

# OHARA LAB.

## Design future disaster resilience

Department of Human and Social Systems



Engineering for Disaster Risk Reduction

Interfaculty Initiative in Information Studies

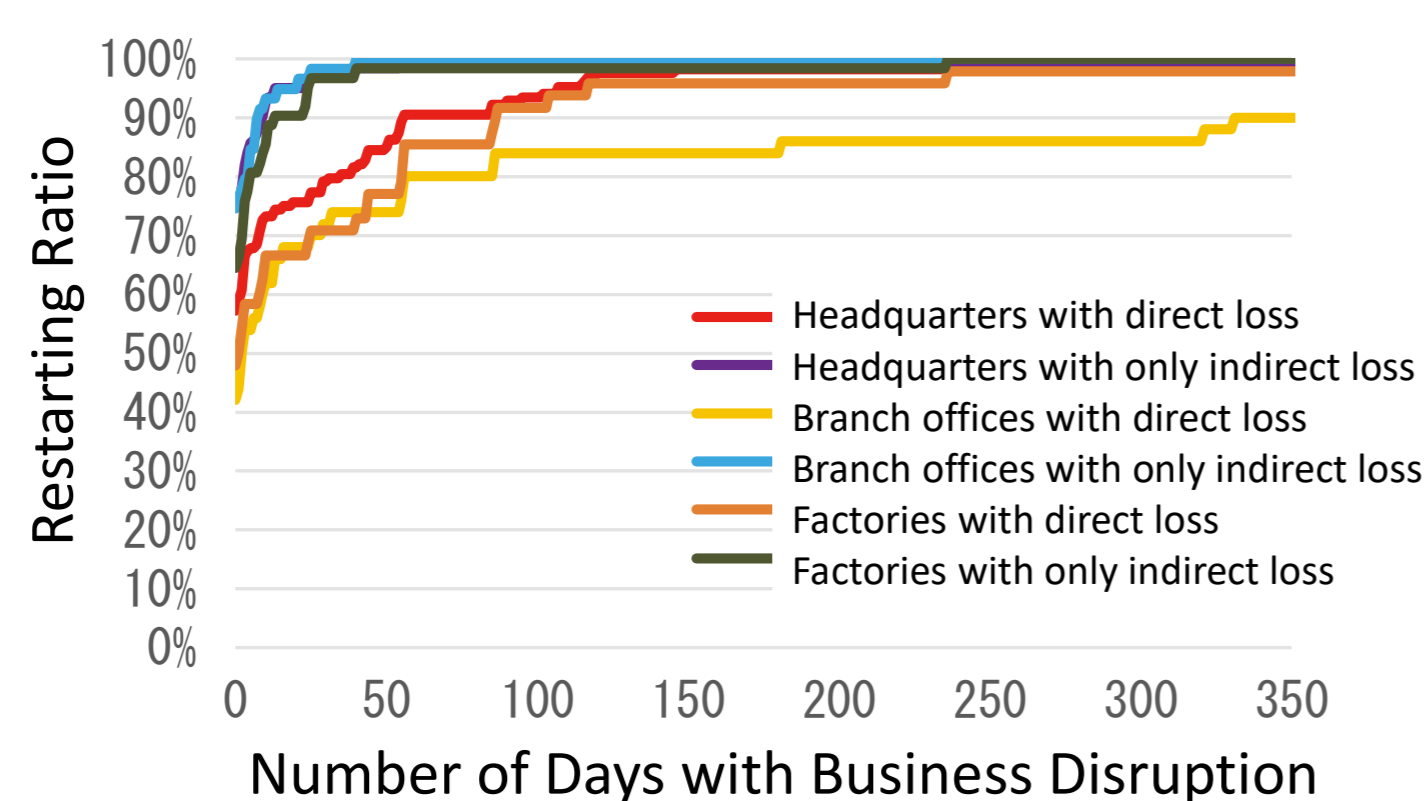
Department of Civil Engineering, Graduate School of Engineering

## Designing Future Disaster Resilience

To build a disaster-resilient society, we need to learn appropriately from past disasters, anticipate disaster in the context of short- and long-term and design future disaster resilience of our society so that our future will be what it should be. A society's disaster resilience consists of four elements: robustness, quick recovery, emergency response, building back better. How to achieve the best balance among these four elements is the key for future disaster resilience. Ohara Lab. is engaged in the following four topics to realize a society that will have no regrets under the future disasters.

### ① Assessment of Disaster Resilience

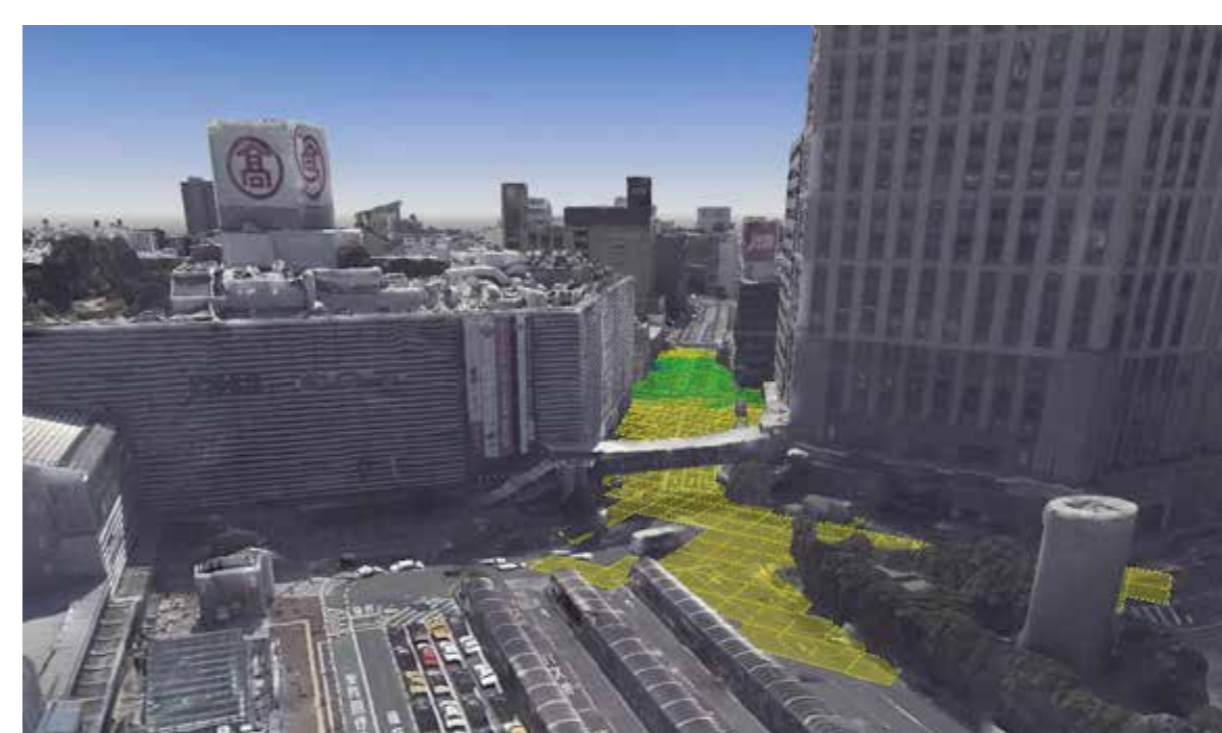
- Post-disaster recovery curve of productivity of companies
- Post-disaster recovery curves for communities



Curves for restart of companies after the torrential rainfall disaster in July, 2018.

### ② Visualization of Disaster Risk

- Visualization of disaster risk in a digital twin environment
- Support for planning and training with these technologies



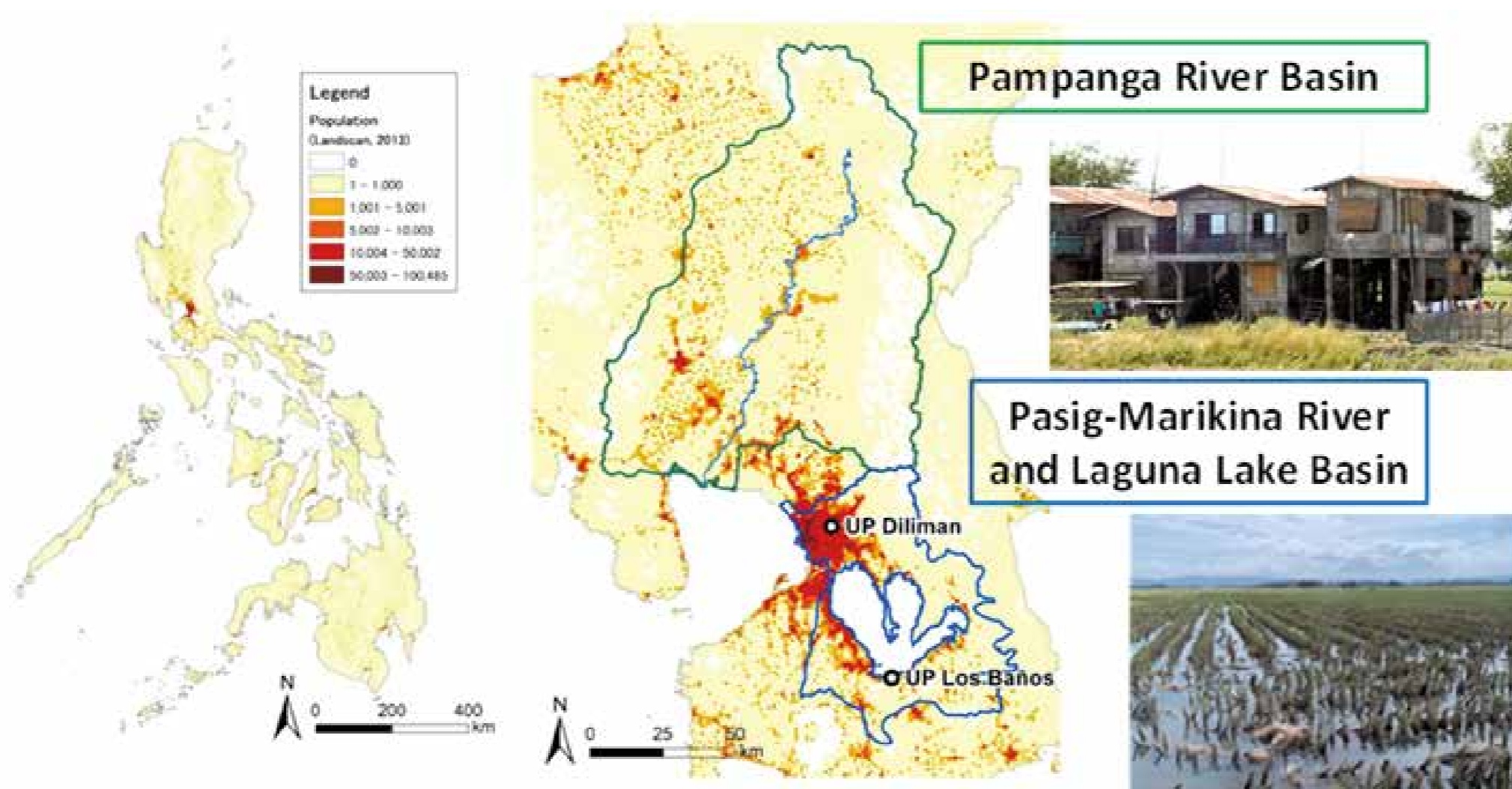
3D visualization of river flood



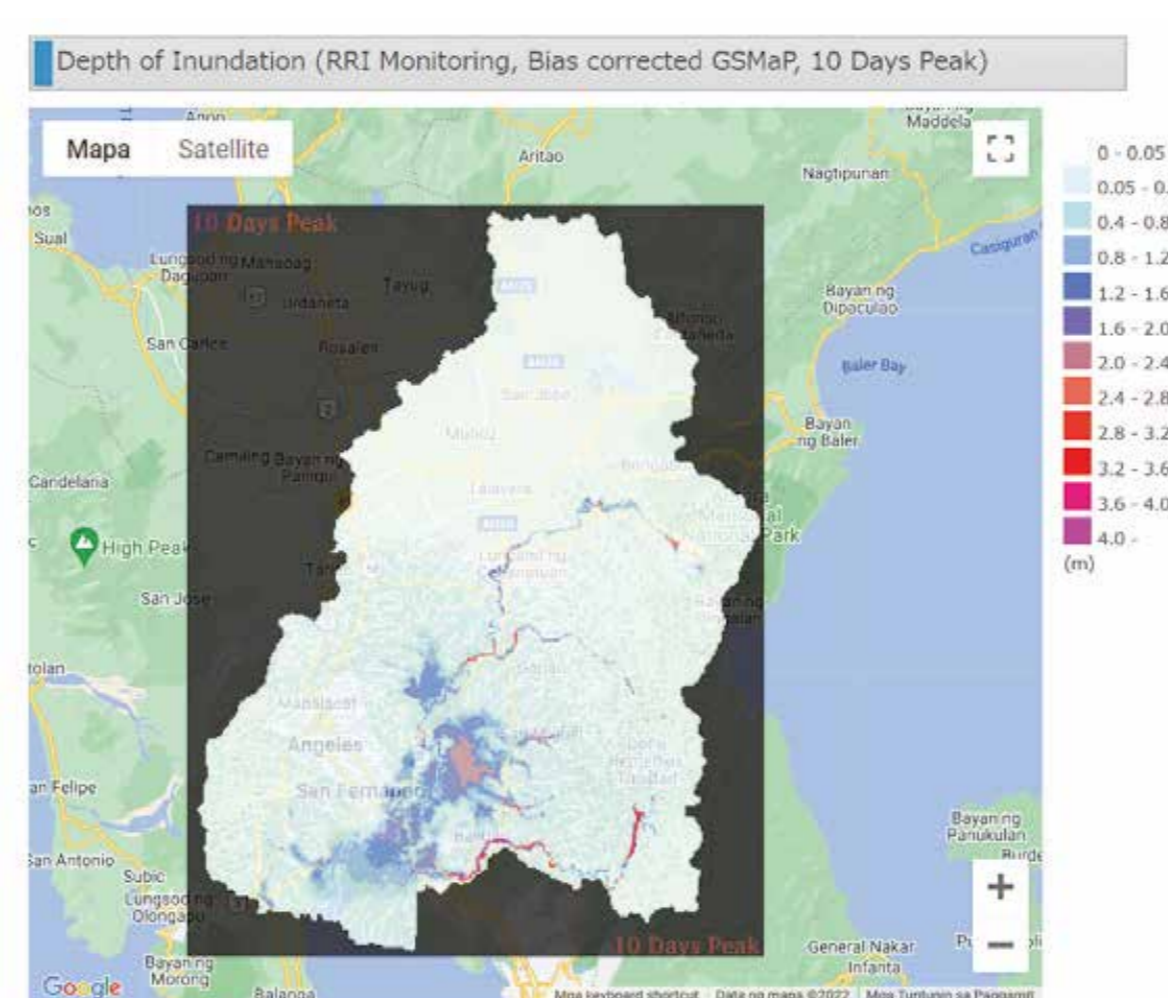
Workshop with stakeholders

### ③ Policy Recommendation for Implementing Disaster Resilience in Real Society

- Water-related disaster risk assessment and climate change adaptation policy study in the Philippines under SATREPS Project funded by JST and JICA



Target river basin under the project



Flood monitoring in the Pampanga river basin in Luzon islands, Philippines with Dr. Yasukawa

### ④ Capacity Development for Anticipating Future

- Capacity development of emergency response by learning “tense moment” under disasters
- Education with AI support



Training for local government officers