

Technologies and wisdom in housings and buildings for protecting our lives from river floods

*Kazuo Tamura¹

1. Seismic Design Laboratory

There exist many areas which have high risk of flood damages in Japan. River dykes or dams have been constructed to suppress flood damages. However, these countermeasures are not enough, in the condition that severe meteorological phenomena with heavy rainfalls become more frequent. We should make use of technologies and wisdom or ideas in the field of buildings to protect our lives or to maintain our living environment. The river management of the whole river basin, with planning the houses or buildings of the area, is necessary against these severe conditions.

In this presentation, the author explains current situation and applicable technologies of building structures, focusing on maintaining safety of our lives against river floods.

For example, raising the ground level of the building is one selection for the countermeasure against floods. Another idea is to construct high strong foundation walls under the wooden housing to avoid flooding. The piloti structure whose first floor is supported by columns with no walls is effective to decrease flood water pressure to the building. The base isolated building on the piloti structure can decrease both flood load and earthquake load.

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