

# **Social Vulnerability, Resilience and Mega-Disaster**

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# Observations of Social Vulnerability

- *Impact is not in a linear relationship with social vulnerability. It seems to have a threshold for Mega-disaster*
- *There is a hung gap to apply the concept social vulnerability into spatial planning/land use practices. It needs multi-disciplinary collaborations*

# Observations of Social Vulnerability

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- *The social vulnerability and resilience in different spatial scale will influence each other*

## **Social Vulnerability, Resilience and Mega-Disaster**

### *1. Social vulnerability is not in linear function. It seems to have a threshold for Mega-disaster*

To measure the extent of social vulnerability is a challenged task. Mostly we assume the social vulnerability is in linear function. However, the extent of social vulnerability seems to have threshold for Mega-disaster. For example, the 2009 Typhoon Morakot cause landslide in Xiaolin Village, which killed the entire residents 474 people no matter the extent of the household social vulnerability. Therefore, in term of mega-disaster, it is important to figure out the threshold before the disaster occurrence.

- In term of the disaster severity, there is a threshold for vulnerability. When the severity of the disaster crosses the threshold, the devastated losses occur.
- The threshold is not easy to accurately decide/calculate because of its complicated component. However, this concept is very important for emergency management operation. Thus, how to apply this concept into practice.
- Moreover, resilience will also influence the extent of vulnerability.

*2. There is a hung gap to apply the concept social vulnerability into spatial planning/ land use practices. It needs multi-disciplinary collaborations.*

The social vulnerability related indicators have been developed by the emergency/disaster management society these years. However, very few land use planners as well as engineers apply the results of social vulnerability analysis into spatial planning or public constructions. It is necessary to establish a bridge to connect emergency management society and planning/engineering society. But what kind of dialogue is important among these societies? How to encourage these kinds of dialogue?

3. *Culture factor play a key role for aboriginal group in both social vulnerability and resilience*

From the vulnerability and resilience research related literature, financial factor is usually the most important one in household level. However, the case for aboriginal group recovery after Typhoon Morakot shows the different experience. The government collaborated with NGOs and enterprises commit to provide free permanent housing as well as jobs for victims, as long as they agree to relocate in safety areas. But we can find that most of the aboriginal groups choose to move back to the impacted areas where are very vulnerable to debris flow/landslide. In their culture, the land inherited from ancestors should be cherished. And they are used to live in mountain areas. Therefore, culture factor is more important than financial one.

- Culture factor, for example, the definition and recognition of “home” is very different among different counties and racial groups.
- Long-term living experience will be transformed as part of culture. For example, in traditional aboriginal culture, people are taught to distinguish environmental risk and what action should be taken to keep safe.
- It is an important research issue to sort out social vulnerability and resilience indicators from culture factors among racial groups.

*4. The social vulnerability and resilience in different spatial scale will influence each other*

For example, during the typhoon Morakot emergency period, the response from central government as well as the mobilization of private sector significant influenced the social vulnerability and resilience of the local impacted area. Therefore, it is worth to discuss the interaction of social vulnerability and resilience among different spatial scale.