Local Adaptive Capacity: Lessons from Research on Wildfire

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Adaptive Capacity of Social Systems: Exploring the Differences Between Community, Landscape and Legal/Institutional Frames

The interaction between ecological and social systems poses an ever-changing variety of risks to human populations. The response has been the development of multiple conceptualizations for the relationship between vulnerability, resilience and adaptive capacity. Regardless of the changing risk, we contend that adaptation to such events is dependent on the characteristics that exist in the locality; among its people and the relationships that have evolved with the local environment. Ultimately, the characteristics described above will be one important origin for local action that predicates broader social change at multiple scales. Our presentation describes research on wildfire risk to point out the implications of the tremendous amount of social diversity that exists in the places most at risk from emerging hazards. This social diversity often exists at different scales than current policy or research account for in the determination of vulnerability or assessment of the requirements for resilience. Our perspective builds on the notion that action in response to risks cannot be disembedded from the local system. Rather, sustainable adaptation among diverse local populations requires an understanding of their existing capabilities. Only after such inquiry can professionals work with populations to capitalize on existing strengths and address the factors that continue to leave them vulnerable. This perspective suggests that adaptive capacity is a key factor in the performance resilience and the reduction of vulnerability. Our research on the response to wildfire risk across the Western U.S. is used to illustrate these conclusions by demonstrating how characteristics of local social and ecological systems have resulted in various approaches and success in wildland fire adaptation. Adaptive capacity, which we define as the ability and performance of actions that reduce or compliment the impact of change, emerges as a primary locus for study of what local populations need to become resilient. We have derived lessons from literature and assessments which attempt to predict local response/adaptability to a variety of risks such as earthquakes hurricanes, and climate change. Much of that work focuses on what might be termed the demographic or structural prerequisites of adaptation such as poverty/prosperity, formal education levels and the presence or absence of key institutions and infrastructure. What we contend has not been well integrated in the literature however, is adequate attention to other, more “intangible” characteristics such as the emergence of local organizations, the relationships between people, and cultural disparities in the locality. Our research on fire is concerned with systematically exploring and integrating the variety of “intangible” characteristics that will have an influence on local ability to act in response to wildfire risk. We hope to begin the development and dialogue about consistent collection procedures that could create regional or national databases for such social characteristics. Periodic and uniform collection of existing and emerging characteristics could advance the
study of vulnerability, resilience and adaptive capacity by supporting or replacing our existing reliance on secondary data indicators. It would also reduce the divide between qualitative and quantitative risk assessments.