

FLOOD EARLY WARNING SYSTEM IN I.R. OF IRAN

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At the close of the twentieth century, natural hazards and disasters are one of the most common forms of disasters around the world. Natural disasters cause in significant loss of life and serious economic, environmental and social impacts that greatly retard the development process. Careful hazard assessment and planning, and a range of social, economic and political measures, can significantly contain these threats.

Risk is defined as the potential for loss or damage as the result of a particular action or decision and Risk Management is a process consisting of well-defined steps which, when taken in sequence, support better decision making by contributing to a greater insight into risks and their impacts. Most commonly, there are three components in a natural disaster plan: monitoring and early warning; risk assessment; and mitigation and response. Given the improved tools and technologies available today, it is possible to provide disaster information and minimize the potential damage of disasters. In the following parts of the report, the national early warning systems for flood would be discussed, as one of the important component of natural disaster risk management.

In I. R. of Iran, also, different types of natural disasters occur, such as drought, flood, earthquake, sea-level rise, dust storm, hail, freezing and etc, but Flood hazard and disaster is one of the most frequent and damaging types of natural disasters. They have been the most common type of geophysical disaster in the latter half of the twentieth century in Iran, generating an estimated more than 20 percent of all disasters from 1950 to 2003. One of the hazardous floods of Iran occurred in Golestan and north of Khorasan province, located in north-east of the country, on August 2001 and 2002. In this regard, according to the responsibility of I. R. of Iran Meteorological Organization (IRIMO) on the flood forecasting, the early warning issue of the mentioned flood, issued within 48 hour's in advance. Studies show that not only frequency but also intensity of floods have been increased during recent years. Flood risk mitigation measures aim at modifying either the flood producing processes, or the flood hazards, or exposure and vulnerability to flooding. The analysis and response to flood risk needs to be integrated in a systemic manner: that is to say, in a manner that recognizes all the factors present in natural hazard systems and their interactions. A guideline for integrated flood risk management was established, in our country. It is covered land-use regulation; the integration of structural and non-structural measures; the integration of flood risk management plans with related plans; and recommendations on interprovincial cooperation on flood risk management. Based on the above-mentioned components, the National Flood Early Warning System in I. R. of Iran (NFEWSI) has been designed and introduced to the government, by IRIMO (2001) and Climatological Research Institute (CRI, 2001) and it is on operation in the country from 2000. The NFEWSI consists from three main parts: 1.Observation, 2.Forecast and Warning Issue, 3.Response

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