

Flood and Drought

Flood:

It is an over flow of water. It happens when the magnitude of flow of water exceeds the carrying capacity of the channel within its bank.

Causes of flood:

1. Heavy rainfall, melting of snow (i.e) sudden release of water from dams.
2. Reduction in the carrying capacity of the channel.
3. Deforestation, mining and over grazing increase the run off from rains and the level of flood raises.

Effect of flood:

1. Water spreads in the surrounding area and submerges them.
2. Cultivated land affected.
3. Extinction of civilisation.

Flood Management:

1. Floods can be controlled by dams.
2. Channel management and embankment also control flood.
3. Flood hazards reduced by forecasting or flood warning.
4. Flood may also be reduced by reduction of run off by increasing infiltration through appropriate afforestation in the catchment area.

Drought:

Drought is nothing but scarcity of water, which occurs due to

1. Inadequate rain fall
2. Late arrival of rain fall
3. Excessive withdrawal of ground water.

Lack of water for the narrow needs of agriculture, livestock, industry or human population may be termed as a drought. Drought causes serious damages to plants, animals and human life.

Types of drought:

1. Meteorological drought:

It occurs when the total amount of rain fall is less than 75% of the normal rain fall. It will be severe if the rain fall is less than 50%.

2. Hydrological drought:

It occurs when the total amount of rainfall is less than the average rain fall. It is generally associated with reduction of water in aquifers, lakes and reservoirs.

3. Agricultural drought:

It occurs due to the shortage as well as timing of over all rain fall, which intern reduce the ground water level and reservoir level. Agricultural drought affects cropped plants.

4. Socio economic drought:

It occurs due to reduction in the availability of food and social security of the people in the affected areas. Socio economic drought leads to famine.

Causes of drought:

1. When annual rain falls below normal and less than evaporation, drought is created.
2. High population.
3. Intensive cropping pattern

(e.g.) Maharashtra

There has been no recovery from drought for the last 30 years due to over exploitation of water by sugarcane crop.

Effects of drought:

1. Drought causes hunger, malnutrition and scarcity of drinking water an also changes the quality of water.
2. Drought causes widespread crop failure leading to acute shortage of food and adversely affects human and live stock population.
3. Worst situation of drought causes desertification.
4. Raw materials of agro based industries are critically affected during drought time, hence industrial and commercial growth decreases.
5. Drought increases the degradation of natural resources.
6. Drought causes large migration of people and urbanisation.

Drought management:

1. Indigeneous knowledge is essential.
2. Rain water harvesting system.
3. Construction of reservoir to improve ground water level.
4. Modern irrigation technology (drip irrigation) very useful to conserve water.
5. Afforestation activities also improve the potential of water in the drought area.
6. Crop mixing and dry forming are the suitable methods which minimise the risk of crop failures in dry area.

Source : <http://nprcet.org/e%20content/eee/EVS.pdf>