

## General Studies – 3; Topic: Disaster and disaster management.

### Flood Governance in India

#### 1) Introduction

- India is one of the worst flood affected nation across the world.
- Given the extent of the devastation caused by floods that is exacerbated by human interventions, it is time to shift the focus from flood protection to flood governance.

#### 2) Factors responsible

- Floods are partly natural and partly anthropogenic.
- Flooding is natural because of heavy rainfall in the catchment area in the upstream of rivers originating from China and Nepal.
- Cloud burst and heavy downpour on the hills and countryside within the mainland.
- The heavily silted river bases are not in a position to hold the extra water.
- Flooding is partly anthropogenic because of developmental interventions in the Eastern Himalayas that result in deforestation.
- The check dams are of the poorest qualities.
- Indiscriminate development and encroachments on flood plain areas, improper planning and construction of roads, railway lines, etc.

#### 3) Concerns / Challenges

- Floods are accompanied by outbreaks of diseases such as diarrhea.
- Access to veterinary services is limited resulting in high cattle mortality and morbidity.
- People in the flood-prone areas in the Northeast practice subsistence agriculture. The land remains inundated during monsoons and limited irrigation coverage during dry months.
- The potential threat to the GDP of India due to flood every year is \$ 140 Billion.
- Large scale corruption in the distribution of relief.
- In a study spread over 96 villages in Assam, Bihar, UP, and Bengal, the focus has been more on construction of embankments and less on maintenance.
- The scope of storage dams in Arunachal Pradesh is limited, given the region's geology and the ecology.
- The proposed Zangmu Dam on the upstream of the Brahmaputra river in Tibet has the potential of submerging the entire Assam.
- The CAG report also says that only less than 10 per cent of dams have emergency plans to meet the flood situation.

#### 4) Way Forward

- Flood governance would require the innovative combination of initiatives undertaken at various levels.
- Focus should shift from relief measures to building resilience in flood-prone areas
- Water and sanitation issues require attention during the flood months.
- **Flood governance**
  - a. Reducing vulnerability
  - b. Increasing access to services that flood-prone populations are deprived of.

c. Maximising productivity through optimal use of available resources.

- Providing community-based advance flood warning systems
- Elevated toilets and ecosanitation units if promoted on a large-scale will reduce the public health challenges in the flood-prone areas.
- Scientific fish farming on the waterbodies and the inundated land can ensure that inundation, when it cannot be avoided, is put to optimal use.
- Research on short duration boro paddy, and innovative agriculture techniques like floating vegetable gardens.
- Strategic environment assessment of development activities, a practice followed in several countries, needs to be undertaken in the Brahmaputra basin.
- Strengthening planning authorities like the Brahmaputra Board and flood control departments by staffing them with scientists is essential.
- APJ Abul Kalam had stressed on linking the rivers so that at the time of floods excess water from one river basin is moved to another basin.
- Flood situations of North East States, Bihar and Uttar Pradesh cannot be brought under the control without the support of Nepal and China.

### 5) Conclusion

- Flood governance would require innovative combination of these initiatives.
- The flood-prone regions of the country require a focused approach from the Centre and state governments.

