

- States should develop **detailed computerised maps and databases of vulnerable areas** along the coast for planning and coordination of DM activities.

2. Zoning or mapping:

- **Database of Tsunami Risk and Vulnerability** in the coastal areas with information on trends of storm surge, high des, local bathymetry, etc.
- **States should ensure support to the Central Government** agencies in zoning/ mapping and carry out at their level.

3. Observation Networks, Information Systems, Monitoring, Research, Forecasting & Early Warning:

- **Assess the status of existing important installations** in coastal areas to withstand tsunami
- **Securing critical instrumentation to ensure fail-safe functioning** of these critical instruments and their protection.
- States should support, cooperation for data collection and updates.

4. Dissemination of warnings, data, and information:

- **Monitoring seismic activity**, provide warnings based on seismic models and issue periodic bulletin.
- **Dissemination of warnings to all**, down to the last mile – remote, rural or urban; Regular updates to people in areas at risk.

5. Centre and states can coordinate on following matters:

- **Strengthening of lifeline structures and high priority buildings**
- **Shelters** from storm surges and tsunamis
- Construction of large-scale submerged **sand barriers**
- **Periodical dredging** of the inlets and associated water bodies so as to absorb the influx during tsunami
- **Construction of submerged dykes** (one or two rows along the stretch of the coast) so as to decrease the impact due to the incoming tsunami and inland dykes to safeguard vital installations
- **Hazard resistant construction**, strengthening, and retrofitting of all lifeline structures and critical infrastructure.

Current developments:

Sagar Vani App:

- Sagar Vani app has been **developed by ESSO Indian National Centre for Ocean Information Services (INCOIS) under Ministry of Earth Sciences**.
- It is a software platform which uses state of art technology for dissemination of ocean related information and advisory services such as Potential Fishing Zone (PFZ) advisories, Ocean State Forecast (OSF), High Wave Alerts and Tsunami early warnings.