

## Reducing Flood Risk through Value Capture and Risk Communication: A Case Study in Cocody-Abidjan

**Authors :** Dedjo Yao Simon, Takahiro Saito, Norikazu Inuzuka, Ikuo Sugiyama

**Abstract :** Abidjan city (Republic of Ivory Coast) is an emerging megacity and an urban coastal area where the number of floods reported is on a rapid increase due to climate change and unplanned urbanization. However, comprehensive disaster mitigation plans, policies, and financial resources are still lacking as the population ignores the extent and location of the flood zones; making them unprepared to mitigate the damages. Considering the existing condition, this paper aims to discuss an approach for flood risk reduction in Cocody Commune through value capture strategy and flood risk communication. Using geospatial techniques and hydrological simulation, we start our study by delineating flood zones and depths under several return periods in the study area. Then, through a questionnaire a field survey is conducted in order to validate the flood maps, to estimate the flood risk and to collect some sample of the opinion of residents on how the flood risk information disclosure could affect the values of property located inside and outside the flood zones. The results indicate that the study area is highly vulnerable to 5-year floods and more, which can cause serious harm to human lives and to properties as demonstrated by the extent of the 5-year flood of 2014. Also, it is revealed there is a high probability that the values of property located within flood zones could decline, and the values of surrounding property in the safe area could increase when risk information disclosure commences. However in order to raise public awareness of flood disaster and to prevent future housing promotion in high-risk prospective areas, flood risk information should be disseminated through the establishment of an early warning system. In order to reduce the effect of risk information disclosure and to protect the values of property within the high-risk zone, we propose that property tax increments in flood free zones should be captured and be utilized for infrastructure development and to maintain the early warning system that will benefit people living in flood prone areas. Through this case study, it is shown that combination of value capture strategy and risk communication could be an effective tool to educate citizen and to invest in flood risk reduction in emerging countries.

**Keywords :** Cocody-Abidjan, flood, geospatial techniques, risk communication, value capture

**Conference Title :** ICLMED 2016 : International Conference on Land Management and Economic Development

**Conference Location :** Montreal, Canada

**Conference Dates :** July 14-15, 2016