# A Prototype of Community Cooperation Game:

## A Simulation Game of Community Based Flood Disaster Management

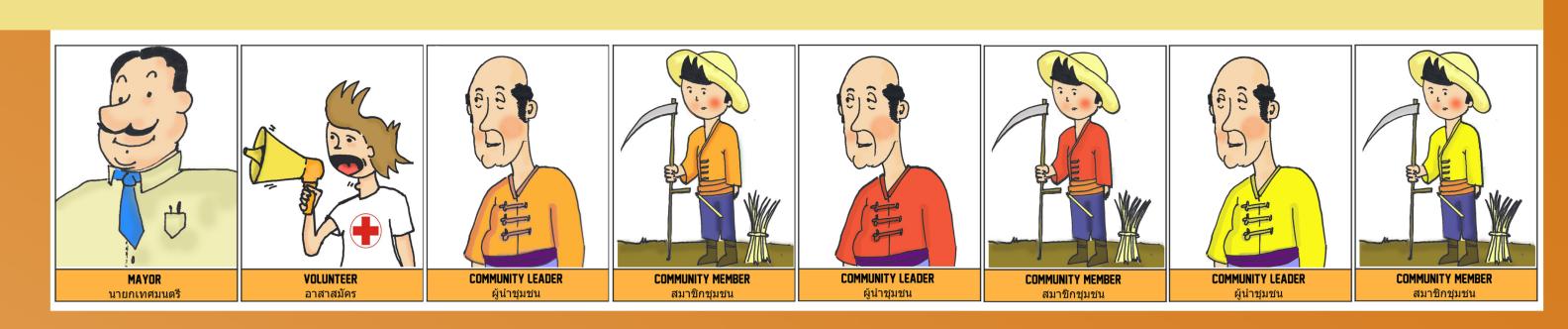
46th ISAGA Conference 2015 "Hybrid Simulation and Gaming in the Network Society" July 17th – July 21st, 2015 | Kyoto, Japan

Puntita Tanwattana, Environmental Research Institute, Chulalongkorn University, Thailand, Puntita.t@chula.ac.th Yusuke Toyoda, Graduate School of Policy Science, Ritsumeikan University, Japan, toyoday@fc.ritsumei.ac.jp

#### **Objectives**

- (1) Encourage community based flood disaster management approach
- (2) Promote cooperation between local community and local government
- (3) Provide opportunity for mutual decision making on disaster management

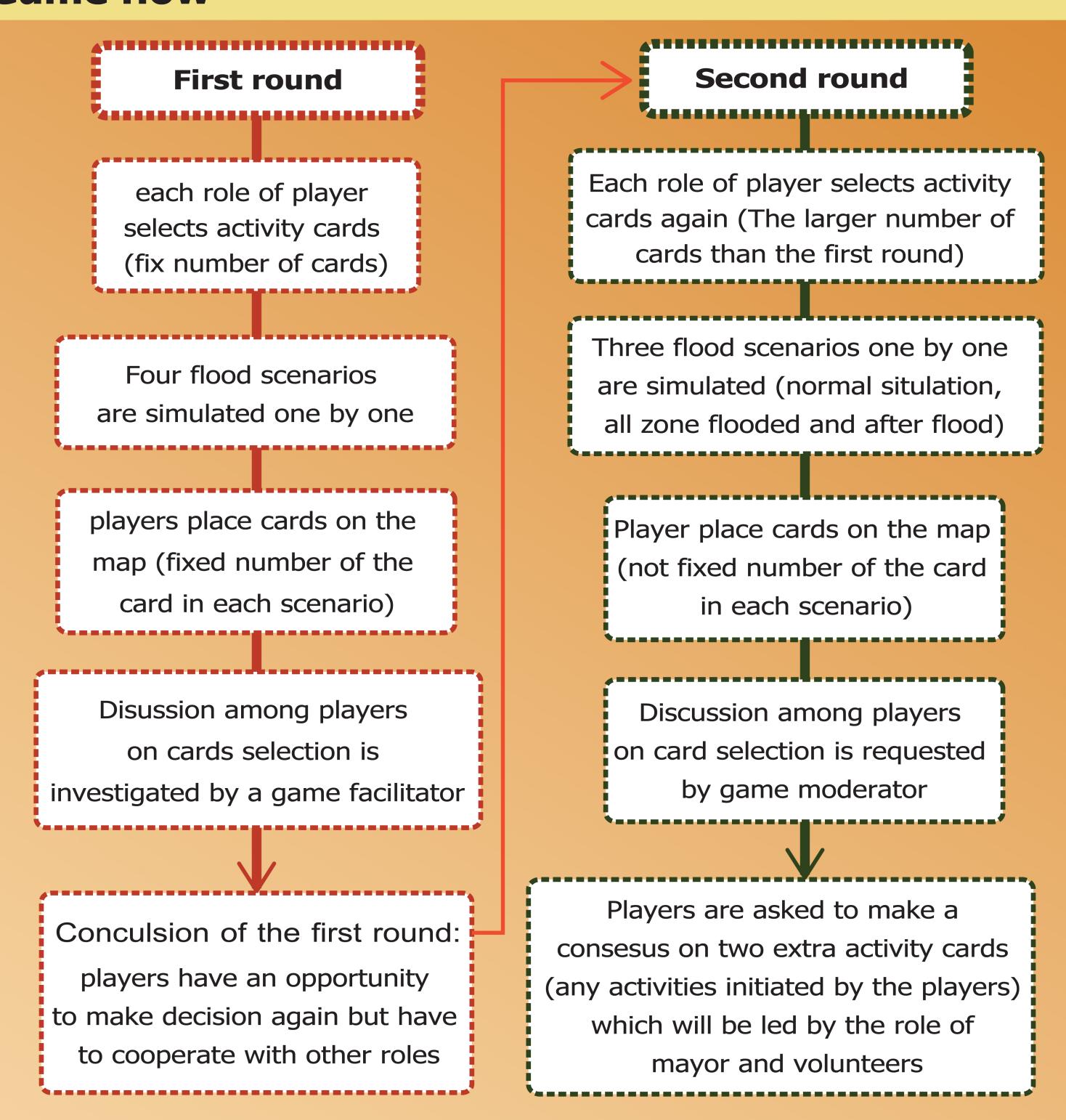
#### Roles



#### **Game Rules**

- (1) Players select activity cards according to their roles and levels of thier risk in different zones
- (2) Players are asked to discuss within a group to make decisions
- (3) Players decided to place thier cards on the map for each scenarios
- (4) The game will play two rounds with different scenarios

#### **Game flow**



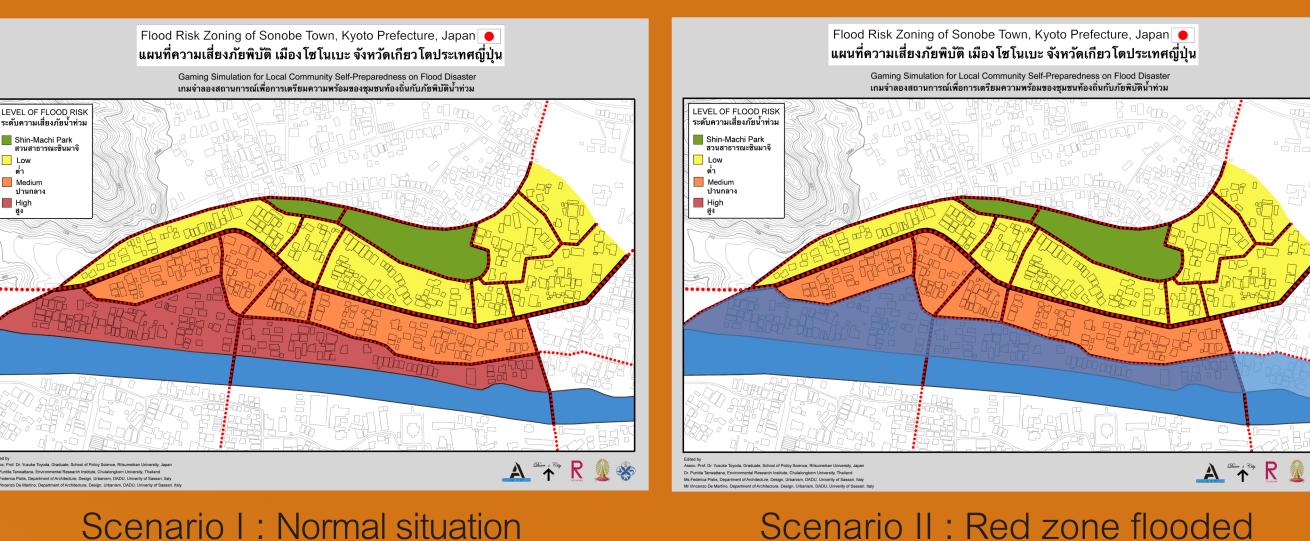
#### Debriefing

Debriefing of the game is led by a game moderator and feedback of card selection is given and players discuss it. Meaning behind each rule of the game are clarified that:

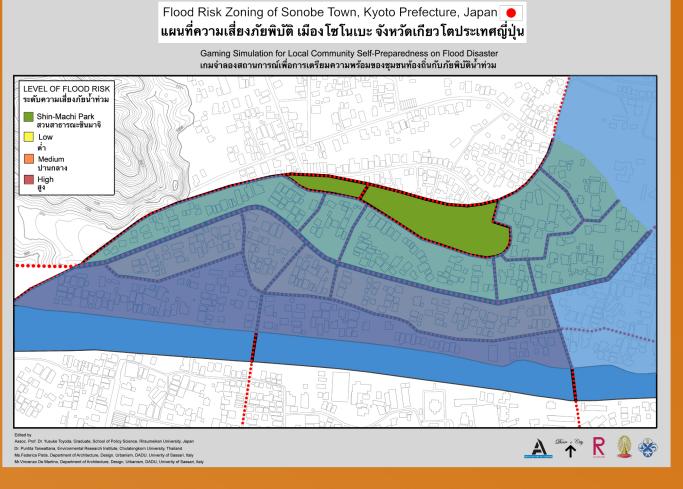
- (1) zoning of flood risk levels and each scenario of flooded areas aim at encouraging community preparedness
- (2) role play which represents stakeholders is for promoting cooperation and participation
- (3) activity cards are supporting community learning process for flood disaster management cycle
- (4) selecting cards is a process to promote mutual decision making and cooperation
- (5) placing cards is an opportunity for mutual decision making for resource sharing by balancing between householdand and community benefit
- (6) extra cards is a stage for discussion on future solutions and a simulation of planning for preparedness and majority decision making

Acknowledgement: Miss. Federica Pistis and Mr. Vincenzo De Martino, Department of Architecture, Design, and Planning, University of Sassari, Italy

#### **Scenarios - Flood situation in each zone**



Scenario I: Normal situation



Scenario III: All zone flooded

Flood Risk Zoning of Sonobe Town, Kyoto Prefecture, Japan แผนที่ความเสี่ยงภัยพิบัติ เมืองโซโนเบะ จังหวัดเกียวโตประเทศญี่ปุ่น Gaming Simulation for Local Community Self-Preparedness on Flood Disaste เกมจำลองสถานการณ์เพื่อการเตรียมความพร้อมของชุมชนท้องถิ่นกับภัยพิบัติน้ำท่วม

Scenario IV: After flooded

**ต**ั้งศูนย์ประสานงานฉุกเฉิน

### **Activity cards:**

เก็บของ/ย้ายรถ



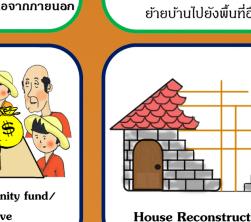




บัตรกิจกรรมพิเศษ















**Applying Game Prototype:** 

This game prototype was applied to different target groups; local communities in Thailand, university students in Thailand and Japan and junior high school and high school students in Thailand. The prototype will be redeveloped and applied as a training mechanism for local areas.

