Embracing Resilience: Collaborative and Equitable Resilience Practices

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Key Components of Community Resilience Planning
Many communities are developing and implementing resilience plans. The specific needs and challenges, and therefore resilience goals and plans, can vary considerably. The planning process, however, has key components that will improve the quality of all resilience plans.

Community resilience planning is a dynamic process that involves multiple parties with varying interests, issues, and goals. Key components of a successful planning process are leadership, inclusive collaboration, equity considerations, and decision-making support.

Leadership and Inclusive Collaboration
Resilience planning requires dedicated leadership to lead the process, provide continuity, elevate the importance of resilience, convene stakeholders, communicate effectively, and engage public support. Resilience leadership works with key stakeholders to establish community resilience goals that guide other plans and foster coordination.

Following the 2011 Joplin tornado, the City included residents in long-term recovery planning. A community goal was to maintain Joplin's population. A key tenet of the *Joplin planning process*: "If your partners and resources are affected by a decision yet don't have some ownership of it, the likelihood of successful completion diminishes greatly". Public meetings collected and prioritized ideas for rebuilding and were documented in a *report* for future funding opportunities.

Input from a broad spectrum of public and private sectors and residents helps develop a comprehensive list of resilience needs and impacts, and engenders community buy in and support. An inclusive collaboration method that focuses on achieving resilience goals is provided by the *NIST Guide* and its 6-step process shown in Fig 1. Steps 1 to 3 are essential for developing resilience goals to guide informed decision-making. Step 1, Form a Collaborative Planning Team, ensures that all community interests and

Figure 1. NIST 6-step process for community resilience planning.

needs are identified. Step 2, Understand the Situation, characterizes current performance of social and physical systems for hazard events, as well as dependencies. Step 3, Determine Goals and Objectives, uses the information gathered in Steps 1 and 2 to develop community resilience goals.

Nashua is developing their resilience plan using the *NIST Guide*. Their Collaborative Planning Team includes key stakeholders, such as residents, city staff, businesses, and nonprofits. The Team identified the social functions important to the community and the buildings and infrastructure that support those functions. Data were collected to evaluate the anticipated performance of the buildings and infrastructure for hurricanes, earthquakes, and floods and to identify vulnerabilities. Community goals of desired performance were established with input from community stakeholders.

Community Resilience Equity
As has been *observed* after disasters, those with fewer resources tend to suffer more damage to their homes and neighborhoods, which may result in dislocation and result in broader impacts across the community. *Research* suggests that low-income populations often suffer disproportionately when disaster strikes, and are more vulnerable to natural disasters due to such factors as place and type of residence, building construction, and social exclusion.

Los Angeles's resilience plan is addressing equity for vulnerable populations by integrating resilience into all community plans and developing indicators for inclusiveness. Their resilience plan acknowledges that "those who are least equipped to handle the effects of catastrophic events end up suffering the most".

Racial equity is part of *Boston's resilience plan*, which is defined as (1) a shared understanding of how current systems and infrastructure reinforce inequities and (2) fair processes, equal access, and consistent infrastructure quality regardless of demographic status. Focus areas include access to public and private services, employment opportunities, small businesses, housing, and transportation and energy services.

Decision-Making Support for Resilience Goals
Once resilience goals and plans have been established, how should progress be tracked and alternative projects be prioritized? Decision-makers need to consider multiple factors, some that can be measured and some that are more intangible, such as preferences for historic preservation. Two areas where quantitative measures can help inform decision-making are metrics to assess community resilience progress toward goals and tools to assess the risks and benefits of resilience plans for social and physical systems.

Metrics are often used to track progress toward meeting community resilience goals. However, a *National Academies report* found that metrics they reviewed have not been validated for measuring changes in community resilience. A core set of validated metrics that are useful to most, if not all, communities will enable better tracking of progress towards resilience goals and learning from other community resilience efforts.

Economic tools, such as cost-benefit analysis, can help establish project funding priorities. Tools that more fully characterize and prioritize resilience investments beyond direct costs and benefits improve understanding of short and long-term contributions to resilience goals. The *EDGe$ tool* includes consideration of indirect benefits and co-benefits (e.g. reduction in air and water emissions, increased economic activity).

Moving Forward

Communities are embracing resilience planning. Experience demonstrates that leadership, inclusive collaboration, equity, and decision-making support are essential for resilience planning. However, the methods and tools communities need for comprehensive resilience planning and decision-making support need to be validated and better aligned with resilience needs.

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