The Integration of Hazard Mitigation, Disaster Recovery, and Climate Adaptation

Executive Forum on Business and Climate

Private Property, Climate Information Disclosure, and the Roles of Insurance and Government

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Overview

- Linking Natural Hazards Risk Management and Climate Change Adaptation through Planning
  - Climate Change Adaptation Challenges and Opportunities
  - Hazard Mitigation
  - Disaster Recovery
Organizing Principles

- Poor Coordination between Climate Change Adaptation and Natural Hazards Risk Management Community (Hazard Mitigation, Disaster Recovery)

- Role of Planning and Resilience
Disaster Resilience

• “Designed in advance to anticipate, weather and recover from the impacts of natural or terrorist hazards”
• “…built on principles derived from past experience with disasters”
• Comprised of “networked social communities and lifeline systems”
• “…adapting and learning from disasters”
• “…strong and flexible (rather than brittle and fragile)”
• “…new development is guided away from known high hazard areas and their vulnerable existing development is relocated to safe areas”
• “…buildings are constructed or retrofitted to meet code standards based on hazard threats”
• “…natural environmental protective systems are conserved to maintain valuable hazard mitigation functions”
• “…governmental, non-governmental, and private sector organizations are prepared with up-to-date information about hazard vulnerability and disaster resources, as linked with effective communication networks, and are experienced in working together (Godschalk 2003, pp. 136-137).
Case Study Themes

• Importance of collaborative governance

• Influence of pre-event conditions (culture, wealth/poverty, policy frameworks and institutions)

• Value of establishing good vertical connectivity between national policy and local plans

• Adopting varied and flexible risk management strategies

• Viewing disasters as focusing events (including adoption of new policies and practices that reduce exposure to extreme events and confront the drivers and root causes of vulnerability)
Adaptation Challenges and Opportunities

• Slow-Onset and Episodic Events
  – Differing timescales (episodic versus slow onset)
  – Differing spatial scales (global-local)
  – Differing camps of researchers and practitioners
    - Knowledge base and terminology (physical science/engineering, social sciences, planning); hazard mitigation/adaptation
    - Policy frameworks (while different, both emphasize sustainability and resilience)
  – Differing analytical tools
    - Risk assessment and risk communication
    - Linking global assessments and local impacts (downscaling data)
  – Differing funding and implementation mechanisms
    - Natural Hazards Risk Management versus Climate Change Adaptation
Scenario Planning / Planning For Uncertainty (Berke)

• Traditional Planning Paradigm is Inadequate
  – Heightened uncertainty
  – Longer time horizons

• Applying Lessons from Hazard Mitigation Planning
  – Anticipating future impacts / future orientation (anticipatory governance)
  – Rapid and slow-onset events
  – Local government paradox (Ray Burby)

• New Plans should account for:
  – Multiple futures based on collaboratively developed scenarios
  – Clear monitoring and implementation strategies
  – Flexible strategies (robust and contingent)
“Planning” for Hazard Mitigation, Post-Disaster Recovery, and Climate Change Adaptation?
Broad Issues Underpinning Disasters

• Demographic Change and Geographic Shifts
  – Aging population
  – Growth in high hazard areas

• Reactive Nature of Hazards and Disaster Policy
  – Post-Disaster Policy (Rubin’s disaster timeline)
  – Politics of Disaster Declarations (Platt 1999)
  – Unintended Consequences / Incentivizing Development in High Hazard Areas (e.g., NFIP, post-disaster assistance)

• Settlement Patterns and Land Use
  – Urbanization
  – Smart Growth, New Urbanism-linkage to natural hazards risk reduction and climate change adaptation?
Natural Hazards Risk Management: Hazard Mitigation

• Hazard Mitigation
  – Actions, steps, policies and programs that can be taken to reduce the loss of life and property damage in the event of a natural disaster (Godschalk et. al 1999)
  – Any sustained action taken to reduce long-term risk to human life and property from natural hazards (FEMA)
  – Pro-active versus Reactive Approaches

– Natural Hazards Planning
  ◦ Disaster Mitigation Act of 2000
  ◦ Hazard Mitigation Planning

– Berke, Smith and Lyles Study
  ◦ Risk Assessment, Projects and Policies
  ◦ Land Use as a Risk Reduction Measure is Limited
  ◦ Very Limited Reference to Climate Change Adaptation
• **Disaster Recovery Assistance Network**

• **Network loosely coupled, differs over time and space**

• **Network Resources**
  - Funding
  - Policies
  - Technical Assistance

• **Dimensions of Framework**
  - Rules and Understanding of Local Needs
  - Timing of Assistance
  - Horizontal and Vertical Integration
Improving the Disaster Recovery Planning Process

- Develop a recovery planning process rooted in collaboration and learning
  - Expansion of shared resource base
  - Compendium of lessons/sharing of lessons in peer-to-peer venues

- Build federal, state and local government recovery planning capacity
  - Building the collective capacity of the assistance network
  - Implementation of national strategy
  - Encourage sub-national innovation (e.g. Florida’s Post-Disaster Redevelopment Planning)

- Actively engage the planning and emergency management community in disaster recovery
Post-Disaster Recovery, Reconstruction and Resettlement? (Recovery as “Opportunity” -- Hazard Mitigation and Adaptation)
The Role of Planning in Climate Change Adaptation and Natural Hazards Risk Management

• Improved Use of Existing Planning Tools and Processes
  – Pre-Event Planning (hazard mitigation and disaster recovery)
  – Land Use Planning Tools / Spatial Orientation
  – Scenario-Based Planning / Temporal Dimension

• Planners as Coalition Builders and Boundary Spanners
  – Poor Coordination between Planners and Emergency Managers / Design Professionals
  – Integrating Risk Reduction, Sustainable Development, Resilience and Adaptation
Concluding Thoughts

• Linking Disaster Recovery, Hazard Mitigation and Climate Change Adaptation
  – Scenario-Based Planning
  – Improving Hazard Mitigation Planning
  – National Disaster Recovery Framework
    ◦ Pre-event planning?
  – Pre- and Post-Disaster Design Standards
  – Insurance

• Governance