The Study of All-hazards Disaster-Prevention Function And Evacuation Behavior- A Case Study in Jhubei

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Abstract

Taiwan is located on the West Pacific typhoon area and the Central Pacific seismic belt, so there are frequent earthquakes, storms, floods and landslides and other natural disasters. To minimize casualties and property loss caused by disasters, the Ministry of the Interior Architecture Research Institute in 2001 set out to formulate "Disaster Prevention Manual for Space Systems" (2001, 2003, 2007), which points out the most essential and long-term disaster management measures are compliance with local characteristics and all-hazards disaster mitigation strategy. With county municipality moving to Hsinchu Jhubei area in 1982 and jobs created by Hsinchu Science-based Industrial Park, the population grew from 77,003 for the year of 1995 to 133,294 for the year of 2009. Presently, Jhubei has replaced Jhudong as the primary regional center for Hsinchu County. As Jhubei has a complete urban planning with neat and organized urban space, a large number of employees from Hsinchu Science-based Industrial Park are attracted to reside here. Therefore, for a newly developed city, the urban disaster prevention plan for Jhubei area is especially important. In disaster prevention management, the mitigation strategies are generally divided into structural and non-structural measures. How to minimize possible threats to life and property due to disasters, conducting survey and analysis on civilian evacuation behaviors facing large scale disasters, and formulating disaster mitigation strategies based on civilian evacuation behaviors are the primary issues in non-structural measures. Through civilian questionnaire survey, this study considers all-hazards hypothetical questions and focuses on Jhubei urban planning area to conduct characteristic analysis on the selection of emergency shelter locations and civilian evacuation behavior. Besides, statistical test is also conducted to determine whether there is a

difference among the important factors in civilian evacuation behaviors when there is a fire, an earthquake or a flood. The result is provided as references for urban disaster prevention planning.

Keyword：All-hazards, Evacuation Behaviors, Disaster prevention cognition