Disaster Recovery Annotated Bibliography - Development and Land Use

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

Development and Land Use

Articles focuses on issues of land use and development practices during recovery.


Planned resettlement is increasingly legitimated on account of disasters and vulnerability to climate change. This article looks at resettlement following the 2007 floods in the delta Zambezi in Mozambique. The flooding displaced about 56,000 households, which the government intended to permanently resettle. Four years later the government resettlement program has been object of competing claims of success or failure. In this paper we step away from these entrenched positions. Resettlement, in our view, is an arena of multiple meanings and objectives, with differentiated outcomes for different categories of actors. The resettlement led to a reconfiguring of power relations and land-use. The paper analyses the resettlement policy as a continuation of a history of resettlement to enhance control and modernization of rural folks. It then demonstrates how local chiefs first resented resettlement as this would imply loss of territory-based power, yet moved to occupy elite locations and housing. Local families had differentiated responses depending on their capacities and aspiration to change to a modern lifestyle. Most families opt for a
mixed lifestyle, by partly living in and adapting to the resettlement area, and partly retaining their old residence and way of life.


In the face of natural disasters, very often Italy has missed the opportunity to introduce new models and development projects. Solutions that would introduce new and immediate social-economic and urban planning regeneration processes have not been found, and very often the focus has been merely on need to reconstruct buildings that have been destroyed or damaged. After an earthquake, strategies that take into account the needs of residents and boost the economy with efficient urban planning strategies and civil protection plans have never been adopted. Permanent key centres have never been developed to cope with problems that exist before, during and after the earthquake. The scope of this paper is to define strategies that take account the experience of the past in order to lay the plans for the resurgence of the territory after an earthquake. This paper addresses the unresolved post-earthquake issue in Central Italy dating to August 2016-January 2017, in three steps: 1. Chronological assessment of how difficult post-earthquake situations were managed in the past, and the role of planning today. Critical descriptions of a number of successful post-earthquake transition phases in Emilia-Romagna, Umbria, and Marche regions, and the serious errors made after other disasters (Historical centre of Aquila etc.). Evaluation of the current role of Regional Planning, in pre and post-earthquake situations. 2. Scenarios, suggestions and operational proposals for Earthquake Damaged Areas. Assessment of the situation in Central Italy, where there have been a number of earthquakes in the period between August 2016 to January 2017, based on the positive and negative aspects of other experiences. The need of local communities to return to the area as quickly as possible is discussed, not only in terms of reconstruction. The contents of Projects for essential urban structures at a District, Municipal and Associated Districts Administration Area level are defined. 3. Programmatic suggestions for the resurgence of the territory based on the “productive landscape” economic and social model. New forms of social housing, integrated tourism and farming activities, and support for farming and breeding activities typical of the area are identified together with advanced cultural districts, while semi-abandoned rural buildings are once again placed on the market.


Problem, research strategy and findings: A pre-disaster recovery plan that considers how a community should be redeveloped is a logical first step to support resiliency during high uncertainty and rapid change, yet limited attention has been given to recovery plans. In this study, we evaluate local disaster recovery planning in eight southeastern states and find that such planning receives limited public support: Less than one-third of vulnerable local jurisdictions had a recovery plan, and those plans received low plan quality scores. Unfunded state mandates produce weaker plans than plans in other states without mandates. We find that a collaborative network of stakeholders initially intent on reordering priorities results in stronger plans. Takeaway for practice: Local recovery planning should be designed to operate under conditions of high uncertainty. Local jurisdictions can choose plan design options that reflect how they build capability for recovery planning: 1) standalone community-wide recovery plan; 2) comprehensive land use plan; 3) emergency management plan; and 4) small area recovery plan. Because recovery planning lacks a public constituency, and is new to most local jurisdictions, the stand-alone
community-wide recovery plan design option is the most effective at building local commitment. This option involves a plan-making process that concentrates time, effort, and resources focused on building a network of stakeholders who likely have the greatest responsibility in rebuilding efforts because they care most about the impacts of a disaster.


Problem, research strategy, and findings: Land use planning is key to mitigating natural hazards and the effects of climate change. Communities adopt multiple plans that directly and indirectly address hazard mitigation; the integration of local plans can significantly affect future community vulnerability to hazards. We develop a resilience scorecard to assess the degree to which the network of local plans targets areas most prone to hazards and then evaluate the coordination of local plans and test it in Washington (NC), a community vulnerable to coastal floods and projected sea-level rise. We find that local plans are not fully consistent and do not always address the areas in a community most vulnerable to floods or sea level risks; moreover, some plans actually increase physical and social vulnerability to hazards. While these results indicate the validity of a resiliency scorecard, we were forced to use a narrow range of vulnerability indicators; better data would improve the process. Takeaway for practice: Planners can assume a crucial role in improving planning for hazards by using the scorecard to identify conflicts among local plans, assessing whether local plans target areas most vulnerable to specific hazards. Planners can inform the public and decision makers about missed opportunities to improve local hazard mitigation planning. To support such important efforts, the U.S. Federal Emergency Management Agency and other federal agencies should consider developing additional databases that are widely applicable and available.


The practice and scholarship of planning has shifted from physical design to process. Process emphasizes diversity, openness, and consensus but is not fully equipped to offer a shared vision in political arenas dominated by fragmentation and conflict. New urbanism has revived the idea that planning is about physical design, but this concept does not fully embrace a holistic vision of community building. This article explains how sustainable development extends the positive attributes of the first two approaches and offers a multigenerational vision of community building. This vision integrates multiple societal values and enhances local imagination, understanding, and commitment to defining solutions for the common good.


State policy designed to stimulate reluctant local governments to take risk reduction actions has mixed results. Incentive and collaborative policies meet with considerable variation in local responses. Direct state regulatory policy is effective in especially high risk areas, but has limited geographic coverage. Planning mandates induce widespread local response to natural hazards, but local implementation varies considerably, with differences in the effects of mandated design features. The article suggests that
different regulatory and incentive policy mixes be used to entice local involvement. Policy mixes should be adapted to the differences in local governments’ commitment and technical capabilities.


Divided into three sections, this edition of Urban Land Use Planning deftly balances an authoritative, up-to-date discussion of current practices with a vision of what land use planning should become. It explores the societal context of land use planning and proposes a model for understanding and reconciling the divergent priorities among competing stakeholders; it explains how to build planning support systems to assess future conditions, evaluate policy choices, create visions, and compare scenarios; and it sets forth a methodology for creating plans that will influence future land use change. Discussions new to the fifth edition include how to incorporate the three Es of sustainable development (economy, environment, and equity) into sustainable communities, methods for including livability objectives and techniques, the integration of transportation and land use, the use of digital media in planning support systems, and collective urban design based on analysis and public participation. “‘Incomparable’ is the only way to describe the fifth edition of this classic text. My fourth edition is worn from a decade of constant use, and I thought there was no way to make Urban Land Use Planning any better, but the fifth edition proves me wrong. It is not merely the best book on the subject; it is, as far as I am concerned, the only book.”--Dwight H. Merriam, FAICP, CRE, and past president of the American Institute of Certified Planners “This has always been the one definitive text and reference book for students and practitioners of local land use planning and the fifth edition continues that tradition.”--John Landis, chair of the city and regional planning department, University of California, Berkeley


Disasters—natural ones, such as hurricanes, floods, or earthquakes, and unnatural ones such as terrorist attacks—are part of the American experience in the twenty-first century. The challenges of preparing for these events, withstanding their impact, and rebuilding communities afterward require strategic responses from different levels of government in partnership with the private sector and in accordance with the public will. Disasters have a disproportionate effect on urban places. Dense by definition, cities and their environs suffer great damage to their complex, interdependent social, environmental, and economic systems. Social and medical services collapse. Long-standing problems in educational access and quality become especially acute. Local economies cease to function. Cultural resources disappear. The plight of New Orleans and several smaller Gulf Coast cities exemplifies this phenomenon. This volume examines the rebuilding of cities and their environs after a disaster and focuses on four major issues: making cities less vulnerable to disaster, reestablishing economic viability, responding to the permanent needs of the displaced, and recreating a sense of place. Success in these areas requires that priorities be set cooperatively, and this goal poses significant challenges for rebuilding efforts in a democratic, market-based society. Who sets priorities and how? Can participatory decision-making be organized under conditions requiring focused, strategic choices? How do issues of race and class intersect with these priorities? Should the purpose of rebuilding be restoration or reformation? Contributors address these and other questions related to environmental conditions, economic imperatives, social welfare concerns, and issues of planning and design in light of the lessons to be drawn from Hurricane Katrina.

The mounting frequency and scale of natural disasters, increasing urbanization, a growing reliance on interdependent technologies and infrastructure, and inflated expectations of emergency response interventions are responsible for greater disaster vulnerability and demonstrate the need to establish more resilient communities ahead of a disaster. The decisions of the private sector are among the reasons for increased vulnerability, for example through unsustainable or unsound real estate development. One factor that is known to impact resilience is social capital, particularly as manifested in strong social networks. The built environment has been shown to influence social networks in multiple ways. Research has shown that walkable, mixed-use neighborhoods with a higher concentration of social gathering places and public space encourage the development of social capital and place attachment through an increase in social interaction. The built environment is a physical, social, and symbolic anchor for residents. Most importantly for resilience, it can be a support system for social networks. The private sector influences this relationship through real estate development decisions. This paper examines how characteristics of the built environment that influence social networks contributed to greater resilience to Hurricane Katrina along the Mississippi Gulf Coast. Given that social networks increase community resilience to all types of disasters, that social networks are shown to be influenced by certain types of space, and that the built environment is a common intervention for urban planners, this paper explores the potential for creating cities that are more resilient by encouraging private development that fosters social networks.


Following a major disaster, shortages of resources and the increased costs of building materials are likely to slow post-disaster reconstruction. To examine the resource needs for post-disaster housing reconstruction, a longitudinal study was conducted between 2008 and 2010 of the Wenchuan earthquake-impacted Mianzhu City in China. Cost escalation of the common materials of brick, cement, aggregate and steel shows the varying correlation between material requirements and the reconstruction progress. Based on in-field surveys and interviews, the underlying drivers that contributed to changes in the cost of these materials were identified. Findings suggest that apart from physical disaster impacts and urgency of housing reconstruction, other effects, such as legislative interventions and the economic environment, are primary factors in explaining changes in resource requirements. Cost changes for brick and aggregate were to a great extent influenced by local policies and mandates. In contrast, cost changes for non-localized materials such as cement and steel were largely dominated by broader economic effects and domestic strategies in China. To reduce potential resource cost fluctuations and their impacts on recovery, robust post-disaster reconstruction planning is needed and requires systematic mapping and monitoring of resource demands over the reconstruction period.


Problem, research strategy and findings: The 8.8 magnitude earthquake and subsequent tsunami that struck south-central Chile on February 27, 2010, affected 75% of the country’s population and damaged or destroyed 370,000 housing units (about 10% of the housing in six regions). Within six months, the Ministry of Housing and Urban Development published a plan to repair or rebuild 220,000 units of low-
and middle-income housing with government assistance within four years. By February 2014, 94% of the housing was complete. The successful rebuilding effort had strong leadership at the national and local
teams. In time, the reconstruction plan included updated zoning plans, road and infrastructure improvements, heritage recovery, and new master plans for affected cities. Going forward, the earthquake created an opportunity for Chile to use the recovery planning to expand national urban policy and to develop a framework for citizen participation at the local level. Takeaway for practice: Successful planning in disaster recovery involves strong government leadership and coordination together with the engagement of local government and the participation of citizens.


Planning scholars have argued that property owners who develop land in hazardous areas, and thereby impose costs on their communities for emergency planning and disaster recovery, should pay their fair share of those costs. We describe a method of allocating such costs for hurricanes based on relative risk and apply it to Lee County, Florida. While the impact on most property owners is likely to be modest, we show that a risk-based assessment can achieve tax benefit equity and be the means of financing local government costs of disaster response and recovery not covered by federal and state disaster aid.


Several emergency management researchers and practitioners have suggested that the use of social media can help build community disaster resilience. This article develops a strategic framework for the social aspects of disaster resilience-building based on the Australian National Strategy for Disaster Resilience. It then investigates the current and potential use of social media related to the strategic framework. The article concludes by discussing the possible implications for emergency managers of using social media within such a framework.


Haiti’s catastrophic earthquake of 2010 left approximately 200,000 people dead, 1.5 million homeless and most government buildings destroyed. Even pre-disaster, Haiti’s outcomes on the UN Human Development Index were among the lowest in the world, and since the quake the country has fallen into further decline. Today, most Haitians continue to lack basic services, struggle with daily survival, and confront daunting challenges in their change efforts. Many have called for reconstruction of society, and argue that local civil society organizations should lead the way in these efforts by valuing local
knowledge, and building on small-scale community successes. This research investigates one community’s change efforts toward a new form of community development and potential pathway to transformation in Haiti. We aim to apply learning from this case to inform development practice and policy in Haiti and similar contexts. The case study community, Bellevue-La-Montagne, is applying an education-centered community development approach which has placed construction of a new school and education at the heart of collaborative rebuilding efforts by local residents and organizations, primarily Haiti Partners. Education and participatory practices are embedded in all aspects of the community development, including: social entrepreneurship, healthcare, environmental stewardship, community agriculture, planning and construction. These efforts involve participation of people and organizations (local and international) in dialogical negotiations that aim to share power and build capabilities of local people, and to create, change, or preserve structures and institutions consistent with the interests of local people. Participatory and phronesis research methodologies reveal nuanced understandings of the community development and its meaning for local people. In spite of substantial progress in development projects, findings reveal tension points that potentially threaten long-term sustainability, such as: the highly fragile nature of state-society relations, lack of a sense of agency of local people despite strong levels of participation, and differences between outcomes for the community as a whole and individual households. Moving from revealed community change in this case to a broader and deeper social transformation will require key ‘levers of transformation’, identified in this case as: 1) education; 2) place identity, networks, and research; 3) social entrepreneurship and social innovation; and 4) state-society trust and accountability. These levers can be activated through participatory and education-centered community development strategies that provide important roles for local people and civil society, and a nuanced role for international organizations which is sensitive to power dynamics. Such development strategies would give ‘voice’ to communities in their struggles for change. Strengthening, networking and scaling community level innovation that shows promise of transformation, such as the case of Bellevue-La-Montagne, would contribute to Haiti’s attempts to forge a new narrative, and to evolving international development planning policy and practice.


Long-term recovery from disasters presents a formidable challenge to affected communities, requiring sound strategies to restore the health and livelihoods of those affected. This paper examines exemplary practices related to long-term recovery and redevelopment from disasters in other countries, and identifies key themes and promising practices relevant to the United States and other countries. From the eight disasters examined, we find that successful recovery efforts emphasized local empowerment, organization and leadership, and planning for sustainability – three broad approaches that characterized the practices employed by other countries. We believe these practices offer examples that can help to inform disaster management within the U.S., whether contributing to the forthcoming legislatively mandated National Disaster Management Framework or to implement such policy once the document is released. The research suggest three ways to enhance disaster recovery: (1) incorporate long-term recovery goal; (2) expand the knowledge base; (3) develop outcomes towards disaster recovery planning.

The present paper examines the local community’s support for the post-tsunami recovery of two affected places in India: one a tourist destination and the other an agrarian village. The investigation begins with the proposition that social capital is a vital influence upon local communities willingness to support tsunami recovery efforts. The underlying assumption was that the resident community at the agrarian village with its rich social capital and tradition of community activities would proactively participate in the reconstruction program and thereby make a speedier and more meaningful recovery than the resident community at the tourist destination. However, an empirical survey conducted to prove this point provided us with contradictory results: the survey revealed no significant difference in the levels of social capital across the communities. Consequently, the researchers carried out a focus group discussion with the locals at the tourist destination. The interesting conclusion is that it is probably the richness of the very same social capital that provoked local participation at the agrarian village and eliminated it at the tourist destination.

https://www.dukeupress.edu/catastrophic-coastal-storms

As people cluster on the coast in increasing numbers, coastal populations become more vulnerable to severe damage from catastrophic coastal storms. The authors contented that current public policy has proved unable to cope with the growing problem, and in response they present a comprehensive analysis of coastal storm hazards, standard policy approaches, and promising new means of managing coastal growth. *Catastrophic Coastal Storms* offers a solution to the policy problem by proposing a merger of hazard mitigation with development management, basing this on extensive surveys of at-risk coastal locations and case studies of post-hurricane recovery. Starting with the local level of government and proceeding to state and federal levels, the authors propose a strategy for overcoming the formidable obstacles to safeguarding the shoreline population and its structures from hurricanes and other severe storms.


This book blends critical theoretical insight with a historically grounded comparative study to examine the form, trajectory, and contradictions of redevelopment efforts following the 9/11 and Hurricane Katrina disasters. Based on years of research in the two cities, the book contends that New York and New Orleans have emerged as paradigmatic “crisis cities,” representing a free-market approach to post-disaster redevelopment that is increasingly influential in our current, crisis-prone urban age. This approach, the book terms “crisis-driven urbanization,” emphasizes the privatization of disaster aid, devolution of recovery responsibility to the local state, and use of corporate tax incentives and grants to spur revitalization. Rather than target the populations and ecosystems most heavily impacted by the disasters, deregulated aid dollars subsidize luxury development and urban rebranding campaigns that accelerate gentrification and displacement and advance urban agendas long sought by growth coalitions. By exposing both the pre- and post-history of the two disasters, the book shows how long-neglected landscapes of risk and vulnerability combine with starkly inequitable redevelopment to turned sudden
disaster into long-term crises. Such uneven and contradictory redevelopment only exacerbates risk of future crisis—and is not inevitable.


The contentious politics of the demolition of Lafitte public housing in post-Katrina New Orleans and its replacement with mixed-income properties is a telling case of the strategic conflicts housing advocates face in public housing revitalization. It reveals how the qualified outcomes of HOPE VI interact with local institutional and historical circumstances to confound the equity and social justice goals of housing and community development advocates. It shows the limits to public housing revitalization as an urban recovery strategy when hostile government leadership characterizes a region, and the state is recast as an adversary rather than revitalization partner. This case is part of a longer ethnographic project on post-Katrina New Orleans recovery.


Researching traditional streetcars’ development impacts is challenging: most U.S. lines operate in downtown areas with many development stimuli. This article addresses that challenge through analysis of New Orleans building permits after Hurricane Katrina. We estimate how post-Katrina permit frequency changes with distance from streetcar stops, controlling for damage, proximity to commercial areas, and pre-Katrina demographics. We find that distance to stops strongly predicts building permits. Residential permits increase with distance to stops; commercial permits decrease. Findings confirm streetcars support commercial development, yet suggest potential displacement of residential uses. Implications for future streetcar projects in New Orleans and elsewhere are discussed.


Nepal is a developing country bordered to the north by the People’s Republic of China and to the south, east, and west by the Republic of India. The Nepal–Sikkim earthquake on September 18, 2011, which had a 6.9 magnitude, caused extensive damage to more than 6,000 buildings and affected 7,746 families across 12 districts in the eastern part of Nepal. The areas mostly affected by the earthquake were remote and poor villages where buildings were constructed without considering the lateral loads of an earthquake. Most buildings were severely damaged and included schools (370 fully and 652 partially damaged), health posts, private residences, and public infrastructure. The United Nations Development Programme in Nepal (UNDP Nepal) has been implementing the Comprehensive Disaster Risk Management Programme (CDRMP) since December 2011. CDRMP encompasses the complete cycle of disaster management, including preparedness, response, and recovery. Following the Nepal–Sikkim earthquake, the Early Recovery and Disaster Risk Reduction (ERDRR) component of the CDRMP prioritized the resumption of school for young children in two districts: Ilam and Taplejung. A total of 597 school buildings were severely damaged, yet the scheduled annual exam was only few months away. ERDRR launched an initiative with the goal of restoring education in a secure environment by making both schools and communities resilient to earthquakes and other natural hazards.
In September 2008, Hurricane Ike caused massive damages to Galveston Island’s residential structures including four public housing developments. These developments were located in neighborhoods with some of the lowest incomes and highest percentages of people of color on the Island. Four months later, the Galveston Housing Authority (GHA) decided to demolish all four developments consisting of 569 housing units due to the damages to the buildings. Today, despite federal regulations requiring reconstruction, court orders mandating replacement of the demolished units, and available funding, only 142 low-income apartments have been rebuilt. We used the social vulnerability framework to understand these outcomes through the ability of groups to shape post-disaster recovery decisions. This paper argues that one of the overlooked characteristics of social vulnerability is a diminished ability to participate in post-disaster decision-making. We found that social vulnerability limited participation through three distinct mechanisms: the physical displacement of public housing residents, the stigmatization of public housing, and the reduction of residents to housing units in the debates. There were few local advocates arguing for the preservation of public housing units and even fewer remaining residents to speak up for themselves in the face of strong local resistance to the reconstruction of public housing units or the return of public housing residents. The void of a strong and authentic local pro-public housing perspective in Galveston provided an opening for various local campaigns to claim that their desired plan benefited the poor. The disaster recovery became an opportunity to remove or reduce public housing units and therefore public housing residents. Our findings show the dynamic features of vulnerability. While static factors of vulnerability can limit access to resources for recovery, dynamic processes of social marginalization and exclusion limit the voices of socially vulnerable groups in recovery decisions and exacerbate marginalization.

https://scholarlycommons.law.cwsl.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1098&context=cwlr

Most Americans have emblazoned in their memory an image of a category five hurricane roaring across the Gulf Coast of Louisiana, Mississippi, and Alabama, hurling casinos in the air, crumbling century-old buildings, and devastating thousands of homes-and even more lives-under a massive tidal surge.’ When Katrina made landfall, it instantly became the worst natural disaster in over 200 years. In Mississippi, it destroyed 70,000 homes and damaged 160,000 more. Water inundated nearly every structure hugging the seventy-mile coastline, including a local Emergency Operations Center, which sits thirty feet above sea level, casting emergency workers out into the sea. Families recall how the flooding reached as high as the rafters in their homes and how buildings disintegrated while winds ripped away roofs. With such staggering devastation, much attention focused on the immediate aftermath of Katrina and the failures of the federal emergency response, burning into our national consciousness images of elderly and poor people, mostly black, literally abandoned by their government. But Katrina has truly been a continuing storm: just as many poor communities were marginalized, segregated, and abandoned before the storm came ashore, they remain left out of the recovery and rebuilding effort.

This paper describes how the inhabitants of Llico, a small fishing town in Chile, organized to move from the coastline to avoid a tsunami that devastated their homes and livelihoods and then to manage immediate responses. It then describes how long it took for state support to arrive and how the inhabitants were marginalized from planning and implementing the reconstruction processes. As a result, this poorly served their needs and priorities and failed to utilize their knowledge and organizational capacities. Here and elsewhere in Chile, post-catastrophe reconstruction processes miss the opportunity to improve living conditions for the affected communities and to develop policies for disaster management that incorporate and use their social capital.


Following disasters, governments often clamor to quickly reduce risk, rebuild communities and restore permanence. The pressure to urgently address complex, difficult decisions can result in reactive policies that may increase long-term vulnerability of affected populations. Sri Lanka in the aftermath of the 26 December 2004 tsunami represents such an example: a hastily designed coastal buffer zone policy has incited massive relocation of affected populations and resulted in social, economic and environmental problems that threaten the well-being of poor coastal communities. We review the impacts of this policy from its inception, days after the tsunami hit the island, until its revision, approximately 10 months following the disaster. We then apply a framework to conceptualize the components of vulnerability within Sri Lanka’s coastal, human–environment system and to identify where post-disaster policies should focus to reduce vulnerability of coastal populations more effectively. From this analysis, it is apparent that the buffer zone policy gave disproportionate attention to reducing exposure to future tsunamis and, subsequently, did not address the critical social, economic and institutional factors that influenced sensitivity to the hazard. Post-disaster policies aimed at sustainable re-development should be informed by an analysis of the components of vulnerability that comprise a system and how these can be most effectively influenced during the separate short-term and long-term phases of rebuilding.


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.


Housing is perhaps the most common component of a community’s manufactured capital wealth stocks damaged or destroyed by natural disasters. Consequently the restoration of housing in the recovery process takes on a paramount significance. This significance is magnified by the complexity of housing restoration and the varying and specialised skill sets required to deliver it. Such complexity is exemplified through both the different phases of post-disaster housing required following a disaster and the role of housing in the broader socio-ecological system of a community. Housing is inextricably linked to livelihoods, physical and mental health, security and social capital. Successful post-disaster restoration of housing must identify and embrace such linkages. This paper explores this notion through examination of the impact of the permanent housing reconstruction of the T Vilufushi community, Maldives, following the 2004 Indian Ocean Tsunami, which completely destroyed the island of Vilufushi. The community were temporarily relocated for 41/2 years whilst Vilufushi was totally reconstructed by the Government of Maldives and the British Red Cross. Such reconstruction was undertaken to cater for not only the original population of 7800, but also a projected population of 5000, as the Government of Maldives utilised the opportunity afforded by the Tsunami to pursue its longstanding population consolidation policy. The post-occupancy impact of the permanent housing reconstruction program upon the wider socio-ecological system of the Vilufushi community is explored via a qualitative research methodology utilising the four wealth capitals of sustainable development as its analytical framework. Field data collection methods comprised focus group discussions, key informant interviews and observations. This was supplemented with ongoing document collection and review. Data was analysed using a pattern match technique / content analysis, preceding a holistic recovery network analysis. Results of the research indicate that the delivery of the permanent housing on Vilufushi has undermined the human, natural and social capital wealth stocks of the community. The implications are that permanent housing reconstruction needs to be considered as much as a social process, as an engineering process. This in turn, has implications for the skillsets of those charged to deliver such projects, and also the organisations that employ them.


Talca, Chile, has been negatively impacted by both a major 2010 earthquake and the ensuing reconstruction process. Talca’s poor have been forced out from their neighborhoods and relocated to remote areas where employment, public transportation, and basic services are limited. Based on extensive community development work in Talca, this article analyzes the dynamics that have led to these conditions and the insufficiently supported alternative community-based initiatives that could have
allowed Talca to redevelop in more sustainable and equitable ways. Planners need to systemically understand the implications of programs often pushed in times of emergency as urgent and inevitable that may not favor a healthy long-term redevelopment of communities recovering from disasters, be politically savvy and courageous to denounce and resist them when necessary, and work with/for communities to define and promote more just and sustainable postdisaster futures.


This study explores the disaster response, political transformation and community development prospects of the Philippine community of Guinsaugon, a village devastated by a 2006 landslide. Utilizing a social justice perspective, we analyze a range of qualitative data collected over a 5-year period to understand how linking capital functions following a major social disruption. An understudied form of social capital and linking capital features embeddedness, shared values and mutual goals between individuals and groups that are divided by cleavages of class, power and privilege. We uncovered three major outcomes. First, an existing village institution-Cristo Rey High School-was a principal agent of distributive justice, providing immediate material goods and social support to the survivors. This local institution was deeply embedded in the village, yet maintained extensive ties with outside groups that provided crucial resources. Second, linking capital contributed to procedural justice and political transformation. The disaster sparked many emigrants to return to the village and form The ATHena Project: Advocacy for Transparency and Honesty, a civil society organization that promoted accountability and helped dethrone a local political dynasty. Finally, our study uncovered a crucial limitation of linking capital. This powerful social resource did not help fulfill essential elements of long-term community development, such as helping secure land, sustainable jobs or infrastructural development for re-located Guinsaugon villagers. In this way, we underscore the importance of a strong developmental state in post-disaster recovery. Without it, some of the gains derived from linking capital do not endure, undermining the advances of distributive and procedural justice that followed a major social disruption.


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.


The topics of disaster recovery in general and housing recovery in particular have received relatively little attention in the disaster literature despite the importance of these issues (Drabek, 1986; Mileti, Drabek, & Haas, 1975; Tierney, Lindell, & Perry, 2001). This study brings a unique data set to bear on the important issue of permanent housing recovery that provides the opportunity to assess long-term housing recovery for three different forms of housing, single family, duplexes and apartment buildings/complexes, following Hurricane Andrew which struck southern sections of Miami-Dade County Florida in 1992. The findings suggest that duplex and apartment have slower recovery trajectories than single family housing. In addition, rental housing, housing with frequent sales, and housing located in predominately minority areas show significantly slower recovery speeds


The purpose of this paper is to understand and define the concept of Building Back Better (BBB) and represent it using a comprehensive framework. Findings – Post-disaster recovery in-line with BBB concepts can be achieved by having a holistic view of four key categories: risk reduction entails improving the resilience of the built environment through improvement of structural designs and land-use planning; community recovery includes addressing and supporting psycho-social recovery of communities and supporting economic rejuvenation; implementation addresses ways in which risk reduction and community recovery practices can be put in place in an efficient and effective way; monitoring and evaluation stretches across the first three categories, and calls for putting in place mechanisms to monitor and evaluate recovery activities to ensure compliance with BBB-based concepts and obtain lessons to improve future disaster management practices.


Community Engagement in Post-Disaster Recovery reflects a wide array of practical experiences in working with disaster-affected communities internationally. It demonstrates that widely held assumptions about the benefits of community consultation and engagement in disaster recovery work need to be examined more critically because poorly conceived and hastily implemented community engagement strategies have sometimes exacerbated divisions within affected communities and/or resulted in ineffective use of aid funding. It is equally demonstrated that well-crafted, creative and thoughtful programming is possible. The wide collection of case studies of practical experience from around the
world is presented to help establish ways of working with communities experiencing great challenges. The book offers practical suggestions on how to give more substance to the rhetoric of community consultation and engagement in these areas of work. It suggests the need to work with a dynamic understanding of community formation that is particularly relevant when people experience unforeseen challenges and traumatic experiences. This title interrogates the concept of community through an extensive review of the literature and explores the ways of working with communities in transition and particularly in their recovery phases through an array of case studies in a range of socioeconomic and political contexts. Focused on the concept of community in post-disaster recovery solutions—an aspect which has received little critical interrogation in the literature—this book will be a valuable resource to students and scholars in disaster management as well as humanitarian agencies.


The article discusses the use of a city resilience index for measurement of cities’ comparative resiliency, which could help cities with post-disaster long-term recovery strategies. Topics discussed include benefits of a city resilience index, housing and historic resources as the two essential components of city resilience index, use of a city resilience index for implementation of urban revitalization policy. It mentions establishment of a framework for reconstruction and building of cities.


The relationship between development and religion is an uneasy one. Since the invention of modernisation theory in the 1950s religion has been marginalised—seen as something that would fade as secularisation increased. Although this has not occurred, religion is still considered a taboo subject which falls outside the gamut of development, despite the religiosity of many faith-based development organisations, donors, and recipient communities. In this paper I emphasise the importance of religion to development by tracing religious influences within transnational development networks operating in Aceh, Indonesia, after the 2004 Boxing Day tsunami. Religious influences are analysed amongst donor communities in Australia and New Zealand/Aotearoa; within the activities of religious NGOs in Aceh; amongst recipient communities; and in the physical landscape of Aceh, where the rebuilding of sacred spaces has been slow and difficult. It is argued that the current approach to religion within development, and much development research, is outdated and inappropriate, reflecting and enforcing particular Western divisions between church and state. For more effective aid which attends to local concerns and priorities, transnational development networks need to acknowledge, incorporate, and involve religious spaces and institutions rather than continue to promote a culture of secularism.


In this paper we propose to explore the complex node of post disaster reconstruction, knowledge and data necessary to support spatial planning, and new information technologies. The methodology that is illustrated assumes that post-event damage assessments are useful to verify to what extent hazard and risk
assessments that were available to planners to make decisions before the disaster were correct and if they were actually used as a basis for locational and zoning choices. Our contribution is aimed at the creation and design of knowledge bases accounting for the dynamic evolution of disasters. New web based technologies provide the opportunity to collect and analyse dynamic territorial crisis data using crowdsourcing and crowdmapping platforms. The proposed methodology permits to sort and classify a very large set of different types of data generated through the web. Semantic conceptualization using ontologies is performed to identify and select the information produced during the emergency that can support spatial planning in the post disaster reconstruction. The city of Tacloban in the Philippines, affected by the Super Typhoon Haiyan in November 2013 constitutes the test case for applying the methodology that has been developed.


In recent years earthquakes and their secondary hazards have claimed the largest number of lives of all large natural disasters. Some of the world’s most earthquake-prone zones are also areas of high population density. The impact is magnified by vulnerability factors including non-enforcement of building codes, knowledge gaps, urban poverty and poor governance capacity to manage and reduce earthquake risks. Poor security of land tenure and property rights increases the vulnerability of people and affects their ability to respond to natural disasters. Earthquake recovery and reconstruction provides very significant challenges for land agencies, with these challenges differing from one country to the next due to differences in the local context. Drawing on contrasting case studies in Haiti, Nepal and New Zealand this paper identifies the common post-earthquake land administration functions and challenges that may apply to many contexts. These lessons provide land agencies and other key stakeholders with a summary of the challenges an earthquake poses for land administration at different post-disaster stages. We also discuss the policy and regulatory, institutional, operational and preparedness lessons for land administration. From these lessons we propose a framework for evaluating the earthquake-responsiveness of a land administration system. This framework can be used by a land agency in an earthquake prone region, or where an earthquake has recently occurred, to assess what challenges to land administration might occur in the event of an earthquake, and the preparedness of their land administration system.


In the aftermath of Hurricane Katrina, more than a million Gulf Coast residents were forced to flee, nearly 250,000 to Texas. New Orleans lost more than half its population. Four years later, many low-income residents had yet to return. Through qualitative research with low-income survivors relocated to Austin, Texas, and the caseworkers and service providers who worked with them, this article describes the experiences of low-income households. Disaster housing policies were a particularly poor fit for the needs of low-income survivors and, combined with a preexisting shortage of affordable housing in Austin, impeded their recovery.

Land readjustment (LR), a land management technique used to consolidate plots of land for unified planning of infrastructure, servicing, and subdivision (Doebele, 1982), has received increased attention in the past two decades as a planning tool following catastrophic events. The method involves all landowners contributing a portion of their plots for roads and public spaces. The landowners benefit by an increase in the value of their land after LR, while planning authorities are able to provide land for public facilities and infrastructure (Sorensen, 2000). Used for a wide variety of planning objectives such as consolidating agricultural land, converting rural land for urban use, and inner-city revitalization, LR has also extended to post-disaster urban reconstruction.


Planners have long believed as an article of faith that land use planning can reduce damage from natural hazards. After evaluating the relationship between the seismic safety elements of comprehensive plans prepared in the Los Angeles region of California and damage caused by the 1994 Northridge earthquake, we provide evidence that this faith is not misplaced. The State of California requires every local government to include a seismic safety element in its comprehensive land use plan. The 1994 Northridge earthquake provided an opportunity to evaluate the extent to which the quality of state-mandated, locally prepared seismic safety elements reduce earthquake damage. We found that fewer homes were damaged when local governments had developed high-quality factual bases, formulated goals for improving seismic safety, crafted regulatory policies to manage development in hazardous areas, and advanced policies that made the public aware of seismic risks. We conclude that including a high-quality seismic safety element in land use plans can reduce property damage associated with seismic events. Our work has broad implications for land use planning.


Problem, research strategy, and findings: Although many researchers frame post-disaster reconstruction as an opportunity to build safer communities less vulnerable to natural hazards, widespread land use change and relocations are rare in the United States. Residents often resist relocation and attempt to recreate the city as it was before the disaster. In this study, I examine the potential of land swaps to encourage post-disaster redevelopment that is more concentrated and less vulnerable to hazards, while expanding resettlement options for displaced residents. This article is based on a case study of an innovative land swap program developed in New Orleans after Hurricane Katrina by a nonprofit housing organization, Project Home Again (PHA). PHA’s land swap program concentrated redevelopment during a time of uncertain population return and expanded resettlement options for nearly 100 low- and moderate-income households devastated by Hurricane Katrina’s floodwaters. I describe the operation of PHA’s land swap program and identify three conditions that can increase the viability and impact of land swaps in other disaster recovery settings: the incorporation of land swaps into housing recovery policy; cross-sector collaboration in the implementation of land swaps; and coordination with public or quasi-public land banks. Takeaway for practice: Land swaps can be a useful tool in disaster recovery by helping to guide redevelopment while expanding resettlement options for displaced residents. Increasing the range of
relocation and resettlement tools available to planners is essential as repeated extreme weather events, sea level rise, and coastal erosion threaten the habitability of more and more cities and communities.


In April 1979, the Pearl River in Mississippi inflicted damage estimated at one-half billion dollars in the city of Jackson and surrounding areas. Most property damage accrued to development built in the floodplain since the previous major flood in 1961. This development was encouraged by public investment, including a U.S. Army Corps of Engineers flood control project completed in 1968 which proved unreliable. Issues for national flood policy posed by the Jackson experience include the need for (1) land use regulations as concomitants to flood control structures, (2) improved coordination between different levels and units of government sharing jurisdiction over floodplains, (3) consideration of inter-jurisdictional effects in the allocation of flood protection resources, (4) location of vital public services outside floodplains, and (5) revision of post-disaster recovery policies to encourage mitigation of future losses.


This article aims to identify gaps in public participation in land use planning to improve risk governance, using the case of the Great East Japan Earthquake (GEJE) in 2011. Overreliance on technical information and on the opinion of experts is occurring side by side along with negligence of local knowledge and lack of effective public participation in decision-making, creating a sense of overconfidence regarding scientific knowledge and new infrastructure’s abilities to withstand future disasters. Using the case study method in GEJE, our research identified three main overall gaps in participation. Firstly, a lot of local knowledge from previous experiences was not incorporated into land use plans in the region even after similar events in the past. Secondly, there was technical information that alerted to possible risks for land use in certain areas, but this information did not impede development in risk areas due to lack of effective participation in the land use planning processes. Finally, Japan allows participation in many land use planning process, but some of the most important decisions, such as on the sitting of nuclear plants had little or any local participation. Thus, strengthening public participation in land use by closing those three gaps could improve risk governance and resilience of localities to cope with large natural and technological disasters in the future.


Community revitalization is a neglected element in disaster recovery. The literature on disaster and community practice is reviewed and some community development and organizing endeavors in New Orleans after Hurricane Katrina are described. Social work’s lack of emphasis on community organizing is a barrier to social development in post-disaster situations.

This paper examines area-based approaches (ABAs) in urban post-disaster contexts. After introducing the main features of ABAs, the paper discusses current practice in humanitarian response, and the need within urban areas to draw lessons from urban development approaches, from which ABAs have emerged. The paper then presents lessons from research concerning the application of ABAs in relation to phases of the project management cycle: assessment and design, implementation, and monitoring, evaluation and learning. The paper ends with a brief discussion. Overall, it argues that for ABAs to be effective, they need to draw on longstanding lessons from urban development, plan for a longer timeframe for their actions than is otherwise often the case in recovery operations, and consider the need to scale up actions for wider city application.


This book explains key lessons learned from diverse disaster situations and analyzes them within the framework of governance, education, and technology, providing a framework for disaster recovery as a development opportunity. In post-disaster situations, different types of resources are put into the affected region, varying according to technical, financial, intellectual, and community resources. If properly implemented, disaster recovery can change the context of risk-reduction approaches; if not, it can create additional hazards. In some countries, the post-disaster recovery process has even changed the socio-economic and political context of the affected region and country. The book has 21 chapters and is divided into four parts: governance and institutional issues (five chapters), education and learning issues (four chapters), technology and innovation issues (five chapters), and cross-cutting issues (five chapters). The final chapter provides an analysis of the key topics. The primary target groups for this book are students and researchers in the fields of environment, disaster risk reduction, and climate change studies. The book provides them with a good idea of the current research trends in the field and furnishes basic knowledge about these vital topics. Another target group comprises practitioners and policy makers, who will be able to apply the knowledge collected here to policy and decision making.


Perceptions of seismic risks, among other factors, are influenced by urban environments. This relationship is investigated in this paper, in relation to open spaces. A comparative study of two communities in Kathmandu, Nepal with the context of 2015 earthquake was conducted using data gathered from household surveys and expert interviews. Escape behaviour in relation to open spaces was examined by analysing the correlation with a risk perception index (RPI) which is a novel approach in seismic risk perception studies. Additionally, point density analysis of surveyed houses and visualization of escape routes and destination followed by the respondents offer insights into the spatial relationship with perceived risk. Furthermore, expert interviews were used to validate the findings and highlight the important relationship between perceived risks and open spaces. The findings suggest that open spaces are a key component of disaster response as they are safe locations and offer spaces for community that enables mutual coping among its members. As such it directly or indirectly affect people’s perception of seismic risk. It was found that medium sized communal spaces are preferred within a distance of 200 m as immediate safe destinations. The choices for such spaces are dependent on the built environment of the site given by its layout, landmarks, building density and building height. The choices of open spaces as shelter locations are influenced by duration of stay such as availability of drinking water, public lavatory
and electricity are crucial for short term stay where as ownership and economic capabilities are vital for long term stay.


The Canterbury region of New Zealand was shaken by major earthquakes on the 4th September 2010 and 22nd February 2011. The quakes caused 185 fatalities and extensive land, infrastructure and building damage, particularly in the Eastern suburbs of Christchurch city. Almost 450 ha of residential and public land was designated as a ‘Red Zone’ unsuitable for residential redevelopment because land damage was so significant, engineering solutions were uncertain, and repairs would be protracted. Subsequent demolition of all housing and infrastructure in the area has left a blank canvas of land stretching along the Avon River corridor from the CBD to the sea. Initially the Government’s official – but enormously controversial – position was that this land would be cleared and lie fallow until engineering solutions could be found that enabled residential redevelopment. This paper presents an application of a choice experiment (CE) that identified and assessed Christchurch residents’ preferences for different land use options of this Red Zone. Results demonstrated strong public support for the development of a recreational reserve comprising a unique natural environment with native fauna and flora, healthy wetlands and rivers, and recreational opportunities that align with this vision. By highlighting the value of a range of alternatives, the CE provided a platform for public participation and expanded the conversational terrain upon which redevelopment policy took place. We conclude the method has value for land use decision-making beyond the disaster recovery context.


The term “natural disaster” is often used to refer to natural events such as earthquakes, hurricanes or floods. However, the phrase “natural disaster” suggests an uncritical acceptance of a deeply engrained ideological and cultural myth. At Risk questions this myth and argues that extreme natural events are not disasters until a vulnerable group of people is exposed. The updated new edition confronts a further ten years of ever more expensive and deadly disasters and discusses disaster not as an aberration, but as a signal failure of mainstream “development”. Two analytical models are provided as tools for understanding vulnerability. One links remote and distant “root causes” to “unsafe conditions” in a “progression of vulnerability”. The other uses the concepts of “access” and “livelihood” to understand why some households are more vulnerable than others. Examining key natural events and incorporating strategies to create a safer world, this revised edition is an important resource for those involved in the fields of environment and development studies.


This is a study of how two small neighbourhoods, Mano and Mikura, recovered from the 1995 Kobe (Japan) earthquake, with a particular focus on the relationship between community vulnerability and
capacity. Few studies have examined these interactions, even though vulnerability reduction is recognized to be a vital component of community recovery. Drawing from literature on disaster recovery, community development, vulnerability analysis, community capacity building and the Kobe earthquake, a community vulnerability and capacity model is elaborated from Blaikie et al.’s Pressure and Release Model (1994) to analyze the interactions. The Mano and Mikura cases are analyzed by applying this model and relating outcomes to the community’s improved safety and quality of community lives. Based on the experience of Mano, appropriate long-term community development practices as well as community capacity building efforts in the past can contribute to the reduction of overall community vulnerability in the post-disaster period, while it is recovering. On the other hand, the Mikura case suggests that even though the community experiences high physical and social vulnerability in the pre-disaster period, if the community is able to foster certain conditions, including active CBOs, adequate availability and accessibility to resources, and a collaborative working relationship with governments, the community can make progress on recovery. Although both Mano and Mikura communities achieved vulnerability reduction as well as capacity building, the long-term sustainability of the two communities remains uncertain, as issues and challenges, such as residual and newly emerging physical vulnerability, negative or slow population growth and aging, remained to create vulnerability to future disasters. The case studies reveal the interactions of community vulnerability and capacity to be highly complex and contingent on many contextual considerations.


Three neighborhoods in Lexington, Kentucky, share a common flood history, including property acquisitions, as a means to mitigate against flooding; yet, the interactions of residents with the buyout landscapes vary significantly among the neighborhoods. Although the same institutions and structural controls implemented flood buyout programs in all three neighborhoods, semi-structured interviews illustrate that differing perspectives, personalities, and neighborhood politics shaped unique identities and land uses for the acquired properties in each neighborhood. Varying levels of resident engagement with the buyout landscape resulted in a range of attitudes towards hazard preparation, management, and mitigation, thus leaving some neighborhoods more resilient to future flooding than others. This study explores key residents, termed magnetic agents, who drove neighborhood civic action and land uses on the open space created through floodplain property acquisition. This research indicates magnetic agents can serve as important partners for local governments and non-governmental organizations (NGOs) in building community-based projects aimed at reducing vulnerability to flood events and instituting high utility land uses on floodplain buyout open space.