RAPID: Collection of Perishable Data on Households Affected by Hurricane Sandy to Better Understand Variables Affecting Collective Post Disaster Housing Recovery

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Abstract:
This Rapid Response Research Grant (RAPID) will collect data regarding households affected by hurricane Sandy, the second costliest hurricane in the history of the US with an estimated loss of $60 billion and 113 fatalities. The data collection and analysis will be performed in Staten Island, NY and Atlantic City, NJ as both cover a wide range of demographic and socioeconomic attributes such as age, race and income and were severely impacted by hurricane Sandy. The data to be collected will include households' internal variables such as age, gender, race, disabilities, job status, income, education, insurance coverage, social networks and psychological wellbeing as well as external variables including temporary housing provided, grants and loans received, insurance reimbursements promised and received, restoration of critical infrastructure, and reconstruction of the neighbors. Households' recovery decisions: reconstruct, wait, or relocate are based on a confluence of aforementioned internal and external variables among which some tend to vary greatly with time and as such would be either difficult to collect at the later date or almost impossible as households relocate. Building damage data can also be lost in the next few weeks, if not days, as cleanup and recovery activities start and accelerate. In addition, the psychological state of individuals and their expectation for the future are extremely perishable. Therefore this research is aimed at capturing the confluence of all perishable data on households' recovery decision and investigating how these recovery decisions will eventually affect the recovery of the whole community. The data collection will combine face-to-face and phone interviews to collect the initial recovery decision of the households. The collected dataset will be linked with geo-tagged videos of the affected residences to reflect households' imposed damage costs. Additionally a follow-up phone survey will be employed approximately 6 months after, to compare the initial and final recovery decisions of the households.

Recent disasters including Hurricane Sandy, Hurricane Katrina, and Joplin Tornado coupled with many others, revealed huge challenges faced by affected communities to promptly restore infrastructures, residential properties and commercial activities during the recovery process. Anticipated increase in future extreme events coupled with growing population in disaster-prone regions has created an urgent need for deep understanding of the process of post-disaster recovery and more effective strategies to enhance it. While there are many studies conducted to identify design deficiencies or to examine aggregated effects of certain measures and policies, very few, if any, have focused on modeling how households make recovery decisions following a disaster, and how these decisions collectively contribute to the community-wide recovery. As household recovery is the key to community recovery, it is crucial to bridge this knowledge gap through understanding the effect of different households' variables on their final housing recovery decisions. The broader impacts of this research would be twofold. Firstly, it will provide a comprehensive database of households and their associated variables which can be utilized by researches to study the different aspect of recovery dynamics and secondly it can be used as a decision-making tool by authorities to enhance the overall community recovery by prioritizing and optimizing their investments in the affected areas.