CHAPTER-6 FLOODS

i) A flood is a body of water that covers the land which is normally dry.

ii) Floods are common natural disasters that can affects millions of people arround the world.

iii) The destroyed houses and building and carry soil away from valuable farming land or agricultural land.

iv) Flood can also contaminate drinking water and lead to diesease.

v) Flood are often cause by rivers but overflowing seas and sea can also cause flooding.

How do Floods occure:-

i) At least once in a year the planes around large rivers are flooded

ii) This is due to the amount of water that the rivers bring with them because of heavy rain fall or melting snow in the hilly region

iii) Thunderstorm can cause flash flood in which small rivers can swell (expansion) quickly and carry water upto 10 times the normal amount of water

iv) Coastal region can also be affected by folding.

After the earthquake occur on the ocean Tsunami can bring up upto 15 m. highwave and flood the coastal area.

VI) In 2004 a devastating Tsunami in the indian ocean killed over 2 lakhs 50 thousand people in indaneesia, Shrilanka and thailand.

VII) Floods are also caused by human because trees and plant normally help in observing too much of water. when forest are cut and burn down, water from rainfall flows down the land and produce landslides.

VIII) Toomuch of water. Pressure of dam can lead to crack in the concrete or even cause a dam to break Completely.

Hazard Zones in India:-

i) The states falling within the periphery of indian flood prone area are west begal odisha Andhapradesh. Kerla. Asam, bihar, gujurat. u.p, harian & punjab, ladh.

ii) The intense moonsoon rains from southwest Caused rivers like ~~Bhr~~ Brahamputra, ganga Jamuna to swell their banks which interr floods the nearby plans (areas).

Effects of Flood:-

i) Floods impact on both individual and communities and have social, economy, environmental consiquency.

ii) The consiquction of flood greatly depends on their location, durcating, depth as well as the ver vulnerability and value of the affected natural and constructed environments.

iii) The immediate impact of flooding include loss of human life, damage to property, destructions of crops and bad health conditions

iv) Communication links and infrastructure such as power plants road and bridges are damage and destrupted.

Warning:-

i) Except for fash Goulden flood there is usually a regionable warning period

ii) The central water commision (CWC), Water resources department of goverment of indi a (WRC), irrigation and flood central department are responsible for flood detecting, tracking and Receiving warning information.

Mitigation strategy:-

Structural Mitigation:-

Watershed Management:

i) Timely cleaning and desilting of natural water reservoir and drainage channel must be taken up

ii) The entire natural water storage place should be cleaned on a regular basis expecially before the monsoon season.

Building on elevated area:-

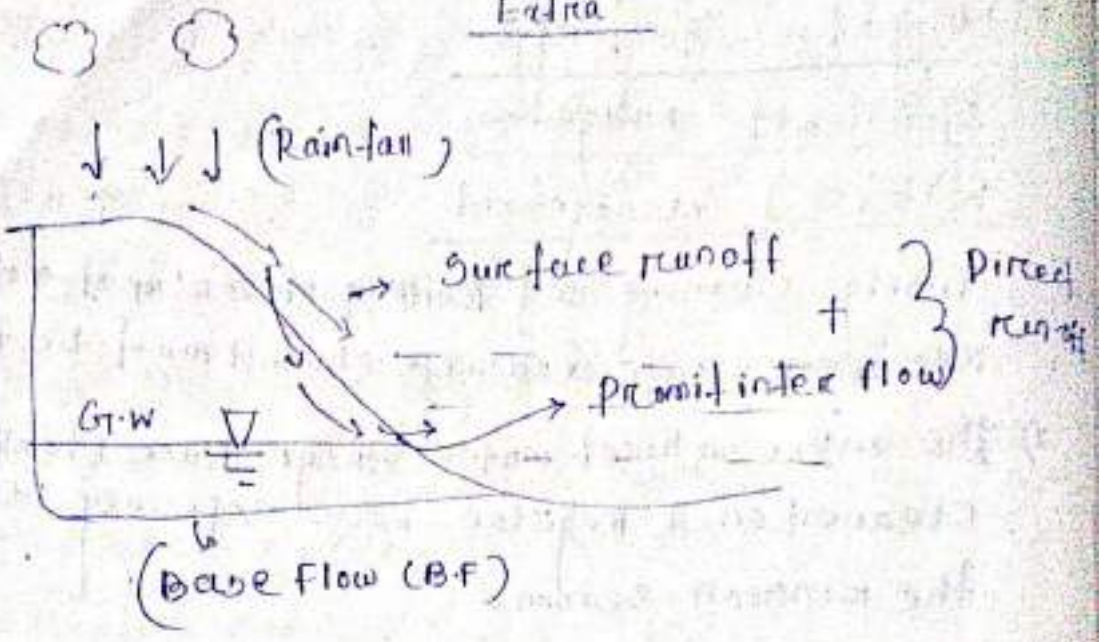
The building in prone area should be constructed on an elevated area for the mitigation of flood.

Natural water retentation basin:

i) Storage reservairs like dams, and levees can be constructed which can be use as storing space of water which will reduce the chaces of lower planes (areas) getting flooded.

* Inflimating flood control measure to reduce Flood damage. Measures can be taken to run off redeforestation, protection of vegetation, cleaning of debris from the steams and rivers.

Extra



Non structural Mitigation :-

i) Mapping of flood plane is the 1st step involved in reducing risk of flood.

ii) Land use control will reduce the danger to life and property in the flood playing and the costal area.

iii) No measure development should be permited in areas which are subjected to flooding important facilities like hospital should be located in safer and elivated areas.

Flood forecasting and warning

i) It should be proper for mitigation flood.

CHAPTER-7 DROUGHT

Drought is a natural disaster of below average precipitation

atm.

atomosphere > surface water or ground water.

i) A drought can last for months for year or may be declared of as few as 15 days.

ii) It can have a substantial impact on the ecosystem and agriculture of the affected region and harm to the local economy.

Causes of drought

Precipriation deficiency.

i) Drought occure mainly in the areas where normal level of rainfall are known.

ii) Mechanism of producing precipritation include convective and orographic

iii) If these factors do not support precipritation volume sufficiently to reach the surface over a sufficient time the result is a drought

Human causes:-

i) Human activities play a relatively significant role in the management of the water cycle.

ii) Human act such as deforestation, construction and agriculture negatively impact water cycle.

iii) Trees and vegetation cover are essential for the water cycle as it help to limit evaporation, stores water and causes rainfall.

iv) In this sense deforestation, clearing vegetation cover and cutting down trees increase evaporation and lessens ability of the soil to hole water leading to increase susceptivelity of drought

v) Construction and agricultural activity will also reduce the overal supply quantity of water resulting in dry conditions.

3 Drying out of surface waterflow :-

i) Lakes, rivers and streams are the Primary suppliers of downstream surface water in various geographical region around the world.

ii) In extremly hot season or because of certain human activities, this surface water flows may dryout downstream contributing to drought.

It means the demand of water supply higher than available water.

Global warming :-

1) Human actions have contributed to more and more emission of green house gasses into atmosphere those resulting in the continuate rise of the earth average temperature.

2) Consiquently evaporation and evapotreaporation and higher temperature extend the dry period.

Efect of drought

The effect of droughts are widespread too and have devastrating effect on the environment on the society as a whole.

1 Environmental effect of drought :-

Animal and Plants died as a consiquence of drought

2 Drying out of water body :-

Surface water such as lakes, rivers, Ponds and stream dryout during the dry conditions which destroyed the natural habitates.

3 Reduction in soil quality :—

i) Soil moisture essential for soil microbial activity is reduced in drought condition.

ii) As a result soil quality is lowered because of minimize organic activity which kills soils' organisms

4. unsuitable condition for plant and vegetation servable

Drought condition make it unsuitable for the plants and vegetation cover to service because fertile lands are lost as a result of drought

5. Migration and even death of animals.

i) Animals are forced to migrate in drought conditions since they have to move for longer distances to get water and food.

ii) The prevailing circumstances during drought also make it difficult for servable of animals.

6. Economy impact :-

i) Increase budgetary spending by farmers
ii) Reduce crop yield.
iii) Industrial and government losses
iv) Higher energy cost for economy dependent on hydro power.

4. Social impact of drought :-

i) Water bord diseases (It is due to reductions in water quality for the shortage of waters.
ii) Hunger, anemia, malnutrition and death.
iii) Migration of people

Warning of drought :-

i) According to the IMD (Indian metrological department) the cantry said to be drought affected when the overal rainfall deficiency is more than 10% of the long period average.
ii) More than 20% of the countries area with affected by such drought conditions.
iii) Falling rainfall level, falling groundwater level, drying wells, rivers and reservoir and poor agricultural production. Warem the unset of drought.

Mitigation Strategy :-

1) Reducing the risk and therefore the impact associated with drought in the future required that much greater emphasis be placed on preparedness on mitigation.

2) preparedness leads to greater institutional capacity to cop with drought events through the creation of often organizational structure that improves information flow and co-ordination between and within the level of govt.

Structural Mitigation

1) Construction of water harvesting structure in houses and farm areas.

2) Water harvesting can be carried out by either allowing the runoff water from all the areas to a common point or allowing it to infiltrate into the soil thereby increasing the ground water level.

2 Nonstructural Mitigation :-

1 Drought Monitoring

Monitory and early warning essentially Provides the foundation on which timely dicission can be made by dicission maker at all levels (Farmer to national Police maker)

ii) Drought awerness programme :-

In the areas that are normally affted by drought, goverment, non-govt organisation (NGO) local corporate have taken the initiative to bring in awerness on water conservation to live-hood Planning, land use planning and traditional water conservation stategy.

iii) Land use planning :-

Land use based on, to help in optimum use of land and water and can prevent undue demand created due to misuse.

iv) Lively wood Planning :-

It identify those lively wood which are least affected by drought. Some of such lively wood that are normally Planting in areas which are affected by drought include