

Building Community Resilience II

Enabling homeowners to adapt to coastal flooding: The case of Rockaway in New York City

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Planning for coastal flood risks that are increasing as sea levels rise has been expanding at various levels of government, from federal to small municipalities, in the United States. However, funding for adaptation strategies continues to lag behind the need. Populations will face residual flood risk even where resources allow the public sector to build grey or green flood protections. Progress on adaptation requires coastal residents to adapt in addition to any public sector efforts. At the same time, awareness of the future flood risk remains low among coastal residents and adaptation planning remains the exception rather than the norm.

The authors will present preliminary findings from a project that is co-producing knowledge about current and future flood risk and benefits and costs of adaptation options in order to enable coastal homeowners to make informed decisions about adaptation actions that they can take with their own resources. An interdisciplinary team of scientists, educators, and staff from a non-profit coalition of community groups, with input from the City of New York, is collaborating with leaders of community groups of homeowners in the Rockaway region of New York City (NYC) to develop and conduct participatory workshops that engage community group members in assessing benefits and costs of adaptation actions such as retrofits to homes and relocation. The project contributes an estimation of damages that homeowners can expect from future flooding based on unique household survey data collected by Madajewicz to inform homeowners about costs that they can avoid by adapting.

The project examines how socio-economic factors influence the barriers to adaptation that coastal residents face, how adaptation behavior evolves in response to knowledge under different socio-economic conditions, and how approaches to supporting adaptation actions by residents should differ across the spectrum of socio-economic conditions. The study region includes middle- to upper-income, mostly white neighborhoods, diverse neighborhoods with mixed income levels, and low-income, predominantly African American neighborhoods.

A future phase of the project will assess whether, how, and for whom co-production of knowledge and information affect adaptation behavior relative to simpler and less resource-intensive means of communicating the information. The project will produce a guide to adaptation decisions that other community groups of coastal homeowners can use.

Inclusive Approaches in Community-Focused Climate Resilience Partnerships

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Managed retreat or climate induced migration is increasingly becoming a global and domestic phenomenon where communities are forced to relocate to protect themselves from adverse climate events (e.g., fires, floods, hurricanes). This phenomenon highlights a complex scenario mired with implications on people's emotional, social, economic lives, while raising questions about the role of the private, public, and education sector in supporting solutions. Moreover, diverse cultural and disciplinary perspectives intersect in decision-making in this sphere, underscoring the need for equity-focused, inclusive systems-based approaches. In addition to post facto interventions for communities and groups who have had to relocate as a result of unanticipated climate events, research and practice must prioritize preparing and supporting communities residing in ecologically susceptible areas for future scenarios. The presentation focuses on a collaborative model demonstrating the role of local partnerships between informal science learning organizations (e.g., aquariums in this case) and community focused organizations to co-create resilience planning efforts. A key emphasis of the project was its phenomenological approach to authentically understand community members' current relationship with the local social-ecological systems and their aspirations and concerns for the future. It will draw from the evaluation of three community resilience projects, each with distinct theories of change, to highlight the multi-faceted ways that research can shed light on questions pivotal to understanding how organizations with seemingly divergent missions jointly create community change:

- Regional partnerships between community organizations and the local aquariums in Boston, MA and Long Beach, CA aimed to build community capacity to tackle climate change;
- A local partnership between an aquarium, the school district, and community organizations in three municipalities in Boston, MA to empower youth to co-develop resilience plans.
- A community of practice among informal science learning centers across the US to strengthen youth civic engagement around community climate action.

The evaluation aimed to identify the most impactful models for innovative practices to inform an evolving social and environmental reality. Our work was guided by questions, such as - how can resilience efforts be proactive to enable more livable communities? How can approaches help communities prepare for and heal from migration-induced trauma while rebuilding infrastructure? The results synthesized from the projects highlight a model underscoring the role of participatory action research strategies, where all stakeholders were invited to shape the direction of the project, generate data, and provide feedback on all evaluation phases (Greenwood, Whyte, & Harkavy, 1993). Additionally, the evaluation findings helped facilitate, advanced critical thinking, and built capacity among the project partners, highlighting the multiple professional skills and competencies important in these contexts (Catsambas, 2016). We also demonstrated the value of being responsive to the changing circumstances within these projects and shifting data collection, analysis, and interpretation strategies, while being attentive to methodological rigor. Cultural competence principles grounded the evaluation (American Evaluation Association, 2011), acknowledging the diverse perspectives involved, the unequal power dynamics between stakeholder groups, and engaging in continuous self-assessment of evaluators' role in leading the evaluation.

Incorporating Individual and Household Financial Literacy, Preparedness and Well-Being into Planning for Managed Retreat

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In the context of managed retreat and climate justice, the needs and concerns of individual and household finances, especially those at risk and low-income, are often overlooked until groups are pushed too far to the margins of recovery. By then, significant inequities are challenging to address retroactively. Research interests and literature on managed retreat focus discourse primarily on policy, federal, state, and local and tribal governments, and infrastructure and less the realities of individuals and households as recipients of policy decisions. For U.S. individuals and households, short-term financial priorities and burdens take precedence over understanding the long-term benefits of mitigation strategies and how to finance them. Communication of such mitigation strategies, notably buy-out programs, has been reported to lack the transparency required to provide confidence in the benefits, logistics, and concern for individuals and households' long-term well-being. Through an analysis of buyout programs and case studies throughout the U.S., this presentation will focus on the financial literacy required for individuals and households to navigate managed retreat. Specifically, this presentation will address themes of the short-term and long-term expenses that fall on the individual and household, cost of living considerations for climate migration, direct and indirect impacts to individuals and households, and their multipliers. Additionally, this presentation will provide specific recommendations for individuals and households to financially prepare for managed retreat and guidance for organizations to support individuals and households most impacted.

Managed Retreat, Heritage Justice, and Community Resilience

Author: David Glassberg (UMass Amherst)

This interactive presentation will invite participants to share their ideas about how government agencies and private organizations that protect historical and archaeological sites essential to community memory and identity can help their communities come to grips with the prospect of losing many of those sites to the impact of climate disruption. Since local heritage organizations cannot protect every place that matters to their community from the impact of sea level rise, wildfires, and violent storms triggered by a warming planet, how can they decide in a just and equitable manner which local heritage sites to protect and which to let go? Concerns about justice in heritage conservation arise from recent efforts by the National Park Service to develop strategies for setting priorities for taking action to protect significant cultural resources from the negative impacts of climate change. At Cape Cod National Seashore, for example, it is far easier to find local support for protecting popular tourist attractions such as lighthouses than for protecting seldom-visited archaeological sites. These concerns also arise when in cities such as Bridgeport, a new Climate Adaptation Plan called for new infrastructure that would sacrifice a historically Black neighborhood, with sites of memory significant to its residents, to protect historic districts in neighborhoods inhabited primarily by affluent whites. And these questions arise from recent struggles by indigenous peoples uprooted by climate change in Alaska and elsewhere to have their heritage remembered in the places they formerly called home. In the words of Dr. Kristina Peterson, who works with groups in southern Louisiana targeted for relocation, "when all is gone, whose story remains?" The presentation will address the following questions: 1. What alternatives exist for the protection and interpretation of local heritage sites threatened by sea level rise, wildfires, and violent storms? How can displaced communities mark and interpret important heritage sites lost to managed retreat? 2. What is heritage justice? How can concepts of environmental justice transform the practice of heritage conservation and interpretation in a changing climate? 3. How can community conversations about local history facilitated by heritage organizations help communities to work through their experiences of change and loss and become more resilient?

Mediating Retreat: Just Relocation, Collective Ownership, and Spatial Practice at Proyecto ENLACE, Puerto Rico

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Proposals surrounding recent US disasters illustrate how retreat as a form of adaptation can perpetuate inequality and vulnerability, or help marginalized communities move towards just outcomes. This essay emphasizes questions of professional design ethics and equity in the context of US retreat programs, with a focus on programs in Puerto Rico which both predate and respond to Hurricane Maria (2017). In particular, we place the work of the organization ENLACE in contrast with programs that target low-income informal communities for top-down displacement either through disincentives or more direct means. Driven by community leaders from eight adjacent communities along el Caño Martín Peña in San Juan, Puerto Rico, the work of Proyecto ENLACE offers a more just and community-driven model for retreat. Alongside the ENLACE public corporation, El Fideicomiso de la Tierra Caño Martín Peña—the Community Land Trust (CLT)—is a private, non-profit organization created to manage the land and prevent residents from being priced out. Residents are voluntarily relocated to resilient infill housing in the community, making space for green infrastructure while retaining community ties. The land trust, a model for collective land ownership where each family has individual rights over their plot, protects residents from the gentrification and eviction prevalent in adjacent communities. CLT also secures affordable housing and provides housing opportunities for relocating families. The community collectively owns 200 acres of land, allowing them to directly benefit from the improvement efforts of the project. ENLACE's interdisciplinary staff, including architects, landscape architects, planners, and urban designers, suggests a role for professional spatial disciplines in retreat projects as an intermediary between community activism and larger plan and policies.

Town Governmental Capacity and Barriers to Adaptation: A case study of the Community Rating System

Author: Jon Nelson (Brown University)

Increasing community resilience requires all the help that cities and towns can obtain, but support from the federal government has been haphazard and insufficient. This study examines the National Flood Insurance Program's Community Rating System (CRS) as an example of a voluntary market-based alternative to regulating land-use at the local level. Specifically, the CRS offers flood insurance discounts to policyholders in communities that undertake and document a certain number of flood adaptation measures. I have found that the program does a poor job of incentivizing adaptation, but that raises another question: If the program doesn't require much effort on the part of communities, why is participation so low? I answer this question based on participant observation and interviews with town planners and planning-adjacent organizations. I find that town planners are happy to participate in the CRS if they have adequate capacity to undertake the onerous documentation required, but that it has little bearing on their efforts to adapt to sea-level rise. This suggests that the program is not only largely ineffective, but that it is effectively a subsidy to better-off communities with the ability to join. My presentation describes these findings in detail and elaborates upon their implications for community resiliency.