Determinants of Resilience to a Climate Change Related Extreme Weather Event: A Two Case Study of Urban Communities in Metro Manila, Philippines

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Abstract

Resilience to climate change is becoming another aspect of sustainable development. However, little is understood on how this is operationalized at the community level. This study looks at how the residents on two urban poor communities in Metro Manila, utilized their adaptive capacities and coping strategies in their stability and recovery processes from a recent extreme weather event, Tropical Storm Ketsana, in 2009.

In order to establish the climate change history between two communities with similar climatic events but different recovery process and/or outcome results, a diachronic study was conducted between the two communities vis-à-vis their experiences with past severe weather conditions and a recent extreme weather event. The historical data contained their perceptions, practices and characteristics concerning past severe weather conditions before, during, and after an extreme weather event. While both communities displayed similar rates of recovery, one of the communities exhibited characteristics that enabled them to transition to the transformation phase of resilience at a faster rate. From a contrastive examination of the micro-historical accounts of the two communities, the characteristics or factors that made one community resilient as compared to the other was established. Using positivist qualitative induction, the characteristics and factors determined from the previous step were used to validate whether existing and proposed climate change resilience indicators are applicable in the context of the study.

Indicators were observed and/or utilized differently, depending on the communities’ resilience phase. Internal road network, warning system and evacuation plan, community values cohesion, participation in hazard reduction programs, age of community, and fluidity of disaster management operations among different levels of government are the variables that promoted and enabled stability during extreme events. The major factor that enabled recovery is social capital, which the communities and their residents first sought for relief assistance. The variables indicating recovery are household assets, recovery status of house as a structure, and recovery rate in months. Key to enabling transformation, in addition to social capital, are the households’ income levels, education levels and access to financial services. These capacities were deemed responsible for the households’ ability to re-accumulate lost or destroyed household assets and in the repair or restoration of their houses.

The major findings of the study are (i) current indicators, at least those that the study
was able to cover, may be used at the community level, with some modifications and use of surrogate variables; (ii) current praxis in resilience research may not be able to account for the role and quality of relationships among actors working at different phases of resilience; (iii) indicators and the role of major actors are made significant at different phases of the disaster and resilience building; (iv) synergy as another possible dimension of disaster and climate resilience; and (v) three major facets of state-society continuum of synergy exist in climate resilience: state actors, non-state intermediaries and community organizations.

**Keywords:** urban poor, community, resilience assessment, resilience indicators, cross, scale synergies, extreme weather event, Metro Manila