by the same amount. If the inventory is undervalued it will have the opposite effect.

Methods of valuation

There are many methods of valuation. Every method has its own merits and demerits. The use of a particular method of valuation will depend upon the purpose of the valuation and nature of the assets being valued. As far as possible valuation should be appropriate because inappropriate valuation can lead to unsound business decisions. Following are the commonly used valuation methods:

1. Cost minus depreciation.
2. Market price
3. Production cost or market prices (whichever is lower).
4. Net selling price.
5. Replacement cost minus depreciation.
6. Income capitalization.

1. Cost minus depreciation method

This method is commonly used for **working assets such as machinery and breeding livestock**. Since these assets depreciate with every passing year, the depredation amount is estimated and deducted from the purchase price: E.g.: Machinery, buildings constructed recently, dairy cattle, carts, etc.

2. Market Price Method

This is a Common method for valuing **purchased farm supplies** like seeds, fertilizers, pesticides, fuel, feeds, veterinary medicines, etc.

3. Production Cost or Market Price (whichever is lower) Method

This method is used to estimate current value of the **farm produced inputs** like seed, FYM, etc. The valuation is estimated at the production cost or the market price, whichever is lower. Standing crop is also valued through this method. Regarding valuing **standing crop**, expenses incurred in raising the crops, till the date on which inventory is taken are recorded.

4. Net selling price Method

Net selling price means the price which could probably be obtained for the asset if marketed, minus the cost of marketing. This method provides a reasonably accurate measure of the current value of the asset. This conforms most closely to the present worth. This method is used for those items that are **held primarily for sale**.

5. Replacement cost minus depreciation Method

This method is confined to estimate the value of very **old buildings** where wide changes in the price level occur. Replacement cost represents the cost of constructing the same type of building with the present technology at-present prices. After arriving at the replacement cost, deduct the deprecation so as to arrive at the current value of the building.

Example: Actual cost of construction of very old building = ₹ 10,000
Useful life = 50 years
Current (Replacement) cost of construction = ₹ 50,000
Present age of building = 10 years
Amount of depreciation = ₹ 10,000
Current value of the building = ₹ 40,000

6. Income capitalization Method

Asset which yields income over an infinite period of time is evaluated using this method. E.g.: **Land**. This method is appropriate for the farm assets whose contribution to the income of the farm business can be measured and which have a long life.

R

The capitalization formula $V = \frac{R}{r}$ can be used for this purpose.

Where, V = Income capitalized value

R = Constant net income from land per annum over infinite number of years

r = Rate of interest

Example: Land area = 5 acres
Constant net income from land (R) = ₹ 1,00,000
Rate of interest (r) = 10% (i.e. 0.10)
Value of land (V) = R/r = $1,00,000/0.1$ = ₹ 10,00,000

In practice neither the annual income nor the interest rate in future is known with accuracy. As a result, this method is generally used in combination with other methods such as the market price.

Suggestions for valuation

Sr. No.	Item of Asset	Appropriate Method of Valuation
1	Farm Land	Income capitalization Method or Market price
2	Old Buildings	Replacement cost minus depreciation Method

	Newly constructed building	Cost minus depreciation method
3	All working assets (depreciable): Farm Machinery, Implements, Equipments, Farm animals, etc.	Cost minus depreciation method
4	Purchased inputs (non-depreciable): Seeds, Fertilizers,	Market price method
5	Owned inputs (farm produced): Seeds, FYM, fodder, feeds, etc.	Production cost or the market price (whichever is lower).
6	Farm products for sale: Crop produced, Dairy products, etc.	Net selling price Method (i.e. market price minus marketing cost)
7	Standing crop	Production cost or the market price (whichever is lower).

Farm Inventory of a Hypothetical Farm on 1st June 2009 and 31st May 2010

Sr. No.	Item	Beginning of the year (1 st June, 2009)		End of the year (31 st May, 2010)	
		Qty.	Amt. `)	Qty.	Amt. (`)
I	Cash Assets				
i	Cash on hand		5000		4000
ii	Savings in bank		15000		30000
iii	Shares and bonds	Ril-25	25000	Ril-25	20000
iv	Other	-	-	Receivable	10000
	Sub-total				
II	Depreciable Assets				
i	Land (including well/orchard)	5 acres	1000000	5 acres	1100000
ii	Farm buildings /cattle shed	1+1 kacha	80000	1+1 kacha	75000
iii	Farm machinery/equipments				
	(a) Tractor with trolley	1+1	250000	1+1	225000
	(b) Submersible pump/oil-engine	1	30000	1	27000
	(c) Thresher	1	10000	1	9000
	(d) Sprayers and Dusters	1+0	2000	1+1	4000
	(e) Drip irrigation set	1	60000	1+1	110000
	(f) Bullock cart	1	8000	1	7000
	(g) Tillage implements	5	25000	7	20000
	(h) Small farm-tools	20	5000	25	6000
iv	Farm animals				
	(a) Bullocks	2	25000	2	30000
	(b) Dairy cattle	2 c + 1 b	60000	2 c + 2 b	80000
	(c) Sheep/goat/ Poultry	-	-	-	-
v	Other	-	-	-	-
	Sub-total				
III	Non-depreciable Assets				
i	Crop produce ready for sale				
	(a) Cotton	-	-	10 q@4000	39000
	(b) Wheat	20 q@1300	25000	-	-
	(c) Other	-	-	-	-

ii	Growing / standing crops	1 acre bajra	5000	1 acre veg.	10000
iii	Livestock products for sale	-	1000	-	1000
iv	Seeds	Cotton-2p	2000	-	-
v	Fertilizers				
	(a) FYM	5 trolley	5000	7 trolley	7000
	(b) Urea	4 bags	1000	-	
	(c) DAP	-	-	-	
vi	Plant Protection Chemicals	-	1000	-	1000
vii	Feeds and Fodder	-	4000	-	5000
ix	Other	-	-	-	
	Sub-total				
	Grand Total				
	Change in Inventory		Closing Total		`
			- Beginning Total		`
			Change in Inventory =		`

Chapter 16 and 17

FARM PLANNING AND FARM BUDGETING

FARM PLANNING

WHAT IS FARM PLANNING?

- Farm planning is the foundation of management.
- Farm planning precedes all other managerial functions.
- It is the determination of a course of action to achieve the desired results.
- It is deciding in advance, *viz.*, what to produce?, how to produce?, when to produce?; *how* to borrow?, how much to borrow?, when to borrow?, where to buy and sell?, when to buy and sell?, how to buy and sell?, *etc.*
- Farm planning bridges the gap from where we are to where we want to go.
- It is characterized as the process of thinking before doing.
- It is an intellectual process.
- It governs the survival, progress and prosperity of farm organization in a competitive and dynamic environment.
- It is a continuous and unending process.

12.1.2 INFORMAL AND FORMAL PLANNING

- Farm planning is not a new technique. It is as old as farming itself. All farmers whether progressive or backward, literate or illiterate, plan their farm business at the beginning of every crop season in their minds. This is known as **informal planning**.
- As the agriculture is becoming a more complex business, the farmers cannot remember all the necessary information required in order to plan their farm business in a systematic manner. To be more systematic in thinking, the farmers need formal or written farm plans. If the production intentions of the farmers are committed on a paper, then it is called a **formal or written plan**.

12.1.3 DEFINITION

- **Farm Planning** can be defined as the deliberate and conscious effort on the part of the farmer to think about the farm programmes **in advance** and adjust them according to

new knowledge on the technological developments, changes in physical and economic situations, price structures, etc.

- **Farm planning** is a process of making decisions regarding the organization and operation of farm business, so that it results in continuous maximum net returns of farm business.

12.1.4 WHY FARM PLANNING IS NECESSARY?

It has been observed on majority of farms that there is **under or over utilization** of existing farm resources. Due to this, farmers fail to get maximum net return. Thus, it is immediate necessity of a farm to reorganize its structure and for the proper allocation of its resources. This requires proper farm planning.

12.1.5 IMPORTANCE OF FARM PLANNING

1. To choose different farm activities which are suited to the given farm conditions.
2. To look into the future and decide on suitable course of action.
3. To select appropriate enterprise combinations that results in the better resources.
4. To help the farmers in timing various jobs and operations for smooth conduct of operations without competition.
5. To avoid wastages that occurs in the resource use.
6. To provide guidance and flexibility to the farmers for ensuring better use and growth of the farm.
7. To provide appropriate allocation of resources for producing the requisite products for marketing and household consumption.

12.1.6 OBJECTIVES OF FARM PLANNING

1. Efficient use of scarce resources.
2. Selection and combination of different farm enterprises or activities.
3. Utilization of advance technology.
4. Easy and efficient management of farm business.
5. Continuous and maximum net returns of farm business.

12.1.7 THE INFORMATION REQUIRED FOR FARM PLANNING

1. Financial returns of farm
2. Requirements of variable inputs
3. Requirements of fixed resources

12.1.8 TYPES OF FARM PLANNING

- **Simple farm planning:** It implies planning for minor changes or for a particular enterprise. It is adopted either by a part of land for one enterprise or to substitute one resource by another.
- **Complete farm planning:** It envisages farm planning for the whole farm, i.e. for all enterprises on the farm, for a change in the farm structure and organization. Complete farm planning aims for a change in the entire farm structure and organization. It is adopted for the farm as a whole.

12.1.9 WHAT IS A FARM PLAN?

A farm plan is a programme of the total farm activity drawn up in advance.

12.1.10 CHARACTERISTICS OF GOOD FARM PLAN

1. It should provide **for efficient use of farm resources** such as land, labour and capital.
2. It should provide **balanced combination** of enterprises.
3. It should provide **appropriate combination** of different crops.
4. It should help to maintain and improve **soil fertility**.
5. It should help to raise and stabilize farm **earnings**.
6. It should avoid excessive **risks**.
7. It should provide **flexibility**.
8. It should utilize the farmer's **knowledge**, training **experience** and take into account of the farmer's **likes and dislikes**.
9. It should provide for all of **up-to-date** modern agricultural methods and practices.
10. It should give considerations to efficient **marketing facilities**.
11. It should provide programme of obtaining, using and repaying the **credit**.

12.1.11 BASIC STEPS OF FARM PLANNING

1. Statement of objective.
2. Survey of actual conditions of the farm and availability of resources.
3. Analysis / diagnosis of the existing plan.
4. Identification of enterprises to be included.
5. Discussion with the farmers and other specialists to examine the possibilities for improvement through alternative plan operations.
6. Preparation of alternative plans on the basis of existing co-efficient.
7. Identification of risk.
8. Selection of final plan for implementation.

12.1.12 FARM PLANNING TECHNIQUES

a) **Production and organization planning tools**

- Production function models,
- Operational research techniques,
- Integer programming,
- Modified programming models,
- Linear programming,
- Dynamic programming,
- Recursive programming,
- Game theory models, etc.

b) **Administrative planning tools and aids**

- Farm technical coefficients,
- Management consulting agency,
- Accounting & data processing,
- Contractual farming or operations, etc.

c) **Marketing planning tools and aids**

- Demand supply projection analysis,
- Marketing management research,
- Future trading analysis,
- Price policies, etc.

12.1.13 LIMITATIONS OF FARM PLANNING

1. It is time consuming and expensive device.
2. It encourages a false sense of security against risks.
3. Unavailability of adequate information.
4. Inaccurate or false information.
5. The information particularly in respect of climate, water supply, markets, *etc.*, is not found in the required form.
6. The sources of data for diagnosis and planning are lacking.

As a result of above limitations, farm planning is not effectively formulated and implemented. Therefore, farm standards derived from research stations and efficient farms in the locality should form the basis for scientific planning. Data from research stations should be continuously used for this purpose.

12.2 FARM BUDGETING

12.2.1 WHAT IS FARM BUDGETING?

- The expression of a farm plan in **monetary terms** by estimation of **returns, expenses and net income** is called **farm budgeting**.
- Farm planning and farm budgeting **go side by side**.
- It is essentially a presentation of **costs and returns**, accompanied by a statement showing the **physical quantities of inputs and output**.

12.2.2 OBJECTIVES OF FARM BUDGETING

1. **To estimate the profitability** of a particular pattern of organization
2. **To determine the change in profits** which is likely to follow a particular change.
3. **To compare** different cropping patterns or changes in organization **on a profit basis**.

12.2.3 TYPES OF FARM BUDGETING

1. Enterprise budget
2. Partial budgeting
3. Complete budgeting

12.2.4 FARM ENTERPRISE BUDGET

- It is the estimation of expected **income, costs and profit** for an **enterprise**.
- It is prepared **for a unit i.e.,** acre, hectare, for a crop, one head of livestock, *etc.*
- Farm budgets can be developed **for each potential enterprise**.
- This facilitates easy **comparison** between the enterprises

How to prepare an enterprise budget?

1. It consists of three elements **viz., income, costs and profitability**.
2. **Income** is computed by estimating the expected output and expected price.
3. The estimated **output** is the average yield under normal weather conditions.
4. **Output price** should be the average price expected in future.
5. **Variable costs** should be estimated on the quantity of inputs required and their prices.
6. **Fixed costs** to be included such as land revenue, depreciation, interest on fixed capital and rental value of d land, etc.
7. Finally, **net profit** is to be estimated on bases of estimated income and expenditure.

12.2.5 PARTIAL BUDGETING

- Partial budgeting is a **statement of anticipated changes** in costs, returns and profitability for a minor modification.
- When a farmer contemplates few **modifications or minor changes** in the existing plan of the farm business, partial budgeting technique is employed.
- It is similar to that of **marginal analysis**, wherein the changes in costs and returns resulting from proposed modifications are alone considered.
- It is prepared in the **form of an account** which consists of **four important elements viz.,** added costs, added returns, reduced returns and reduced costs.
- It is generally used to evaluate the profitability of **input substitution, enterprise substitution and scale of operation**.

Elements of Partial Budgeting

Debit	Credit
Added costs :	Added returns :
Reduced returns :	Reduced costs :

Total Debit :	Total Credit :
Net Income from the change (Total Credit – Total Debit) :	

12.2.6 COMPLETE BUDGETING

- This method is used to make a budget **for the whole farm**.
- It is used in situations involving **extensive remodeling** of the farm organizations.
- It includes all the individual cost and return items for the farm, so that the overall net return can be estimated **from the whole farm**.
- It considers **all aspects** of farm organization **simultaneously**.

Main steps of complete farm budgeting

1. Listing of available resources.
2. Estimating crop areas and livestock numbers.
3. Estimating physical inputs and outputs.
4. Estimating fixed costs.
5. Estimating factor and product prices.
6. Calculating costs and returns.

12.2.7 EXAMPLE 1 : PARTIAL BUDGETING

For a farmer growing groundnut, the expenditure on seeds and groundnut yield in existing (local variety) and alternate situation (improved variety) are as under:

Existing situation	Alternate situation
Local variety: 50 kg @ Rs. 30/kg = Rs. 1500	Improved variety: 50 kg @ 50/kg = Rs. 2500
Yield= 600 kg @ Rs. 30/ kg. =Rs.18000	Yield=700 kg @ Rs. 30/kg.= Rs.21000

The partial budget for proposed modification

Items	Debit	Items	Credit
Added costs:	Rs. 1000	Added returns:	Rs. 3000
Reduced returns:	Nil	Reduced cost:	Nil
Total Debit (added costs + reduced returns)	Rs. 1000	Total Credit (added returns + reduced cost)	Rs. 3000
Net income from the change = Total Credit – Total Debit = Rs. 3000 – Rs. 1000 = Rs. 2000			

12.2.8 EXAMPLE 2: ENTERPRISE BUDGET

Enterprise Budget for Cotton per Hectare

Sr. No.	Particulars	Physical Unit	Rate	Amount Rs.
1	Income			
	Yield	25 q	5500/q	1,37,500
2	Expenditure			
	(a) Fixed Cost			
	Rental value of land	1 ha	30000	30,000
	Interest of fixed capital	-	-	1,000
	Depreciation	-	-	3,000
	Land revenue	-	-	1,000
	Sub-Total			35,000
	(b) Variable cost			
	Labour	200	100	20,000
	Seeds	1.2 kg	2500/kg	3,000
	Bullock labour	20	300	6,000
	Tractor charges	-	-	5,000
	Fertilizers	-	-	10,000
	Irrigation	-	-	6,000
	Plant Protection chemicals	-	-	5,000
	Miscellaneous	-	-	5,000
	Sub-total			60,000
	Total expenditure			95,000
3	Net Profit			42,500

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Chapter 19

RISK AND UNCERTAINTY

13.1 INTRODUCTION

Agricultural production is biological and seasonal in nature and therefore, it confronted with risk and uncertainty conditions. It is a highly difficult to make right decisions when the production environment is risky and uncertain. Due to this the farmers have to consider various management strategies relevant to the risk and uncertainty conditions. If everything in farming and livestock rearing goes with certainty then every farmer becomes a better manager, but this is not the case with real farming situation. Only a few farmers can become efficient, particularly those who could understand risk and uncertainty situations in farming and follow the relevant risk management strategies.

13.2 RISK AND UNCERTAINTY: A CONTRAST

Risk	Uncertainty
It is defined as a, situation when all possible outcomes are known for a given management decision and probability associated with each possible outcome is also known.	Uncertainty situation prevails when all the possible outcomes of events are unknown, then neither the probability nor the outcomes are known.
It is measurable through probability concepts.	It is not measurable.

13.3 SOURCES OF RISK

1. Production risk or technical risk
2. Price risk or marketing risk
3. Financial

13.3.1 PRODUCTION RISK OR TECHNICAL RISK

- In industrial businesses we have a technical input-output relationship with known quantity of output for a given quantity of input i.e., the production practices are standardized in industrial production. **Such type of relationship does not exist in agricultural production.**
- Output of crops and livestock is subject to change due to weather, disease, insects, weeds and inadequate technology. These factors cannot be predicted accurately and hence results in the variability of the output.
- In fact, the yield variations are due to many factors. Some are under control while some others are not under the control of management.
- Thus, the production-risk is due to largely many factors rather than a single factor.
- **Weather risk and technical risk** are the most important components of production-risk.

13.3.2 PRICE RISK OR MARKETING RISK

- Prices are determined due to interaction of demand and supply in the market.
- Production of crops and livestock is influenced by prices in the market which are beyond the control of farmers.
- Prices of commodities vary from year to year; season to season and exhibit seasonal variation.
- Trade policy i.e., export import (Exim) policy would have a great impact on price stabilization of commodity.

13.3.3 FINANCIAL RISK

- This type of risk increases with increased amount of borrowed money in the farm business.
- Financing the production processes and storing the commodities under scientific management require large amounts of borrowed capital.
- Hence a careful analysis is to be-made considering all types of risks.

13.4 MEASURING THE EXPECTATION AND VARIATION

In the risky farm environments, the farmers make decisions using some kind of the expectations regarding prices, costs and yields. Let us look into as to how the expectations and variations are worked out and used in the decision-making process.

13.4.1 Working out expected value through weighted averages

Two types of averages are used to work out an expected value. We take the actual past prices (time series data) and yield to find out the **simple average** over the specific time period. Second type of average is called **weighted average**. This method considers larger weights for the more recent data and smaller weights for the remot data.

Working out weighted averages for the prices

Year	Av. Annual price of commodity (Rs./q)	Weight	Price x Weight
2005	1000	1	1000
2006	1200	2	2400
2007	1400	3	4200
2008	1100	4	4400
2009	1000	5	5000
2010	1300	6	7800
Total	7000	21	24800
Simple average	1166.67		
Weighted average	1180.95		

For the given data there is **no price risk** for the commodity, as **expected value is more than simple average**. On the contrary, if there is price risk its expected value would be less than the simple average.

13.4.2 Working out expected value through the concept of probabilities

Another way of finding expectations is to choose the probability value, which is the most likely to occur for the given price or yield or cost. In this procedure, we have to elicit probabilities associated with each possible outcome. The outcome with the highest probability would be selected as the most likely one to occur. This is shown as under:

Working out Expectations through Probabilities

Crop yield (q/ha)	Probability	Probability x Yield
11	0.1	1.1

14	0.4	5.6
10	0.1	1.0
12	0.3	3.6
18 .	0.1	1.8
Mean : 13	Total : 1.0	13.1

It is clear that the most likely output based on the highest probability is 14 q/ha. Mathematical expectation of 13.1 q/ha is less than the most likely yield of 14 q/ha, but it is more than the average yield *i.e.*, 13 q/ha.

13.4.3 Variability

Two factors *viz.*, the variance and the expected value, in general should form the basis for selecting the best enterprise among alternative risky enterprises. Range is a measure of variability and it refers to the difference between the lowest and the highest possible outcome. Alternative enterprises should be preferred which have got smallest range value, provided their expected values are the same. Similarly alternative enterprises with lowest variance should be selected.

13.5 MEASURES TO MANAGE FARM RISK

13.5.1 DIVERSIFICATION

- Selection of suitable crop and livestock enterprises is the first step in diversification.
- The farmer produces several products rather than single product with the hope that when the return from one enterprise is low, it is compensated by the higher returns from the other enterprise.
- Idle resources can be put to use.
- The enterprises having less income variability should be selected.
- Income variability for the enterprises would be lessened.
- Risk programming models and game theory models should be used to formulate whole farm plans under different risky situations.
- Stable enterprises should be preferred rather than risky enterprises particularly in situation of farm risks.

13.5.2 INSURANCE

- The farmers have many types of insurances to reduce production risk and financial risk.
- Crop insurance scheme reduces production risk.
- Livestock insurance provides safety against the fatal diseases of cattle.
- Farm assets can be insured against theft, fire or any other damage.

13.5.3 AGRONOMIC PRACTICES

- To reduce production risk, crop rotations, suitable varieties, deep tillage, mulching, *etc.*, should be adopted.

13.5.4 MARKET RISK MANAGEMENT

- **Selling the Farm Products at Different Points of Time**
 - Due to financial obligations, farmers sell their produce immediately after the harvest. During the harvesting periods generally prices will be low due to large arrivals. If the farmers avoid such selling practices, they can get remunerative prices for their products.
 - The knowledge regarding supply and demand for the farm products and prices prevailing in different markets and other market information is essential.
 - For perishable commodities, storage facilities, freezing facilities, processing facilities, *etc.*, are required to get remunerative prices.
 - Hedging is another measure adopted by the farmers and the traders to safeguard against price-risk. Hedging practice is devised and followed by studying the future markets.
- **Government Price Policies and Programmes**
 - Minimum support price, procurement price, levy price, issue price, *etc.*, are set for various agricultural commodities by the Government every year to bring about price stabilization.
 - Support price provides protection for the farmers against fall in the prices of farm products.

13.5.5 FINANCIAL RISK MANAGEMENT

- For reducing the financial risk we require many strategies, which are aimed at liquidity and solvency of the farm business. Solvency by definition refers to business ability to meet the long-term financial requirements of the farm. Liquidity strategies should aim at as to how to build up the farm business to meet the short-term cash requirements.
- At macro level fiscal policies formulated by RBI are aimed at to provide different measures to safeguard against the financial risk.

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Chapter-18 **Appraisal of Farm Resources**

Farm Resources:

- 1. Land**
- 2. Labour**
- 3. Capital**

4. Management

WHAT IS PRODUCTION?

- Production is generally understood as the **transformation of inputs into outputs**.
- It refers to the creation of those goods and services which have **exchange value**.
- In economics, production means **creation 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

- Productive resources required to produce a given products are called **factors of production**.
- In process of production, inputs are converted into an output. These inputs like land, labour, capital, etc. are **collectively 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 capital is **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 or Peculiarities of land

- Land is a natural factor.
- Land is imperishable.
- Land is immobile.
- Land is a passive factor of production.
- Supply is inelastic

Land Appraisal: Appraisal is a technique to estimate the value for given extent of land or real estate. The firms which are involved in the real estate business are well versed with the estimation of values. Two important methods are in vogue in estimating the value of land viz., market data method and the income capitalization method.

1. **Market data method:** Sale price for the comparable lands which are sold very recently are taken into consideration to estimate the value for a given piece of land. If the characteristics of the land that is being appraised are more or less identical with one that is sold recently, the estimates are quite realistic. If the characteristics are dissimilar between the one that is sold and the piece of land for which value is supposed to be appraised, the difference such as soil type, location, productivity, etc. are duly adjusted before determining the value.
2. **Income capitalization method:** This method uses project appraisal techniques to estimate the present value of the future income stream from the land supposed to be valued. This technique involves the estimation of annual net income, the selection of appropriate discount factor and working out the net present value.

The formula to estimate the value of land is.

$$V = \frac{P}{I}$$

Where, V= estimated land value (Rs.)

P= average annual net income (Rs.)

I= Discount rate

Following steps are adopted to estimate land value

1. For the given land for which the value is supposed to be estimated, find out the crop grown along with the yields and the unit prices over a period of time. Yields as well as prices are based on long run averages. Using yields and prices, the gross income is estimated.
2. Estimate the total costs (Working costs+ fixed cost) for the crops grown.
3. Find out the average annual net income by deducting total expenses from the gross income.
4. Finally capitalization of income is done. To do so an appropriate discount rate is selected and estimated land value is arrived at.

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

- Labour is an active factor of production.
- Labour is a natural factor.
- Labour is perishable.
- Labour is mobile.

Division of Labour

Division of Labour means dividing the process of production into distinct and several component processes and assigning each component in the hands of a labour or a set of labourers, who are specialists in that particular process. For example, a tailor stitches a shirt in full. But in the garment factory, cutting of cloth, stitching of hands, body, collars, holes for buttons, stitching of buttons, etc., are done independently by different workers.

The labour can be skilled, semi skilled, and unskilled.

1. Skilled labour: when a person undergoes specialized training to perform a specific job, he is called skilled laborer. Ex. MECHANIC, DRIVER, CARPENTERS.
2. Semi- skilled labour: He does not require any elaborate training, but needs to gain experience to perform a particular task by working under an experienced worker. Example: Rearing silkworm cocoons, etc.
3. Unskilled labour: unskilled labour are those, who engage in tending of cattle, weeding, application of FYM, etc.

Merits of Division of Labour

- It improves efficiency of labour when labour repeats doing the same tasks.
- Facilitates the use of machinery in production, resulting in inventions.
- Time and materials are put to the best and most efficient use.

Demerits of Division of Labour

- Repetition of the same task makes labour to feel that the work is monotonous.
- Narrow specialization reduces the possibility of labour to find alternative avenues of employment. It increases unemployment.
- Reduce the growth of handicrafts.

Measuring of Labor Efficiency

$$\text{The returns per labour per day} = \frac{\text{Gross income}-\text{Cost of all inputs excluding labour}}{\text{Number of worker in days}}$$

Labour Efficiency Index: In most of the farming areas, labour efficiency standards are being set on the basis of past experiences of labour use for various crops and livestock enterprises. The efficiency index is worked out as follows for a hypothetical farm raising crops. The average labour cost in th locality is, say Rs. 5,000 but the actual labour cost incurred by the given farm is Rs. 4,000. Then based on this cost, the lobar efficiency index is.

$$\frac{5000}{4000} \times 100 = \frac{500}{4} = 125\%$$

Here labourers are efficiently employed.

$$\text{Labour efficiency Index} = \frac{\text{Requirement of labour on the farm} \times \text{Wage rate}}{\text{Actual labour employed on the farm} \times \text{Wage rate}} \times 100$$

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.
- The terms **capital and wealth are not synonymous**. Capital is that part of wealth which is used for the further production of wealth. **Thus, all wealth is not capital but all capital is wealth.**

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 resources, which can be improved through investments in education, training, and health. Higher the investments in human capital, higher will be the productivity.

Characteristics of capital

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

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 .

1.8.4 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.
- It is 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 of production.
4. He decides the reward payment.
5. He takes risks.
6. He makes innovations.

Chapter 19

RISK AND UNCERTAINTY IN AGRICULTURE

13.1 INTRODUCTION

Agricultural production is biological and seasonal in nature and therefore, it confronted with risk and uncertainty conditions. It is a highly difficult to make right decisions when the production environment is risky and uncertain. Due to this the farmers have to consider various management strategies relevant to the risk and uncertainty conditions. If everything in farming and livestock rearing goes with certainty then every farmer becomes a better manager, but this is not the case with real farming situation. Only a few farmers can become efficient, particularly those who could understand risk and uncertainty situations in farming and follow the relevant risk management strategies.

13.2 RISK AND UNCERTAINTY: A CONTRAST

Risk	Uncertainty
It is defined as a, situation when all possible outcomes are known for a given management decision and probability associated with each possible outcome is also known.	Uncertainty situation prevails when all the possible outcomes of events are unknown, then neither the probability nor the outcomes are known.
It is measurable through probability concepts.	It is not measurable.

13.3 SOURCES OF RISK

4. Production risk or technical risk
5. Price risk or marketing risk
6. Financial

13.3.1 PRODUCTION RISK OR TECHNICAL RISK

- In industrial businesses we have a technical input-output relationship with known

quantity of output for a given quantity of input i.e., the production practices are standardized in industrial production. **Such type of relationship does not exist in agricultural production.**

- Output of crops and livestock is subject to change due to weather, disease, insects, weeds and inadequate technology. These factors cannot be predicted accurately and hence results in the variability of the output.
- In fact, the yield variations are due to many factors. Some are under control while some others are not under the control of management.
- Thus, the production-risk is due to largely many factors rather than a single factor.
- **Weather risk and technical risk** are the most important components of production-risk.

13.3.2 PRICE RISK OR MARKETING RISK

- Prices are determined due to interaction of demand and supply in the market.
- Production of crops and livestock is influenced by prices in the market which are beyond the control of farmers.
- Prices of commodities vary from year to year; season to season and exhibit seasonal variation.
- Trade policy i.e., export import (Exim) policy would have a great impact on price stabilization of commodity.

13.3.3 FINANCIAL RISK

- This type of risk increases with increased amount of borrowed money in the farm business.
- Financing the production processes and storing the commodities under scientific management require large amounts of borrowed capital.
- Hence a careful analysis is to be-made considering all types of risks.

13.4 MEASURING THE EXPECTATION AND VARIATION

In the risky farm environments, the farmers make decisions using some kind of the expectations regarding prices, costs and yields. Let us look into as to how the expectations and variations are worked out and used in the decision-making process.

13.4.1 Working out expected value through weighted averages

Two types of averages are used to work out an expected value. We take the actual past prices (time series data) and yield to find out the **simple average** over the specific time period. Second type of average is called **weighted average**. This method considers larger weights for the more recent data and smaller weights for the remot data.

Working out weighted averages for the prices

Year	Av. Annual price of commodity (Rs./q)	Weight	Price x Weight

2005	1000	1	1000
2006	1200	2	2400
2007	1400	3	4200
2008	1100	4	4400
2009	1000	5	5000
2010	1300	6	7800
Total	7000	21	24800
Simple average	1166.67		
Weighted average	1180.95		

For the given data there is **no price risk** for the commodity, as **expected value is more than simple average**. On the contrary, if there is price risk its expected value would be less than the simple average.

13.4.2 Working out expected value through the concept of probabilities

Another way of finding expectations is to choose the probability value, which is the most likely to occur for the given price or yield or cost. In this procedure, we have to elicit probabilities associated with each possible outcome. The outcome with the highest probability would be selected as the most likely one to occur. This is shown as under:

Working out Expectations through Probabilities

Crop yield (q/ha)	Probability	Probability x Yield
11	0.1	1.1
14	0.4	5.6
10	0.1	1.0
12	0.3	3.6
18 .	0.1	1.8
Mean : 13	Total : 1.0	13.1

It is clear that the most likely output based on the highest probability is 14 q/ha. Mathematical expectation of 13.1 q/ha is less than the most likely yield of 14 q/ha, but it is more than the average yield i.e., 13 q/ha.

13.4.3 Variability

Two factors viz., the variance and the expected value, in general should form the basis for selecting the best enterprise among alternative risky enterprises. Range is a measure of variability and it refers to the difference between the lowest and the highest possible outcome. Alternative enterprises should be preferred which have got smallest range value, provided their expected values are the same. Similarly alternative enterprises with lowest variance should be selected.

13.5 MEASURES TO MANAGE FARM RISK

13.5.1 DIVERSIFICATION

- Selection of suitable crop and livestock enterprises is the first step in diversification.
- The farmer produces several products rather than single product with the hope that when the return from one enterprise is low, it is compensated by the higher returns from the other enterprise.
- Idle resources can be put to use.
- The enterprises having less income variability should be selected.
- Income variability for the enterprises would be lessened.
- Risk programming models and game theory models should be used to formulate whole farm plans under different risky situations.
- Stable enterprises should be preferred rather than risky enterprises particularly in situation of farm risks.

13.5.2 INSURANCE

- The farmers have many types of insurances to reduce production risk and financial risk.
- Crop insurance scheme reduces production risk.
- Livestock insurance provides safety against the fatal diseases of cattle.
- Farm assets can be insured against theft, fire or any other damage.

13.5.3 AGRONOMIC PRACTICES

- To reduce production risk, crop rotations, suitable varieties, deep tillage, mulching, *etc.*, should be adopted.

13.5.4 MARKET RISK MANAGEMENT

- **Selling the Farm Products at Different Points of Time**
 - Due to financial obligations, farmers sell their produce immediately after the harvest. During the harvesting periods generally prices will be low due to large arrivals. If the farmers avoid such selling practices, they can get remunerative prices for their products.
 - The knowledge regarding supply and demand for the farm products and prices prevailing in different markets and other market information is essential.
 - For perishable commodities, storage facilities, freezing facilities, processing facilities, *etc.*, are required to get remunerative prices.
 - Hedging is another measure adopted by the farmers and the traders to safeguard against price-risk. Hedging practice is devised and followed by studying the future markets.
- **Government Price Policies and Programmes**
 - Minimum support price, procurement price, levy price, issue price, *etc.*, are set for various agricultural commodities by the Government every year to bring about price stabilization.

- Support price provides protection for the farmers against fall in the prices of farm products.

13.5.5 FINANCIAL RISK MANAGEMENT

- For reducing the financial risk we require many strategies, which are aimed at liquidity and solvency of the farm business. Solvency by definition refers to business ability to meet the long-term financial requirements of the farm. Liquidity strategies should aim at as to how to build up the farm business to meet the short-term cash requirements.
- At macro level fiscal policies formulated by RBI are aimed at to provide different measures to safeguard against the financial risk.

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