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Lecture 2

Agricultural Production Economics: Basic Concepts



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

2. **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.



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3. 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.
4. 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.



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5. 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 $Y=f (X_1, X_2 / X_3 \dots X_n)$ where Y is output, X_1, X_2 are variable inputs and $X_3 \dots X_n$ are fixed inputs.
6. Long run production period: The planning period during which all the resources can be varied. It is written as $Y=f (X_1, X_2 , \dots X_n)$



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7. **Technical coefficient:** The amount of input per unit of output is called technical coefficient.
8. **Resources:** Anything that aids in production is called a resource. The resources physically enter the production process.
9. **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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- **10. 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.



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- **11. 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.



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- **12. 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.
- **13. 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.