

Social Equity Data Needs and its Access and Availability to Support the Disaster Resilience of Marginalized Communities



Science and Technology

THE DISPROPORTIONATE EFFECTS OF CLIMATE CHANGE

Over the past decade, trends surrounding climate change and its role in the increase in wildfire, flood, and hurricane occurrences have become more alarming. One of the most enduring findings in disaster and climate change research is that socially marginalized communities are disproportionately more at risk from environmental hazards, and thus, less likely to recover fully and quickly. A community plan aimed at resilience could allow the Department of Homeland Security (DHS) and other agencies to pro-actively identify support for mitigation based on community needs, with equity as its foundation.

THE SOCIAL EQUITY FRAMEWORK

The Coastal Resilience Center is a DHS Center of Excellence funded by the Science and Technology Directorate, created to enhance resilience to the impacts of coastal hazards. The Coastal Resilience Center research team at the University of North Carolina at Chapel Hill set out to identify a conceptual framework to improve equitable support to marginalized groups as they prepare for the next hazardous event. Their research aims to provide insight on how to transform the hazard mitigation and disaster risk management community through embedded equitable practices that support all groups. The developed social equity framework is tailored specifically for decision makers who deal with community adaptation to disasters and climate change. This framework will improve the measurement and monitoring of progress toward equitable and resilient outcomes for marginalized populations.

THE RESEARCH APPROACH

The focus of the research was on how federal agencies can improve the measurement of outcomes for marginalized groups to help guide disaster recovery plans. The following research topics were produced from this focus: (1) identify how different theoretical conceptions of equity can be applied to develop a framework to guide an assessment of how equity is utilized to support the resilience of marginalized people, (2) compare different types of equity indicators and assess their validity using disaster recovery data, and (3) examine local plans and funding programs to identify gaps and opportunities to improve coordination in measuring and monitoring the resilience of marginalized populations.

A conceptual framework for local, state, and federal policymakers involved in disaster risk management was constructed. The framework contains three stages: (1) identify inconsistencies, (2) identify consistencies and build metrics, and (3) reach an equitable approach. Within each stage, we focus on four subjects of analysis - historical context, plan-based indicators, social vulnerability indicators, and community voice.

Four North Carolina communities were identified based on location, density, type of hazard, demographics, and available recovery data to ensure sample diversity. The historical context, qualitative archival content from hazard mitigation plans (HMPs) and comprehensive plans (CPs) were reviewed and vulnerability and disaster recovery metrics were analyzed at each site. Then, the research team established an interview protocol for community members based on the combined results from each data source.

THE RESEARCH FINDINGS

The project is currently focused on the first stage of the framework, the inconsistencies across the critical dimensions. A brief summary of the findings for each critical dimension and across the four study sites: (1) historical context shapes issues of oppression and injustice, (2) qualitative data from HMPs and CPs revealed wide variability in the use of *Social Vulnerability* indicators between HMPs and CPs as well as between rural and urban sites, (3) quantitative data from the U.S. Census, Centers for Disease Control and Prevention's Social Vulnerability Index, and Justice40 yield different results on social vulnerabilities which may inform resource allocations, and (4) collecting divergent community voices strengthens the disaster planning process.

IMPACTS OF THIS RESEARCH AND FUTURE DIRECTION

This research will help to facilitate a conversation around the creation of a nation-wide monitoring system to improve hazard mitigation assistance strategies and programs for federal organizations like DHS, the National Oceanic Atmospheric Administration, and others. This project also has the potential to influence future policy that could increase resiliency and reduce risk to disadvantaged communities in the face of natural hazards and disasters.

