

The Willingness to Pay of People in Taiwan for Flood Protection Standard of Regions

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Abstract : Due to the global climate change, it has increased the extreme rainfall that led to serious floods around the world. In recent years, urbanization and population growth also tend to increase the number of impervious surfaces, resulting in significant loss of life and property during floods especially for the urban areas of Taiwan. In the past, the primary governmental response to floods was structural flood control and the only flood protection standards in use were the design standards. However, these design standards of flood control facilities are generally calculated based on current hydrological conditions. In the face of future extreme events, there is a high possibility to surpass existing design standards and cause damages directly and indirectly to the public. To cope with the frequent occurrence of floods in recent years, it has been pointed out that there is a need for a different standard called FPSR (Flood Protection Standard of Regions) in Taiwan. FPSR is mainly used for disaster reduction and used to ensure that hydraulic facilities draining regional flood immediately under specific return period. FPSR could convey a level of flood risk which is useful for land use planning and reflect the disaster situations that a region can bear. However, little has been reported on FPSR and its impacts to the public in Taiwan. Hence, this study proposes a quantity procedure to evaluate the FPSR. This study aimed to examine FPSR of the region and public perceptions of and knowledge about FPSR, as well as the public's WTP (willingness to pay) for FPSR. The research is conducted via literature review and questionnaire method. Firstly, this study will review the domestic and international research on the FPSR, and provide the theoretical framework of FPSR. Secondly, CVM (Contingent Value Method) has been employed to conduct this survey and using double-bounded dichotomous choice, close-ended format elicits households WTP for raising the protection level to understand the social costs. The samplings of this study are citizens living in Taichung city, Taiwan and 700 samplings were chosen in this study. In the end, this research will continue working on surveys, finding out which factors determining WTP, and provide some recommendations for adaption policies for floods in the future.

Keywords : climate change, CVM (Contingent Value Method), FPSR (Flood Protection Standard of Regions), urban flooding

Conference Title : ICAUP 2018 : International Conference on Architecture and Urban Planning

Conference Location : Bangkok, Thailand

Conference Dates : February 08-09, 2018