



TURKEY: RECENT FLOOD DISASTERS IN NORTHWESTERN BLACK SEA REGION

1. **Location of the study:** Black Sea region, Turkey
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3. **Brief description of flood management practice**

Devastating flood events have occurred in various river basins of Turkey, especially in recent years. In many cases, floods have caused deaths, suffering and extensive damages to both public and private properties. On the average 18 flood events occur in a year and they take about 23 lives. Almost after each flood, the government has paid a large proportion of the damage, in addition to losing significant revenues due to the consequences of economic disruption. In the study region, the flood disaster in northwestern Anatolia (inner Black Sea Region) in May 1998 affected four cities, 10 towns, 110 villages, and 25 000 ha agricultural land.

At present there are mainly structural protection measures to control floods in the case study area. These consist of multi-purpose reservoirs, dikes and levees, and channel improvements. As non-structural measures, the infrastructure of a real-time data collection and flood-warning system has been completed, but its operation has as yet not started.

Experience gained from the floods of last decade indicate that structural measures implemented basin-wide in the study area are effective in reducing the risk of flood damages, but that more importance should be given to other non-structural measures. This change of policy is reflected in the implementation of the TEFER (Turkey Earthquake and Flood Emergency Recovery) Project initiated after 1998. With this Project the establishment of all kinds of structural and non-structural measures as flood control alternatives is being undertaken.

The basic legislation in water sector is the Turkish Constitution, which states that water resources are the natural wealth of the country, and under the authority of the State, to be used for the benefit of the public. In addition a number of laws deal specifically with integrated flood management.

A number of governmental and non-governmental organisations have direct and indirect responsibility in integrated disaster management of floods in Turkey. They are the General Directorate of Disaster Affairs (AFET), the General Directorate of Civil Defense, Army, Local Administrations and Municipalities. In 1988 the “Regulations on Emergency Aid and Planning for Disasters” were set up and the Ministry of Civil Works and Settlement was appointed as co-ordinator for Integrated Disaster Management. In case of large disasters, the Central Planning and Coordination Council in Ankara regulates the services to optimise the available resources in time for integrated disaster management.

4. Key issues

The dams and other flood control structures play a very important role in protecting the human life. However, flood control and management based on structural solutions could be insufficient. Therefore, effective solutions based on land-use control, zoning, building ordinance, modifications in building codes, flood information programs by local communities are needed. This requires major restructuring of both present legal systems and institutions responsible for management.

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The present situation as regards risk assessment, underwriting and rating is not yet satisfactory for the insurance industry as a whole. Floods in Turkey are not only the result of climatic conditions but also of uncontrolled urbanization and inefficient infrastructure. It is very important that the insurance companies be equipped with the knowledge necessary to deal with the insurability of high floods in terms of geographical areas and for individual risks.

During past floods in reducing the adverse effects such as loss of life, both central and local flood management mechanisms were rated as successful, but at the same time government also noticed some shortcomings of the present management system. The need to modernize the current disaster management system and increase its capability was recognized. Recently proposed new legislation will give more power to local administrations and they will have their own budgets.

Prior to and during a flood, all the state organizations should cooperate. In this respect, they should be able to work together to collect and use the most up-to-date hydro-meteorological data in Turkey. This may lead to institutional and legal changes.

5. Relevance to the concept of IFM

The study covers the following aspects of IFM to varying extents:

Integration of land and water management

Aspect 2 - Land and water management

Aspect 3 - Laws and regulations for flood and water mgmt

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 institutions

Integrated hazards impact mitigation

Early warnings and forecasts

Aspect 11 - Free and open exchange of data

6. Comments

- (i) Potential strong points of the case study
 - Data base for flood inventory
 - Structural and non-structural approaches for flood management
- (ii) Potential for practices mentioned to be transferred/applied to other regions with geophysical and socio-economic characteristics)
 - Some suggested disaster mitigation measures for possible application in other countries with similar geographical and socio-economic development conditions
 - The case study reflects a good example of IFM in practice.