

General Studies – 3; Topic: Disaster management

Flood Management in India

1) Introduction

- Floods have been recurrent phenomenon in many parts of India causing loss of lives and public property and bringing misery to the people.
- One hundred and thirty million people living in low-lying coastal areas in India, Pakistan and Bangladesh are at high risk of being displaced by the end of the century due to floods, a report has said.
- The approach to flood management need to have a relook to have an integrated strategy for policy and management related to floods.

2) Causes

- The floods are caused by the cloud bursts and runoff of heavy rainfall during the monsoon.
- Accumulation of silt and sand with no clearing operations taking place for years. As a result the water carrying capacity of the rivers is drastically reduced, resulting in floods. e.g Jhelum flooding
- Deforestation of hill slopes results in the water level suddenly rising and causing floods.
- Rivers like Brahmaputra changes course frequently and it's virtually impossible to contain the river.
- Lack of proper drainage systems in residential areas or unchecked civil development.
- Migration has caused immense pressure on land and the failure of the civic authorities in checking encroachment of land
- In hilly areas, unregulated construction on hills, failure of embankments to check water flow and extreme rainfall aggravates the flood problem.
- Mining loosens the soil and contributes to the rise of the river bed.

3) Impact

- Floods cause extremely large number of fatalities due to extremely high population density and often un-enforced development standards.
- Cause large amounts of damage to people's lives, property and crucial infrastructure.
- According to a recent study, by 2050 Mumbai, Chennai, Surat and Kolkata will be among 13 of the top 20 cities in the Asia-Pacific region to face huge losses due to annual flooding.
- The floods along with impact of climate change would severely affect the future growth, reversing current development gains and degrading the quality of life.
- Devastating floods in Kaziranga impact animal's lives as the floods disrupt their habitat.

4) Concerns / Challenges

- Despite various steps taken over the last 5 decades, the trend of increasing damage and devastation caused by floods pose challenge to Government and people.
- Floods in some part of India are as regular as the monsoon itself. But human-made factors have compounded this annual problem.
- Agencies which should be working together to keep the floods in check, have operated along different lines.
- States do not take the problem seriously since the constitution does not mention flood management under union, state or concurrent list.
- Earlier floods were mainly a rural problem. Now floods hit urban areas and last for months.

- The coverage of rain-gauge stations in hilly areas is still inadequate.
- Wild animals tend to move to high grounds at the time of floods. Many animals are not killed by nature but by the opportunistic killing of those, mainly for their meat.

5) Way Forward

- Causes for annual floods are well-known. It's now time to put lessons from research on the rivers into practice.
- In view of climate change and varying precipitation and river flow patterns, the embankments and reservoirs must be designed to accommodate worst case scenarios.
- The centre must play a more proactive role in flood control. Long term planning as opposed to short term solutions is the key.
- Works related to watershed management should be prioritised.
- Advance town planning and yearly preparations should be done to mitigate the effects of urban planning.
- Discouraging creation of valuable assets / settlement of people in the areas subject to frequent flooding.
- Facilitating timely evacuation of people and shifting of their moveable property to safer grounds by having advanced warning of incoming floods.
- The Centre-states mechanism needs to be further strengthen with focus on greater coordination.
- Improvement of river channels and surface drainage and most importantly checking erosion of land on river banks.
- Cleaning of drains and rivulets near the cities should be accorded top priority.
- The tree plantation drives at all levels are steps in the right direction.