

### 3.4.2 Flood / Flash Flood

Flood/ Flash flood being the most common natural disaster, people have, out of experience, devised many ways of coping with them. However, encroachments into the flood plains over the years have aggravated the flood problem and a need to take effective and sustained mitigation measures. Various measures, structural and non-structural, have been described below;

**Table 11 : Structural & Non-Structural Measures**

S. No.	Task	Activities	Responsibility
<b>Structural Measures</b>			
1	Construction	<ol style="list-style-type: none"> <li>1. Improvement of design for irrigation and flood protective structures</li> <li>2. Construction of dams, flood protection wall, flood diverting channels etc.</li> <li>3. Strengthening/repair of existing roads and bridges and other critical infrastructure in flood plains.</li> <li>4. Strengthening of dams and canals.</li> </ol>	<ul style="list-style-type: none"> <li>◆ WRD</li> <li>◆ District Administration</li> <li>◆ Hydro-power</li> <li>◆ UD &amp; Housing</li> <li>◆ Forest</li> <li>◆ All other Works Dept.</li> </ul>
2	Development of catchment area	<ol style="list-style-type: none"> <li>1. Development of catchment area of the flood plain <ul style="list-style-type: none"> <li>◆ Forestation</li> <li>◆ Land sloping</li> <li>◆ Small reservoirs/Check dams/ponds etc.</li> </ul> </li> </ol>	<ul style="list-style-type: none"> <li>◆ All Engineering Deptt</li> <li>◆ WRD</li> <li>◆ Dept. of Forest &amp;</li> <li>◆ Environment/ SFRI</li> <li>◆ Agriculture/ Horticulture</li> <li>◆ PRIs/ ULBs</li> <li>◆ Distt Administration</li> </ul>
3	Flood Proofing	<ol style="list-style-type: none"> <li>1. Specific building by laws for flood plains</li> </ol>	<ul style="list-style-type: none"> <li>◆ WRD</li> <li>◆ Dept. of Town Planning.</li> <li>◆ All Line Dept.</li> </ul>

4	Techno-legal regime	1. Enactment and enforcement of laws regulating developmental activities in flood plain	<ul style="list-style-type: none"> <li>◆ SDMA/DDMA.</li> <li>◆ WRD</li> <li>◆ Dept. of Town Planning.</li> <li>◆ Dept. of Environment and Forests</li> <li>◆ Dept. of Rural Development</li> <li>◆ All Line Depts.</li> <li>◆ District Admn</li> </ul>
5	Forecasting and Warning	<ol style="list-style-type: none"> <li>1. Strengthening and Upgradation of existing Flood forecasting system</li> <li>2. Establish infrastructure for flood warning and dissemination.</li> </ol>	<ul style="list-style-type: none"> <li>◆ SDMA/DDMA</li> <li>◆ WRD</li> <li>◆ CWC</li> <li>◆ IMD</li> <li>◆ District Admn.</li> </ul>
<b>Non-Structural Measures</b>			
1	Capacity building	<ol style="list-style-type: none"> <li>1. Departmental flood contingency plan</li> <li>2. Flood related departmental action plan and SOP</li> <li>3. Imparting training to the stakeholders involved in flood mitigation and management.</li> </ol>	<ul style="list-style-type: none"> <li>◆ WRD</li> <li>◆ All Line Deptt</li> <li>◆ Dept. of DM</li> <li>◆ District. Admn.</li> </ul>
2	Awareness	<ol style="list-style-type: none"> <li>1. Disseminate flood risk to general public residing in flood prone zones</li> <li>2. Campaign for Flood safety tips</li> </ol>	<ul style="list-style-type: none"> <li>◆ SDMA/DDMA</li> <li>◆ WRD</li> <li>◆ IPR</li> <li>◆ CWC/IMD/ PHED</li> <li>◆ District Admn.</li> </ul>

3	Review of rules	Review of operational rules for reservoirs	<ul style="list-style-type: none"><li>◆ SDMA/DDMA</li><li>◆ Hydro-Power</li><li>◆ WRD</li><li>◆ Dept.of Environment and Forests</li><li>◆ Dept. of Planning.</li><li>◆ All Line Dept.</li><li>◆ District Admn.</li></ul>
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