



JAPAN: TOKAI HEAVY RAIN (SEPTEMBER 2000)

- 1. Location of the study:** Shonai river system (consisting of the Shonai and Shin river basins) in the Tokai region of the Aichi Prefecture in Japan
- 2. Author(s):** Ministry of Land, Infrastructure and Transport (MLIT)
- 3. Brief description of flood management practice:**

Japan has a high concentration of assets and a high population density in floodplains due to the mountainous topography of nearly 80% of its territory. Measures for flood management have evolved based on the need to protect these assets and the population.

The River Law, the main legislative instrument determining flood and water management policies within the country, has been modified several times to reflect changing needs in flood management over the decades. Initially, the focus was on flood control and the minimization of flood loss. Therefore, structural measures - particularly in the form of levees, excavation of river beds, dams and diversion channels - were widely applied for flood mitigation purposes. Gradually, the focus shifted to comprehensive flood control measures taking into consideration the need to preserve the river environment and water resources management. As a result, non-structural measures – such as flood forecasting and warning, creation of retention facilities, flood mapping, etc. - have received more attention in the recent past.

4. Key issues

- Establishment of a comprehensive river administration system for flood control, water use and environmental conservation
- Evolution of the River Law
- Detailed emergency management plans to deal with the flooding of urbanized areas

5. Relevance to concept of IFM

Water cycle as a whole

Aspect 4 - Managing the whole water cycle (flood/drought management plans)

Integration of land and water management

Aspect 2 - Land and water management

Aspect 3 - Laws and regulations for flood and water mgmt

Aspect 12 - Multi-functional solutions (engineered wetlands, water quality treatment, flood alleviation)

Integrated river basin management approach to flood management

Best mix of strategies

Aspect 10 - Best mix of structural and non-structural measures

Participatory approach

Aspect 7 - Community-based approach

Aspect 9 – Effective linkage between existing institution



Integrated hazards impact mitigation

Aspect 1 - Cross-sectoral integration of disaster management strategies

Flood plain maps and zoning

Early warnings and forecasts

Aspect 8 - Tools to support decision-making

Aspect 11 - Free and open exchange of data

6. Comments

- (i) Potential strong points of the case study
Adoption of comprehensive flood control measures formulated and implemented in consultation with communities.

- (iii) Potential for practices mentioned to be transferred/applied to other regions with geophysical and socio-economic characteristics)
Most flood plains in Japan are exploited and so the flood management practices in Japan are capital intensive. Therefore, it is practical to consider such practices to be applied to other regions one by one according to the condition of socio-economic development.