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Lecture-2

Agricultural Production Economics: Basic Concepts



Agricultural Economics

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.



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



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



Technical coefficient: The amount of input per unit of output is called technical coefficient.

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

Resource services: The work done by a person, machine or livestock is called a resource service. Resources do not enter the production process physically.



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Why study production process

The study of production economics is important in answering the following questions:

1. What is efficient production?
2. How is most profitable amount of inputs determined?
3. How the production will respond to a change in the price of output?
4. What enterprise combinations will maximize profits?
5. What should a manager do when he is uncertain about yield response?
6. How will technical change affect output?



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Agricultural Production Economics

It is a sub-discipline within the broad subject of agricultural economics and is concerned with the selection of production patterns and resource use efficiency so as to optimize the objective function of farming community or the nation within a framework of limited resources. It may be defined as an applied field of science wherein principles of economic choice are applied to the use of resources of land, labour, capital and management in the farming industry.



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.

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.

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.



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 resources.

14. Production period: It is the time period required for the transformation of resources or inputs into products.



Farm entrepreneur: Farm entrepreneur is the person who organizes and operates the farm business and bears the responsibility of the outcome of the business.

Farm business manager: Person appointed by the entrepreneur to manage and supervise the farm business and is paid for the services rendered. He/she carries out the instructions of the entrepreneur.

Productivity: Output per unit of inputs is called the productivity.

18. Technical efficiency: It is the ratio of the physical output to inputs used. It implies the using of resources as effectively as possible without any wastages.