

Learning from Flood: A Case Study of a Frequently Flooded Village in Hubei, China

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Abstract : Resilience is a hotly debated topic in many research fields (e.g., engineering, ecology, society, psychology). In flood management studies, we are experiencing the paradigm shift from flood resistance to flood resilience. Flood resilience refers to tolerate flooding through adaptation or transformation. It is increasingly argued that our city as a social-ecological system holds the ability to learn from experience and adapt to flood rather than simply resist it. This research aims to investigate what kinds of adaptation knowledge the frequently flooded village learned from past experience and its advantages and limitations in coping with floods. The study area - Xinnongcun village, located in the west of Wuhan city, is a linear village and continuously suffered from both flash flood and drainage flood during the past 30 years. We have a field trip to the site in June 2017 and conducted semi-structured interviews with local residents. Our research summarizes two types of adaptation knowledge that people learned from the past floods. Firstly, at the village scale, it has formed a collective urban form which could help people live during both flood and dry season. All houses and front yards were elevated about 2m higher than the road. All the front yards in the village are linked and there is no barrier. During flooding time, people walk to neighbors through houses yards and boat to outside village on the lower road. Secondly, at individual scale, local people learned tacit knowledge of preparedness and emergency response to flood. Regarding the advantages and limitations, the adaptation knowledge could effectively help people to live with flood and reduce the chances of getting injuries. However, it cannot reduce local farmers' losses on their agricultural land. After flood, it is impossible for local people to recover to the pre-disaster state as flood emerges during June and July will result in no harvest. Therefore, we argue that learning from past flood experience could increase people's adaptive capacity. However, once the adaptive capacity cannot reduce people's losses, it requires a transformation to a better regime.

Keywords : adaptation, flood resilience, tacit knowledge, transformation

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