



**FACULTY OF AGRICULTURAL SCIENCES & ALLIED INDUSTRIES**

# Rainfed Agriculture and Watershed Management

## Lecture -5

### DROUGHT IMPORTANCE AN ITS TYPES/CLASSIFICATION

- Low rainfall or failure of monsoon rain is a recurring feature in India. This has been responsible for droughts and famines.
- The word drought generally denotes **scarcity of water** in a region.
- Though, aridity and drought are due to insufficient water, aridity is a permanent climatic feature and is the culmination of a number of long-term processes.
- However, drought is a **temporary condition** that occurs for a short period due to deficient precipitation for vegetation, river flow, water supply and human consumption.
- Drought is due to anomaly in atmospheric circulation.

### Aridity Vs. Drought

Particulars	Aridity	Drought
Duration	Permanent feature	Temporary condition of scarcity of varying duration
Factors	Culmination of many long term processes , considers all climatic features	Caused by deficient rainfall
Aspect described	Description of Climate	Description of Water availability

### Definition of drought:

- There is no universally accepted definition for drought.
  - a) Early workers defined drought as prolonged period without rainfall.
  - b) According to Ramdas (1960) drought is a situation when the actual seasonal rainfall is deficient by more than twice the mean deviation.
  - c) Acc. to American **Meteorological Society** defined drought as a period of abnormally dry weather sufficiently prolonged for lack of water *i.e.* due to absence of rain.

d) To agriculturalist drought means deficiency of soil moisture in crop root zone.

**Dry spell:** Rainless period for short time (*i.e.*, >10 days in light soils, >15 days in heavy soils). The interval between the end of a seven-day wet spell, beginning with the onset of effective monsoon and another rainy day with 5 e mm of rain (where “e” is the average daily evaporation).

**Drought:** Prolonged dryspell resulting in wilting or drying of crops.

**Famine:** Severe form of drought called as famine.

### **Classification of drought:**

- **Permanent drought:** This is characteristic of the desert climate where sparse vegetation growing is adapted to drought and agriculture is possible only by irrigation during entire crop season.

**Seasonal drought:** This is found in climates with well-defined rainy and dry seasons. Most of the arid and semiarid zones fall in this category. Duration of the crop varieties and planting dates should be such that the growing season should fall within rainy season.

**Contingent drought:** This involves an abnormal failure of rainfall. It may occur almost anywhere especially in most parts of humid or sub humid climates. It is usually brief, irregular and generally affects only a small area.

**Invisible drought:** This can occur even when there is frequent rain in an area. When rainfall is inadequate to meet the evapo-transpiration losses, the result is borderline water deficiency in soil resulting in less than optimum yield. This occurs usually in humidregions.