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## Introduction

- Recent disaster patterns **turn into compound disasters\*** which have more uncertainty, complexity, and lower probability, but higher consequences.<sup>1, 2</sup>

\*Unexpected successive and simultaneous disasters that have a variety of impacts on physical, socio-demographic, and environmental aspect in a wide area<sup>7,8,9</sup>

- Even though the relevant actors<sup>3</sup> have put great efforts to reduce disaster risks and protect citizens, **the role of the local community** is becoming more prominent measuring effective disaster risk management (DRM) at the local level.<sup>4,5</sup>
- Local stakeholders, especially local community as a **partner** of related actors, are required to be included in the local disaster risk management system for future disasters.<sup>6</sup>

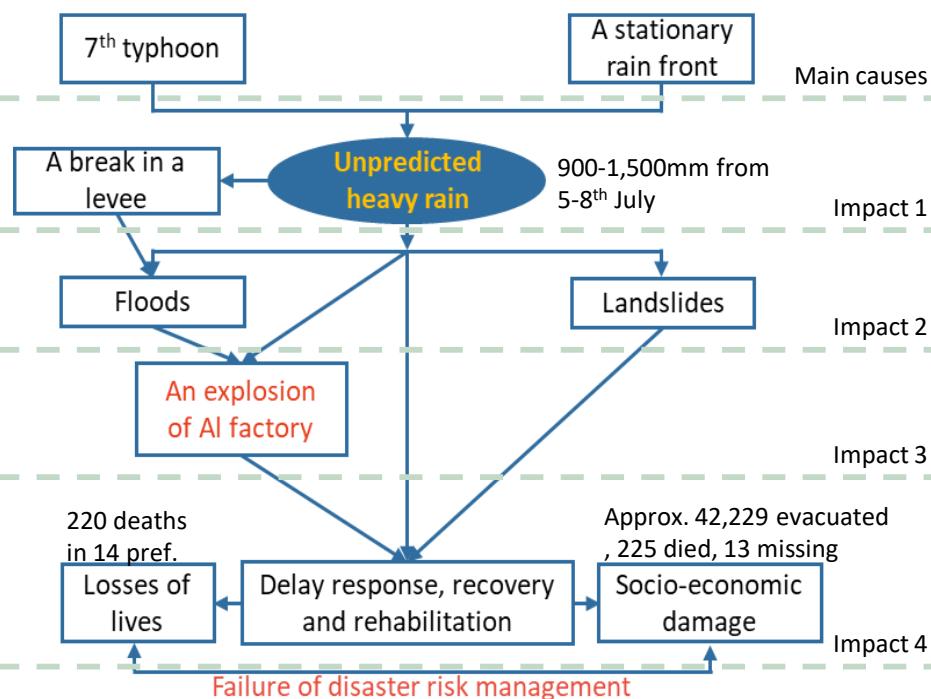
## Research Objective

*What was the disaster response by the local community?, and what key factors determined their coping capacity?*

To identify how the local community, as a part of the stakeholders, organized the local disaster risk management system and improved their disaster resilience through IRGC's risk governance model.

## Overview of the Case

- Heavy rain and floods in West Japan, 2018



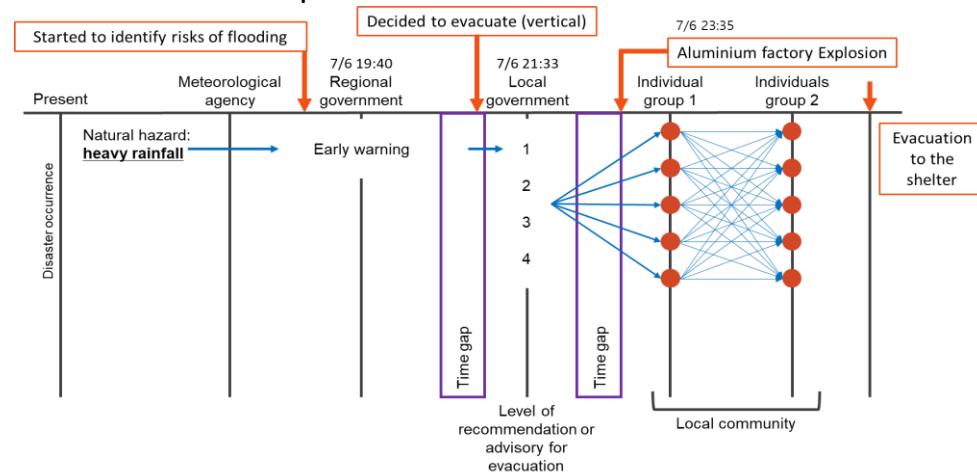
- Case area: Shimobara district, Soja-city, Okayama prefecture
- Study target: local disaster prevention group and local DRM

## References

- Pescaroli and Alexander (2015). cascading disasters and cascading effects
- Merz et al. (2011). "high probability/low damage" vs "low probability/high damage"
- O'Brien et al. (2006). Climate change and disaster management
- Twigg and Mosel (2017). Emergent groups and spontaneous volunteers
- Briones et al. (2018). Local responses to disaster
- Alexander (2015). Disaster management
- Kawata (2011)
- Leonard et al. (2014)
- UNISDR (2014) compound disaster

## Result

- Local disaster response flow



- Key factors of the local disaster risk management

<b>Organization</b> Organized by the local community and the local government after the GEJE since 2012	<b>Preparation</b> Drafting disaster management plan every 3 year Disaster education, training, evacuation drill
<b>Perception</b> A strong spirit of togetherness and high level of risk perception within the local community	<b>Collaboration</b> A good collaborative relationship with other stakeholders such as local government, fire department, NGOs, academics as well as neighboring or remote communities

## Discussion

- Strengths and weaknesses of the local disaster risk management analyzed by IRGC's risk governance framework

	Strengths	Weakness
Communication, engagement	<b>Communication</b> • Collaboration among local stakeholders • Engagement of local community in DRM	<b>Resilience</b> • Coping capacity= Literacy + local knowledge + past experiences
Risk management	<b>Compound disaster risk management</b> • Flexible compound DRM with semi bottom-up approach • Participation in developing a plan • Future-oriented DRM	<b>Risk identification</b> • Identification of on-site risk and regional characteristics • Compound disaster scenario

- The strengths of the local DRM are good communication among local stakeholders and a well organized local disaster risk management plan.
- The weaknesses are lower coping capacity for compound disaster and risk assessment and appraisal on the chemical accident risks.

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