



Reedy Creek: Values Constraining the Adaptive Capacity to Environmental Regulation in the Forest Hill Neighborhood

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Introduction

The Intergovernmental Panel on Climate Change (IPCC 2014, 1) defines vulnerability as, "The extent to which a natural or social system is susceptible to sustaining damage from climate change." Vulnerability is a function of both the physical system's sensitivity to changes in climate and the ability of the societal system to adapt to said changes. Recently, organizations formed to produce assessments that define regional vulnerabilities to environmental issues for the sake of informing adaptation policies. With the increasing threat of a changing climate, adaptation policies are both a necessary and urgent response for successful adapting (Adger 2009). The majority of these policies focus on technological, financial and institutional barriers that limit adaptation to government policies. Yet, in the absence of these barriers, local communities still have trouble adapting to policies. As a result, the adaptive capacities of local communities to state environmental initiatives are being misjudged. This analysis seeks to address this issue by (1) identifying if a community's values cause a disconnect between government adaptation policies and the local community and (2) to use a case study of the Reedy Creek coalition to convey why a community's values should be considered in environmental analyses incorporating adaptive capacities.



(Rarrick 2016)

"Any question against the authority was pretty swiftly shunned"
RCC member, 2017

Methodology

I began my research by compiling and analyzing various literatures focused on a society's adaptive capacity to climate change. My focus was to determine whether ethical factors were considered in these climate change adaptation reports. Such sources included books depicting the role that ethical factors that are endogenous in society have on limiting adaptation to cities' climate change adaptation reports detailing scientific variables constraining adaptation, as well (see Figure 1). I selected four models currently utilized to determine a society's ability to adapt to state environmental initiatives (Figure 1). I chose these models with 3 different factors in mind:

- (1) what is the probability that it will be used as a basis for future reports?
- (2) what is currently our best available vulnerability assessment? And
- (3) what do current reports that consider internal barriers inhibiting a society's adaptive capacity determine as these barriers?

The challenge of climate change will force government to create policies to encourage citizens to adapt to a changing environment. Local communities will respond to these environmental policies and constraints in a variety of ways. In this study, I focus on the Reedy Creek community to determine how well they adapt to a state's proposed stream restoration. I conducted three key informant interviews within the Reedy Creek Coalition (RCC) and Forest Hill neighborhood and also derived information from an 11 person RCC meeting that discussed the RCC's perspective on state stream restoration policies. I then analyzed these comments to determine the values of the community.

"There was no attempt at getting any community reaction whatsoever"
RCC member, 2017

Prior Models' Depictions of Social Vulnerability



Figure 1: These figures depict four conceptual frameworks of global indices used to calculate human vulnerability to climate change. I chose these frameworks to represent three criteria: (1) the probability the frameworks will be used as a basis for future reports, (2) to depict our current best available vulnerability assessment, and (3) to depict the internal barriers limiting a local community's adaptive capacity that are currently being considered for future reports.

Understanding Human Values

Variable was not identified	Vision 2020: NYC Comprehensive Waterfront Plan	Boston, Massachusetts Climate Change Adaptation Report	University of South Carolina's Social Vulnerability Index of the United States	Jason Samson: Geographic Disparities and Moral Hazards in the Predicted Impacts of Climate Change on Human Populations
Values				

I examined the four conceptual frameworks and determined they overlook the role that values have on the adaptive capacity of local communities to environmental change.

A system of values specifies, "Permissions, norms, duties, and obligations; it assigns blame, praise, and responsibility; and it provides an account of what is valuable and what is not" (Jamieson 1992). Embedded within values lies cultural content shaped by constraints and opportunities of a society. For some individuals, communities and cultures, the landscape provides a sense of stability, historical connection, identity and a sense of belonging, and climate change may result in irreversible loss to these people (Adger et al. 2009). Consequently, people may be less willing to adapt to changes in their environment because they may value traditional sectors and livelihoods and seek to preserve cultural icons and identities that are deeply held in their landscapes.

"What I think is an important value is community and democratic participation"
RCC member, 2017

"The government is just not taking into consideration that people are involved"
RCC member

Discussion

The research indicated singularity in thought between the four models. The models focused on adaptive strategies that are scientifically, technologically and institutionally based instead of considering a more pluralistic and integral approach. The four reports neglected to fully consider the values that are latent and inherent within a society. The analysis here acknowledges the diverse role of values in global change processes and does not regard them as epiphenomenal. In contrast to systems and behaviors that can be objectively measured and observed, values subjectively influence the government adaptation measures that are considered desirable and thus prioritized (Adger et al. 2009). This suggests a lack of consideration of moral philosophy in adaptation initiatives.

"I think that city council members realized that this is bigger than what they thought"
RCC member, 2017

Case Study: Reedy Creek

Reedy Creek was one of five locations the City of Richmond planned to restore in order to meet the EPA's pollution reduction goals; however, the proposed restoration project generated significant and unpredicted opposition from the local residents. For the members of the coalition, their culture and landscape is a value to them and provides them with a historical connection and identity. Crooked Branch Ravine Park, site of the proposed project, holds immense passive recreational value and bequest value for the RCC community (Holden, 2017). Multiple generations of residents have used and valued the riverine landscape over the last 100 years. This long historical relationship details the emotional attachment and dependability that people have on the area (Treonis, 2017). Such internal societal values are acting as barriers to adapting to the state's proposed environmental initiative.



(Rarrick 2016)

Conclusion

Effective models for calculating social vulnerability to climate change are typically limited to scientific understanding and neglect the importance of intercommunity dynamics constraining adaptation. This may result in current environmental development policies acting as obstacles to both mitigation and adaptation strategies instead of leading to social progression. Ethical elements inherent in any society, such as values, restrain the successful adaptive response of a society and thus must be considered when developing a report outlining such limiting factors (Jamieson 1992). By ignoring ethical factors, the adaptive capacity of communities such as Reedy Creek may be misjudged. Hence, the role of ethics and its manifestation in the current models for calculating social vulnerability is critical and characterizes the ability of a society to adapt to government mandates.

References & Acknowledgments

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