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Kyoto University
Enhancing Climate-related Disaster Resilience through Effective Risk Communication in Bandung, Indonesia

2014

Farah Mulyasari
Enhancing Climate-related Disaster Resilience through Effective Risk Communication in Bandung, Indonesia

A Thesis Submitted for the Fulfillment of Doctoral Program in Global Environmental Studies

2014

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Executive Summary

1. Background of Dissertation
Since the past decades, the rising pressures of climate-related disaster risk due to climate change are impacting cities increasingly. Coupled with the emerging urban risks, described as stresses, such as the ever-growing urban population in terms of urbanization, leads to inadequate resources for cities to fulfill its services to citizen. Particularly for Asian cities, where the trend of urban population is observed increasing, cities aggravated by disasters will exacerbate the underlying risks such as issues closely link to urban poverty, pressure on land that is causing informal settlements that push people migrating and living in high-risk conditions and being exposed to disaster events, lack of basic supplies and ecosystem services, loss of urban green spaces, unplanned development, inadequate health, lack of sanitation and improper solid waste management. It is also observed that the increasing climate-related disasters in urban areas, shaping as high frequent and low consequent events such as regular floods and local inundations, in the context of climate change, are the driving force for cities in Indonesia, as being one of the most disaster prone countries in the world, to urgently address locally these threats; since the impact of disasters in terms of affected people and damages, are largely felt at the local level. Consequently, against this backdrop, medium size cities in Indonesia, which has the potential of growth, such as Bandung, are frequently affected from these local inundations. This high frequency of local inundations have been affected people and caused economic damages in Bandung. Therefore, Bandung City has to be resilient, competent and sufficiently resourced to reduce this climate-related disaster risks. To carry out proper risk reduction actions, resilience needs to be assessed, and risks need to be informed to communities. Consequently, risk communication process highlights as the crucial element in the enhancement of disaster resilience.

2. Research Objectives, Hypothesis, and Questions
The aim of this research is to understand the linkages between emerging urban risks, increasing trends of climate-related disasters, and resilience through risk communication.

Hypothesis:

*Effective risk communication approaches between government and community enhance the disaster resilience”*

Research questions:
- To what extent are city and its sub-city entities resilient to climate-related disasters?
- What are the risk communication approaches in the community that can enhance the disaster resilience?
- How is the effective risk communication approach contributes to disaster resilience?
The objectives are as follows: firstly, to assess disaster resilience of urban area at city and its sub-city entities towards climate-related hazard such as high frequent and low consequent floods, secondly, to identify risk communication approaches at community level to enhance the resilience, and to formulate effective risk communication approaches for a disaster resilient community.

Figure E.1 highlights the hypothesis and research questions of this dissertation, which have been addressed through literature review; fieldworks in the form of questionnaire surveys, workshops, focus group discussions, interviews; and gathering and analyzing secondary data.

3. Model of Risk Communication Approach for Disaster Resilience in Bandung

The model of effective risk communication approach is that it enables the integration of resilience assessment and risk communication in allowing the two-ways communication processes between city and its citizen, between government and communities, takes place (Figure E.2). It is comprehensive, hence it involves all actors, approaches, means, sector-wise, and time-scale based. It is integrated, hence it assimilates two approaches namely resilience assessment and risk communication process, blending local government and community efforts to act upon improvements in resilience in achieving ultimate disaster risk reduction; with the media as the connector and mediator in bringing the gaps and issues, concerns, and needs of both sides, government and community closer. The Multi-Stakeholders Platform for risk communication (MSP RC) at the city level is the key forum in addressing the aspects collaboratively in seeking ways, solutions, strategies, and plans; and to set planned actions in operationalization, key local stakeholders such as government and agencies, academe, private sector, CBSOs, and other organizations are strongly involved. This risk communication approach is called network practices. Subsequently, risk communication approaches at the community level, Community-Based Society Organizations, such as Women Welfare Associations (WWAs), Youth Unions (YUs), and Faith-Based Organizations (FBOs) are strengthening the process. With their respected DRR activities as Single Platform for risk communication (SP RC), risks information and key messages are transformed and conveyed to communities. This risk communication approach is called community practices. Finally, it is two-ways, hence a process of exchanging risk information between city and community takes place; where concerns, prioritization of actions, and needs are communicated and addressed. It is reciprocating, creating a two-way of communication of informed decision and actions, knowledge, and messages between government and community through media practices and local risk communication. To have a comprehensive approach of risk communication, three indispenisible elements should be in place; network practices, community practices, and media practices. The contents of each practice are subject to and contextualized to each area's condition. For example, it may happen in other area that in community practices, CBSOs other than WWAs, YUs, and FBOs are arising and identified as local champions and risk communicators to community. The bottom line is that there should be local actors and local actions that drive community to take actions in enhancing the resilience, as in accordance with the fundamental principle of risk communication that it triggers people to act, correctly.
4. Key Findings on Effective risk communication approach in enhancing the resilience of Bandung

The implementation of resilience assessment through CDRI methodology in the study is an approach to institutionalize local initiatives in risk reduction and city development and local governance that are not enough reflected in the national context. Key findings drew from the assessment at the city level supports the Government of Bandung City in pointing out weaker and stronger sectors in stimulating action planning of DRR and resilience activities. Socially, institutionally, and economically are measured weak at city level. On the contrary, these sectors are strong in sub-city level; whereas this sub-city level assessment helps in contextualizing specific DRR and resilience actions by local actors, such as WWAs, Youth YUs, and FBOs, as the most active CBSOs at neighborhoods in Bandung. Through women’s, youth’s and mosque leaders’ social, institutional, and economic activities, risks are informed and DRR are implemented and therefore it underpins the promotion of local governance in city. WWAs have proved through SIERA approach to be effective in communicating risk in pre-disaster period. Awareness and drill and emergency warnings, as well as establishing early waning system with local
authority and informing, updating disaster status to local authority are as most conducted WWAs’ risk communication. Women’s activities are strong in social issues, specifically on population and health issues, of which these are the platform in engaging communities in DRR and resilience. Due to WWAs’ nature of organization, their activities are inline with governmental programs and thereby WWAs in Bandung contribute in city development. The YUs are mostly active in during disaster period. Most of the members of the active YUs (40%) are members of TAGANA (Youth Disaster Preparedness Unit) in Bandung. This affects YUs’ skills and knowledge during emergencies, such as mobilization of youths as first responders and fund raising. Due to involvement of TAGANA, YUs are strong in institutional sector and have close networking with local agencies and authorities, such as sub-district and ward governments, as well as Bandung Social Service. Most distinguished YUs’ risk communication is data collection of disaster losses and communicating these to officials. Additionally, mosque leaders within FBOs engage in humanitarian aspects. Key findings point out that mosque leaders in Bandung are determinant figures within communities and neighborhoods in mobilizing all community members in taking DRR actions. FBOs are strong in socio-economic sector. Mosques’ activities provide communities the psychological solace in post-disaster and its construction enable as community evacuation shelters due to its simple yet complete facilities; thus made FBOs as place-based risk communicators. Lastly, the media practices, such as radio, newspaper, and television support the dissemination of risk information to citizen in Bandung. Coupled with local risk communication interfaces, such as community radio, neighborhood network, local annual and weekly coordination meetings of development planning between government and community, risk communication process between city and community is strengthened. Therefore, the conducted resilience assessment through Climate-related Disaster Resilience Index (CDRI) initiates the translation of planning into action through CBSOs’ Social Institutional Economic Resilience Activities (SIERAs). The strength of the three CBSOs is showcasing local practices in risk reduction within the community, enhancing resilience, and contributing to city development and local governance. CBSOs’ activities serve as the risk communication platform and create concerned citizen in Bandung.

5. Way Forward
The study of enhancing climate-related disaster resilience through effective risk communication in Bandung, Indonesia has brought some deep thoughts on further investigations and tries to identify recommendations and innovative ideas as future research scope. But the most urgent issue that needs to be taken up by the Government of Bandung City is institutionalization of regular assessment. Resilience assessment needs to be regularly updated and it should be included in the annual working program of Government of Bandung City. It will reduce the gap horizontally (bring governmental agencies closer in terms of coordination) and vertically (bring government at city and sub-city level closer in terms of collaboration). Thus, the assessment process needs to be included in city’s development planning, with clear task description and budget allocation, formally applies to and endorses by city house of representatives. This provides the entry point of risk reduction actions to be followed up at community level in creating concerned citizen of Bandung City, Indonesia.