

## Research Summary

Ayutthaya Cultural Heritage Sites are exposed to various kinds of risks not only from natural hazards flood factor but also from various man-made factors such as urbanization, development pressures, poverty and misconceptions. This study is especially adopt and adapt the Japanese of flood disaster in new approach of improvement by empowering people for 'living' heritage sites, where some aspects of heritage are still living or where remains from the past exist in a new living environment. Both these dimensions have their own specific characteristics as well as associated risks, which most often originate from the settings of these sites; (1) to analyze the spatial vulnerability assessment of the World Heritage City of Ayutthaya by Analytical Hierarchy Process (AHP) and Potential Surface Analysis (PSA) techniques; (2) to clarify how to build community based mitigation for flood prevention in Ayutthaya the World Heritage for precondition, damage reduce and rapidly in Ayutthaya the World Heritage; (3) to analyze the spatial vulnerability assessment of the World Heritage City of Ayutthaya by Analytical Hierarchy Process (AHP) and Potential Surface Analysis (PSA) techniques; (4) to explain principles of learning by doing through a gaming simulation for flood prevention in Ayutthaya Historic City; and (5) to focus on how to rescue a cultural heritage form flood disaster.

The study after evaluation of risk areas of Ayutthaya Cultural Heritage Sites, the utilization of geographic information systems (GIS) at spatial vulnerability assessment. Spatial multi-criteria decision analysis is into GIS, in particular spatial analysis extension in the ArcView 3.2 a release, is described. The research method comprised the document related with the community based mitigation, a field survey by observation, interviews, and questionnaire; (20 resident in depth-interview and 50 residents by with interview). The paper showed the significant risk factor occurred by man-made vulnerability, the end result of a decision-making process is a recommendation for future policy in the historical monument sites, Ayutthaya World Heritage. Besides these findings provide a framework that brings community based mitigation networks; 1) the residents settle along the Chao Phraya River, that they do not worry about flood's problems to impact of their way of living and the world heritage, because the coexistent of human and flood occur in their way of living., 2) the network of community based mitigation shows that residents have closely related among brotherhood networks more than other groups to safe network from flooding, and the brotherhood has closed in horizontal networks among community's collective action for flooding mitigation and heritage prevention., 3) the residents have be identity to Buddhism and Buddhism Temple, the relationships of social group are still a cohesive force to build community based heritage prevention, although Buddhism temples doesn't organize residents networks. The notion of community organizations shows flood mitigation in the world heritage as follows; a) Community groups integrated brotherhood networks attached with Buddhism believes (Village Level, for flooding mitigation), b) Residential groups of heritage protection will construct by believe of each temple or remains (Meta village level, for heritage prevention). Moreover, the study has proposed a method of wake up residents' awareness to Ayutthaya the world heritage flood protection by experimental methods which are under development to awaken residents' risk cognition on flooding. Tendency of flood prevention was mitigated by public planner and residents' effort to build community based flooding mitigation and heritage protection system in Ayutthaya. 1) Amount of annual donation was estimation at 93-576 Million Baths (2.66 - 16.46 Million Dollars) 2) Donation Attitude of Thai and foreigner tourists is significant different, the different was including the socio-economic characteristic, awareness and willingness to participate in cultural heritage. 3) From of donation reward, foreigner tourists expect permission of visiting special spots in return while Thai tourists expect some unique souvenirs in return. 4) Tourists with awareness in cultural heritage as well as willingness to participate in the heritage conservation have tends to pay high donation level in well prepare and convenience to donation systems.

Publication of the Results of Research Project:

Verbal Presentation (Date, Venue, Name of Conference, Title of Presentation, Presenter, etc.)

August, 2008, Spatial Vulnerability Assessment of the World Heritage City of Ayutthaya Province, Thammasat University

July 2009, Disaster Mitigation of Urban Cultural Heritage, Ritsumeikan University, Kyoto, Japan  
“New Approach of Community Based Development for Disaster Mitigation by Green Map”

Thesis (Name of Journal and its Date, Title and Author of Thesis, etc.)

Book (Publisher and Date of the Book, Title and Author of the Book, etc.)

Adopting and Adapting the Japanese of Floods Disaster and Historical City Preservation: New Approach of Improvement” People Empowering for Disaster Prevention”, Thammasat University