

Preface

The Chi-Chi, Taiwan Earthquake of September 17, 1999 hit the central Taiwan causing tremendous casualties, huge building losses and severe socio-economic disruption. The Earthquake Disaster Mitigation Research Center (EDM), RIKEN, decided to get involved in this earthquake disaster in various modes. The three EDM research teams; i.e., Disaster Process Simulation Team, Disaster Information System Team, and Structural Performance Team, planned how to look at the disaster based on their research themes. The EDM staffs were engaged in activities regarding the Chi-Chi, Taiwan Earthquake and disaster in research as well as technical assistance modes as described in the following.

Major activities conducted by the EDM researchers are summarized as follows:

(1) Reconnaissance teams: EDM staffs planned reconnaissance activities along their own research policies. At the same time, it was also planned for them to teams dispatched by engineering associations including AIJ and JSCE. The site visits were practiced in the several separate periods beginning in late September to mid October of 1999. The output from these field surveys and analytical results obtained on this basis constitute the main body of this report.

(2) DMSP satellite image analysis to identify disaster areas: A macroscopic distribution of disaster areas in Turkey was developed by using the DMSP satellite images. It provided useful early warning information sent out from the EDM located at Miki, Japan. This activity is also contained in this report.

(3) Technical advisory activities, EDM and JSCE joint efforts: In early stages of the disaster, there was a strong demand from major researchers in Taiwan as to information on the procedure of recovery and reconstruction activities, particularly on the experiences during the 1995 Hanshin-Awaji (Kobe) Earthquake disaster. In order to contribute to this issue, technical groups visited Taipei at the National Center for Earthquake Engineering Research (Director: Prof. C. H. Loh). The group was lead by H. Kameda, Director, EDM, and M. Hamada, Waseda University and Chair, Committee for Earthquake Disaster Reconnaissance, JSCE. The team visited NCREE twice on September 28 and October 8, 1999. In the both visits, major documents on the disaster in Kobe and reconstruction were offered to NCREE, and major issues were briefed and discussed. In the second visit, reconstruction and code revisions for social infrastructures including highways, railways, and port and harbor facilities following the Kobe were explained by engineers from the Public Works Research Institute, Port and Harbor Research Institute, and Railway Technical Research Institute.

The present volume presents the research outputs form the reconnaissance and data analysis of the Chi-Chi, Taiwan earthquake. It is hoped that the report will provide useful information on understanding the disaster and on enhancement of disaster reduction technologies.

December 2000



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