

# Disaster Recovery Annotated Bibliography - Climate Change and Adaptation

This document was developed to provide information on the state of knowledge on disaster recovery. This document includes a list of articles collected in the Fall of 2018. To obtain relevant articles, a list of keywords was used to search Google Scholar and University Library Databases. These keywords were: “community disaster recovery”, “disaster recovery”, “post recovery planning” “pre disaster planning”, and “national planning recovery”. An additional search of academic journals that are related to the planning field was then undertaken to ensure that articles from these journals were not overlooked. These journals included: *Journal of the American Planning Association*, *Journal of Planning Education and Research*, *Applied Geography*, *Land Use Policy*, *Environment and Planning A*, *Planning Theory, Progress in Planning*. After collecting articles, each article was then systematically reviewed to ensure relevance. The articles needed to address community level recovery (including issues related to housing, economic, infrastructure, planning, etc.) or note issues that affect recovery outcomes (e.g., differences in housing outcomes for rental versus owned housing). Next, we reviewed the reference list of identified articles to determine if any articles had been missed in the initial collection process. If there were additional articles that were missed, we collected the information and searched for the title of the article. After processing each article, the articles were then compiled into the Zotero software.

The Zotero bibliographic database is open to the public to view at:

<https://www.zotero.org/groups/2278263/recoveryguidancetamu/items>

## Climate Change & Adaptation

Articles that focus on climate change and/or adaptation to environmental change and disaster recovery and resilience.

Allen, K. M. (2006). Community-based disaster preparedness and climate adaptation: local capacity-building in the Philippines. *Wiley Online Library: Disaster*, 30(1).

<https://doi.org/10.1111/j.1467-9523.2006.00308.x>

Community-based disaster preparedness (CBDP) approaches are increasingly important elements of vulnerability reduction and disaster management strategies. They are associated with a policy trend that values the knowledge and capacities of local people and builds on local resources, including social capital. CDP may be instrumental not only in formulating local coping and adaptation strategies, but also in situating them within wider development planning and debates. In theory, local people can be mobilised to resist unsustainable (vulnerability increasing) forms of development or livelihood practices and to raise local concerns more effectively with political representatives. This paper focuses on the potential of CDP initiatives to alleviate vulnerability in the context of climate change, and their limitations. It presents evidence from the Philippines that, in the limited forms in which they are currently

employed, CBDP initiatives have the potential both to empower and disempower, and warns against treating CBDP as a panacea to disaster management problems.

Bedsworth, L. W., & Hanak, E. (2010). Adaptation to Climate Change: A Review of Challenges and Tradeoffs in Six Areas. *Journal of the American Planning Association*, 76(4), 477–495.  
<https://doi.org/10.1080/01944363.2010.502047>

**Problem:** Even if significant reductions in global greenhouse gas emissions are achieved, some amount of climate change appears to be inevitable. Local, regional, state, and federal planning and regulation should begin to address how to adapt to these changes. **Purpose:** This article presents a policy synthesis of adaptation planning issues, using California as a case study. We examine the institutional and regulatory challenges and tradeoffs that climate change poses in six particularly vulnerable areas: water resources, electricity, coastal resources, air quality, public health, and ecosystem resources. We discuss obstacles to adaptation planning and successes overcoming these barriers, and suggest how planning can incorporate adaptation. **Methods:** This article presents a policy synthesis of adaptation planning issues, drawing on our recent research on California's experience and related literature. We summarize the results of six studies that draw on quantitative and qualitative information gathered through surveys, interviews, and literature review. **Results and conclusions:** Planners should use forward-looking climate data that include higher water and air temperatures, sea-level rise, and increased numbers of extreme events like heat waves, floods, and wildfires when making decisions about future development, infrastructure investments, open-space protection, and disaster preparedness. Climate change will exacerbate conflicts between goals for economic development, habitat protection, and public safety, requiring stronger interagency coordination and new laws and regulations. **Takeaway for practice:** Local and regional planners can help society adapt to a changing climate by using the best available science, deciding on goals and early actions, locating relevant partners, identifying and eliminating regulatory barriers, and encouraging the introduction of new state mandates and guidelines.

Blakley, H. (2018). Resiliency: Planning Ahead for Disasters.  
<https://www.nrel.gov/continuum/market-impact/planning-ahead-disasters.html>

NREL is taking a proactive approach to lessen the impacts of climate change as disasters occur more frequently and with greater intensity. For the last 15 years, NREL has provided expertise, tools, and innovations to private industry; federal, state, and local governments; nonprofit organizations; and communities during the planning, recovery, and rebuilding stages after disaster strikes. Now, NREL is taking a proactive approach to lessen the impacts of climate change as disasters occur more frequently and with greater intensity.

Fields, B., Thomas, J., & Wagner, J. A. (2016). Living with Water in the Era of Climate Change: Lessons from the Lafitte Greenway in Post-Katrina New Orleans. *Journal of Planning Education and Research*, 37(3), 309–321. <https://doi.org/10.1177/0739456x16655600>

The research examines the shift from flood-resistant policies and plans to flood resilience. We use a case study of New Orleans since Hurricane Katrina to illustrate this unfolding process and the emergence of a “living with water” approach to green infrastructure. The article highlights the challenges of this shifting policy landscape through the case of the Lafitte Greenway, a green infrastructure project that transformed a three-mile corridor of underutilized public land into a linear park running through flood-prone neighborhoods. Through the experience of creating this greenway, planners in New Orleans learned

valuable lessons about US disaster rebuilding policies and how to implement green infrastructure in urban neighborhoods.

Iuchi, K. (2014). Planning Resettlement After Disasters. *Journal of the American Planning Association*, 80(4), 413–425. <https://doi.org/10.1080/01944363.2014.978353>

Problem, research strategy, and findings: The number of people displaced either temporarily or permanently from natural disasters has been increasing at an unprecedented rate. As a result, there is a growing need for a systematic framework of resettlement planning after disasters, to either rebuild in place (in situ) or to relocate, and whether to do so independently or collaboratively with their neighbors. To gain an in-depth understanding of how resettlement is advanced, I focus on a region in Chuetsu, Japan, supplemented with cases in New Orleans (LA) and Tohoku, Japan. Results suggest that resettlement decisions, processes, and outcomes reflect both larger socioeconomic trends and interactions between governments, communities, and households. Although the governments' speed of resettlement planning and implementation initially set the pace, informal communication within communities most influenced decision making. In addition, inherent community dynamics, especially styles of communication, directly influenced resettlement decisions and outcomes. Takeaway for practice: Although every disaster is unique in its context, communities are the key players in determining resettlement outcomes. Key points of consideration include: a) resettlement decision processes vary based on the inherent characteristics of communities; b) government officials often emphasize speed, even though it undermines overall quality of rebuilding; c) reestablishing livelihoods of equal or greater satisfaction to that before the disaster is important; and d) local communities are often capable of identifying and acting for their needs, regardless of governmental intentions. Planners need to support the establishment of a system in which communities are empowered by governments to make the most suitable decisions for sustainable livelihood recovery.

Khailani, D. K., & Perera, R. (2013). Mainstreaming disaster resilience attributes in local development plans for the adaptation to climate change induced flooding: A study based on the local plan of Shah Alam City, Malaysia. *Land Use Policy*, 30(1), 615–627. <https://doi.org/10.1016/j.landusepol.2012.05.003>

The threat of natural hazards in urban areas are typically addressed through land-use zoning and building regulations. Climate change phenomenon compel urban planners to devise comprehensive measures to adapt for more frequent and intense hazards. The paper argues for mainstreaming disaster resilience attributes in local development plans as an overarching adaptive measure. The aim of this paper is to assess the extent to which the local development planning system in Malaysia has responded to the vulnerability reduction and resilience improvement needs of the civil society in order to adapt to climate change induced flooding. It is based on a social survey involving a purposive sample of 250 households to identify the adaptation needs of the civil society, and an analysis of the contents of Shah Alam Local Development Plan to verify the response of the planners to those needs. The findings indicate that the planners have been fairly sensitive to the flood risks faced by people and incorporated policies and strategies in the local development plan to minimize exposure of the people and property to flood hazard and improve the adaptive capacity of the urban settlements. However, the sector based organization of the plan prepared by the federal level planners was found to be not adequately incorporating the indigenous knowledge of coping strategies. Therefore, the paper calls for strengthening the participatory planning and development capacity of the local authorities for more resolute mainstreaming of disaster resilience in local development plans.

London, J. B., Alberti, M., Olshansky, R., Chang, S., Wheeler, S. M., Randolph, J., ... Watson, V. (2009). Shaken, shrinking, hot, impoverished and informal: Emerging research agendas in planning. *Progress in Planning*, 72, 195–250. <https://doi.org/10.1016/j.progress.2009.09.001>

This is the second of two special issues in *Progress in Planning* exploring emerging research agendas in planning. It brings together scholars from diverse schools working on new areas of research and application in urban design and planning. Emergent research agendas include both novel areas of research and important shifts in the direction of a research area. The challenge for planning schools is to reflect critically on these changes and develop long-term research agendas that can better position our field in society and academia, and provide a basis from which to assess our academic programmes. The chapters in this issue display the different scales and fields of planning, including planning for: disaster recovery; climate change, especially opportunities for mitigation; shrinking cities in the First World; and rapidly urbanising informal and impoverished cities in the global South. At the same time, the chapters identify research areas that respond to major social and environmental changes. Olshansky and Chang highlight the increasing losses from catastrophic disasters, and address the need for disaster recovery planning. Wheeler, Randolph and London focus on climate change, and, noting the urgency of action now, their research agenda emphasises opportunities for planners to develop research and policies to reduce greenhouse gas emissions. Hollander, Pallagst, Schwarz and Popper look at increasing economic and population trends in many First World cities that result in city ‘shrinkage’. They present new opportunities for improving cities’ green space networks and natural features, and for research. The trebling of urban population in African cities by 2050, in conditions of poverty and informality, is the major trend driving Parnell, Pietriese and Watson’s chapter. They present an agenda for new planning theories and for supporting empirical research to address the actual conditions of African cities.

Marshall, J. T. (2015). Rating the Cities: Constructing a City Resilience Index for Assessing the Effect of State and Local Laws on Long-Term Recovery from Crisis and Disaster. *Tulane Law Review*, 90(1), 35–74. [McIntosh, J., Gray, J., & Fraser, M. \(2009\). Does this cloud have a silver lining? Finding affordable housing solutions in post-disaster recovery: Lessons from Hurricane Katrina. \*International Journal for Housing Science & Its Applications\*, 33\(3\), 149–159.](https://heinonline.org/HOL/Page?handle=hein.journals/tulr90&div=6&g_sent=1&casa_token=Superstorm Sandy, the 2008 Iowa floods, and Hurricanes Katrina and Rita all supply recent reminders that US. cities can no longer adopt an ad hoc approach to threats presented by climate change and natural hazards. The stories detailing long-term recovery from these disasters underscore that federal, state, and local governments are struggling to appreciate the legal tools and institutions necessary to implement the large-scale infrastructure, housing, and community development programs that climate change and more frequent natural disasters demand. This Article calls for development of a tool allowing succinct evaluation of the range of community capacities that will figure critically in the implementation of long-term disaster recovery efforts. On completion, this assessment tool will provide a “snapshot” of a local government’s resiliency—its capacity to address and bounce back from disaster-related challenges. Building on recent environmental, land use, and local government law scholarship, this Article recommends creation of, and outlines several key indicators for, a City Resilience Index (CRI). The CRI evaluates cities’ legal resources, focusing on whether a local government possesses the necessary legal and institutional “toolkit” to pursue redevelopment initiatives essential to managing the challenges presented by natural hazards and climate change.</p></div><div data-bbox=)

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Affordable housing is a persistent and world-wide need. However, most recently, in the face of growing public awareness and concern for global warming and potential climate change, the challenge has been intensified with a resurgence of interest in sustainability and green building. Nowhere is the intersection of these two interests more intense than in the recovery programs following a housing disaster situation such as that of a major earthquake or extreme weather event. No longer is it sufficient to simply temporarily house victims of a disaster, sustainability goals demand that this be accomplished using community processes and that the new housing result in better and stronger structures that will mitigate damage from future events and that it be culturally appropriate-all within the bounds of that which is affordable. Hurricane Katrina devastated the US Gulf Coast in August 2005, inflicting major damage to housing, commercial property and infrastructure. While the US had previous experience with hurricanes, Hurricane Katrina was the first to impact the central urban area of a major city. Working through the recovery following Katrina, the US developed a workable post-disaster housing prototype, but not soon enough to address their immediate housing needs. However inadvertently in the process, they found a successful model for affordable housing. This research briefly examines the new challenges for post disaster recovery housing then it explores the response to Hurricane Katrina and the implications for affordable housing.

Moral, R. del, & Walker, L. R. (2007). *Environmental disasters, natural recovery and human responses*. Cambridge: Cambridge University.

<https://www.cambridge.org/core/academic/subjects/life-sciences/ecology-and-conservation/environmental-disasters-natural-recovery-and-human-responses?format=HB>

Natural disasters destroy more property and kill more people with each passing year. Volcanic eruptions, earthquakes, hurricanes, tsunamis, floods, landslides, fires and other natural events are becoming more frequent and their consequences more devastating. Del Moral and Walker provide a comprehensive summary of the diverse ways in which natural disasters disrupt humanity and how humans cope. Burgeoning human numbers, shrinking resources and intensification of the consequences of natural disasters have produced a crisis of unparalleled proportions. Through this detailed study, the authors provide a template for improving restoration to show how relatively simple approaches can enhance both human well-being and that of the other species on the planet. This book will appeal to ecologists, land managers as well as anyone curious about the natural world and natural disasters.

Wagner, M., Chhetri, N., & Sturm, M. (2014). Adaptive capacity in light of Hurricane Sandy: The need for policy engagement. *Applied Geography*, 50, 15–23. <https://doi.org/10.1016/j.apgeog.2014.01.009>

The aftermath of Hurricane Sandy brings to light the tenuous U.S. model of natural disaster management. Climatic extremes, like Sandy, are projected to increase in magnitude and frequency, calling upon societies to adapt appropriately to imminent threats. In this paper, we describe the knowledge and policy disconnect exposed by Sandy between what we submit are four key elements of adaptive capacity: resources, institutions, knowledge and innovation of technology. Our synthesis of multi-disciplinary expert knowledge and admonition from civil engineers, climatologists, and urban planners demonstrates the significance of mobilizing knowledge to design robust socio-ecological systems. We contrast the U.S. model to the Dutch system of climate adaptation to emphasize the feasibility, value, and effectiveness of adopting robust adaptive capacities, rather than policies steeped in reactionary responses. Such strategies

that integrate coordination and imagination from members across society are imperative in translating scientific foresight into institutional action. The solution we offer is not only material for a more action-based discussion, but also provides an illustration of crafting policy that enhances adaptive capacities of socio-ecological systems.