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# Lecture 15

## Risk and Uncertainty



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**Perfect knowledge:** There would be no need for farm management experts if knowledge was perfect. If these were so, technology, prices and institutional behaviour would be known with certainty for any period of time in the future. But the concept of perfect knowledge is a fallacious one and does not represent the real world situation.

**Imperfect knowledge:** Imperfect knowledge situation can be classified either as risk or uncertainty. Risk represents less imperfection in knowledge than does uncertainty. Under risk the occurrence of future events can be predicted fairly accurately by specifying the level of probability.



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# Types of Risks and Uncertainties

They are classified into five categories:

- 1. The economic uncertainties** are markedly reduced in many economies where input and product prices are announced before sowing a crop. Economic uncertainties of this nature are usually caused by national and international policies which are beyond the approach of an individual farmer.
- 2. Biological uncertainty** is quite common and important in agriculture. Rains or drought, floods, hailstorms, frost, etc., may all affect the yields in agriculture directly or indirectly by increasing the incidence of crop or animal diseases.



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## 3. Technological uncertainties:

Continuous advancement of knowledge through research activities has made more efficient methods increasingly available for agriculture. Simultaneously, new inventions and innovations may result in an increased efficiency of the existing methods. Thus, improvement of knowledge which is continuous phenomenon may render some techniques less efficient and finally obsolete. Such a change is known as technological progress in agriculture can be found in different methods of cultivation and in fertilizer, irrigation and chemical applications



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## 4. Institutional uncertainties:

Institutions like government, banks, etc., may also cause uncertainties for an individual farmer. Crop cess, credit squeeze, price supports, subsidies, etc. may be enforced or withdrawn without taking an individual farmer into confidence. This type of uncertainty may also result in non-availability of resources in appropriate quantities and at the appropriate time and place



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## 5. Personal uncertainties

The farm plan may not be executed because of some mishap in the farmer's household or in his permanent labour force.

Safeguards against risk and uncertainty

Some farmers take more risk than others.

However, all farmers use one or more measures of different types of safeguard themselves against risks and uncertainties on their farms.

The various measures





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# 1. Selection of enterprises

- With low variability There are certain enterprises where the yield and price variabilities are much lower than for others. For example, wheat has relatively much less variability in its yields and prices in irrigated regions than potato. Thus, the inclusion of enterprises with low variability in the farm plans provides a good way to safeguard against risk and uncertainty.



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## 2. Discounting returns

- At this stage we refer to discounting only as a function of risk and uncertainty, and not time. Planning based on single value expectations of input-output coefficients may invariably be misleading as it assumes a perfect knowledge situation. It amounts to deducting a safety margin from the expected prices, yields or incomes.





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## 3. Insurance

- is another well-accepted method to safeguard against risk and uncertainty. However, insurance in agriculture is not common in many countries including India. It helps the farmer,
- whenever used, to lessen the variability in income and minimize the chances of the farm income dropping below a minimum level.



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## 4. Forward contracts

- They reduce the future prices, both of the factors of production and of the products, into certainty. Contracts may either be in money or in kind. Employment of a labourer on the farm for a period of one, two or twelve months on some agreed amount is an example of forward contract in money. Similarly, pre-harvest apple contract in Himachal Pradesh or Jammu and Kashmir is another example



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## 5. Flexibility

• This refers to the convenience with which the organization of production on a farm can be changed. Some organizations are obviously more flexible than others and flexibility in an organization through change in production helps obtaining advantages and improvements in the economic and technological environment of a farmer. As an uncertainty safeguard, flexibility may be built into farm plan for stabilization of incomes from year to year.



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## 6. Liquidity and asset management

- It is a form of flexibility but has been put in a distinct class because it represents a different method of management used in case of unpredictable changes on a farm. Liquidity refers to the case with which the assets on a farm can be converted into cash can also change its form in a relatively short time. If the assets are held in a form which can be easily converted into cash, it provides a safeguard to the farmer by enabling him to make necessary adjustments in response to risk and uncertainties if various types.



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## 7. Diversification

- Diversification is a very important, useful and popular method to safeguard against risk and uncertainty in agriculture. Here we refer to diversification as a means of stabilizing incomes rather than profit maximizing related to reaping gains of complementarity and supplementarity.