

Recent Flood Disasters in Korea and Japan: Similarity and Dissimilarity in Hydrologic and Social Aspects

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1. Introduction

Since the explosive economic development after the 1960s, Korea has emerged as one of the major economic powers in Northwestern Pacific region. However, the same growth in economy accompanied by a drastic change of social system made the country more vulnerable to exterior effects, namely natural disasters. Floods are the most common form of these natural disasters and the property damage by these disasters has continuously increased. It seems that there have been limitations in the ability to predict high-impact weather and fully utilize forecast information for the benefit of society.

This study examines social and scientific responses and countermeasures on historic natural disasters in Korea. By reviewing the recent typhoon and related flood damage of Korea and by comparing the situation with the one in Japan, this study intends to search the way to mitigate flood disaster of both countries.

2. Natural Hazards in Korea

Floods happen in Korea almost every year, especially during the summer monsoon season in which heavy rains and typhoons occur frequently. Severe windstorm events are much less frequent in Korea than extreme rainfall events. Korea's exposure to the other type of natural disasters such as earthquake and volcano eruption is relatively low or negligible.

Although life damage caused by natural disasters decreased during the past four decades, the property damage has been increasing as shown in Figure 1. Among all natural disasters, it has been estimated that the 80% of total property damage, amounting to an average cost of 50 billion KW per year, was

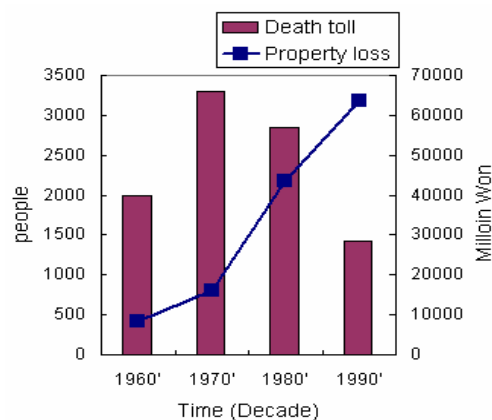


Fig. 1 Damages by natural disasters in Korea
(Source: MOCT, 2001)

caused by floods. Korea experiences one to three typhoons per year on the average, with most events occurring in August and September. Since 1945, 17 major typhoons directly affected Korea. Among them, Typhoon Rusa in 2002 and Maemi in 2003 caused significant damage to both property and loss of human lives.

3. Methodology

Natural disasters happen only when the natural impact encounter certain conditions. Such conditions in this case, are from topographic and geological characteristics, social change and economic development, and preparedness for disaster in structural and non-structural aspects. Based on this viewpoint, we need to consider all those conditions to analyze properly the Korean flood history. However, to avoid an unnecessary complexity, climatic, hydrologic factors and social change, such as population and economic growth would be firstly considered in this study. Subsequently, the legislative and administrative system will be reviewed to investigate the possible improvement in flood disaster mitigation.