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Engaging the public in planning for disaster recovery

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ABSTRACT

Communities engage in various ways with stakeholders around plan development. This project aims to validate quantitative content analysis scores for participation in disaster recovery plans with follow-up key informant interviews. Recovery plans from 87 counties and municipalities adjacent to the U.S. Atlantic and Gulf Coast were collected and content analyzed using a plan coding protocol. Four jurisdictions – two with high and two with low scores in the plan quality principle of participation – were selected for follow-up key informant interviews.

Several themes emerged from the qualitative data. Public engagement in recovery planning is more successful when planners actively engage individuals and groups and when dedicated staff are assigned to participation activities. While addressing the needs of socially and physically vulnerable residents can be challenging, there are effective ways of encouraging their participation. While the sample size of this study was small and the findings may not be generalizable to areas outside of the U.S. Atlantic and Gulf Coasts, findings do support the planning research literatures' suggestion that increased participation is associated with higher plan quality. Our findings provide specific examples for planners interested in increasing participation. However, an unanswered question remains as to the extent to which increased engagement in recovery planning will lead to increased stakeholder awareness of risk, available resources, and support for policies that build resilience.

1. Introduction

Over the last several decades, the planning literature has come to the consensus that stakeholder participation in the planning process can improve the quality of plans. The recognition of the importance of participation to both plan quality and the fidelity of implementation is related to many factors, including the democratization of environmental decision-making, an increased knowledge in citizen science, and policy trends that emphasize partnership [2]. This change in emphasis has also been supported by the evolution of planning theory, with an increased focus on the role of the planner as a communicator, an intermediary among stakeholders, and a consensus builder [1].

Much of the published research has focused on the importance of participation in the successful development and implementation of comprehensive, hazard mitigation, and land use plans [3,4]. For example, in 2003, Burby tested the hypothesis that involving a "broad spectrum of stakeholders in the plan making process" would improve the quality of comprehensive plans and concluded that stakeholder involvement can make plans better (pp. 34). In a review of Australian and U. S. research, Pearce [6] concluded that sustainable hazard mitigation requires public participation and community-based planning, while in a study of land use planning, Burby and colleagues [7] concluded that "community agreement over a mitigation approach must be built on a foundation of public support" (pp. 100). Few studies concentrating on the role of participation in the quality of pre-disaster recovery plans have been published. Pre-disaster recovery plans developed without stakeholder participation may fail to adequately include local knowledge and capacities, shortchanging local residents and complicating pre-disaster recovery plan implementation after disasters [8,9].

In concept, the process of developing a plan can, in and of itself, help create, strengthen, and engage members of the general public as well as networks of various stakeholder groups (e.g., affordable

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housing organizations, churches, chamber of commerce) [10]. For example, participation in and awareness of the process of developing a plan can improve disaster outcomes and future resiliency because planning is where community members set priorities and make choices that affect their future vulnerability, as well as that of the built and natural environment [11,12]. Previous research has found significant correlations between participation in hazard mitigation planning and planners' beliefs, choices and behaviors [13]. When planners pursue more participatory objectives, such as "fostering citizen influence in hazard mitigation," the resulting hazard mitigation plans have 76% more mitigation measures when compared with jurisdictions that do not include participatory objectives [14]. Engagement may also have additional benefits if it leads to socially vulnerable groups (e.g., members of racial/ethnic minorities, the elderly, poor and persons living with disabilities) becoming more likely to be aware of and benefit from government programs intended to mitigate risk [6,15].

However, important challenges to effective participation in planning have also been identified. Funding for the number of planners necessary to engage and provide support to local residents may not be available [16]. Staff may not know how to carry out an effective participation program and may not have received training on the types of proactive efforts needed to directly involve residents, beyond traditional groups such as developers and neighborhood groups, in planning [6,14]. Residents may be apathetic to the planning process, may lack the education and resources to engage effectively, or may represent only their own (or their organization's) self-interest [17,18].

While the methods and content analysis protocols for normative plan quality evaluation are well-established in the plan quality literature in general [19], and in studies of plan quality and participation specifically [5], a mixed-methods approach that includes both quantitative and qualitative data may help validate the quantitative content analysis approach. A mixed-methods approach may also better address some plan weaknesses by enabling the collection of best practices and promoting effective interventions that can be widely adopted to improve plans. One way of collecting this type of information is through conducting key informant interviews [20–22]. When combined with a code-based plan quality analysis, key informant interviews can assist with gauging more subjective perceptions about the recovery plan and the planning process.

In this project discussed below, data collected as part of qualitative interviews are used to show how participation may improve plan quality and identify the factors that lead to increased participation to improve our understanding of how and why enhanced public participation could lead to better plan quality. The mixed-methods approach used here – combining the quantitative metrics obtained through a recovery plan content analysis and survey with the qualitative data obtained through the key informant interviews – attempts to address the "complex, multi-dimensional, nonlinear nature of disaster recovery" and better understand the ways in which researchers can quantitatively and qualitatively assess a community's recovery plan, and ultimately, their recovery and resilience to future disasters ([23] p. 217).

2. Methods

2.1. Data sources and sample selection

The initial sampling frame for the study included coastal counties (n=107) and coastal municipalities (n=175) with at least 10,000 residents along the Southeastern Atlantic and Gulf Coasts from Virginia to Louisiana. Of these, 87 (49.7%) counties and municipalities had some type of recovery plan that was publically available online. To be included in the sample, recovery plans were required to meet at least two of the following three criteria: include a vision statement or goals, a fact base that identifies the hazards present, and recovery policies designed to achieve the vision or goals. Recovery plans could be stand-alone (n=9) or included as an element in a local comprehensive plan (n=35) or other type of plan, such as an emergency management (n=40), local mitigation strategy (n=1), or hurricane plan (n=1). All plans included were adopted or amended between 2007 and 2012.

The 87 recovery plans were content analyzed by the research team to assess how well the seven plan quality principles – goals, fact base, policies, inter-organizational coordination, participation, implementation, and monitoring and evaluation – were accounted for in each recovery plan [24]. In addition, the lead public official responsible for the administration of each of the 87 jurisdictions' recovery programs was invited to complete an online survey related to the recovery plan. Fifty-five of the 87 (63%) county and municipality officials completed the survey [25].

From the 55 jurisdictions with both plan quality and survey data, we selected four jurisdictions for the key informant interviews; two with a participation score greater than the overall mean (0.16: Range 0–1) and two with a participation score below the overall mean. A modified snowball technique was used to identify key informants in each of the four jurisdictions. Starting with the local planner or emergency management official who completed the online survey, the research team asked for referrals to develop a list of up to 5 contacts for each community, including planners, emergency managers, and elected officials. Interviews were scheduled by email or telephone and informed oral consent was obtained.

2.2. Interview guide

A written interview guide consisting of twelve closed- and open-ended questions was developed and used to guide the semi-structured interviews. Informants were asked to address several issues related to the jurisdiction's recovery plan and the planning process, including questions about the extent of and barriers to public participation in plan development and the inclusion of vulnerable populations. Additional questions asked about the implementation of the jurisdiction's recovery plan, as well as its integration with other adopted plans, such as comprehensive, land use, or capital improvement plans. Informants were asked to list ways in which the recovery plan made their jurisdiction less vulnerable to disasters. Finally, informants were asked to refer the interviewer to others in their jurisdiction who might be able to answer questions about the recovery plan and planning process. All interviews were recorded, transcribed, and analyzed in Microsoft Excel (2010) to determine themes using inductive or open coding (i.e., themes are not predetermined, but rather emerge from data through examination and comparison).

All materials were reviewed and determined to be exempt by the Institutional Review Board at the University of North Carolina at Chapel Hill (#13-2292).

3. Results

Research team members completed interviews with between two and three representatives from each of the four counties in the sub-sample, including counties in Florida, North Carolina, and South Carolina, during September 2014 (n=10).

Of the four counties where the key informant interviews were conducted, three had recovery plan elements that were included in an emergency management plan, including both of the plans that scored highly in the participation principle. The other plan