PROFESSOR JAYASHANKAR TELANGANA STATE AGRICULTURAL UNIVERSITY

DA – 241

FARM MANAGEMENT, AGRICULTURAL FINANCE, CO-OPERATION AND AGRICULTURAL MARKETING

COURSE NO. DA - 241 4(3+1)

LECTURE NOTES

OF

FARM MANAGEMENT, AGRICULTURAL FINANCE, CO-OPERATION AND AGRICULTURAL MARKETING

COURSE NO. DA - 241 (3+1)

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THEORY LECTURES

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2	2	Law of variable proportions and concepts of production
3	3	Law of variable proportions or returns to a factor
4	4	Relationship between Total Product (TP) and Marginal Product (MP)
5	5	Stages of production function
6	6 & 7	Law of returns
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LECTURE NO. 1
PRODUCTION AND PRODUCTION DUNCTION

Resources: Anything that aids in production is called as resource. The resources physically enter the production process.

Types of resources: There are four types of resources and they are

1. **Fixed resources**: The resources that remain unchanged irrespective of the level of production are called fixed resources. For example, land, building, machinery. These resources exist only in short run. The costs associated with these resources are called fixed costs.

2. **Variable resources:** The resources that vary with the level of production are called variable resources. These resources exist both in short run and long run. For example, seeds, fertilizers, chemicals, etc. The costs associated with these resources are called variable costs.

3. **Flow resources**: The resources that cannot be stored and should be used as and when these are available. For example, services of a labourer on a particular day.

4. **Stock resources**: The resources that can be stored for use later on. For example, seeds. Defining an input as a flow or stock depends on the length of time under consideration. For example, tractor with 10 years life is a stock resources if we take the services of tractor for its entire useful life of 10 years. But it also provides its service every day, therefore it is a flow resource.

Production: The process through which some goods and services called inputs are transformed into other goods called products or output.

Production function: A systematic and mathematical expression of the relationship among various quantities of inputs or input services used in the production of a commodity and the corresponding quantities of output is called a production function. It is written as

$$y = f(x)$$

where, y is an output and x is an input

Types of production functions: There are two types of production functions are there and they are

Continuous production function: This function arises for those inputs which can be divided into smaller doses. Continuous variables can be known from measurement, for example, seeds and fertilizers, etc.

Discontinuous or discrete production function: This function arises for those inputs or work units which cannot be divided into smaller units and hence are used in whole numbers. For example, number of ploughings, weedings and harvestings, etc.

Transformation period (or) production period: The time required for a resource to be completely transformed into a product is referred to as transformation period.

Types of production periods: There are two types of production periods are there and they are

Short run production period: The planning period during which one or more of the resources are fixed while others are variable resources. The output can be varied only by intensive use of fixed resources. It is written as

$$Y=f(X_1, X_2 / X_3.....X_n)$$

Where,

Y is output,

X_1, X_2 are variable inputs and

$X_3.....X_n$ are fixed inputs.

Long run production period: The planning period during which all the resources can be varied. It is written as

$$Y=f(X_1, X_2 ,.....X_n)$$

Product: It is the result of use of resources. Product is any good or service that comes out of the production process.

Agricultural production economics: Agricultural production economics is a field of specialization within the subject of agricultural economics. It is concerned with the choice of production patterns and resource use in order to maximize the objective function of farmers, their families, the society or the nation within a framework of limited resources.

Production economics is concerned with two broad categories of decisions in the production process.

1. How to organize resources in order to maximize the production of a single commodity? i.e., choice making among various alternative ways of using resources.

2. What combination of different commodities to produce?

Goals of Production Economics includes

1. To provide guidance to individual farmers in using their resources most efficiently.

2. To facilitate the most efficient use of resources from the stand point of economy

Definition:

Agricultural Production Economics is an applied field of science wherein the principles of choice are applied to the use of capital, labour, land and management resources in the farming industry.

Production Economics is concerned with productivity i.e., use and incomes from productive inputs (land, labour, capital and management). As a study of resource productivity, it deals with

a) Resource use efficiency

b) Resource combination

c) Resource allocation

d) Resource management

e) Resource administration

The subject matter of Production Economics includes such topics as methods or techniques of production, combination of enterprises, size of the farm, return to scale, leasing, production possibilities, farming efficiency, soil conservation, use of credit and capital, risks and uncertainty which effect decision making.

Any agricultural problem that falls under the scope of resource allocation and marginal productivity analysis is the subject matter of the production economics. The production economist is therefore, concerned with any phenomena which have a bearing on economic efficiency in the use of agricultural resources.

Objectives:

The main objectives of Agricultural production economics are:

1. To determine and define the conditions which provide for optimum use of resources.

2. To determine the extent to which the existing use of resources deviates from the optimum use.

3. To analyze the factors or forces which are responsible for the existing production pattern and resource use and

4. To explain means and methods for changing existing use of resources to the optimum level.

LECTURE NO. 2
LAW OF VARIABLE PROPORTIONS AND CONCEPTS OF PRODUCTION

Law of variable proportions: occupies an important place in economic theory. This law is also known as "Law of Proportionality". The law explains the production function keeping the one-factor variable and others fixed.

The law of variable proportion is also defined as - "An increase in some inputs relative to other fixed inputs will be in a given state of technology cause output to increase, but after a point, the extra output resulting from the same additions of extra inputs will become less and less"- Samuelson

Assumptions of Law of variable proportions

These are the following assumptions on which the Law of variable proportions is based:

1. **Factor proportions are variable:** If factors of production are combined in fixed numbers, the law has no validity. The law assumes factors of production to be proportional.

2. **Constant technology:** The status of technology is assumed to be constant. If there is improved technology, the production is said to move upwards.

3. **Short-Run:** The law operates in the short-run as it is not possible to vary all factor inputs.

4. **Homogenous factor inputs:** The units of variable factors are identical. Each unit added is homogenous in quality and amount.

Concepts of production

1. Total Product (TP): Amount of product which results from different quantities of variable input. Total product indicates the technical efficiency of fixed resources.

2. Average Product (AP): It is the ratio of total product to the quantity of input used in producing that quantity of product. Average product indicates the technical efficiency of variable input.

$$AP= Y/X$$

Where,

Y is total product and X is total input.

3. Marginal Product (MP): Additional quantity of output resulting from an additional unit of input.

$$MP= \text{Change in total product / Change in input level } (DY/DX)$$

4. Total Physical Product (TPP): Total product expressed in terms of physical units like kgs, quintals, tonnes is termed as total physical product.

Similarly, if AP and MP are expressed in terms of physical units, they are called Average Physical Product (APP) and Marginal Physical Product (MPP).

5. Total Value Product (TVP): Expression of TPP in terms of monetary value, is called Total Value Product.

Similarly, if AP and MP are expressed in terms of physical units, they are called Average Physical Product (APP) and Marginal Physical Product (MPP).

6. AVERAGE VALUE PRODUCT (AVP): The expression of Average Physical Product in money value.

7. MARGINAL VALUE PRODUCT (MVP): When MPP is expressed in terms of money value, it is called Marginal Value Product.

MVP = Change in TVP/Change in input level

<h1 style="text-align:center">LECTURE NO. 3</h1>

<h2 style="text-align:center">LAW OF VARIABLE PROPORTIONS OR RETURNS TO A FACTOR</h2>

This law exhibits the short-run production functions in which one factor varies while the others are fixed. Also, when you obtain extra output on applying an extra unit of the input, then this output is either equal to or less than the output that you obtain from the previous unit.

The Law of variable proportions concerns itself with the way the output changes when you increase the number of units of a variable factor. Hence, it refers to the effect of the changing factor-ratio on the output. In other words, the law exhibits the relationship between the units of a variable factor and the amount of output in the short-term. This is assuming that all other factors are constant.

This relationship is also called returns to a variable factor. The law states that keeping other factors constant, when you increase the variable factor, then the total product initially increases at an increases rate, then increases at a diminishing rate, and eventually starts declining. "As the proportion of the factor in a combination of factors is increased after a point, first the marginal and then the average product of that factor will diminish." Benham.

The three sages are shown in the figure.
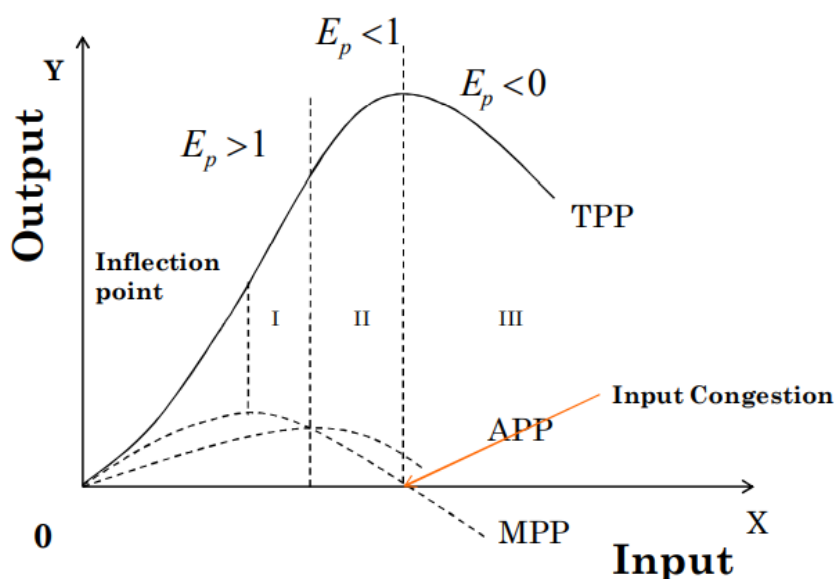
To get a clear picture of the stages of variable proportion, we take the example of agriculture. Let us assume land and labour are the only factors of production in a given area. Keeping land as a fixed factor, the production of variable factor can be shown with the help of the following table:

Stages of Law of Variable Proportion

Units of Land	Units of Labour	Total Production	Average Production	Marginal Production	
10 Acres	0	-	-	-	
"	1	20	20	20	1st stage
"	2	50	25	30	
"	3	90	30	40	
"	4	120	30	30	2nd stage
"	5	140	28	20	
"	6	150	25	10	
"	7	150	21.3	0	3rd stage
"	8	140	17.5	-10	

LECTURE NO. 4

RELATIONSHIP BETWEEN TOTAL PRODUCT (TP) AND MARGINAL PRODUCT (MP)

- When Total Product is increasing, the Marginal Product is positive.

- When Total Product remains constant, the Marginal Product is zero.

- When Total Product decreases, Marginal Product is negative.

- As long as Marginal Product increases, the Total Product increases at increasing rate.

- When the Marginal Product remains constant, the Total Product increases at constant rate.

- When the Marginal Product declines, the Total Product increases at decreasing rate.

- When Marginal Product is zero, the Total Product is maximum.

- When Marginal Product is less than zero (negative), Total Physical Product declines at increasing rate.

Relationship between Marginal and Average Product

- When Marginal Product is more than Average Product, Average Product increases.

- When Marginal Product is equal with the Average Product, Average Product is Maximum.

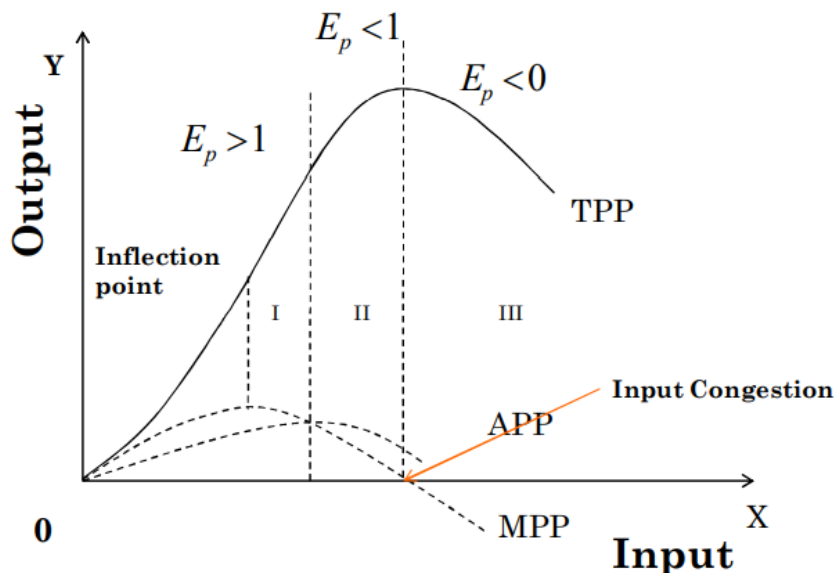- When Marginal Product is less than Average Product, Average Product decreases.

Input (X)	Total Product (Y)	Average Product AP = Y/X	Marginal Product (D Y/ D X)	Remarks
0	0	-	-	
1	2	2	2	Increasing returns
2	5	2.5	3	
3	9	3.0	4	
4	14	3.5	5	Constant returns
5	19	3.8	5	
6	23	3.83	4	Decreasing returns
7	26	3.71	3	
8	28	3.5	2	
9	29	3.22	1	
10	29	2.9	0	
11	28	2.54	-1	Negative returns
12	26	2.16	-2	

LECTURE NO. 5

STAGES OF PRODUCTION FUNCTION

There are three stages in production function and they are

1. Stage – I
2. Stage – II
3. Stage – III

      The production function showing total, average and marginal product can be divided into three regions, stages or zones in such a manner that one can locate the zone of production function in which the production decisions are rational.

Stages of production function

First stage or I Region or Zone 1:

- The first stage of production starts from the origin i.e., zero input level.
- In this zone, Marginal Physical Product is more than Average Physical Product and hence Average Physical Product increases throughout this zone.
- Marginal Physical Product (MPP) is increasing up to the point of inflection and then declines.
- Since the marginal Physical Product increases up to the point of inflection, the Total Physical Product (TPP) increases at increasing rate.
- After the point of inflection, the Total Physical Product increases at decreasing rate.
- Elasticity of production is greater than unity up to maximum Average Physical Product (APP).
- Elasticity of production is one at the end of the zone (MPP = APP).

- In this zone fixed resources are in abundant quantity relative to variable resources.
- The technical efficiency of variable resource is increasing throughout this zone as indicated by Average Physical Product.
- The technical efficiency of fixed resource is also increasing as reflected by the increasing Total Physical Product.
- Marginal Value Product is more than Marginal Factor Cost (MVP >MFC)
- Marginal revenue is more than marginal cost (MR > MC)
- This is irrational or sub-optimal zone of production.
- This zone ends at the point where MPP=APP or where APP is Maximum.

Second stage or II Region or Zone II:

- The second zone starts from where the technical efficiency of variable resource is maximum i.e., APP is Maximum (MPP=APP)
- In this zone Marginal Physical Product is less than Average Physical Product. Therefore, the APP decreases throughout this zone.
- Marginal Physical Product is decreasing throughout this zone.
- As the MPP declines, the Total Physical Product increases but at decreasing rate.
- Elasticity of production is less than one between maximum APP and maximum TPP.
- Elasticity of production is zero at the end of this zone.
- In this zone variable resource is more relative to fixed factors.
- The technical efficiency of variable resource is declining as indicated by declining APP.
- The technical efficiency of fixed resource is increasing as reflected by increasing TPP.
- Marginal Value Product is equal to Marginal Factor Cost (MVP=MFC).
- Marginal Revenue is equal to Marginal Cost (MR= MC)
- This is rational zone of production in which the producer should operate to attain his objective of profit maximization.
- This zone ends at the point where Total Physical Product is maximum or Marginal Physical Product is zero.

Third stage OR III Region or Zone III:

- This zone starts from where the technical efficiency of fixed resource is maximum (TPP is Max).
- Average Physical Product is declining but remains positive.
- Marginal Physical Product becomes negative.
- The Total Physical Product declines at faster rate since MPP is negative.
- Elasticity of production is less than zero (Ep < 0)
- In this zone variable resource is in excess capacity.

- The technical efficiency of variable resource is decreasing as reflected by declining APP.
- The technical efficiency of fixed resource is also decreasing as indicated by declining TPP.
- Marginal Value Product is less than Marginal Factor Cost (MVP < MFC)
- Marginal Revenue is less than Marginal Cost (MR < MC)
- This zone is irrational or supra-optimal zone.
- Producer should never operate in this zone even if the resources are available at free of cost.

Elasticity of Production (Ep):

- It is a measure of responsiveness of output to changes in input. The elasticity of production refers to the proportionate change in output as compared to proportionate change in input. Ep = Percentage change in output/Percentage change in input.

$$\text{Ep} = ((\text{change in output / initial output}) *100) / ((\text{change in input / initial input}) *100)$$

i.e., $((DY/Y) *100)/((DX/X)*100) = (DY/Y) / (DX/X) = (DY/Y)*(X/DX) = (DY/DX) * (X/Y)$ By rearranging we have, $(DY/DX) * (X/Y) = (DY/DX)/(Y/X) = MPP/APP$.

- The elasticity of production is the ratio of Marginal Physical Product to Average Physical Product.
- Ep = 1, Constant Returns.
- Ep is one at MPP = APP (At the end of I stage)
- Ep > 1, Increasing Returns (I Stage of Production)
- Ep < 1, Diminishing returns (II Stage of Production)
- Ep = 0, When MPP is zero or TPP is Maximum (At the end of II stage) Ep < 0, Negative Returns (III Stage of Production) Three Regions of Production Function

LAW OF RETURNS

Production is the result of cooperative working of various factors of production viz., land, labour, capital and management. The laws of returns operate on account of variability in the proportion in which the various factors can be combined for the purpose of production.

In the production of a commodity where one input is varied, keeping all inputs fixed, the nature of relationship between single variable input and output can be either of the one or a combination of the following:

1. Law of increasing returns
2. Law of constant returns
3. Law of decreasing returns

1. Law of increasing returns (Increasing Marginal Productivity)

Each successive unit of variable input when applied to the fixed factor adds more and more to the total product than the previous unit.

The marginal physical product is increasing and hence known as law of increasing returns. Increasing returns means lower costs per unit of output. Thus, the law of increasing returns signifies that cost per unit of additional product falls as more and more output is produced. Hence law of increasing returns also called law of decreasing costs.

Input	Output (Y)	D X	D Y	D Y/DX=MPP
1	2	1	2	2/1=2
2	6	1	4	4/1=4
3	12	1	6	6/1=6
4	20	1	8	8/1=8
5	30	1	10	10/1=10

As shown in the above table, the first unit of variable input adds 2 units, while the second add 4 units to the total output, the third add 6 units and so on.

When production function is graphed with output on vertical axis and input on horizontal axis, the resulting curve is convex to the origin. Algebraically increasing returns is expressed as

$$D_1Y/D_1X < D_2Y/D_2X < \ldots\ldots\ldots < D_nY/D_nX$$

(a) Increasing Returns to Scale   (b) Decreasing Returns to Scale   (c) Constant Returns to Scale
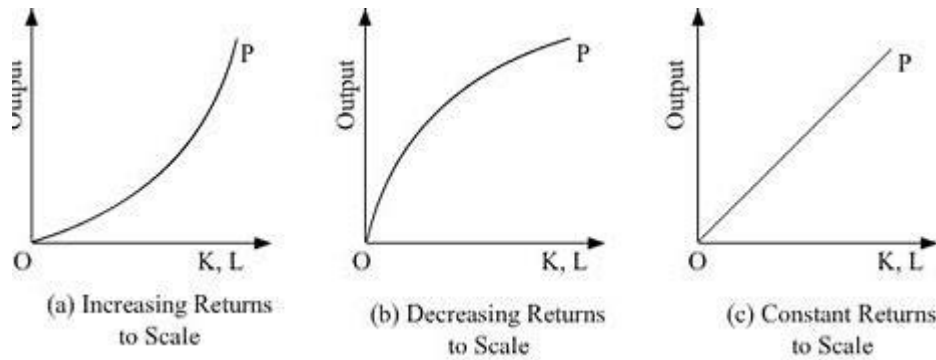
2. Law of constant returns (Constant Marginal Productivity)

Each additional unit of variable input when applied to the fixed factors produces an equal amount of additional product. The amount of product (TPP) increases by the same magnitude for each additional unit of input. The marginal physical product remains the same for each additional unit of input and hence it is called law of constant marginal productivity.

Regardless of the scale of production, the cost of additional unit of product remains the same and hence it is also called law of constant costs. Linear production function or constant returns is not a common relationship in agriculture.

Input(X)	Output (Y)	D X	D Y	D Y/DX=MPP
1	10	1	10	10/1=10
2	20	1	10	10/1=10
3	30	1	10	10/1=10
4	40	1	10	10/1=10
5	50	1	10	10/1=10

As shown in the table, each unit of input adds 10 units. The shape of the total product curve is linear. Linear production indicates constant returns.

Algebraically constant returns is expressed as

$$D_1Y/D_1X = D_2Y/D_2X = \ldots\ldots\ldots = D_nY/D_nX$$

3. Law of decreasing returns (Decreasing Marginal Productivity)

Each additional unit of variable input when applied to the fixed factors adds less and less to the total product than the previous unit.

The marginal physical product is declining, hence the name law of decreasing returns.

| Input(X)	Output (Y)	D X	D Y	D Y/DX=MPP
1	25	1	25	25/1=25
2	40	1	20	20/1=20
3	60	1	15	15/1=15
4	70	1	10	10/1=10
5	75	1	5	5/1=5

As shown in the table, the first unit of input adds 25 units, the second adds 20 units and the third adds 15 units and so on.

The production function which exhibits diminishing returns is concave to the origin. Law of diminishing returns is very common in agriculture.
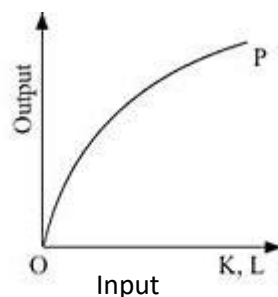
The cost of each additional unit of output increases as we produce more and more output and hence it is called Law of increasing costs.
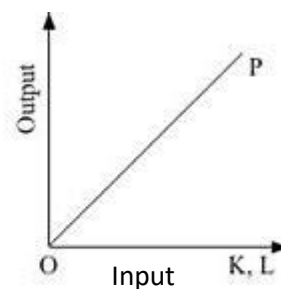
Algebraically, it can be expressed as

$$D_1Y/D_1X > D_2Y/D_2X > \ldots\ldots\ldots > DnY/D\ Nx$$
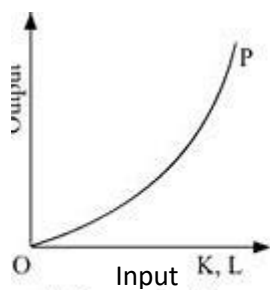
(a) Increasing Returns to Scale   (b) Decreasing Returns to Scale   (c) Constant Returns to Scale

LECTURE NO. 8
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 are increasing or constant or decreasing depending on whether proportionate simultaneous increase in output by a greater or smaller proportion. Returns to scale is illustrated with the help of hypothetical data in below Table.

Return 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	Increasing
2	2	18	10	Increasing
3	3	28	10	Constant
4	4	38	10	Constant
5	5	48	10	Constant
6	6	58	10	Constant
7	7	68	10	Decreasing
8	8	76	8	Decreasing
9	9	82	6	Decreasing
10	10	86	4	Decreasing

Form the above table, it can be seen that the variation in total output for changing proportion of Labour (L) and Capital (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 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. This concept is graphically presented in figure 21.1.
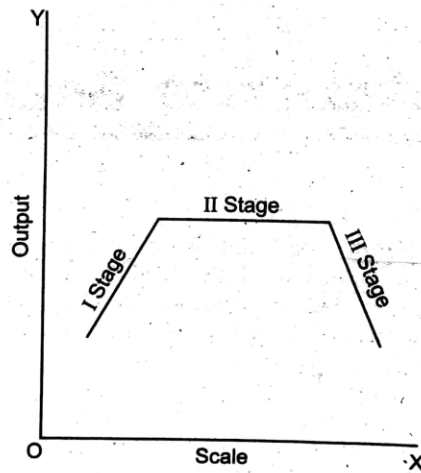
Figure 21.1 Returns to scale.

Cobb-Douglas production function is an example and 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

X_1= Human labour in man days

X_2= Fertilizers in kg

X_3= 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.,

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.

Difference between the law of variable proportions and returns to scale

The distinguishing features between law of variable proportions and returns to scale are presented in below Table.

S.No.	Law of variable proportions	Returns to scale
1	The proportion among factors varies	The proportion among the factors remains the same
2	It is a short run production function	It is a long run production function
3	Here increasing, constant and decreasing returns to a factor are observed	Here increasing, constant and decreasing returns to scale are observed
4	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
5	The diminishing returns are due to over exploitation of fixed factor	Diminishing returns to scale are due to the operation of diseconomies of scale
6	$Y = f(X_1, X_2, X_3...X_n)$	$Y = f(X_1/X_2, X_3...X_n)$
7	It is a reality	It is a myth

LECTURE NO. 9
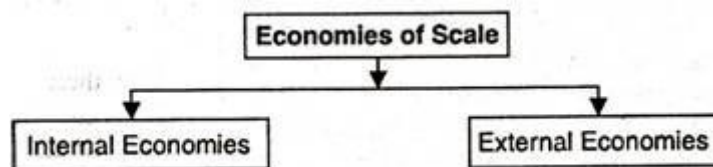# ECONOMIES OF SCALE -TYPES -INTERNAL AND EXTERNAL ECONOMIES OF SCALE

Prof. Stigler defines economies of scale as synonyms with returns to scale. As the scale of production is increased, up to a certain point, one gets economies of scale. Beyond that, there are its diseconomies to scale.

To experience the cost-savings from economies of scale, businesses must understand how they can increase production while lowering costs. Organizations can start by determining the most applicable strategy in relation to their industry, company size, and business model.

By increasing production while lowering costs, businesses can spread their expenses over a large number of goods and reap the benefits of economies of scale. The bigger the business, the more accessible economies of scale is and the more cost savings opportunities there will be. Increasing the output level creates an inverse relationship between the fixed or variable cost-per-unit and the quantity of the product.

The calculation behind this is relatively simple - the more significant the production output, the lower the per-unit cost. Economies of scale can be implemented by companies at any stage of the production process. For example, it can be applied by a marketing department when hiring new marketing professionals as well as a production warehouse.

Marshall has classified economies to scale into two parts as under:

Types of economies of scale:

I. **Internal Economies of Scale**

This will typically occur in large companies, resulting in larger volumes of production. There are five main internal economies of scale.

1. Technical Economies of Scale

By improving the efficiency and size of production processes, economies of scale can be achieved. When a business doubles its output, manufacturing costs can fall to 70%-90%, so investing in more efficient equipment and labour will create significant savings in the long-run.

Examples of technical economies of scale include-

- Dividing production processes into separate tasks makes workers more efficient in focusing on one role and specialized in their area of expertise.

- Cutting unit costs by using mass-production methods like specialized machinery.
- Increasing dimensions of storage or delivery containers, for example, to increase the capacity of stored units and the ability to ship larger quantities.

2. Purchasing Economies of Scale

Also known as monopsony power, a company buys products in bulk to reduce the per-unit cost. For example, Wal-Mart can offer low prices by purchasing large bulk quantities of products.

Large manufacturers will have more bargaining power than small competitors. Enterprise companies can also access better rates for delivery, as more products need to be moved. Inventory management also plays a role in reducing unit costs as efficient stock control can reduce holding fees and overspending on unnecessary products.

3. Managerial Economies of Scale

Investing in expertise is one way to grow economies of scale, where specialist managers can enhance production systems to streamline processes and increase productivity. When large companies have the resources to afford specialists, they can manage different divisions of the company more effectively and optimally.

4. Financial Economies of Scale

Larger businesses usually have better credit scores compared to smaller organizations as they generally have more assets that can be used as collateral. The lower interest rates mean that it costs them less to borrow, driving more profit. Also, a larger company will be able to be funded from the stock market simply with an initial public offering.

5. Diversifying Economies of Scale

As a company diversifies its activities and spreads its costs, there is less risk assumed in any one separate line of business, lowering the costs per unit. Larger companies can more effectively market and advertise products and create new items when branching out to meet the current demand.

II.   External Economies of Scale

External economies of scale relate to outside factors where the company's size creates preferential treatment, such as when governmental policies favour larger companies. An example of this is when a state reduces its taxes to attract companies to the area that will provide the most jobs.

When large companies take advantage of joint research with university departments, this partnership can lower company expenses when shared between the two or more parties. Though smaller companies don't have the leverage to experience these benefits, they can cluster their businesses together when in similar industries in a small area. This allows them to take

advantage of a geographic economy of scale, like creating mutual benefits of being in the same area (for example, small locally-owned gyms and healthy-cafes).

Additional benefits of external economies of scale include-

- Lower-cost supplies.
- Recruiting pre-trained people when similar companies operate in the same region.
- Infrastructure in the industry can be already present to support company growth.
- Availability of training facilities.
- Transportation networks for labour and production may be available.
- Improved existing software and other technology can lower costs.

The Growth Paradox- Diseconomies of Scale

When large companies grow too much, the overgrowth is referred to as a diseconomy of scale. This leads to decreased efficiency. If there are too many people working in one area of the company, too many management layers, complex communication methods, and important information being lost in the process.

It could take longer for decisions to be made and miscommunication is a common risk with global companies. There is a threshold that is reached when average costs will stop decreasing as production increases, which could be where costs will rise as a result of inefficiency.

Economies of Scales Examples

The following examples to highlight different economies of scale in the real-world.

- **Internal technical economy of scale -** Splitting up workers to specialize in tasks when producing motor vehicles will require less training of workers and more production efficiency.
- **External economy of scale -** A pharmaceutical company teaming up with a local university to share costs of research for the development and production of a new drug.
- **Diseconomy of scale -A Cafe** scenario where more cooks in a small space will inhibit efficiency and prevent orders from being fulfilled effectively.

Developing economies of scale initiatives gives companies a competitive advantage when it comes to enlarging the profit margin through increased savings. With lower per-unit costs and production expenses, companies can benefit from this effective growth strategy.

LECTURE NO. 10
THEORY OF COSTS

Knowledge regarding various relationships existing between costs and output is necessary to comprehend the concepts of equilibrium conditions of different firms under different market situations. It is required to know how the Fixed Cost (FC), Variable Cost (VC), Total Cost (TC), Average Cost (AC), and Marginal Cost (MC) are related to different output levels of the firms under different levels of technology used by the firms. Here we have assumed that every business firm has a certain state of technology or know how i.e., how they are producing various levels of outputs with the given prices of inputs and outputs. With data on those variables, we can understand the relationships between costs and output levels. 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 costs 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 contexts. 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. Firms incur costs in producing different products. Every level of output is associated with a given level of costs under a given level of technology, prices and input levels at a particular point of time. Generally, the cost of production refers to costs incurred per an unit of output produced by a firm under a given technology. Nominal costs of production refer to per unit cost of production of output at current market prices.

Real Costs

When the cost 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 costs of production. These costs we name as private costs, but from the point of view of 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 said 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 AND SHORT RUN COSTS

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 behaviour of the firms.

There are seven costs, which explain the behaviour of the firms in the production of requisite products.
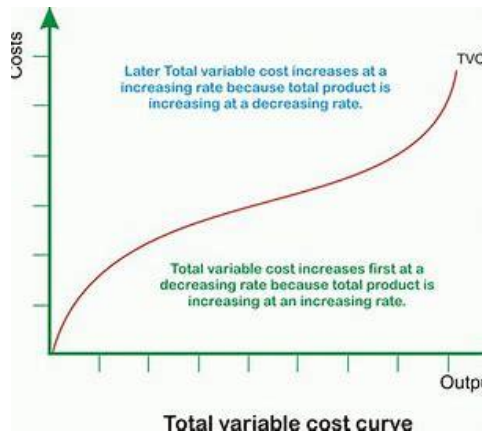
Fixed Costs

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.


Total Fixed cost curve
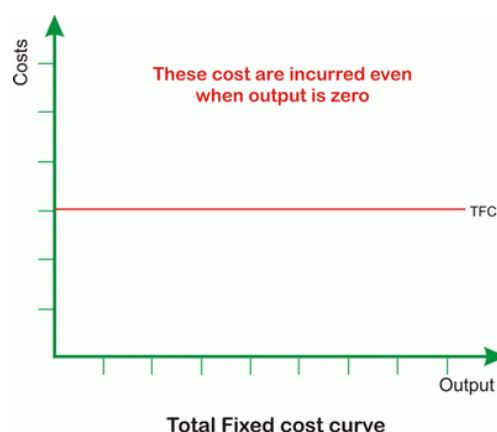
Variable Costs

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 refers to total variable costs (TVC). Graphically TVC has inverse 'S' shape.

Total variable cost curve

Total Costs

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

Total cost curve
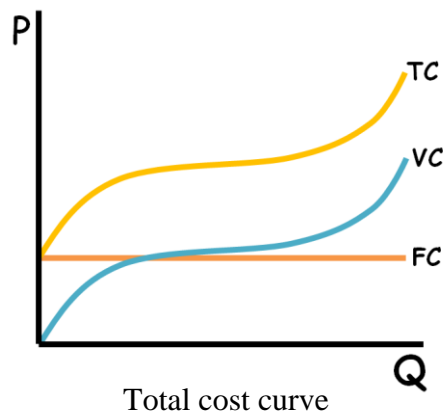
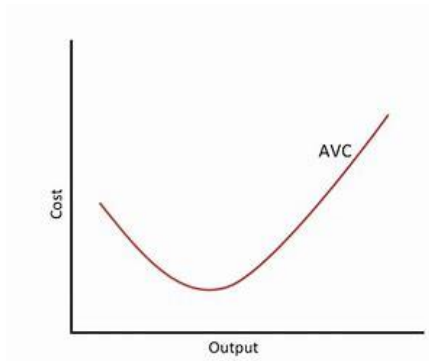**Average Variable Cost (AVC)**

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

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

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. This is shown in the Figure 4.4 When it is 'U-shaped, it becomes reciprocal of average physical product curve.

Average Variable Cost

AVC falls to minimum level at the output level where APP is maximum. There after 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 cost of fixed resources or inputs required for producing one unit of output and it is given by the formula as

$$\textbf{AVC} = \underline{\textbf{Total fixed costs}} = \underline{\textbf{TVC}}$$
$$\textbf{Output} \qquad \textbf{Q}$$

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 hyperbola.
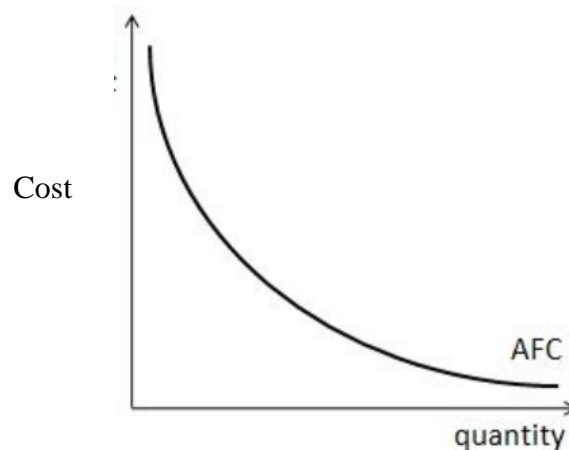
Average Total Cost or Average Cost (ATC or AC)
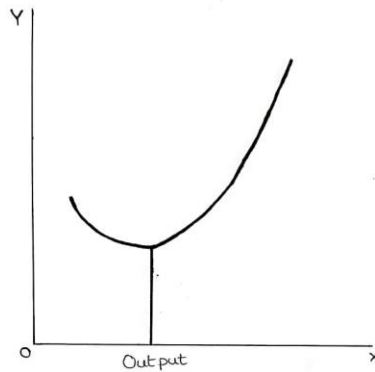
When the total costs are divided by output, we get ATC.


Figure 4.6   Avarage total cost.

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

$$\underline{\text{Change in Total costs}} = \underline{\triangle \ \text{TC}} \text{ or } \quad \underline{\text{TVC}}$$
$$\text{Change in output} \qquad \triangle \ \text{Q} \qquad \triangle \ \text{Q}$$

Note that 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 curve is due to marginal product of the 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 AC at their minimum points.
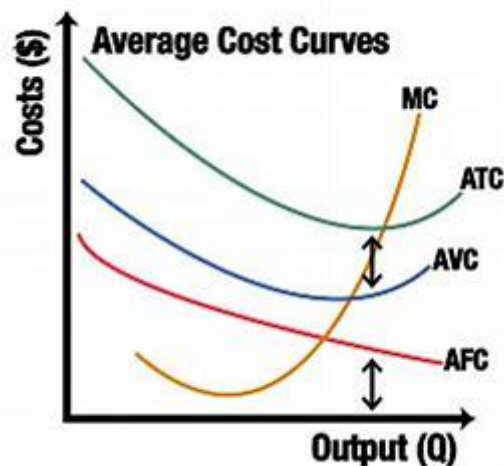
Production cost of an Organisation in short duration

Quantity Units	TFC (Rs.)	TVC (Rs.)	TFC+TVC (Rs.)	AFC= $\frac{TFC}{Q}$ (Rs.)	AVC= $\frac{TVC}{Q}$ (Rs.)	ATC (Rs.)	MC= $\frac{\Delta TC}{\Delta Q}$ (Rs.)
0	100	--	100	--	--	--	--
1	100	20	120	100	20.0	120	20
2	100	38	138	50	19.0	69	18
3	100	52.5	152.5	33.3	17.5	50.8	14.5
4	100	66	166	25	16.5	41.5	13.5
5	100	80	180	20	16.0	36.0	14.0
6	100	99	199	16.7	16.5	33.2	190
7	100	140	240	14.3	20.0	34.3	41.0
8	100	184	284	12.5	23.0	35.5	44.0

LECTURE NO. 13

REVENUE ANALYSIS AND CONCEPTS OF REVENUE (TR, AR AND MR)

The purpose of revenue analysis is to explain the determinations of price under different market situations. Supply of goods depends upon their cost of production. In any market, price is determined by the interaction of demand and supply of goods. Any productive activity is undertaken with a motive to earn profit which is the difference between the total revenue earned by the firm and its total cost. Hence, we need to study the various concepts of revenue and revenue curves.

Concepts of Revenue

The amount of money that the firm receives from the sale of certain quantities of a good at various prices is called revenue. In other words, the total sale proceeds of firm are known as revenue. We can discuss three types of revenue concepts. They are: a) total revenue, b) average revenue and c) marginal revenue.

a) Total Revenue (TR): Total income received by the firm from the sale of certain quantity of output at a given price is called total revenue. It is obtained by multiplying the price of a commodity by the number of units sold, i.e.

$$TR = P * Q$$

Where,

TR= Total Revenue, P= Price of the good and Q= the quantity of the good sold.

b) Average Revenue (AR): Average revenue is the revenue per unit of goods sold. It is computed by dividing the total revenue by the number of units of good sold. Thus,

$$AR = TR/Q = P.Q/Q = P$$

It is clear that the average revenue is equal to the price. Price is average revenue. Demand or price curve is called average revenue curve.

C) Marginal Revenue (MR): It is the net addition to the total revenue by selling additional unit of the good i.e., the revenue which would be earned by selling an additional unit of the good. Marginal revenue can be expressed as:

$$MR = \Delta TR / \Delta Q$$

Where,

ΔTR= change in total revenue and ΔQ = change in quantity.

In other form,

$$MR_n = TR_n - TR_{n-1}$$

LECTURE NO. 14
REVENUE ANALYSIS UNDER PERFECT COMPETITION

Under perfect competition, there exist large number of sellers and large number of buyers. The sellers under this competition offer homogeneous products and, therefore, neither sellers nor buyers have any control on the price of the product. The price of a good is determined by its supply and demand. So, only one price prevails in the whole industry and each firm can sell any amount of the goods at the market price. Thus, the demand for the firm's product becomes infinitely elastic. Demand curve for the product of a firm itself is the firm's average revenue curve. In this case, total revenue (TR), average revenue (AR) and marginal revenue (MR) of a perfectly competitive firm are analyzed here under using table - 4.5 and diagram - 4.7

Table: TR, AR and MR under Perfect Competition

Output (Q)	Price (P) (Rs)	Total Revenue (P.Q)	Average Revenue AR= TR/Q	Marginal Revenue MR = ΔTR/ΔQ
1	10	10	10	10
2	10	20	10	10
3	10	30	10	10
4	10	40	10	10
5	10	50	10	10
6	10	60	10	10

The price of the product remains constant under perfect competition. At the given price Rs.10, when the output sold increases, total revenue also increases at the constant rate. Due to homogeneity, the goods are sold at single price under perfect competition, therefore additional units are also sold at the same price. Hence, under this competition, the AR equals MR all through. Because of this, P= AR= MR and they are also constant. The nature of AR and MR curves is shown with the help of figure- 4.7.

Output is measured on OX axis and price/AR/MR are measured on OY axis. OP price in the diagram indicates existence of single price. Since P=AR=MR, the AR and MR curves will be parallel to OX axis and the marginal revenue curve coincides with average revenue curve as shown in Fig- 4.7
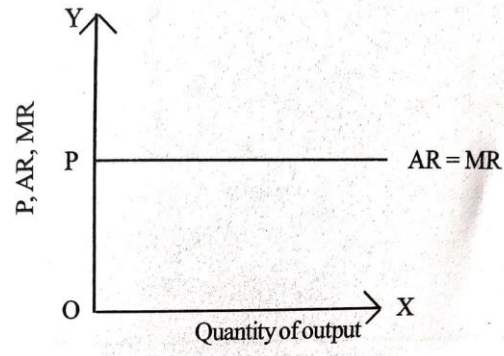
Figure-4.7: AR and MR Curves under Perfect Competition

REVENUE UNDER MONOPOLY AND RELATIONSHIP BETWEEN TR, AR AND MR

Under monopoly, there is a single seller. The commodity offered by a monopolist may be or may not be homogenous. The produce has no close substitutes. The cross elasticity of demand is very low. Monopolist can control price and output of the commodity, but he can't determine both simultaneously. If he sets one, another will be determined by the demand in the market. He can sell more quantity at lower price and hence, he reduces price. The relationship between TR, AR and MR is shown in below table.

Table: Relationship between TR, AR and MR under Monopoly

Output	Price (Rs)	Total Revenue	Average Revenue	Marginal Revenue
1	10	10	10	10
2	9	18	9	8
3	8	24	8	6
4	7	28	7	4
5	6	30	6	2

The Table 4.6 revels that as price falls, sales may improve and total revenue also increases. Price itself is AR and therefore average revenue (AR) and marginal revenue also are falling continuously. Here, MR declines at faster rate than that of AR. AR falls by Rs. 1 at a time, whereas MR falls by Rs.2. Thus, marginal revenue is less than the average revenue. The price and average revenue are equal but, both these are more than the marginal revenue i.e.
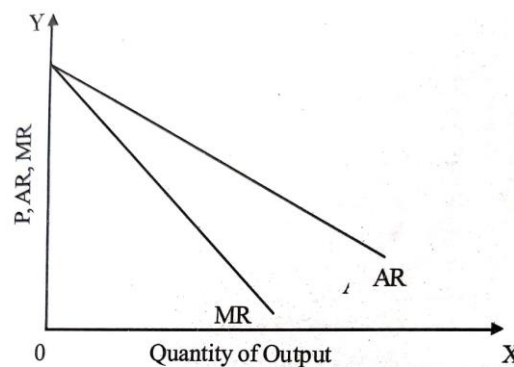
P= AR>MR.

Figure-4.8: Relationship between AR and MR under Monopoly

If figure- 4.8, quantity of output is measured on OX axis and revenues are measured on OY axis. AR and MR represent average revenue and marginal revenue cures respectively. As the average revenue and marginal revenue both are falling, AR and MR curves will be downward sloping. The MR is lower than the AR and that is why the marginal revenue curve lies below the average revenue curve or demand curve.

LECTURE NO. 17

RELATIONSHIP BETWEEN PRICE ELASTICITY OF DEMAND, AR AND MR

Mrs. Joan Robinson in her book 'The Economics of Imperfect Competition' has shown the empirical relationship between price elasticity, average revenue and marginal revenue. The relationship is expressed in the formula.

AR = MR or MR = AR (e/(e-1))

where,

AR = Average Revenue, MR = Marginal Revenue and 'e' = price elasticity of demand.
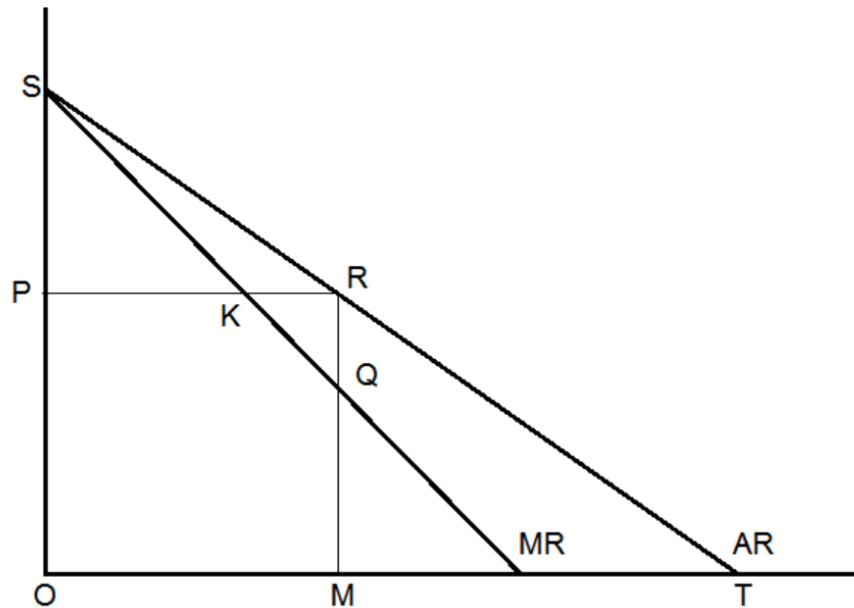
Relationship between price elasticity of demand, AR and MR

In the above figure, AR and MR are the average revenue and the marginal revenue curves. Elasticity of demand at point R on the average revenue curve = RT/RS

In triangles PSR and MRT,

∟SPR = ∟RMT (right angles)

∟SRP = ∟RTM (corresponding angle)

Therefore, ∟PSR = ∟MRT

Therefore, triangles PSR and MRT are similar.

Hence,

RT/RS = RM/SP ----------------------------------(1)

Now in triangle PSK and KRQ,

PK = KR

∟PKS = ∟RKQ (vertically opposite angles)

∟SPK = ∟KRQ (right angles)

Therefore, triangles PSK and RQK are congruent.

Hence,

$$PS = RQ \text{ ----------------------------------(2)}$$

From (1) and (2), we get,

Elasticity at R = (RT/RS) = (RM/SP) = (RM/RQ)

But RM/RQ = RM/(RM-RQ)

But RM = Average revenue = price

QM = Marginal revenue

Elasticity at R = Average revenue/(Average revenue – Marginal revenue)

= AR/(AR-MR)

If A stands for Average revenue, M stands for Marginal revenue and 'e' stands for elasticity on the average revenue curve, then

e = A/(A-M).

Therefore, e(AR) – e(MR) = AR

e(AR) – AR = e(MR)

AR = e(MR)/(e-1)

AR = MR(e/(e-1))

MR = AR((e-1)/e)

If MR = 0, it is a case in which the MR curve coincides with the X-axis.

LONG RUN COSTS

The long period is defined as the period that is long enough for the inputs of all factors of production to be varied. In this period no factor is fixed, all are variable factors. Firm has enough time to change its scale of production. It can purchase and install new machinery or it can sell the old one; it can vary the size of factory; it can increase or decrease the number of even permanent employees of the firm. Thus, in long run all sorts of changes in the factors of production are possible.

In the long run, only the average total cost is important and considered in taking long-term output decisions. Long run average costs are per unit cost of production at different levels of output by change in the size of plant or scale of production. The main point here is that any cost remains long run cost till a new level of output is achieved and as soon as a new level of output is achieved, the long run costs become short run costs.

The long-run cost-output relationship is depicted graphically by the long-run cost curve- a curve depicting how costs will change when the scale of production is varied.

The concept of long-run costs can be further elaborated with the help of an illustration. Assume that at a particular time a firm operates under average total cost curve U_2 and produce OM output. Again, it is desired to produce ON amount. If the concern continues under the old scale, its average cost will be NT. If the scale to the firm is changed, the new cost curve will be U_3. The average cost of producing ON will then be NA. NA is less than NT. So, the new scale will be preferable to the old one and should be adopted.
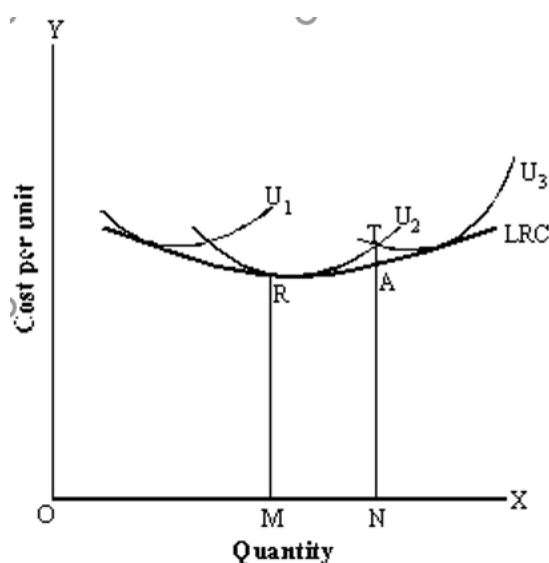
In the long run, the average cost of producing ON output is NT. This we can say as the long run cost producing ON output. We must be careful here to note that we shall call NA as the long run cost only so long as the U_2 scale is in the planning stage and is not actually adopted.

The moment the ale is adopted, the NA cost will be the actually short run cost producing ON output as shown is Fig. Below.
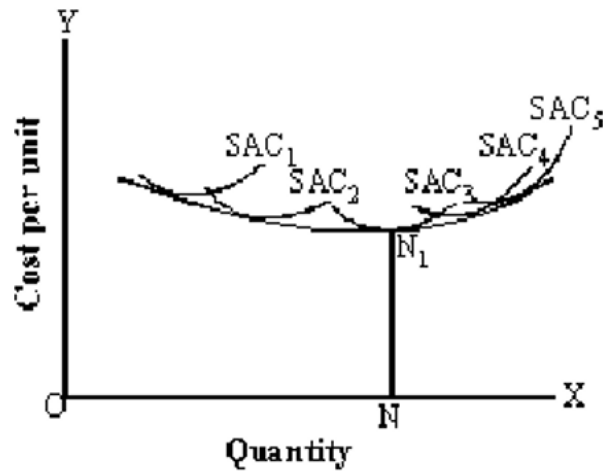
To draw the long run cost curve, we have to commence with a number of short run average cost curves (SAC curves), each curve representing a particular scale of size of the plant including the optimum scale. One can now draw the long run cost that will be tangential to the entire family of SAC curves. It means that it will touch each SAC curve at one point.

Here, the assumption is that the number of possible short run curves is infinitely large i.e., a plant of virtually any size can be built. If, however, we suppose that only, Limited say five, alternative size of plants is technically possible, the long run cost curve will be scalloped i.e., a wavy solid line consisting of lowest segments of all the short-run average cost curves.

LECTURE NO. 19
FIRM – DEFINITION AND OBJRCTIVES

Firm is a unit of production that employs factors of production (or inputs) to produce goods and services under given state of technology.

It is an independently administered business unit – Hanson.

It is a centre of control where the decisions about what to produce & how to produce are taken.

The main objectives of firms are:

- Profit maximisation.
- Sales maximisation.
- Increased market share/market dominance.
- Social/environmental concerns.
- Profit satisfising.

LECTURE NO. 20
EQUILIBRIUM OF FIRM IN SHORT RUN

The firm is in equilibrium when it maximizes its profits (Π), defined as the difference between total cost and total revenue:

$$\Pi = TR - TC$$

Given that the normal rate of profit is included in the cost items of the firm, Π is the profit above the normal rate of return on capital and the remuneration for the risk- bearing function of the entrepreneur.

The firm is in equilibrium when it produces the output that maximizes the difference between total receipts and total costs. The equilibrium of the firm may be shown graphically in two ways. Either by using the TR and TC curves, or the MR and MC curves.

In figure 5.2 we show the total revenue and total cost curves of a firm in a perfectly competitive market. The total-revenue curve is a straight line through the origin, showing that the price is constant at all levels of output. The firm is a price-taker and can sell any amount of output at the going market price, with its TR increasing proportionately with its sales. The slope of the TR curve is the marginal revenue. It is constant and equal to the prevailing market price, since all units are sold at the same price. Thus, in pure competition MR = AR = P.
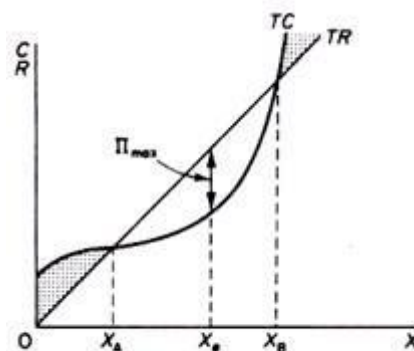

Figure 5.2

The shape of the total-cost curve reflects the U shape of the average-cost curve, that is, the law of variable proportions. The firm maximizes its profit at the output X_e, where the distance between the TR and TC curves is the greatest. At lower and higher levels of output total profit is not maximized at levels smaller than X_A and larger than X_B the firm has losses.

The total-revenue-total-cost approach is awkward to use when firms are combined together in the study of the industry. The alternative approach, which is based on marginal cost and marginal revenue, uses price as an explicit variable, and shows clearly the behavioural rule that leads to profit maximization.

In figure 5.3 we show the average- and marginal-cost curves of the firm together with its demand curve. We said that the demand curve is also the average revenue curve and the

marginal revenue curve of the firm in a perfectly competitive market. The marginal cost cuts the SATC at its minimum point. Both curves are U-shaped, reflecting the law of variable proportions which is operative in the short run during which the plant is constant. The firm is in equilibrium (maximizes its profit) at the level of output defined by the intersection of the MC and the MR curves (point e in figure 5.3).
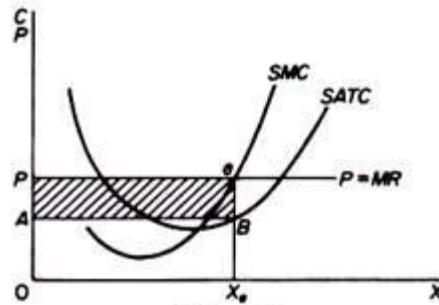

Figure 5.3

To the left of e profit has not reached its maximum level because each unit of output to the left of X_e brings to the firm a revenue which is greater than its marginal cost. To the right of X_e each additional unit of output costs more than the revenue earned by its sale, so that a loss is made and total profit is reduced.

In a nutshell:

(a) If MC < MR total profit has not been maximized and it pays the firm to expand its output.

(b) If MC > MR the level of total profit is being reduced and it pays the firm to cut its production.

(c) If MC = MR short-run profits are maximized.

Thus, the first condition for the equilibrium of the firm is that marginal cost be equal to marginal revenue. However, this condition is not sufficient, since it may be fulfilled and yet the firm may not be in equilibrium. In figure 5.4 we observe that the condition MC = MR is satisfied at point e', yet clearly the firm is not in equilibrium, since profit is maximized at $X_e > X_{e'}$. The second condition for equilibrium requires that the MC be rising at the point of its intersection with the MR curve.
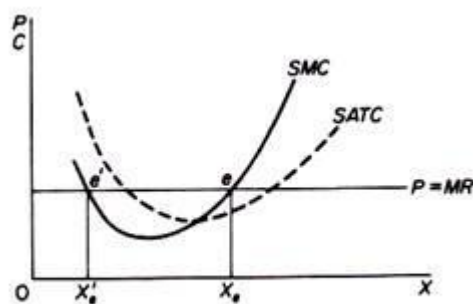

Figure 5.4

This means that the MC must cut the MR curve from below, i.e., the slope of the MC must be steeper than the slope of the MR curve. In figure 5.4 the slope of MC is positive at e,

while the slope of the MR curve is zero at all levels of output. Thus, at e both conditions for equilibrium are satisfied

(i) MC = MR and

(ii) (Slope of MC) > (slope of MR).

It should be noted that the MC is always positive, because the firm must spend some money in order to produce an additional unit of output. Thus, at equilibrium the MR is also positive. The fact that a firm is in (short-run) equilibrium does not necessarily mean that it makes excess profits. Whether the firm makes excess profits or losses depends on the level of the, 4TC at the short-run equilibrium. If the A TC is below the price at equilibrium (figure 5.5) the firm earns excess profits (equal to the area PABe). If, however, the ATC is above the price (figure 5.6) the firm makes a loss (equal to the area FPeC).
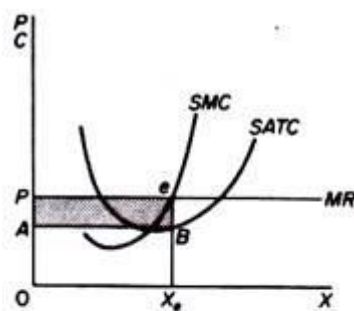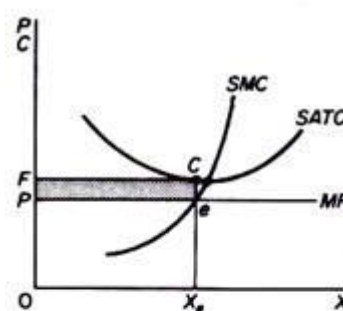
Figure 5.5   Figure 5.6
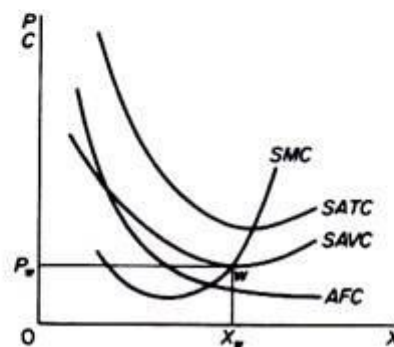
Figure 5.7

In the latter case the firm will continue to produce only if it covers its variable costs. Otherwise, it will close down, since by discontinuing its operations, the firm is better off it minimizes its losses. The point at which the firm covers its variable costs is called 'the closing-down point.' In figure 5.7 the closing-down point of the firm is denoted by point w. If price falls below P_w the firm does not cover its variable costs and is better off if it closes down.

LECTURE NO. 21
FARM MANAGEMENT – MEANING AND SCOPE

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.

Farm Management

Meaning: 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.

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.

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.

LECTURE NO. 22
TYPES OF FARMING

The 'types of farming' refers to the methods of farming and to different practices that are used in carrying out farming operations. Johnson defined it as 'when farms in a group are quite similar in the kinds and proportions of the crops and the livestock that are produced and, in the methods, and practices followed in production, the group is described as a 'type of farming''. Major types of farming include

(1) Specialized farming (2) Diversified farming (3) Mixed farming (4) Dry farming and

(5) Ranching.

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.

Conditions for Specialization:

(i) Where there are special market outlets, (ii) Where economic conditions are fairly uniform for a long period, (iii) Where an enterprise is not much affected by abnormal weather conditions, e.g., poultry farm.

The reasons for specialized farming are;

1) assured income from the enterprise;

2) its suitability to the area;

3) its relative profitability, etc.

The examples that can be cited are paddy farming sugarcane farming, tobacco farming, etc. among crop enterprises and poultry, sheep farming, fish farming, etc., among livestock enterprises. The favourable environment though encourages specialized, apart from the advantages; disadvantages too are associated with it.

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: The fewer enterprises on the farm are liable to be less neglected and sources of wastage can easily be detected.

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 the 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, grading, financing, etc.

Diversified Farming

1. Failure of Crop: The farmer runs the risk of losing heavily case, failure of crop occurs. There is no possibility of compensation. This is the biggest drawback of specialized farming.

2. Non-utilization of productive resources: Since the farmer confides 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. Effect on Soil-Health: Continuous raising of one crop or few crops may be exerting greater pressure on soil health. This practice dies not allow crop rotation, thereby affecting the soil health.

2. Diversified Farming

It is also known as general farming. Here farming is diversified i.e., a number of enterprises are taken up on the farm at the same time. It also connotes production and sale of the different product at different times during a year. There is not much significance for a single enterprise under this situation. No single enterprise contributes as high as 50 per cent of the total income derived in farming. This type of farming is associated with the following advantages.

Advantages

1. Better utilization of farm resources: In view of the diversified cropping and crop rotations, land, labour and farm machinery and equipment 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. Farmer can withstand the loss incurred from one or two enterprise.

3. Flow of income: The farmer enjoys the advantage of deriving regular income, as different crops are grown.

Disadvantages

1. 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. The diversified enterprises allow the scope for the leakages in the farm business go unnoticed. This is likely to affect the farm economy.

2. 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.

3. 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. Mixed farming 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 by-products 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, dryland 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 arid regions and moisture conservation practices are needed in this region.

5.**Dry land farming**

It is the cultivation 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, high levels of inputs and control of soil erosion.

5. Ranching

Grazing of livestock on public pastures is called ranching. These lands are not fit for cultivation.

LECTURE NO. 23
FARM PLANNING

A successful farm business is not a result of chance factor. Good weather and good prices help but a profitable and growing business is the product of good planning. With recent technological developments in agriculture, farming has become more complex business and requires careful planning for successful organisation.

A farm plan is a programme of total farm activity of a farmer drawn up in advance. A farm plan should show the enterprises to be taken up on the farm; the practices to be followed in their production, use of labour, investments to be made and similar other details.

Farm planning enables the farmer to achieve his objectives (Profit maximization or cost minimization) in a more organized manner. It also helps in the analysis of existing resources and their allocation for achieving higher resource use efficiency, farm income and farm family welfare. Farm planning is an approach which introduces desirable changes in farm organization and operation and makes a farm viable unit.

Type of farm plans

1. Simple farm planning: It is adopted either for a part of the land or for one enterprise or to substitute one resource to another. This is very simple and easy to implement. The process of change should always begin with these simple plans.

2. Complete or whole farm planning: This is the planning for the whole farm. This planning is adopted when major changes are contemplated in the existing organization of farm business.

Characteristics of Good farm plan

1. It is should be written.

2. It should be flexible.

3. It should provide for efficient use of resources.

4. Farm plan should have balanced combination of enterprises. Such combination in turn ensures, a. Production of food, cash and fodder crops.

      b. Maintain soil fertility.

     c. Increase in income.

     d. Improve distribution of land, use of labour, power and water requirement throughout the year.

5. Avoid excessive risks.

6. Utilize farmer's knowledge and experience and take account of his likes and dislikes.

7. Provide for efficient marketing.

8. Provision for borrowing, using and repayment of credit.

9. Provide for the use of latest technology.

FARM RECORDS AND ACCOUNTING

Farm records and accounts play important role in farm business. Agriculture is modernizing; modern agriculture must be carried out like a business. If we observe, even a small shop keeper, he keeps accounts properly and almost all the business houses maintain scientific records and accounts. Up till, now in India this fact was not clearly recognized by our cultivators because mainly due lack of education. However, recently this fact has been recognized by some of our cultivators and they are inclined towards maintaining proper records and accounts. Several cultivators make note of a transaction in their diaries. Some cultivators make note of a transaction in their diaries. Some cultivators keep the sale receipts with them but these efforts are inadequate. This will be useful only as a memory aid but scientific records and accounts will provide more than this. We will see what the advantages of farm records and accounts are.

Farm Book keeping

Farm bookkeeping can be defined as the art as well as science of recording in books, farm business transactions in the regular and systematic manner so that their nature and extent and financial effects can be readily ascertained at any time.

System of Bookkeeping

There are two system of bookkeeping or accounting:

1. Double Entry System

Double entry system is a method of recording each transaction in the books of accounts in its two-fold aspects, i.e., two entries are made for each transaction in the same set of books one being a debit entry and the other a credit entry. For example:

(i) Suppose a farmer purchase an electric motor for Rs. 4000. Here two accounts come into picture i.e., machine accounts and second cash accounts. Machine account gets the money and cash account gives the money. Hence, machine account is debtor and cash account is creditor. Hence entries should be made accordingly. Receiving account is a debtor and giving account is a creditor.

(ii) Sold a cow so Prabhakar for Rs. 1000 (on credit). Prabhakar receive the cow so Prabhakar's account is debtor and cow goes out so live-stock account is creditor.

2. Single Entry System

The single-entry system ignores the double effect of transactions. There are single entries. This is a simple system. When any income is received, entry is made to income side and when any expense occurs at that time it is recorded at expenditure side. At the end of the year total of income and expenses is made. If income is more than expense, profit is a result and if expenses

are more than income then loss will be the result. Majority of Indian farmers are small farmers and single-entry system of accounting will be suitable to them. However, where there are many transactions on a big farm there is possibility of committing arithmetical mistakes, in those cases double entry system should be used to avoid writing and arithmetical mistakes. In double entry system there is automatic check on mistakes committed while making entries and on other arithmetical mistakes. Accuracy of single-entry system cannot be tested by means of a trial balance which is possible under double entry system.

Finding out profit or loss with the help of double entry system

For understanding different steps involved in finding out profit or loss by double entry system brief information is given below:

1. Diary

All transactions are first recorded in Diary. It is an initial record and entries in the journal and other books of original entry are made from this book. It should be written neatly and accurately. Following example will clarify the procedure. Mohan is a young farmer, he made following entries in his diary.

Mohan's Diary

S.No.	Particulars	Rs.
1.	January 1 Bought two cows	15000
2.	February 1 Sold two buffaloes	25000

2. Journal

Journal means a daily record. Original entries in journal are written from diary. All the transactions are entered in it in a classified form of debits and credits, i.e., in double entry form and strictly in the order of dates, so that they may be easily posted or transferred to the ledger.

Mohan's Journal

S.No	Date	Particulars	Ledger Folio	Dr. (Debit) Amount Rs.	Cr. (Credit) Amount Rs.
1.	January 1	Livestock account to cash A/c for purchase of cows		15000	15000
2.	February 1	Cash account… To love stock account		25000	25000

Ledger

This is main book of account. It is the book that contains a classified and summarized record of all transactions of the business, transferred or posted to it from the journal or other books of original entry. There are separate accounts an all entries pertaining to particular

account are found at one place. At the end of the year or at the end of given period, each account will contain the entire transactions relating to particular account in a condensed form. Ledger also serves as a permanent record for future references especially in regard to debtors and creditors. Every entry appearing in the debit column in journal is posted to debit side of the respective ledger account and every entry shown in the credit column in the journal is posted to the credit side of the respective ledger account. For example, our above-mentioned journal entries will be transferred to ledger in separate account as follows:

Cash account

Date	Particulars	Dr. J/F Amount Rs.P	Date	Particulars	Cr. J/F Amount Rs.P
1980 Jan 1	To livestock	25000	1980 Feb 1	By live stock	15000

Livestock Account					
Date	Particulars	Dr. J/F Amount Rs.P	Date	Particulars	Cr. J/F Amount Rs.P.
1980 Feb 1	To Cash	15000	1980 Jan 1	By Cash	25000

Thus, entries are made in a separate account in a ledger. When cash entries are limited at that time cash account is opened in ledger but when cash transactions are many separate cash book is used.

Cash Book

If cash transactions are large in a business, it becomes inconvenient or rather impossible to journalize each of the; for saving time separate book is maintained to record all the transactions involving cash receipts and cash payments only. This book is called as cash book or the cash account book. Transactions are entered in the cash book directly from the diary.

Trial Balance

Before preparing profit and loss account or balance sheet, it is necessary to check arithmetical accuracy of the postings (entry or writing transaction in a account) in the ledger. So that errors in postings may be detected and necessary figures are collected for preparing the profit and loss account and the balance sheet. For this purpose a statement or a list of total amounts or balances of the debit and credits of the ledger accounts including cash and bank

balance from the cash book at a given date is prepared. This statement or list is called as trial balance. It is a test of accuracy.

Profit and Loss Account

At the end of the year farmer is interested to know his total profit or loss and therefore profit and loss account is prepared. In preparing a profit and loss account the balances of all the nominal accounts are the accounts which record the gains or losses and the income or expenses of the business such as wage account, rent account, etc. finally totals of all debit and credit side are made if the debit side is greater than the credit side, the difference is a net loss. If the credit side is greater than debit side the balance is a net profit, thus profit or loss is found out.

Balance Sheet

After the preparation of profit and loss account the next step is to prepare a statement called balance sheet for finding out the accurate financial position of the farm business at the end of the year. In balance sheet all assets and liabilities are given. Assets include all possession and liabilities are the total debts owed to include all possession and liabilities are the total debts owed to others at any particular date. If the totals of the assets and liabilities are just equal that means capital are just enough to discharge the liability. If assets exceed the liabilities that means capital is surplus or net worth of farm is positive and if liabilities are more than assets that means net worth of farm is negative and person is indebted. Thus, cultivator has to maintain various account books if he followed double entry system of book-keeping.

There is no hard and fast rule about keeping particular record or account but main objective of keeping records and accounts is that farmer should able to know his financial position at a particular point of time very easily. Similarly, keeping accounts particular point of time very easily. Similarly, keeping accounts and records should not be too difficult. Necessity of particular form for particular account and record books will be different.

One farmer may keep one record other farmer may not have that activity and hence particular record may not be useful to him.

Following records are also useful to farmers:

1. Land utilization records
2. Crop production and disposal records
3. Livestock production records
4. Labour records
5. Machinery use records
6. Feed records
7. Store register and
8. Farm inventory.

CO-OPERATION

Meaning of co-operation: Co-operation is voluntary association of persons for achieving a common goal. It generally means working together for a common goal. It indicates joint effort and coordinated action of all the members of the association.

Ex: Producer's cooperatives, Consumer's cooperatives, Marketing cooperatives, Credit cooperatives, multi-purpose cooperative societies, etc.

Definition: According to Huber Calvert "Co-operation is a form of organization, where in persons voluntarily associate together on the basis of equality for the promotion of common economic interest of themselves"

According to Sir. Horace Plunkett, "Co-operation is self - help made effective by organization."

Co-operation helps in protecting the weak, provides equal justice to all and promotes welfare of the society. The motto of co-operation is "Each for all and all for each."

Principles of Cooperation:

Rochdale pioneers were a group of 28 weavers and other artisans in Rochdale region of England formed against the advent of industrial revolution forcing many skilled workers into poverty. Rochdale pioneers were most famous for designing the Rochdale principles i.e., a set of principles of co-operation now followed worldwide.

The important principles of co-operation are

1. **Principle of open and voluntary association:** The admission and membership into a co-operative society is open to everybody irrespective of caste, religion, any social and political affiliations. It does not allow any discrimination. The membership is open as well as voluntary. It implies that there is no compulsion exercised on any individual to join the cooperative. Once an individual joins as a member, there is no compulsion on him to continue as such. At any time, he has every freedom to withdraw from the society.

2. **Principle of Democratic organization:** Co-operatives are organized and managed based on the principle of democracy. Each member is given equal right to vote irrespective of his share capital in the society. "One man one vote" is the important principle of cooperation. The elected board of management will work based on the acts, rules and laws guiding the matters of cooperation.

3. **Principle of service:** Co-operatives main aim is to cater to the needs of its members. Unlike business organizations, the cooperatives are more service - oriented rather than profit - oriented. This spirit of service invokes loyalty among the members.

4. Principle of self-help and mutual help: The funds of society are contributed by the members in the form of share capital. In co-operatives generally, the members are financially weak. The society can barrow required capital from different financial sources at lower interest rates and offer the same to the members for productive purposes. This may not be possible at individual level. Hence, in co-operatives, the principle of self-help and mutual-help can work for the welfare of the members.

5. Principle of distribution of profits and surpluses: Co-operatives are not interested in making profits like business organizations. But they are also required to run on same minimum profits through efficient working. In co-operatives a certain amount of profits i.e., 25 per cent will be kept back as reserve fund and the remaining 75 per cent can be distributed among the members based on their contribution to the share capital.

6. Principle of political and religious neutrality: The important strength for growth of the cooperatives is the unity among the members and non-interference of political parties. The members of the cooperatives should continuously work for the growth of the society with harmony, integration and un-biasedness towards any religion or political party. The political and religious differences of the members should be kept away for the smooth running of the cooperatives.

7. Principle of Education: If the members in cooperative society are illiterate, their participation is poor in running the cooperatives and they cannot understand what is going on in the society. Hence, first such type of illiterate members should be made literate. For promoting awareness and efficiency in the operations of cooperatives, education to members and training to office bearers and executives is necessary.

8. Principle of thrift: The cooperatives must aim at inculcating the habit of thrift i.e., "propensity to save" among the members. Thrift and service are part and parcel of cooperation. The members who save their money with cooperatives should get incentives. Thrift is the basis of self-help, but it must precede credit. It implies that in sanctioning of credit, a priority should be given to the members who save.

9. Principle of publicity: The cooperatives should make sincere efforts to tell their members about the society and all the dealings of the society should be made public.

10. Principle of honorary service: The honorary personnel will simply supervise and direct operations of cooperatives. But to have efficiency in the society, trained secretaries with salaries are needed. But if the societies are started with poor members, it is better to have honorary office bearers, because such societies cannot afford to pay salaries to such office bearers.

LECTURE NO. 27

HISTORY OF INDIAN COOPERATIVE MOVEMENT

The origin and history of cooperative movement in India can be dealt under two eras.

1) Pre-Independence Era
2) Post-Independence Era

1) Pre-Independence Era

The cooperative movement in India during pre-independence era can be divided in to four phases viz.,

1. Initiation phase (1904-1911)

2. Modification phase (1912-1918)

3. Expansion phase (1919-1929)

4. Restructuring phase (1930-1946)

a) Initiation phase (1904-1911):

In olden days rural credit service was dominated by non-institutional financial agencies (i.e., private money lenders) charging exorbitant interest rates from farmers. In extreme cases or out of distress the poor farmers have to sell their belongings to clear their debts. This precarious situation triggered a sort of agitation by farmers against private money lenders in certain areas. The revolts found in Poona and Ahemadnagar areas of Maharashtra attracted the attention of government. Immediately the government passed three acts viz.,

- Deccan Agriculture Relief Act (1879)

- Land Improvement Loan Act (1883)

- Agriculturists Loan Act (1884)

In 1892, the Madras Government appointed Federick Nicholson to study and examine the village banks organized on cooperative lines in Germany. After coming from there, Nicholson submitted a report and raised a slogan "Find Raiffeissen". During 1901, Indian Famine Commission and another committee headed by Sir Edward Law recommended the formation of credit societies on Raiffeissen model. These recommendations resulted in the enactment of Cooperative Credit Societies Act (1904).

Important/salient features of 1904 Cooperative Credit Societies Act:

- Classification of cooperative societies into rural and urban was made. According to this, rural societies are those having 4/5ths of the total members from farming community and urban societies are those having 4/5ths of the total members from non-agriculturists.

- Both the organization and control of these societies was to be done by Registrar of cooperatives.

- Loans could be extended to the members on personal and collateral security.

- The principle of "one man one vote" was specified in the Act.

b) Modification phase (1912-1918):

Cooperative Societies Act of 1912 was enacted for rectifying the shortcomings of 1904 Act.

Important features of 1912 Cooperative Societies Act:

- It provided legal protection to all types of cooperatives

- Liability is limited in the case of primary societies and unlimited for central societies.

- As this act of 1912 gave provision for registration of all types of cooperative societies, it led to the emergence of rural cooperatives both on credit and non-credit fronts. But this growth was uneven spatially i.e., localized in some areas only.

During the year 1914, the Government appointed a committee under the chairmanship of Edward Mac Lagan to look in to the performance of the societies. He presented his report in 1915. The Mac Lagan committee's recommendations and Cooperative Societies Act of 1912 introduced the cooperative planning process in India.

The important observations of Mac Lagan committee were:

1. Illiteracy among the members.
2. Misappropriation of funds.
3. Rampant nepotism.
4. Undue delays in sanctioning of loans.
5. Irregularity in repayment of loans

Suggestions offered by Mac Lagan committee for the effective functioning of cooperatives:

1. All the members of the society should be made aware of the cooperative principles.
2. Dealings should be restricted to the members only.
3. Honesty should be the main criterion for extending a loan to someone.
4. Careful scrutiny of applications before advancing a loan and effective follow up for proper utilization of loan amount.
5. Loans should not be advanced for speculative purposes like investment in stock markets, lotteries etc
6. Ultimate authority should be with all the members but not with the office bearers.
7. Thrift should be encouraged among the members, so as to build reserve fund.
8. The principle of "one man one vote" should be strictly followed.
9. As far as possible, the capital should be raised from the savings of the members only.
10. Punctuality in repayment should be strictly insisted up on the borrowers.

c) Expansion phase (1919-1929):

This phase was considered as "Golden Era" for the cooperative movement in India. Cooperative movement got impetus as the cooperatives became a provincial subject under

Montague Chelmsford Act of 1919. The economic prosperity during the period 1920-1929 also contributed to the growth of cooperative movement. During the same period, the birth of Land Mortgage Banks (LMBs) took place first in Punjab (1924) subsequently in Madras (1925) and in Bombay (1926).

d) Restructuring phase (1930-1946):

In the year 1931, Indian Central Banking Enquiry Committee also emphasized shortcomings with reference to undue delays in advancing loans and inadequacy of credit. In the year 1932, Madras Cooperative Societies Act came into existence aiming at the growth of the cooperative movement. Madras Cooperative Land Mortgage Banks Act (1934) came into force for the development of long-term credit. Excessive and abnormal fall in prices of agricultural commodities and the economic depression of early thirties lead to the collapse of the cooperative movement. Various enquiry committees were also constituted for restructuring and reorganization of cooperative societies. They were

- Vijayaraghavacharya committee in Madras.
- Rehabilitation Enquiry committee of Travancore (Kerala) and Mysore.
- Kale committee of Gwalior.
- Wace committee of Punjab.

The Agricultural Finance sub-committee under the chairmanship of Prof. D.R. Gadgil, in 1944 recommended the

1. Adoption of limited liability for cooperatives.
2. Assessing the credit –worthiness of a farmer based on his repayment capacity.
3. Subsidizing the cost of administration of small cooperative societies.
4. Linking credit with marketing.

In 1945, the Cooperative Planning Committee (CPC) under the chairmanship of Sri. R.G. Saraiya pointed out that the limited progress of cooperatives is due to the

1. Laissez-faire policy of Government
2. Illiteracy of the people etc.

2) Post-Independence Era:

Planning commission was established in March, 1950, prepared first five-year plan (1951-1956) in 1951 under which main objectives with regard to cooperatives were

1. Involvement of cooperatives in rural development programmes.
2. Development of well-organized credit system.
3. Extending cooperatives to the fields of farming, industry, housing, marketing etc.
4. Training of higher-level personnel engaged in cooperatives.

During the year 1951, All India Rural Credit Survey Committee (AIRCSC) appointed under the chairmanship of Sri. A.D. Gorwala pointed out two main drawbacks of cooperative

credit. They were i) Cooperative credit was unevenly distributed. ii) Cooperative credit was inadequate and mostly lent to the asset-oriented large cultivators rather than small and marginal farmers. He also pointed that weakest link in chain of cooperatives was the primary credit societies. The All-India Rural Credit Survey Committee also observed that "Cooperation has failed in India but must succeed". This All-India Rural Credit Survey Committee also recommended an integrated scheme as a remedy for the then existing situation. The important recommendations of it were

1. State/Govt. partnership in cooperatives at all levels.
2. There should be coordination between cooperative credit, marketing and processing.
3. Development of adequate warehousing.
4. Giving adequate training for cooperative personnel engaged at all levels.

Under Second five-year plan (1956-1961), on the recommendations of All India Rural Credit Survey Committee during the year 1956, National Cooperative Development and Warehousing Board (NCDWB) was established. Apart from this, the second five-year plan initiated the setting up of producers' cooperatives and processing cooperatives.

During the year 1959, the Committee on Cooperative Credit under the chairmanship of Sri. V. L. Mehtha opined that

1. The membership in a cooperative should not be too large and
2. Each village falling under the service area of the cooperative should be at a distance of less than 3-4 miles.
3. The Committee on Taccavi (Govt) loans and cooperative credit under the chairmanship of Sri. B.P Patel in 1961-62, stressed that the cooperatives should provide loans to the farmers for carrying out agricultural operations and land improvement. These loans should be given only to the farmers under distressed conditions.

   The Committee on Cooperative Administration headed by Sri. V. L. Mehta said that the supervision of cooperatives at grassroots level i.e., PACS should be done by District Cooperative Banks. During Third five-year plan (1961-1966), the emphasis was placed on the revitalization of dormant societies apart from increased emphasis on cooperative credit and cooperative farming. During this period, National Cooperative Development Corporation (NCDC) was established in 1963 and also National Federation of Cooperative Sugar Factories (NFCSF).

   All India Rural Credit Review Committee (AIRCRC) was constituted during July, 1966 under the chairmanship of Sri. B. Venkatappaiah. He submitted his final report in the year 1969 and recommended the

   1. Setting up of Small Farmers Development Agency (SFDA), Marginal Farmers and Agricultural Labourers Development Agency (MFAL).

2. Setting up of Rural Electrification Corporation (REC).

3. Reorganization of primary societies into economically viable units.

4. Revitalization of weak cooperative central banks.

5. Checking of over dues.

6. Greater flexibility in conversion of short-term loans into medium-term loans.

7. Simplification of loan application.

8. Disbursement of a part of loan in kind form.

During the third five-year plan period itself the new concept of transport cooperatives was initiated. After the third five-year plan, during 1966-1968 there were three annual plans called rolling plans. In the year 1967, Vaikunth Mehta National Institute of Cooperative Management (VAMNICOM) was started in Poona.

Fourth five-year plan (1969-1974), gave impetus for the rehabilitation and reorganization of District Cooperative Credit Societies for the smooth flow of cooperative credit. During this plan, Indian Farmers Fertilizer Cooperative Limited (IFFCO) was established at Kandla, Gujarat.

During Fifth five-year plan (1975-1979) new fertilizer projects were initiated with the success during fourth five-year plan. National Bank for Rural Development (NABARD) was established for providing credit to agriculture and allied activities under Sixth plan (1980-1985). The strengthening of dairy cooperatives was also given importance in this period.

Seventh five-year plan (1985-1990), stressed up on a) Organizing of special cooperative loan recovery camps b) Strengthening of National and State Consumer Federation (NSCF) c) Introduction of single window system of credit in Andhra Pradesh.

Eighth five-year plan (1992-1997) emphasized replication of Anand Pattern of cooperatives for milk and strengthening of processing cooperatives.

During Ninth Five Year Plan (1997-2002) measures have been initiated to revitalize the cooperatives to make them vibrant democratic institutions with economic viability and active involvement of members by the Government. These include the framing of national policy on cooperatives and finalisation of a new Multi State Cooperative Societies Bill to replace the existing Multi State Cooperative Societies Act, 1984. Broadly, the following issues have been addressed in the proposed legislation.

(i) Greater degree of autonomy of Multi State Cooperative Societies

(ii) Reduction in the control and level of intervention of the Government

(iii) Establishment of Quasi-judicial Dispute Settlement Authority

(iv) Provisions for safeguarding the interest of members

(v) Removal of some restrictive provisions on the functioning of societies

(vi) Freedom of societies to determine their own priorities

Amendments to the NCDC Act are proposed. The main features of the proposed amendment are as follows: (a) expansion of NCDC's scope to include animal husbandry, forestry, horticulture, pisciculture, etc. (b) extension of NCDC's coverage to livestock, industrial goods, handicrafts and the services sector, and (c) provision of loans directly to cooperative societies on appropriate security to be furnished by the borrower.

Tenth Five Year Plan (2002-2007): The following initiatives were taken with respect of cooperatives during tenth five-year plan

1. To make a special study of the role of the cooperatives and challenges to be met in the wake of globalization of Indian economy and also the issues relating to competitive efficiency of the cooperatives, constraints and remedial measures for improving the commercial and economic viability of the cooperatives with regard to modernization, diversification, technology upgradation, quality improvement, marketability and export promotion, etc.

2. To study the regional disparity in the development of cooperatives, identify the factors inhibiting the development of cooperatives in the states and suggest suitable programmes for encouraging cooperatives in the cooperatively underdeveloped states.

3. To suggest measures for human resource development in the cooperatives.

4. To review the role and functioning of consumer cooperatives and suggest suitable measures for their improvement.

FARMER COOPERATIVE SOCIETIES

In India, 75% of population depends on agriculture. And most of these farmers are small and marginal farmers. Literacy rate was very less in these farmers. With this, the middlemen take most of the farmers profit which results in debts to the farmers. As a result of this, the farmers are not in a position to cope up the vicious circle of debts. To overcome this and to improve the socio-economic condition of the farmers, the collective action of farmers in terms of farmer cooperative societies came into existence.

Farmer cooperative societies (FCS's):

The group of people voluntarily coming together for collective action and working together for common goal is called farmer cooperative societies.

Importance and role of Farmer cooperative societies:

*   Main moto of the FCS's is the service not the profits.

*   It was concentrated to one place for definite period of time.

*   Farmer belief on one another was the main feature for success of FCS's.

*   All farmers in the CS have equal share.

*   The part of profits has to be given as dividend to the members of the FCS's.

*   Part of profit has to kept as welfare fund which will be used in times of emergency to the members as well as their families.

*   Remaining part of profit has to kept as reserve fund and it has to be used for the development of the societies.

Based on the need, these FCS are divided into

1.   Cooperative credit societies

2.   Marketing societies.

3.   Land acquisition cooperative societies

4.   Sakalarta agricultural cooperative societies

1. Cooperative credit societies:

*   Credit cooperatives established to protect the small farmers and other weaker sections. Here, through these cooperatives, weaker sections of the society are protected from the clutches of moneylender, who charge exorbitant rates of interest.

*   The cooperative credit societies were transformed into Sakalarta agricultural cooperative societies

2. **Marketing societies:**

- These types of societies provide inputs to the farmers at reasonable prices.

- The part of profits will be given as token to the farmer members.

- The part of profit will be used for the purchase of machinery and this will be provided to the farmers on need base on rent.

- The storage godowns and cold storage facilities provided by the government will be utilized by these societies by paying nominal charges.

- These societies will provide loans for the maintenance as well as purchase of livestock.

- The processing facilities will be provided to those farmers who are interested to make by-products from this livestock like sweets, ghee etc.

- Loans will be given for the establishment of poultry industry.

- Societies also encourage post-harvest technologies like grading and standardization for realizing more profits.

- Also provide financial support for the development of allied sectors like apiculture, sericulture and vegetable cultivation which will aid in economic betterment of farmers.

3. **Land acquisition cooperative societies:**

- In India, the average size of land holding was less and these land holdings were divided into small pieces.

- Because of these small holdings, it was very difficult to complete the agricultural operations timely with minimal cost of cultivation.

- As a result of this, State Governments introduced the new acts which eliminates the division of holdings into small pieces.

- In this, the small holdings of one farmer will be jointed with the neighbouring large holdings of other farmers. So that land holdings becomes bigger in size.

- To improve agriculture in a better way, the land acquisition societies came into existence.

- In acquiring the lands of different farmers, the problems encountered will be dealt by the land acquisition cooperative societies.

LECTURE NO. 30
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. Microfinance 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 with in 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) Agricultural 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.

Crop Loan System:

Even though All India Rural Credit Survey Committee (AIRCSC) under the chairmanship of Sri. Gorwala during 1954 and V.L. Mehra Committee on Co-operative credit in 1960 recommended the adoption of crop loan system in all states; it was not implemented due to several reasons. After a lapse of five years i.e., in the year 1965 it was introduced throughout the country and in Andhra Pradesh from Kharif, 1966. The twin objectives of crop loan system are:

1. Treating the crop as security instead of immovable property like land.

2. Fixing the scale of finance depending up on the actual farm expenditure i.e., based on cost of cultivation.

Salient features of the crop loan system:

➢ The credit requirements of the farmers are to be estimated based on the cost of cultivation of the crops cultivated by them.

➢ The eligibility to receive the loan by the farmer is not measured by the ownership of land but by the fact that he is a real farmer who needs credit for cultivation.

➢ The crop loans should be advanced on the hypothecation of the crop.

➢ The disbursement and recovery of the loans are to be made in accordance with the crop production schedule.

➢ The loans should include both cash and kind components.

➢ The quantum of loan should be fixed according to the variety (local, imp. variety or HYV), the season in which it is grown and the type of crop i.e., whether it is irrigated or rainfed crop.

➢ Crop loan is fixed by the District Level Technical Committee (DLTC) consisting of experts from the fields of agriculture, animal husbandry, banking etc.

Scale of Finance Definition:

It is an indicative cost taken as base cost depending on which the amount to be financed to a farmer is fixed. Normally scale of finance is given in a range, as the cost of cultivation for a farmer practicing traditional methods of farming and that of a progressive farmer practicing modern methods of cultivation differs. The lower value of the range corresponds to the requirement of the former while the upper value corresponds to the latter. 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: With in 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.

How Scale of finance is fixed:

Scale of finance is fixed for each district by a committee known as District Level Technical Committee (DLTC). The members of DLTC constitute representatives of lead bank of that district, NABARD, local co-operative banks and commercial banks, officials of department of agriculture & animal husbandry etc. The meetings of DLTC are chaired by district magistrate/ district collector and convened by respective lead bank district manager. DLTC compiles technical survey report with the information obtained from NABARD. NABARD in turn obtains information from the State Agricultural Department every year, which will have the necessary details like what are crops grown, their extent etc. By using the above details, a potential map is prepared. By using this one can list out the priority activities to be financed in each part of the district and extent to which these are to be financed. Finally cost of cultivation is estimated based on the market trends & needs. The finance scale is not fixed and keeps on changing every year.

LECTURE NO. 31
AGRICULTURAL CREDIT OR AGRICULTURAL LOANS

Meaning:

The word "credit" comes from the Latin word "Credo" which means "I believe". Hence credit is based up on belief, confidence, trust and faith. Credit is otherwise called as loan.

Definition:

Credit / loan is certain amount of money provided for certain purpose on certain conditions with some interest, which can be repaid sooner (or) later. According to Professor Galbraith credit is the "temporary transfer of asset from one who has to other who has not"

Credit needs in Agriculture:

Agricultural credit is one of the most crucial inputs in all agricultural development programmes. For a long time, the major source of agricultural credit was private moneylenders. But this source of credit was inadequate, highly expensive and exploitative. To curtail this, a multi-agency approach consisting of cooperatives, commercial banks and regional rural banks credit has been adopted to provide cheaper, timely and adequate credit to farmers. The financial requirements of the Indian farmers are for,

1. Buying agricultural inputs like seeds, fertilizers, plant protection chemicals, feed and fodder for cattle etc.

2. Supporting their families in those years when the crops have not been good.

3. Buying additional land, to make improvements on the existing land, to clear old debt and purchase costly agricultural machinery.

4. Increasing the farm efficiency as against limiting resources i.e., hiring of irrigation water lifting devices, labour and machinery.

Credit is broadly classified based on various criteria:

1.Based on time: This classification is based on the repayment period of the loan. It is sub-divided in to 3 types

- **Short–term loans:** These loans are to be repaid within a period of 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 crop. The farmers require this type of credit to meet the expenses of the ongoing agricultural operations on the farm like sowing, fertilizer application, plant protection measures, payment of wages to casual labourers etc. The borrower is supposed to repay the loan from the sale proceeds of the crops raised.

- **Medium – term loans:** Here the repayment period varies from 18 months to 5 years. These loans are required by the farmers for bringing about some improvements on his farm by way of purchasing implements, electric motors, milch cattle, sheep and goat,

etc. The relatively longer period of repayment of these loans is due to their partially-liquidating nature.

- **Long – term loans:** These loans fall due for repayment over a long time ranging from 5 years to more than 20 years or even more. These loans together with medium terms loans are called investment loans or term loans. These loans are meant for permanent improvements like levelling and reclamation of land, construction of farm buildings, purchase of tractors, raising of orchards, etc. Since these activities require large capital, a longer period is required to repay these loans due to their non - liquidating nature.

2.Based on Purpose:

Based on purpose, credit is sub-divided in to 4 types.

- **Production loans:** These loans refer to the credit given to the farmers for crop production and are intended to increase the production of crops. They are also called as seasonal agricultural operations (SAO) loans or short – term loans or crop loans. These loans are repayable with in a period ranging from 6 to 18 months in lumpsum.

- **Investment loans:** These are loans given for purchase of equipment the productivity of which is distributed over more than one year. Loans given for tractors, pumpsets, tube wells, etc.

- **Marketing loans:** These loans are meant to help the farmers in overcoming the distress sales and to market the produce in a better way. Regulated markets and commercial banks, based on the warehouse receipt are lending in the form of marketing loans by advancing 75 per cent of the value of the produce. These loans help the farmers to clear off their debts and dispose the produce at remunerative prices.

- **Consumption loans:** Any loan advanced for some purpose other than production is broadly categorized as consumption loan. These loans seem to be unproductive but indirectly assist in more productive use of the crop loans i.e., without diverting then to other purposes. Consumption loans are not very widely advanced and restricted to the areas which are hit by natural calamities. These loans are extended based on group guarantee basis with a maximum of three members. The loan is to be repaid within 5 crop seasons or 2.5 years whichever is less. The branch manager is vested with the discretionary power of sanctioning these loans up to Rs. 5000 in each individual case. The rate of interest is around 11 per cent.

The scheme may be extended to

1) IRDP beneficiaries

2) Small and marginal farmers

3) Landless Agril. Laborers

4) Rural artisans

5) Other people with very small means of livelihood hood such as carpenters, barbers, washermen, etc.

4. Based on security:

The loan transactions between lender and borrower are governed by confidence and this assumption is confined to private lending to some extent, but the institutional financial agencies do have their own procedural formalities on credit transactions. Therefore, it is essential to classify the loans under this category into two sub-categories viz., secured and unsecured loans.

- **Secured loans:** Loans advanced against some security by the borrower are termed as secured loans. Various forms of securities are offered in obtaining the loans and they are of following types.

I. Personal security: Under this, borrower himself stands as the guarantor. Loan is advanced on the farmer's promissory note. Third party guarantee may or may not be insisted upon (i.e., based on the understanding between the lender and the borrower)

II. Collateral Security: Here the property is pledged to secure a loan. The movable properties of the individuals like LIC bonds, fixed deposit bonds, warehouse receipts, machinery, livestock etc, are offered as security.

III. Chattel loans: Here credit is obtained from pawn-brokers by pledging movable properties such as jewellery, utensils made of various metals, etc.

IV. Mortgage: As against to collateral security, immovable properties are presented for security purpose For example, land, farm buildings, etc. The person who is creating the charge of mortgage is called mortgagor (borrower) and the person in whose favour it is created is known as the mortgagee (banker). 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. Hypothecated loans: 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 hypothecate (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 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.

Unsecured loans:

Just based on the confidence between the borrower and lender, the loan transactions take place. No security is kept against the loan amount

4. Lender's classification:

Credit is also classified on the basis of lender such as

- Institutional credit: Here are loans are advanced by the institutional agencies like co-operatives, commercial banks. Ex: Co-operative loans and commercial bank loans.
- 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.

5. Borrower's classification: The credit is also classified on the basis of type of borrower. This classification has equity considerations.

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

6.Based on liquidity: The credit can be classified into two types based on liquidity

- Self-liquidating loans: They generate income immediately and are to be paid with in one year or after the completion of one crop season. Ex: crop loans.
- Partially -liquidating: They will take some time to generate income and can be repaid in 2-5 years or more, based on the economic activity for which the loan was taken. Ex: Dairy loans, tractor loans, orchard loans etc.,

7. Based on approach:

Individual approach: Loans advanced to individuals for different purposes will fall under this category

- 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

- Differential Interest Rate (DIR) approach: Under this approach loans will be given to the weaker sections @ 4 per cent per annum.

8. Based on contact:

- Direct Loans: Loans extended to the farmers directly are called direct loans. Ex: Crop loans.

- 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.

LECTURE NO. 32
COOPERATIVE BANKS

The state and central cooperative banks and PACS in turn provide a similar facility to the farmer - borrowers regarding short-term production loans taken for crops affected by the natural calamities. This helps the farmers in getting additional finance at the same time reducing their burden of repaying the loans immediately. 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.

Short–term loans:

These loans are to be repaid within a period of 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 crop. The farmers require this type of credit to meet the expenses of the ongoing agricultural operations on the farm like sowing, fertilizer application, plant protection measures, payment of wages to casual labourers etc. The borrower is supposed to repay the loan from the sale proceeds of the crops raised.

Medium – term loans:

Here the repayment period varies from 18 months to 5 years. These loans are required by the farmers for bringing about some improvements on his farm by way of purchasing implements, electric motors, milch cattle, sheep and goat, etc. The relatively longer period of repayment of these loans is due to their partially-liquidating nature.

Long – term loans:

These loans fall due for repayment over a long time ranging from 5 years to more than 20 years or even more. These loans together with medium terms loans are called investment loans or term loans.

These loans are meant for permanent improvements like levelling and reclamation of land, construction of farm buildings, purchase of tractors, raising of orchards, etc. Since these activities require large capital, a longer period is required to repay these loans due to their non - liquidating nature.

LEAD BANK AND RESERVE BANK OF INDIA

LEAD BANK SCHEME

The study group appointed by National Credit Council (NCC) in 1969 under the chairmanship of Prof. D. R. Gadgil recommended "Service Area Approach" for the development of financial structure.

In the same year i.e., 1969, RBI appointed Sri. F.K.F Nariman committee to examine recommendations of Prof. Gadgil's study group. The Nariman committee also endorsed the views of the Gadgil committee on "Service Area Approach" and recommended the formulation of "Lead Bank Scheme". The RBI accepted the Nariman's committee recommendations and lead bank scheme came into force from 1969. Under the lead bank scheme, specific districts are allotted to each bank, which would take the lead role in identifying the potential areas for banking and expanding credit facilities.

Lead bank is the leading bank among the commercial banks in a district i.e., having maximum number of bank branches in the district. Lead bank acts as a consortium leader for coordinating the efforts of all credit institutions in each allotted district for the development of banking and expansion of credit facilities.

Agricultural Refinance and Development Corporation (ARDC)

ARDC had not made an expected dent in the field of direct financing and delivery of rural credit against the massive credit demand for rural development. As a result, many committees and commissions were constituted like,

* Banking commission in 1972

*National Commission on Agriculture (NCA) in 1976

* Committee to Review Arrangements for Institutional Credit in Agricultural and Rural Development (CRAFICARD) in 1979. This CRAFICARD, under the chairmanship of Sri. B. Sivaraman, a former member of planning commission recommended the setting up of a national level institution called NABARD for providing all types of production and investment credit for agriculture and rural development. As a result of CRAFICARD'S recommendations NABARD came into existence on July 12th, 1982.

The then existing national level institutions such as Agricultural Refinance and Development Corporation (ARDC), Agricultural Credit Department (ACD) and Rural Planning and Credit Cell (RPCC) of RBI were merged with NABARD with a share capital of Rs.500 crore equally contributed by Government of India and RBI. NABARD operates through its head office at Mumbai and 17 regional offices-one each in major states, 10 sub-offices in smaller states / U. Ts and 213 district offices.

Objectives:

- As an apex refinancing institution, NABARD survey and estimates all types of credit needed for the farm sector and rural development
- Taking responsibility of promoting and integrating rural development activities through refinance.
- With the approval of Government of India, NABARD also provides direct credit to any institution or organization or an individual.
- Maintaining close links with RBI for guidance and assistance in financial matters.
- Acting as an effective catalytic agent for rural development i.e., in formulating appropriate rural development plans and policies.

D. State Bank of India (SBI):

- To develop rural economy.
- To provide credit for agriculture and allied activities.
- To encourage small scale industries, artisans in the villages.
- To reduce the dependence of weaker sections (Marginal farmers, small farmers and rural artisans) on private money lenders.
- To fill the gap created by the moratorium on borrowings from private money lenders.
- To make backward and tribal areas economically better by opening new bank branches.
- To help the financially poor people in their consumption needs.

E. Taccavi loans:

Reserve Bank of India

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 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: 65: 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 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 67 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 ½ per cent higher rate of interest on their deposits.

LECTURE NO. 34

NATIONAL BANK FOR AGRICULTURAL AND RURAL DEVELOPMENT (NABARD), SFDA AND MFAL

Agricultural Refinance and Development Corporation (ARDC) had not made an expected dent in the field of direct financing and delivery of rural credit against the massive credit demand for rural development. As a result, many committees and commissions were constituted like,

* Banking commission in 1972

*National Commission on Agriculture (NCA) in 1976

* Committee to Review Arrangements for Institutional Credit in Agricultural and Rural Development (CRAFICARD) in 1979. This CRAFICARD, under the chairmanship of Sri. B. Sivaraman, a former member of planning commission recommended the setting up of a national level institution called NABARD for providing all types of production and investment credit for agriculture and rural development. As a result of CRAFICARD'S recommendations NABARD came into existence on July 12th, 1982.

The then existing national level institutions such as Agricultural Refinance and Development Corporation (ARDC), Agricultural Credit Department (ACD) and Rural Planning and Credit Cell (RPCC) of RBI were merged with NABARD with a share capital of Rs.500 crore equally contributed by Government of India and RBI. NABARD operates through its head office at Mumbai and 17 regional offices-one each in major states, 10 sub-offices in smaller states / U. Ts and 213 district offices.

Board of Management:

Central Government in consultation with RBI appoints all the directors in the "Board of Management" along with the chairman and the managing director (MD). The M.D. is the Chief Executive Officer (C.E.O) of NABARD and he is primarily responsible for the various operations of the bank. Apart from M.D and Chairman, the Board of Management consists of 13 other directors and these directors will act as "Advisory council" of NABARD. Of the 13 directors of Advisory council

- 2 are experts in rural economics and rural development.

- 3 are representatives of co- operatives

- 3 are representatives of commercial banks

- 3 are the officials of Government of India

- 2 officials belong to State Governments

Sources of funds:

Authorized share capital of NABARD is Rs. 500 crores equally contributed by Government of India and RBI and Issued paid-up capital of Rs. 100 crores.

Other sources are:

- Borrowings from Government of India (GOI) and any institution approved by GOI
- Borrowings from RBI
- Deposits from state Governments and local authorities
- Gifts and grants received.

Objectives:

- As an apex refinancing institution, NABARD survey and estimates all types of credit needed for the farm sector and rural development
- Taking responsibility of promoting and integrating rural development activities through refinance.
- With the approval of Government of India, NABARD also provides direct credit to any institution or organization or an individual.
- Maintaining close links with RBI for guidance and assistance in financial matters.
- Acting as an effective catalytic agent for rural development i.e in formulating appropriate rural development plans and policies.

Functions of NABARD:

The functions of NABARD are broadly categorized as

a) Credit activities

b) Development activities, and

c) Regulatory activities

a) Credit activities:

- NABARD prepares for each district a potential linked credit plan annually and this forms the basis for district credit plan.
- It participates in finalization of annual action plan at block, district and state level.
- It monitors the implementation of credit plans.
- It frames the terms and conditions to be followed by credit institutions in financing rural farm and non- farm sectors.
- It provides refinance facilities.

Refinance is of two types

1. Short-term refinance is extended for agricultural production operations and marketing of crops by farmers and farmers' cooperatives and production and marketing activities of village and cottage industries.

The eligible institutions for short term refinance are state cooperative banks (SCBs), regional rural banks, commercial banks and other banks approved by RBI. The time period is 12 months.

2. Medium term and long-term refinance is extended for investments in agriculture and allied activities such as minor irrigation, farm mechanization, dairy, horticulture and for investment activities of rural artisans, small scale industries (SSI) etc. The period is up to a maximum of 15 years. The eligible institutions are land development banks (LDBs).

The extent of refinance under various schemes is

- Pilot rainfed farming projects (100%)
- Wasteland development scheme of individuals (100%)
- Non-farm sector schemes (outside the purview of IRDP) 100%
- Agro-processing units (75%)
- Bio-gas scheme (75%)
- All other schemes including IRDP (70%)
- Farm mechanization (50%)
- Rural Electrification Corporation (50%)
- Apart from refinance, NABARD also provides direct finance to state governments, state sponsored corporations.

NABARD will monitor its assisted projects in order to ensure their proper implementation. It also undertakes consultancy work for projects even though they are not refinanced by NABARD.

b) Development activities:

For the productive use of credit, the following developmental activities are under taken by NABARD.

Institutional development: Providing financial assistance for establishment and development of institutional financial agencies.

Research and Development Fund: Providing funds for research and development efforts of institutional financial agencies.

Agricultural and Rural Enterprises Incubation Fund (AREIF): For providing assistance while inception of new enterprises.

Rural Promotion Corpus Fund (RPCF): It is meant to provide financial assistance for training - cum production centers, rural entrepreneurship development programmes, and technical monitoring and evaluation centers.

Credit and Financial Services Fund (CFSF): It aims at providing the assistance for innovations in rural banking and credit   system, supports institutions for research activities, surveys, meets etc.

Linking SHGs to credit institutions: During the year 1992, NABARD started the pilot project of linking SHGs to credit institutions. Under this, it provides 100 per cent refinance to banks for loans extended to SHGs.

c) Regulatory activities:

As an apex development bank, NABARD shares with RBI, some of the regulatory and supervisory functions in respect of cooperative banks and regional rural banks (RRBs). They are

- Under Banking regulation act 1949, NABARD undertakes the inspection of RRBs and cooperative banks (other than PACs)

- Any RRB or cooperative bank seeking permission of RBI, for opening branches needs recommendation of NABARD.

- The state and district central cooperative banks also need an authorization from NABARD for extending assistance to units outside the cooperative sector and non-credit cooperatives for certain purposes beyond the cut-off limit.

Small Farmers Development Agency (SFDA) and Marginal Farmers and Agricultural Labourers Development Agency (MFAL).

Small and marginal farmers were however denied to receive the benefits from the nationalization of banks due to

- Cumbersome lending procedures
- Their inadequacy to furnish tangible securities for obtaining loan
- Undue delays in disbursement of loans

As a result, the marginal and small farmers depended mostly on the private money lenders for their credit needs paying high rates of interest. To avoid this situation prevailing in rural areas, "All India Rural Credit Review Committee, 1969 under the chairmanship of Sir. Venkatappaiah (AIRCRC) recommended the establishment of SFDA and MFAL in 1969. They came into operation in 1971.

G. Drought Prone Area Programme (DPAP): DPAP is the "earliest area development programme" launched by the Central Government in 1973-74 to tackle the special problems faced by those fragile areas which are constantly affected by severe drought conditions.

The programme was first launched by GOI during 1973-74, to address special problems of drought prone areas. Based on the recommendations of Hanumantha Rao committee (1994) the programme has been under implementation on watershed basis since 1995. The allocation for the programme is shared in the ratio of 75:25 between the centre and state.

Aim/Objectives:

- To minimize the adverse effects of drought on the production of crops, livestock and productivity of land, water and human resources with drought proofing techniques.
- To promote the over economic development and improve the socio-economic conditions of vulnerable groups

SELF HELP GROUPS (SHGS), KISAN CREDIT CARD SCHEME (KCC) AND CROP INSURANCE

Role of SHGs

The possibility of routing the assistance to the families falling below poverty line through SHGs (self-help groups) on a large scale should be explored.

Improving Recoveries

For improving the recoveries of loan (1) group loans may be considered, wherever necessary (2) rescheduling of loans may be considered, wherever necessary (3) more attention should be devoted to appraisal of loans (4) wherever required, adequate gestation of moratorium should be allowed in such a way that the commencement of recovery coincides with accrual of incremental income from the activity. In the case of projects where accrual of income is low in the beginning but goes up over a period of time, such as loan instalments in the initial period should be suitably reduced.

SELF HELP GROUPS (SHGs)

Despite the vast expansion of institutional credit in India, the dependence on the moneylenders continues particularly of meeting urgent credit needs. Such dependence is more pronounced in respect of small and marginal farmers, agricultural laborers, petty traders, artisans, etc., generally and more so in areas endowed with poor resource base.

Criteria for Selection of SHGs for the Linkage with Banks

For selection of SHGs for the linkage programme with banks, NABARD has set out the following for the use of bankers and non-Governmental Organizations (NGOs).

1. The group should be in active existence for at least a period of six months.
2. Have successfully undertaken savings and credit operation from its own resources.
3. Democratic working wherein all members feel that they have a say.
4. The banker should be convinced that a group has not come into existence only for the sake of participation in the programme and availing benefits (credit) there under. There should be a genuine need to help each other and work together among the members.
5. Members preferably have homogeneous background and interest.

NABARD and the SHG Linkage[1] Programme

1. Conceptualization and introduction of pilot phase of the SHG linkage programme in February 1992 for linking 500 SHGs with the banks after consultations with RBI, banks and NGOs.

Kisan Credit Cards (KCC):

The GOI introduced KCC 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.

Details included in KCC:

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 & facilitating financial transactions.

Purpose of KCC:

Credit limit 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).

Features of KCC:

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 will be valid up to 3 years and subject to annual review. The KCC will be considered as a non-performing asset (NPA) if it remains inoperative for a period of two successive crop seasons.

Crop Insurance

Origin and Importance of crop Insurance scheme:

Insurance-meaning:

Insurance is a legal contract that transfers risk from a policy holder to an insurance company in exchange for a premium.

- Risk: The possibility of financial loss
- Policyholder: The person who has purchased and owned an insurance policy.
- Insurance Company: A company that provides the insurance coverage for its policyholders
- Premium: The cost of insurance

The desire to introduce two pilot schemes viz., crop insurance and cattle insurance with the objective of protecting the farmers from the heavy losses of crop and livestock by Government of India was dates back to 1948 soon after the independence. But due to paucity of funds, none of the state governments agreed to implement the programme.

The Government of India during the year 1970 appointed an expert committee on crop Insurance under the chairmanship of Dharam Narain to examine and analyse the administrative and financial implications of the scheme. Sri. Dharam Narain ruled out the possibility of implementing the scheme in India. In contrast to the above committee, Prof. Dhandekar strongly supported the implementation of the scheme. By accepting Prof. Dhandekar's views in 1973, the GOI had set up General Insurance Corporation (GIC) to carry out all types of insurance business throughout the country with four subsidiary insurance companies. They are

1. National Insurance Company Limited
2. The New India Assurance Company Limited
3. The oriental Insurance Company Limited
4. United India Insurance Company Limited

On pilot basis in 1973, the GIC introduced the crop Insurance scheme in selected centres of Gujarat covering only H4 variety of cotton. Later on the same was extended to West Bengal, Tamilnadu and Andhra Pradesh for the cotton crop and this scheme was in operation till 1979.

In 1979, area-based crop Insurance scheme was introduced on pilot basis in selected areas. If the actual average yield of the crop in the area was less than the guaranteed yield of the crop, then the indemnity would be payable to all the insured farmer-borrowers. Sum insured under crop insurance was 100 per cent but with a ceiling limit of Rs.5000 per farmer in the case of dry land and Rs.10, 000 per farmer - borrower in the case of irrigated areas. The scheme was implemented in 12 states up to 1984.

Comprehensive Crop Insurance Scheme (CCIS): In the year 1985, the Comprehensive Crop Insurance Scheme (CCIS) was introduced by GIC in all the states. This scheme covers all farmers who availed the crop loan and it is limited to cereals such as paddy, wheat, millets, oil seeds and pulses. The loans given from 1st April to 30th September were considered for kharif insurance business. The loans granted from 1st October to March 31st of next year qualify for rabi insurance. Therefore, the insurance cover will be considered as built-in-aspect of crop loan.

Crop insurance risk is taken by GIC and the respective state governments in 2:1 ratio. The sum insured is 100 per cent of crop loan taken by the farmers during that season. Here the sum insured was limited to Rs. 10000 /- per farmer for all insurable crops irrespective of the quantum of loan taken by the farmer. Only that part of crop loan is insurable which is utilized for the purpose of covering insured crops.

The insurance premium is fixed at 2 per cent of sum insured for paddy, wheat and millets and for oilseeds and pulses it is one per cent. The premium is sanctioned as an additional loan to the farmers and should not be deducted from original loan amount. For small and marginal farmers, 50 per cent of insurance premium is subsidized by the central and state governments in equal proportion.

Indemnity payable under the scheme is calculated on the basis of "threshold yield" and it is equal to 80 per cent of the average yield for a given crop for the previous 5 years. Normally 80 per cent of the average annual yield of the given crop in a given area over the last preceding five years is considered as "threshold yield" of that area. Short fall in yield of crop is difference between threshold yield and actual yield of the crop in particular area for the year under consideration.

$$\text{Indemnity (Guaranteed Compensation)} = \frac{\text{Shortfall in the yield of the crop}}{\text{Threshold yield of the crop}} \times \text{Sum insured.}$$

The yield data for this purpose is obtained from the crop-cutting experiments conducted by the state Government in accordance with the prescribed procedure as approved by National Sample Servey organization (NSSO), Ministry of Planning, Government of India.

Advantages of CCIS:

Operation in all the states from 1985 onwards. They are

- It stabilizes the farm business during the periods of crop failure.
- The farmer can act much more confidently in farm business as there is protection against hazards of farming.
- It prevents the farmers to approach non-institutional agencies at times of crop failure.
- It enhances the use of modern inputs to boost the productivity in agriculture
- In high-risk areas crop insurance serves as a catalyst in bringing areas under cultivation, which otherwise would have remained uncultivated.

Demerits of CCIS are:

- It provided coverage only to a limited number of crops like wheat, paddy, oilseeds, millets and pulses excluding important cash crops like sugarcane, potato, cotton etc.
- As the coverage was restricted to rainfed crops only, the scheme was not effective in agriculturally intensive states such as Punjab, Haryana and Western U.P.
- The scheme covered only those farmers who had availed crop loans from financial institutions. Sum insured per farmer was also limited to a maximum of Rs.10, 000 /- only

Eminent economists made some suggestions for the satisfactory functioning and improvement of CCIS and they are:

- All crops and all the farmers should be brought under the purview of the scheme.
- The premium rates should vary with the nature and indices of crop production in different areas.

- The unit area considered for paying indemnity should be a village or group of villages as against block/mandal.
- Threshold yield should be worked out on the basis of crop production indices over a ten-year period as against five-year period.

LECTURE NO. 36

PROBLEMS IN GETTING LOANS FROM DIFFERENT INSTITUTIONS

1. Procedural formalities are not easy.

2. Repayment formalities are also not easy.

3. Lengthy procedural formalities.

4. Delay in availing loans.

5. Bank facilities are not available in rural villages.

6. Farmers are incapability in showing securities for the loans which they are availing.

7. Illiteracy of farmers in understanding the formalities.

8. Lack of maintenance of records about income levels.

9. Lack of maintenance of records about small holdings.

10. The amount spent for getting the loan is more when compared to the actual loan the farmers is getting.

LECTURE NO. 37
BALANCE SHEET AND BREAK - EVEN ANALYSIS

Any farmer, whether small, medium or large, measures financial performance of the farm business during an agricultural year or over a period of time. There is a possibility in the variation of degree of keenness that is shown by the different categories of farmers. In other words, as the size of the farm gets increased the capital requirement to gets enlarged forcing the farmer to be more vigilant in running the farm business, since the risk element is much higher in the event of any unforeseen eventuality, management component plays a pivotal role in managing higher financial outlays. Nevertheless, management of finance is equally important even for a small farmer, if not, at the magnitude that is viewed at by a large farmer in the farm business. The balance sheet indicates an account of total assets and total liabilities of the farm business revealing the financial solvency of the business. More specifically it is a statement of the financial position of a farm 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. In a typical balance sheet, both sides are always in balance hence the name balance sheet. Net worth is place on the right-hand side, along with liabilities, in order to indicate that like any other creditor, the farmer has a claim against the farm business equal to the equity amount. The balance sheet can be easily prepared by the farmer in the presence of farm records. It can be prepared at any point of time to know the financial position of the farm business. It can also be prepared to study the performance of a business over years by preparing the same number of balance sheets. If the net worth increases over the different periods, it indicates efficient performance of the business. To prepare a balance sheet the prime requisites are total assets and total liabilities of the farm.

Assets: Assets are those, which are owned by the farmer.

Liabilities: These refer to all things, which are owed to others by the farmer.

Assets are of three types, viz., current, intermediate or working and long-term or fixed. So also, the liabilities. This classification of assets facilitates the analysis of liquidity of the farm business.

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, black gram, jowar, wheat, etc

Intermediate or working assets: Intermediate assets are less liquid than the current assets. Examples: Machinery, equipment, livestock, tractors, trucks, etc.

Long-term Assets or Fixed Assets: An asset that is permanent or will be used continuously for several years is called a long-term asset. It takes longer time to convert into cash due to verification of records, legal transactions, etc. Examples: Land, farm buildings, etc.

Current liabilities: Debts that must be paid in the short term or in very near future. Examples: crop loans, accounts payable, hand loans, etc.

Intermediate liabilities: These loans are due for the repayment within a period of two to five years. Examples: Livestock loans, machinery loans, etc.

Long –term liabilities: The duration of loan repayment is five or more years. Examples: Tractor loan, orchard loan, land development loan, etc.

Test Ratios: The balance sheet is analysed with the help of ratio measures so as to know the exact financial position and stability of the farm business.

The test ratios, viz., current ratio, intermediate ratio, net capital ratio, quick ratio, current liability ratio, debt-equity ratio and equity-value ratio are used to analyse the balance sheet.

Balance Sheet of a Hypothetical Farm

Assets	Amount (in Rs.)	Liabilities	Amount (in Rs.)
Current assets		**Current liabilities**	
Cash on hand	10,000	Crop loan to be repaid to institutional agencies	8,000
Savings in bank	8,000	Accounts payable	11,000
Value of grains ready for disposal	38,500		
Livestocks products (eggs, birds, etc.)	60,000	Hand loans	5,000
Fruits, vegetables, fodder and feed ready for sale	8,000	Money owed to input suppliers	25,000
Value of bands and shares to be realized in the same year	2,000	Annual instalments of MT and LT loans	19,000
Sub – total	1,26,500	Sub – total	68,000

| Intermediate assets		Intermediate liabilities	
Dairy cattle	10,000	Livestock loan (outstanding amount)	8,000
Bullocks	9,000	Machinery loan (outstanding amount)	15,000
Poultry birds	15,000	Unsecured loans (outstanding amount)	10,000
Machinery and equipment	15,000		
Tractor	1,75,000		
Sub – total	2,24,000	Sub – total	33,000
Long- term assets		**Long- term liabilities**	
Land	6,00,000	Tractor loan (outstanding amount)	1,20,000
Farm buildings	25,000	Orchard loan (outstanding amount)	25,000
		Unsecured loans (outstanding amount)	10,000
Sub – total	6,25,000	Sub – total	1,55,000
Total of assets	9,75,500	**Total of liabilities**	2,56,000
		Networth or equity	7,19,500
		Total of liabilities+ networth	9,75,500

BREAK EVEN ANALYSIS

Break- even analysis indicates costs- volume- profit relations in the short run. This analysis relies on the assumption of constant factor prices, constant factor prices, constant technology and constant selling prices. Despite this limitation, break- even analysis is very important because in the short run, the cost and revenue structure is reasonably stable. The point at which the two curves i.e., total cost curve and total revenue curve intersect is called the break-even point (BEP), which indicates the level of production at which the producer neither loses money nor makes profit. It is point of no- profit and no- loss. Apart from helping to spot the break- even point, this analysis helps to develop an understanding of the relationship of costs, price and volume within a farm's range of operations. A given farm is said to be at break- even point, when its costs are equal to revenue i.e., when the contribution margin is exactly equal to the fixed costs. Contribution margin is estimated by deducting variable costs per unit, from price per unit of output. At quantities smaller than break- even point, there is a loss and at larger quantities there is a profit.

Estimation of Break- Even Point (BEP)

Graphic Approach

The total cost curve is represented by SL and the total revenue curve by OK. The point at which the two curves intersect is the Break- Even Point (B) as indicated in the Figure below.

Break-even Output
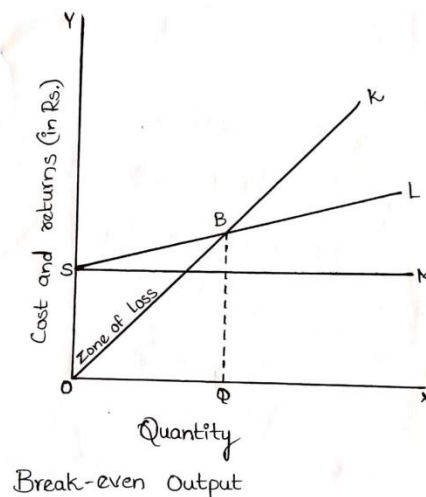
Algebraic Approach

Algebraically, break- even point can be estimated by using the formula.

$$BEP = F/P-V$$

Where,

BEP = Break- even point

F   = Fixed costs in Rs. Per hectare

P   = Price per quintal in Rs.

V   = Variable costs per quintal in Rs.

MARKET, AGRICULTURAL MARKETING, CLASSIFICATION OF MARKETS BASED ON DEMAND, TIME SPAN NATURE OF TRANSACTIONS ANDNATURE OF COMMODITIES

Market:

The word market comes from the latin word "marcatus" which means merchandise or trade or a place where business is conducted. Word "market" has been widely and variedly used to mean

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

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

(c) potential buyers and sellers of a country or region, e.g., Indian market and Asian market;

(d) organization which provides facilities for exchange of commodities, e.g., Bombay stock exchange; and

(e) a phase or a course of commercial activity, e.g., a dull market or bright market.

CLASSIFICATION OF MARKETS:

Markets are classified based on demand, time and competition

1.On the basis of demand:

Markets may be classified into the following four classes:

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

b) 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.

c) 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.

d) World Market: A market in which the buyers and sellers are drawn from the whole world. These are the biggest markets from the area point of view. These markets exist in the commodities which have a world-wide demand and/or supply, such as coffee, machinery, gold, silver, etc. In recent years many countries are moving towards a regime of liberal international trade in agricultural products like raw cotton, sugar, rice and wheat.

2. On the Basis of Time Span:

On this basis, markets are of the following types

a) Short-period Markets: The markets which are held only for a few hours are called short-period markets. The products dealt with in these markets are of highly perishable in nature,

such as fish, fresh vegetables, and liquid milk. In these markets, the prices of commodities are governed mainly by the extent of demand for, rather than by the supply of, the commodity.

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

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

3. On the Basis of Nature of Commodities: On the basis of the type of goods dealt in, markets may be classified into the following categories:

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

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

4. On the Basis of Nature of Transactions: The markets which are based on the types of transactions in which people are engaged are of two types:

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

b) Forward Markets: A market in which the purchase and sale of a commodity takes place at time 't' but the exchange of the commodity takes place on some specified date in future i.e., time t+1. Sometimes even on the specified date in the future(t+1), there may not be any exchange of the commodity. Instead, the differences in the purchase and sale prices are paid or taken.

LECTURE NO. 39

CHARACTERISTICS OF AGRICULTURAL COMMODITIES

Marketing of agricultural commodities is different from the marketing of manufactured commodities because of the special characteristics of the agricultural sector (demand and supply) which have a bearing on marketing. Because of these characteristics, the subject of agricultural marketing has been treated as a separate discipline – and this fact makes the subject somewhat complicated. These special characteristics of the agricultural sector affect the supply and demand of agricultural products in a manner different from that governing the supply and demand of manufactured commodities. The special characteristics which the agricultural sector possesses, and which are different from those of the manufactured sector, are:

1. Perishability of the Product: Most farm products are perishable in nature; but the period of their perishability varies from a few hours to a few months. To a large extent, the marketing of farm products is virtually a race with death and decay. Their perishability makes it almost impossible for producers to fix the reserve price for their farm-grown products. The extent of perishability of farm products may be reduced by the processing function; but they cannot be made non-perishable like manufactured products. Nor can their supply be made regular.

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

3. Bulkiness of Products: The characteristic of bulkiness of most farm products makes their transportation and storage difficult and expensive. This fact also restricts the location of production to somewhere near the place of consumption or processing. The price spread in bulky products is higher because of the higher costs of transportation and storage.

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

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

6. Small Size of Holdings and Scattered Production: Farm products are produced throughout the length and breadth of the country and most of the producers are of small size. This makes the estimation of supply difficult and creates problems in marketing.

7. Processing: Most of the farm products have to be processed before their consumption by the ultimate consumers. This processing function increases the price spread of agricultural commodities. Processing firms enjoy the advantage of monopsony, oligopsony or duopoly in the market. This situation creates disincentives for the producers and may have an adverse effect on production in the next year.

LECTURE NO. 40
PERFECT MARKETS AND THEIR CHARACTERISTICS

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

Perfect market: A market is said to be perfect when all the potential sellers and buyers are promptly aware of the prices at which transaction take place and all the offers made by other sellers, and buyers, and when any buyer can purchase from any seller and conversely. Under such a condition, the price of a commodity will tend to be the same (after allowing far cost of transport including import duties) all over the market.

In other words, a perfect market is one in which the following conditions hold good:

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

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

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

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

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

Characteristics of Perfect Competition Market

Perfect competition market is the world of price-takers. A perfectly competitive firm sells a homogeneous product [one identical to the product sold by others in the industry]. It is so small relative to its market that it cannot affect the market price; it simply takes the price as given. Perfect competition market is a market under which no buyer or seller can affect unilaterally

The main characteristics of perfect competition market are as follows:

1. Large Number of Buyers and sellers: One condition of perfect competition is that there should be operating in the market a large number of buyers and sellers. If that is so, no single seller or purchaser will be able to influence the market price, because the output of any single firm is only a small proportion of the total output and of the total demand.

2. Homogeneous Product: The second condition is that the commodity produced by all firms should be standardized or identical

3. Free Entry or Exit: There should be no restrictions, legal or otherwise, on the firms" entry into, or exit from, the industry. In this situation, all the firms will be making just normal profit. If the profit is more than normal, new firms will enter and extra profit will be competed away; and if, on the other hand, profit is less than normal, some firms will quit, raising the profits for the remaining firms. But if there are restrictions on the entry of new firms, the existing firms may continue to enjoy supernormal profit. Only when there are no restrictions on entry or exit, the firms will earn normal profit.

4. Perfect Knowledge: Another assumption of perfect competition is that the purchasers and sellers should be fully aware of the prices that are being offered and accepted. In case there is ignorance among the dealers, the same price cannot rule in the market for the same commodity. When the producers and the customers have full knowledge of the prevailing price, nobody will offer more and none will accept less, and the same price will rule throughout the market. The producers can sell at that price as much as they like and the buyers also can buy as much as they like

5. Absence of Transport Costs: If the same price is to rule in a market, it is necessary that no cost of transport has to be incurred. If the cost of transport is there, the prices must differ to that extent in different sectors of the market.

6. Demand Curve of Perfect Competition Market is Completely Horizontal: The industry demand curve has inelastic demand at the market equilibrium. However, the demand curve for the perfectly competitive firm is horizontal (i.e. completely elastic).

7. No Government Regulation: Government does not intervene in the marketing functions.

Pure competition differs from perfect competition in the sense that it excludes the features of Perfect mobility of resources and Perfect knowledge.

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LECTURE NO. 41

IMPERFECT MARKETS AND THEIR CHARACTERISTICS

Imperfect market: A market is said to be imperfect when some buyers or sellers or both are not aware of the offers being made by others. Different prices prevail for the same commodity at the same time or the markets in which the conditions of perfect competition are lacking are characterized as imperfect markets.

Imperfect markets again classified into

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

b) Duopoly Market: A duopoly market is one which has only two sellers of a commodity. They may mutually agree to charge a common price which is higher than the hypothetical price in a common market. The market situation in which there are only two buyers of a commodity is known as the duopoly market.

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

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

Classification of markets:

Market structure	Number of firms or producers or sellers	Degree of Product differentiation	Firms degree of control over price	Part of economy where prevalent
I. Perfect competition	Many sellers	Homogeneous Product	No control over price	Farm commodities
II. Imperfect competition				
A. Monopolistic	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	Considerable control over price	Railways, posts, electricity etc.

LECTURE NO. 42

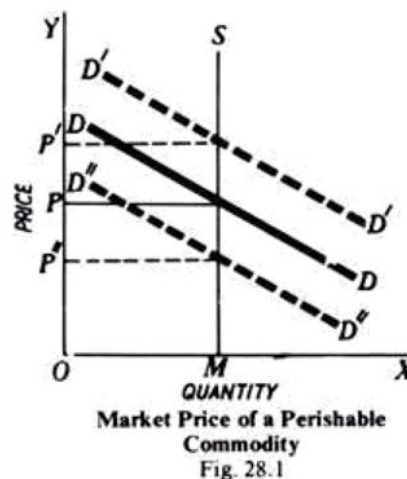## PRICE DETERMINATION UNDER PERFECT COMPETITION

Having studied the demand and supply, we know that market demand curve is the horizontal summation of the individual demand curves, and similarly the horizontal summation of the individual supply curves become market supply curve. The intersection of market demand curve and the market supply curve 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 and the price that occurs at this balancing point is called equilibrium price where the quantity demanded is equal to quantity supplied. When such condition prevails in the market, the market is said to be in equilibrium, because there are neither shortages nor surpluses of commodity.

Determination of market price:

Market price is determined by the equilibrium between demand and supply in market period or very short run. This market period may be an hour, a day or a few days or even a few weeks depending upon the nature of the product. The period being short, stock is limited and cannot be produced to meet the increase in demand. Therefore, the sellers have to confine to the produce available with them. Example: Perishable commodities like fish. The nature of supply curve in a market period under the two situations of perishable and non-perishable goods are discussed.

Market Price of a Perishable Commodity like fish:

The supply is limited by the available quantity on that day, and it cannot be kept back for the next period and therefore, the whole of it must be sold away on the same day at prevailing prices.

**Market Price of a Perishable Commodity**

Fig. 28.1

The supply curve of fish is a vertical straight-line MS, when OM is the quantity of fish available on that day. DD is the market demand curve. With perfect competition between buyers and sellers, an equilibrium price OP will be determined at which the quantity demanded is equal to the available supply. That is, equilibrium price will be established at the point where downward slopping demand curve DD intersects the vertical supply curve MS.

Now suppose that there is a sudden increase in demand from DD to D'D' with the supply of fish remaining unchanged, the larger demand will raise the market price sharply from OP to O''. On the contrary, if there is a decrease in demand from DD to D'' D'' the price will fall and the quantity sold will remain the same.

Market Price of Non-Perishable and Reproducible Goods

In case of non-perishable but reproducible goods, supply curve cannot be a vertical straight line and the seller rough out its length, because some of the goods can be preserved or kept back from the market and carried over to the next market period. There will then be two critical price levels. The first, if price is very high the seller will be prepared to sell the whole stock. The second level is set by a low price at which the seller would not sell any amount in the present market period, but will hold back the whole stock of some better time. The price below which the seller will refuse to sell is called the Reserve Price. Given the two price levels, one at which the seller is prepared to sell the whole stock and the other at which he will refuse to sell at all, the amount which he will offer for sale will vary with price. Given his anticipations of future price and intensity of his need for cash, etc., he will be prepared to supply more at a higher price than at a lower one. The supply curve of a seller will, therefore, slope upward to the right. Beyond a price at which he is prepared to sell the whole stock, the supply curve will be a vertical straight line whatever the price.

Market Price of a Durable
Commodity
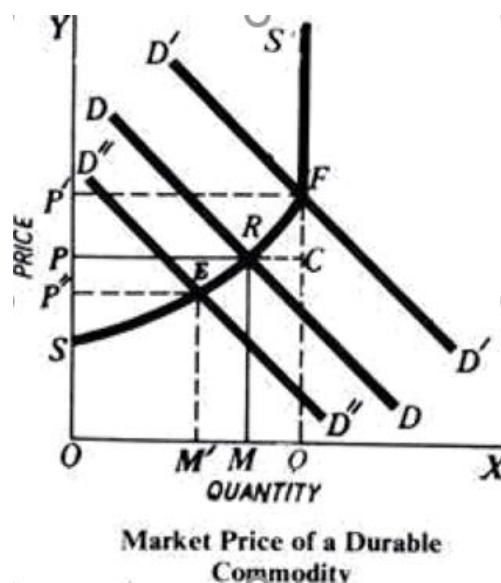
In Figure SRFS" is the supply curve of the durable goods while OQ is the total amount of the stock of the goods. Up to price OP', the quantity supplied varies with price so that at a higher price more is supplied that at a lower one. At the price OS, nothing is sold, the whole stock being held back. Therefore, SF portion of the supply curve slopes upwards from left to right. At price OP" the whole of the stock is offered for sale, and beyond the price OP" the quantity supplied remains the same whatever the price. Therefore, beyond the price OP", the market supply curve will be vertical straight line (FS"). DD is the demand curve which slope downwards from left to right. Market price comes to settle at OP, because at this price the quantity demanded is equal to the quantity supplied. At this equilibrium price OP, OM amount from the stock is sold, while the rest of the stock i.e., MQ (=RC) is held back from the market. Suppose now the demand increases from DD to D'' D'', the price will rise to P'', and the whole stock OQ will be sold. If now the demand, further increase from D'' D'' to some higher level, the quantity supplied or sold will remain the same, i.e., equal to OQ, and only the price will rise so that, at the new equilibrium level, the quantity demanded is equal to the available supply. If the demand decreases from DD to D'' D'', the price will be fall to OP'''', and the amount sold will decrease to OM''. Since, in a perfectly competitive market, the product is homogeneous and no buyer has any preference for a particular seller, therefore, a single uniform market price will be established in the market. Once the market price is determined, an individual seller in the market will take the price as given and constant. Thus, the demand curve which is downward slopping for all sellers is for a single seller a horizontal straight line, i.e., perfectly elastic at the level of the ruling market price. One important conclusion that follows from the above analysis of price determination in the market period is that costs of production do not enter into the calculation of the seller, and therefore, have little influence on the market price.

LECTURE NO. 43

MARKETING FUNCTIONS – BUYING AND SELLING, TRANSPORTATION, STORAGE, GRADING AND STANDARDIZATION, PACKAGING AND MARKET INFORMATION

Any single activity performed in carrying a product from the point of its production to the ultimate consumer may be termed as a marketing function. A marketing function may have anyone or combination of three dimensions, viz., time, space and form

1. Buying and Selling:

Buying and selling is the most important activity in the marketing process. At every stage, buyers and sellers come together, goods are transferred from seller to buyer, and the possession utility is added to the commodities. The number of times the selling-and-buying activity is performed depends on the length of the marketing channel. In the shortest channel where no middleman is involved, this activity takes place only once, i.e., the producer or farmer sells and the consumer purchases. But, usually, in the case of farm commodities, selling/buying activities are undertaken each time when the produce moves from the farmer to the primary wholesaler, from the wholesaler to the retailer, and from the retailer to the consumer.

The following methods of buying and selling of farm products are prevalent in Indian markets:

i.   **Under Cover of a Cloth (Hatha System):** By this method, the prices of the produce are settled by the buyer and the commission agents of the seller by pressing/twisting the fingers of each other under cover of a piece of cloth. Code symbols are associated with the twisting of the fingers, and traders are familiar with these. The negotiations in this manner continue till a final price is settled. When all the buyers have given their offers, the name and offer price of the highest bidder is announced to the seller by the commission agent.

ii.   **Private Negotiations:** By this method, prices are fixed by mutual agreement. This method is common in unregulated markets or village markets.

iii.   **Quotations on Samples taken by Commission Agent:** By this method the commission agent takes the sample of the produce to the shops of the buyer instead of the buyer going to the shop of the commission agent.

iv.   **Dara Sale Method:** By this method, the produce in different lots is mixed and then sold as one lot. The advantages of this method is that, within a short time, a large number of lots are sold off. The disadvantage is that the produce of a good quality and one of a poor quality fetch the same price. There is, therefore, a loss of incentive to the farmer to cultivate

good quality products. This method is common for such crops as zeera in many markets of the country.

v.   **Morghum Sale Method:** By this method, the sale of produce is affected on the basis of a verbal understanding between buyers and sellers without any pre-settlement of price, but on the distinct understanding that the price of the produce to be paid by the buyer to the seller will be the one as prevailing in the market on that day, or at the rate at which other sellers of the village sold the produce. This method is common in villages, for farmers are indebted to the local money lenders. Often the buyer pays less than the prevailing market rate on the plea of the poor quality of the produce.

vi.   **Open Auction Method:** By this method, the prospective buyers gather at the shop of the commission agent around the heap of the produce, examine it and offer bids loudly. The produce is given to the highest bidder after taking the consent of the seller farmer. This method is preferred to any other method because it ensures fair dealing to all parties, and because the farmers with a superior quality of produce receive a higher price. In most regulated markets, the sale of the produce is permissible only by the open auction method.

2.Market Price:

Market price is determined by the equilibrium between demand and supply in market period or very short run. This market period may be an hour, a day or a few days or even a few weeks depending upon the nature of the product. The period being short, stock is limited and cannot be produced to meet the increase in demand. Therefore, the sellers have to confine to the produce available with them.

3.Transportation:

Transportation or the movement of products between places is one of the most important marketing functions at every stage, i.e., right from the threshing floor to the point of consumption. Most of the goods are not consumed where they are produced. All agricultural commodities have to be brought from the farm to the local market and from there to primary wholesale markets, secondary wholesale markets, retail markets and ultimately to the consumers. The inputs from the factories must be taken to the warehouses and from the warehouses to the wholesalers, retailers and finally to the consumers (farmers). Transportation adds the place utility to goods.

4. **Storage**:

Storage is an important marketing function, which involves holding and preserving goods from the time they are produced until they are needed for consumption. Storage is an exercise of human foresight by means of which commodities are protected from deterioration, and surplus supplies in times of plenty are carried over to the season of scarcity. The storage function, therefore, adds the time utility to products.

Agriculture is characterized by relatively large and irregular seasonal and year – to – year fluctuations in production. The consumption of most farm products, on the other hand, is relatively stable. These conflicting behaviours of demand and supply make it necessary that large quantities of farm produce should be held for a considerable period of time.

5.Grading and Standardization

Grading and standardization is a marketing function which facilitates the movement of produce. Without standardization the rule of caveat emptor (let the buyer beware) prevails; and there is confusion and unfairness as well. Standardization is a term used in a broader sense. Grade standards for commodities are laid down first and then the commodities are sorted out according to the accepted standards.

6.Packaging:

Packaging is the first function performed in the marketing of agricultural commodities. It is required for nearly all farm products at every stage of the marketing process. The type of the container used in the packing of commodities varies with the type of the commodity as well as with the stage of marketing. For example, gunny bags are used for cereals, pulses and oilseeds when they are taken from the farm to the market. For packing milk or milk products, plastic, polythene, tin or glass containers are used. Wooden boxes or straw baskets are used for packing fruits and vegetables.

7.Financing:

There is a long interval between the time of production and consumption. Between these two points, the ownership of commodities shifts many times – a fact which necessitates financial arrangements. Middlemen need finance not only for the purchase of stocks, but for the performance of various marketing functions, such as processing, storage, packaging, transport and grading. The financing function of marketing involves the use of capital to meet the financial requirements of the agencies engaged in various marketing activities.

8.Market Information:

Market information is an important marketing function which ensures the smooth and efficient operation of the marketing system. Accurate, adequate and timely availability of

market information facilitates decision about when and where to market products. Market information creates a competitive market process and checks the growth of monopoly or profiteering by individuals. It is the lifeblood of a market.

Everyone engaged in production, and in the buying and selling of products is continually in need of market information. This is truer where agricultural products are concerned, for their prices fluctuate more widely than those of the products of other sectors. Market information is essential for the government, for a smooth conduct of the marketing business, and for the protection of all the groups of persons associated with this. It is essential at all the stages of marketing, from the sale of the produce at the farm until the goods reach the last consumer.

Types of Market Information: Market information is of two types

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

b) Market News: This term refers to current information about prices, arrivals and changes in market conditions. This information helps the farmer in taking decisions about when and where to sell his produce. The availability of market news in time and with speed is of the utmost value. Sometimes, a person who gets the first market news gains a substantial advantage over his fellow-traders who receive it late. Market news quickly becomes obsolete and requires frequent updating.

Criteria for Good Market Information: Good market information must meet the following criteria so that it may be of maximum advantage to the users:

a) Comprehensive: Market information must be complete and comprehensive. It must cover all the agricultural commodities and their varieties, and all the geographical regions. It must cover prices, production, supply movements, stocks and demand conditions.

b) Accuracy: The accuracy of market information is essential. The collection of accurate market information is a tedious and expensive task under changing market situations. There must be honesty in the collection of the information. Constant efforts should be made to improve its accuracy. The information reporter must be thoroughly acquainted with the market and the product so that he may collect accurate information about them.

c) Relevance: Market information must be relevant in the sense that it must be collected, arranged and disseminated, keeping in view the user's interest. Generally, a lot of information that is collected is not used; the time and energy spent on its collection, therefore, become a

colossal waste. It is not enough to simply collect a mass of data and report them through various media; the data must be accurate and useful.

d) Confidentiality: There must be a sense of confidentiality among the firms for whom the information has been collected. The information revealed under this situation of confidentiality will be more correct and may assist in drawing policy implications. The names of firms should not be leaked out.

e) Trustworthiness: Trustworthiness is another criterion of good market information. The agency that collects it must create faith, and the users must trust the organization which is making this information available to them.

f) Equal and Easy Accessibility: Every person engaged in marketing, whether big or small, wholesaler, retailer, government or a private agency, must have equal and easy access to the available information. There should not be any sort of restriction on individuals in the use of this information.

g) Timeliness: Market information must be made available in time. For this purpose, a speedy transmission is necessary. Late dissemination of market information is of no use. Often, this information becomes stale, particularly when it is disseminated too late to be of any use. A system for speedy dissemination of information should be devised.

LECTURE NO. 44

MARKETING EFFICIENCY – TECHNICAL EFFICIENCY AND ECONOMIC EFFICIENCY

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.

Empirical Assessment of Marketing Efficiency:

Some simple measures to assess the efficiency of the marketing system for agricultural commodities are:

$$E = 0 / I$$

Approaches to marketing efficiency estimation:

We in general, study the efficiency of marketing system from the two angles viz., technical efficiency or physical efficiency or operational efficiency and pricing efficiency or allocative efficiency.

Technical efficiency:

Any change that reduces the marketing costs per tonne or quintal of output is desirable and directly adds to marketing efficiency. The technological development that is embodied in the various marketing functions viz., assembling, transportation, storage, grading and standardization, processing, packing, etc., reduces marketing costs and increases marketing efficiency. Such process is called technical efficiency.

All marketing activities cannot be brought about with less marketing costs. Sometimes changes in the marketing activities take place. These changes bring down the marketing costs as well as consumers satisfaction. For instance, if certain commodities like betel leaves, fish, fruits, vegetables, etc., are transported to distant markets without taking proper care in grading, packing and transportation, the marketing costs may come down partially, but the consumers satisfaction is very much reduced and finally marketing efficiency is greatly affected. From this we could know that reduction in the Marketing costs need not necessarily cause efficiency in the marketing as it reduces the consumers satisfaction. Ultimately economic efficiency would also fall.

Pricing efficiency:

Prices give signals to the producers and the traders with regard to allocation of farm products over time and space and consumers receive signals from prices and create demand for farm products over time and space, so that marketing system is finally developed for the welfare of the producers, consumers and middlemen. Thus, the economy would be on the wheels of growth, if pricing system for the commodities in the marketing is efficient over time and space. In simple terms, pricing efficiency in the marketing system occurs under the following conditions.

1.   Transportation costs add the price differential of the product between two distant markets.

2.   Price differential is also due to storage of the commodity over time, and

   3. Processing costs lead to price differences at a particular point of time and space. For example, price of wheat and bread, price of paddy and rice, price of oil seeds and oil, etc.

Whenever marketing functions are performed for a commodity at a particular point of time and place, cost is increased and hence the commodity Would have higher value or price at every point of marketing function. This means, utilities are imparted to commodities due to various marketing functions and in this process the efficiency of marketing is concerned with the extent to which prices of the commodities deviate from the cost of performing these marketing functions. Thus, if the price deviation for the commodity in this process is more, to that extent the marketing efficiency is also affected by the extent of competition in the markets, market information, nature, attitude and objectives of the functionaries. In this context, pricing efficiency and the marketing efficiency are similar. But, in general one is at the cost of the other. Pricing efficiency is concerned with how accurately prices reflect consumers demand through marketing channels. Thus, pricing efficiency is affected by the rigidity of the marketing costs and nature and degree of competition in the marketing. If the marketing functionaries are ambitious and exploit the market situations, it leads to pricing inefficiency. High   marketing costs for the commodities lead to pricing efficiency. Pricing efficiency is improved through improvement in disseminating the relevant market information, market news, market research etc.

LECTURE NO. 45

RISKS IN MARKETING AND MEASURES TO MINIMIZE RISKS

Risk is inherent in all marketing transactions. Fire, rodents, quality deterioration, price fall, change in tastes, habits or fashion, placing the commodity in the wrong hands or area are all also associated with marketing risk. Hardy has defined risk as uncertainty about cost, loss or damage. The longer the time lags between production and consumption, the greater the risk. Most of the risk is taken by market middlemen. The bearer of the risk may be better off or worse-off. A risk cannot be eliminated because it also carries profit.

Types of Risk: The risks associated with marketing are of three types, namely physical risk, price and institutional risk.

i. Physical risk includes loss of quantity and quality. It may be due to fire, flood, earthquake, rodents, pests, excessive moisture or temperature, careless handling, improper storage, looting or arson.

ii. Price risk associates with fluctuation in price from year to year or within the year.

iii. iii. Institutional risks include the risks arising out of a change in the government budget policy, imposition of levies price controls etc.

Measures to Minimize Risks:

a. Reduction in Physical loss through fire proof storage, proper packing and better transportation.

b. Transfer of physical losses to Insurance companies.

c. Minimization of price risks through.

✓ Fixation of minimum and maximum price by government.

✓ Dissemination of price information to all sections of society over space and time.

✓ Effective system of advertising and create a favourable atmosphere for the commodity.

✓ Operation of speculation and hedging: Futures trading, forward market, contract farming, contract marketing.

Speculation: Purchase or sale of a commodity at the present price with the object of sale or purchase at some future date at a favourable price.

Hedging: It is a trading technique of transferring the price risk. "Hedging is the practice of buying or selling futures to offset an equal and opposite position in the cash market and thus avoid the risk of uncertain changes in prices" (Hoffman).

Futures Trading: It is a device for protecting against the price fluctuations which normally arise in the course of the marketing of commodities. Stockicsts, processors or manufactures utilize the futures contracts to transfer the price risks faced by them.

LECTURE NO. 46
PROBLEMS IN AGRICULTURAL MARKETING AND SUGGESTIONS TO IMPROVE AGRICULTURAL MARKETING

The Indian system of agricultural marketing suffers from a number of defects. As a consequence, the Indian farmer is deprived of a fair price for his produce. The main defects of the agricultural marketing system are discussed here.

Improper Warehouses: There is an absence of proper warehousing facilities in the villages. Therefore, the farmer is compelled to store his products in pits, mud-vessels, "Kutcha" storehouses, etc. These unscientific methods of storing lead to considerable wastage. Approximately 1.5% of the produce gets rotten and becomes unfit for human consumption. Due to this reason supply in the village market increases substantially and the farmers are not able to get a fair price for their produce. The setting up of Central Warehousing Corporation and State Warehousing Corporation has improved the situation to some extent

Lack of Grading and Standardization: Different varieties of agricultural produce are not graded properly. The practice usually prevalent is the one known as "dara" sales wherein heap of all qualities of produce are sold in one common lot Thus the farmer producing better qualities is not assured of a better price. Hence there is no incentive to use better seeds and produce better varieties.

Inadequate Transport Facilities: Transport facilities are highly inadequate in India. Only a small number of villages are joined by railways and pucca roads to mandies. Produce has to be carried on slow moving transport vehicles like bullock carts. Obviously, such means of transport cannot be used to carry produce too far-off places and the farmer has to dump his produce in nearby markets even if the price obtained in these markets is considerably low. This is even truer with perishable commodities.

Presence of a Large Number of Middlemen: The field of agricultural marketing is viewed as a complex process and it involves a large number of intermediaries handling a variety of agricultural commodities, which are characterized by seasonality, bulkiness, perishability, etc. the prevalence of these intermediaries varies with the commodities and the marketing channels of the products. Because of the intervention of many middlemen, the producers share in consumers rupee is reduces.

Small and scattered holdings: The agricultural holdings are very small and scattered, as a result of which the marketable surplus generated is very meager. Moreover, the farmers have no business awareness.

Forces sales: The financial obligations committed during production period force them to dispose the commodity immediately after the harvest though the prices are very low. Such forced sales or distress sales will keep the farmers in vicious cycle of poverty. The National Planning Committee on rural marketing and finance remarked that the farmer, in general, sells his produce at an unfavourable place and at an unfavourable time and usually he gets unfavourable terms.

Technological development problems in farm production: Evidence is that technological changes in performing certain farm operations brought in new problems in agricultural marketing. For example, paddy harvesters are identified to increase the moisture problem in paddy, mechanical picking of cotton is associated with the problem of mixing trash with cotton. These problems lead to the reduction of price for the farm products. Unless corrective measures are affected, the production technologies accentuate the marketing problems.

Lack of Farmers Organisation: The farmers are scattered over a wide area without any common organisation. In the absence of such an organisation, farmers do not get anybody to guide them and protect their interests. On the other hand, traders are an organised body. Thus, the marketing system, therefore constitutes unorganised farming community on one side and organised and powerful traders on other side. Unser such situations farmers will be generally exploited and do not get remunerative prices for their produce.

Malpractices in Unregulated Markets: Even now the number of unregulated markets in the country is substantially large. Arhatiyas and brokers, taking advantage of the ignorance, and illiteracy of the farmers, use unfair means to cheat them. The farmers are required to pay arhat (pledging charge) to the arhatiyas, "tulaii" (weight charge) for weighing the produce, "palledari" to unload the bullock-carts and for doing other miscellaneous types of allied works, "garda" for impurities in the produce, and a number of other undefined and unspecified charges.

Inadequate Market Information: It is often not possible for the farmers to obtain information on exact market prices in different markets. So, they accept whatever price the traders offer to them. With a view to tackle this problem the government is using the radio and television media

to broadcast market prices regularly. The newspapers also keep the farmers posted with the latest changes in prices.

Inadequate Credit Facilities: Indian farmer, being poor, tries to sell off the produce immediately after the crop is harvested though prices at that time are very low.

Suggestions to improve agricultural marketing:

Improving the marketing system of agricultural products would help the farmer to better his economy. Following are the measures that reflect an improved marketing system.

Establishment of regulated markets: A regulated market is one, which aims at the elimination of unhealthy and unscrupulous practices, reducing marketing charges and providing facilities to producers. In 1886, under the Hyderabad Residency Order, the first regulated market (Karanjia Cotton Market) was established with a view to arranging supplies of pure cotton at reasonable prices to the textile mills in Manchester UK. The first legislation was, however, the Berar Cotton and Grain Market Act of 1897, which was enacted to induce Indian farmers to raise cotton, which empowered the British Resident to declare any place in the assigned district a market for the sale and purchase of agricultural produce and to constitute a committee to supervise the regulated market. Later in 1927, the then Government of Bombay province enacted the Bombay Cotton Market Act, which attempted to regulate the agricultural product markets with a view to evolving their market prices (Acharya and Agarwal, 1994).

LECTURE NO. 47

PRICE DETERMINATION BASED ON TIME PERIOD OF MARKET, CHARACTERISTICS OF MARKET PRICE AND NORMAL PRICE

The price of a commodity depends on demand and supply. This equality of quantity demanded and quantity supplied is called equilibrium quantity and the price that occurs at this balancing point is called equilibrium price where the quantity demanded is equal to quantity supplied. When such condition prevails in the market, the market is said to be in equilibrium, because there are neither shortages nor surpluses of commodity.

Arithmetic Approach:

From the below given table, 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 aie the same. Therefore, Rs. 12 per unit is the equilibrium price and quantity amounting to 80 Q is the equilibrium output.

TABLE: 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 Fig. 5.11. 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.
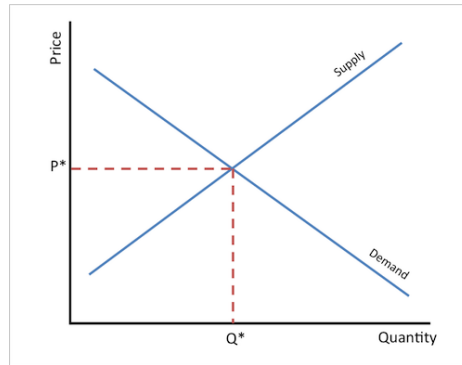
Determination of equilibrium price and quantity

On this basis, markets are of the following types:

a) Short-period Markets: The markets which are held only for a few hours are called short-period markets. The products dealt with in these markets are of highly perishable nature, such as fish, fresh vegetables, and liquid milk. In these markets, the prices of commodities are governed mainly by the extent of demand for, rather than by the supply of, the commodity.

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

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

LECTURE NO. 48

CHARACTERISTICS OF MARKET PRICE AND NORMAL PRICE

Market price is that price which prevails in a market on a single day or on very few days. It is a very short-period price which prevails at a particular time. On the other hand, normal price is that price which tends to prevail in the long-run. It is a price which has a tendency to prevail over a period of time.

In the determination of market price, demand plays an active role while supply is passive. The market price rises or falls with the rise of fall in demand while supply is fixed. On the other hand, supply is more active in the determination of normal price because it tends to adjust itself fully to any change in demand.

(3) Market price is influenced by temporary events. It may change many times a day or a week as a result of passing events. A sudden rainfall on a hot day may bring down the demand for ice, and hence lower its price. Thus, market price exists only temporarily and its equilibrium is also temporary.

Normal price, on the other MP hand, is the outcome of permanent forces which bring about changes in demand and supply. Demand may change due to changes in tastes, habits, preferences, etc. of consumers, while supply may change by altering the fixed factors of production. Normal price is thus a permanent and stable price which has permanent equilibrium. Market price, therefore, tends to show oscillations around normal price.

(4) Market price can be above or below the average cost of production. Hence firms can earn supernormal profits or incur losses. On the other hand, normal price is always equal to the long-run average cost (LAC) at its minimum point. Therefore, firms can earn only normal profits under   normal price.

(5) All commodities whether reproducible or non-reproducible have market price. But only reproducible commodities have normal price. If a commodity is non-reproducible, its supply cannot be increased in the long-run when its demand increases.

Market price is the real price which prevails in the market at any time. On the other hand, normal price is a hypothetical price. It is an abstraction, a myth. Something unreal and imaginary. It is like a mirage.

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