Community Based Climate and Disaster Resilience Analysis in Shenzhen City of Guangdong Province, China

Yang Yang

Research background: Climate change is happening and is expected to increase the intensity and frequency of climate related disasters and communities in urban areas face the growing direct impacts. The communities have to be more resilient to absorb the stress. Particularly in highly centralized countries like China. Because top-down governance is not sufficient to manage all disasters, Community Based Disaster Management approach is becoming more significant.

Study Area and Methodology: Shenzhen city, was established within the past 31 years and has a population that exceeded 10 million by 2010. It is located in Southeast corner of China, a subtropical coastal mega-city which is prone to various natural disasters like typhoons, heavy rainfalls, storms, flooding and related land/mud slide. Baoan district, the largest district in Shenzhen city, has the highest population and mobile population Furthermore, large parts of its territory is low-lying, prone to sea water inundation and flooding. Two pilot communities are selected from Baoan district. One is Haifu community, awarded as National Model Community of Disaster Risk Reduction, the other one is a non model community Fanshen, adjacent to Haifu. Structured qualitative interviews with seven community leaders and a quantitative questionnaire survey targeting residents (75 respondents for each community) were conducted.

Key Findings: This research has been conducted in a step-wise approach. First, using a Climate Disaster Resilience Index, the resilience of three districts of Shenzhen was assessed in Dec 2010. The results from this survey show that Baoan ranked lowest in social resilience and economic resilience. Following this, Baoan is selected as the study area for undertaking a study about the resilience of the above mentioned communities. This study was done from research area from July to June 2011. Results show that Haifu has advantage in social capital (participation in community activities: Haifu 35% vs Fanshen 14% ; trust towards community authority: Haifu 47% vs Fanshen 29%) and social resilience (NGOs' help after a disaster: Haifu 29% vs Fanshen 18%; voluntarily did the relief work after disaster: Haifu 67% vs Fanshen 50%). Fanshen performs well in social capital (deeper relationship with neighbors: Fanshen 29% vs Haifu 16%) and social preparedness (participation in fire drills: Fanshen 58% vs Haifu 34%) and economic preparedness (family emergency kit: Fanshen 8% VS 4% Haifu; household economic preparedness: Fanshen 66% vs Haifu 64%). In conclusion, , Haifu, the model community performs better compared to Fanshen in terms of social capital and socio-economic preparedness.

Way forward: The external top-down intervention is useful to enhance the new communities' social-economic resilience against the natural disasters; otherwise it is too difficult to manage the large number of mobile population. In mega-cities, urban risks need differentiated approaches to address the community diversity. For old urban community, a combination of top-down and CBDM needs to be customized to enhance social and economic resilience based on the nature and local tradition of the communities.