

The Unique Challenges of Long-Term Post-Disaster Recovery

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Imagine a catastrophic urban disaster....

San Francisco, 1906 (earthquake, fire)



Source: National Archives, www.archives.gov



Source: SF Public Library, sfpl.lib.ca.us

Tokyo, 1923 (earthquake, fire)



Banda Aceh, Indonesia, 2004 (earthquake, tsunami)



Source: Jakarta Tsunami Information Center



Source: nationalgeographic.com

New Orleans, 2005



(Source: MSNBC, 2005)



Sichuan Province, China, 2008

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Port-au-Prince, 2010

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- What do we know about how rebuilding takes place?
- How can governments effectively manage post-disaster recovery and reconstruction—meeting the time-sensitive needs of housing and economic recovery, while also maximizing the opportunities for community betterment and resilience from future disasters?

How Does Recovery Work?

- What does successful recovery look like?
- What resources does successful recovery need?
- What are some unique characteristics of recovery?
- What is the role of government in successful recovery?
- What are the reasons for these phenomena?

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What is Successful Recovery?

- **First** goals of recovery are to
 - Restore infrastructure and essential services.
 - Return to previous level of economic function.
 - Replace the quantity of lost housing units.
- Success is measured by both speed and quality (which often conflict).



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Recovery requires money

- When a city is devastated, **above all it needs money** to pay for the labor and materials to rebuild it.
- Recovery is a search for sources of financing.



Times-Picayune



ASAHI SHIMBUN CO. PHOTO

- Outside resources are vital!
 - Government
 - NGOs
 - Victims' savings
 - Insurers
 - Investors

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Funding requires plans

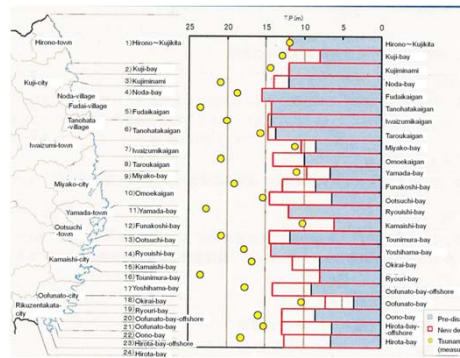
- Planning is a way to help spend the money wisely.
- Every disaster victim needs to make some sort of "plan," to convince donors/investors to provide money, to assure them the money will be well spent.
- Planning is also a way to think about how to build back better.



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Recovery requires information

- Rapid reconstruction needs to be supported by data.
- Recovery organizations need to communicate with one another.



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Many actors

- The process is complex and multi-centric:
Many people and organizations are involved:
 - Residents rebuilding
 - Businesses
 - Public agencies, utilities
 - NGOs of all types
 - Funding agencies, governments



The post-disaster environment

- It feels like everything is faster, louder, brighter.
- Everyone is in a chaotic, confusing, fast-paced, information-poor environment.
 - Because most have never experienced this before, they must improvise.
 - Sometimes this leads to innovations, sometimes to failures. It's a live experiment.

Planning conflicts with need for speed

- Simultaneously a desire for what was lost, and a desire for betterment: tension between speed and deliberation.
- Both are important! (though contradictory)
 - Speed is vital, to:
 - Keep businesses alive,
 - Maintain social networks,
 - Rebuild infrastructure,
 - Provide temporary and permanent housing for disaster victims.

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Recovery overwhelms government's ability

- The post-disaster environment demands more than bureaucracies can provide.
 - They lack flexibility to innovate, and they are not designed to act quickly
- New nongovernmental and community-based organizations always emerge, to fill the gaps. In fact, such organizations are the keys to successful recovery.

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But government also has an important role

- **Money, information, technical assistance**
- Support all the many actors in doing what they are good at.
- Need to create (or adapt existing) institutions to:
 - Identify and manage **financing**.
 - Collect, maintain, distribute **information**

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For Example: Housing

- Involves rebuilding, redesigning or relocating people's homes.
- Governments should provide funding, technical help, communication.
- But residents need to be involved.
 - Those who participate in housing reconstruction are more likely to
 - Be satisfied with their homes
 - Live in their homes
 - Not migrate elsewhere
 - Not protest or cause political discomfort for officials.



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Recap: Basics of Recovery Planning

- Recovery is **real life at high speed**. Normal planning problems magnified.
- Its currencies are **information** and **money**.
- The **role of government** is to send money, provide information, and resist the urge to manage the details.
- **Planning** and **acting** should be simultaneous, which is hard to do.

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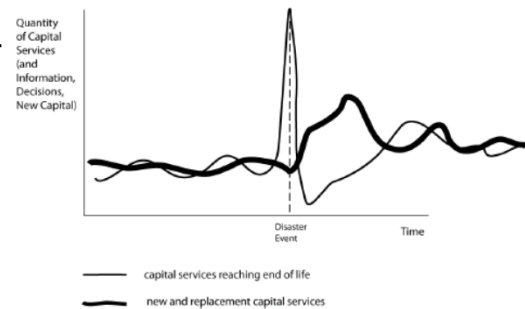
Need for a useful theory

- Why are these things true?
- Is there something that is unique about recovery? How does it differ from the normal challenges of urban development?
- Can we develop a theory of recovery that helps us to more intentionally design recovery policies?

Time compression

- The characteristic that distinguishes post-disaster conditions from normal times is “time compression”

- The post-disaster environment consists of a compression of activities in time and focused in space.



Time compression is uneven

- Different activities compress unequally:
 - Financial transactions
 - Construction
 - Creating social capital
 - Institution building
- The place of disaster thus becomes different from other places in new ways.

Compresses more slowly

For example, commerce can restart quickly, but construction cannot.

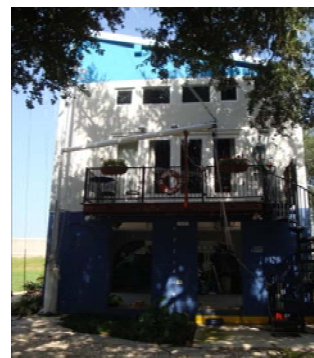


Port-au-Prince, 2010

Dujiangyan,
Sichuan Province
2008

Time compression creates illogical results

- Access to funding sources all come at different speeds, and they compress in time at different rates.
- As a result, some recovery actions appear to be “out of sequence”



Planning in the Fog of War

- Actions flow much faster than information, for many months.
- No one—individuals, agencies—has enough information to make decisions.
- Participants lack time to acquire and comprehend information, build trust, consider alternatives, and feel confidence in their decisions.

Time compression offers opportunities for change

- The sudden loss of capital services creates opportunities for reorganizing capital facilities, e.g.:
 - Centralized sewage plants
 - relocation to mitigate future disasters
 - New parks and open spaces
 - opportunities for change can also occur in political institutions and social networks.



“Speed vs deliberation” revisited

- In time compression, the desire for speed drives everything.
- So the real question is how to deliberate (plan) faster so as to achieve as much improvement as possible, given the constraints of compressed time.
 - How to increase the bandwidth of information.

Solutions: How to plan faster

- **Increase planning capacity**
 - More staff, citizen involvement
- **Decentralize**
- **Iterate**



Port-au-Prince



New Orleans



Kobe



Tamilnadu



Aceh



Japan, 2011

Solutions: How to plan faster

- **Increase planning capacity:** personnel, data, communication, information systems, meeting rooms, public involvement. This costs money.
- **Decentralization:** many actors planning simultaneously, each creating their own plans, which can communicate to each other.
- **Iteration:** doing some things immediately with little forethought, and more things later with more forethought.

Time compression creates self-help networks and new NGOs

- Bureaucratic processes do not compress easily, but cooperation among neighbors and community organizations can occur quickly through many informal channels.
- Many NGOs emerge to fill the gaps of coordination and information
 - NGOs increase the bandwidth of information in compressed time.



Time compression creates new Institutions

- Bureaucracies can create new organizations to improve coordination, to reduce their inefficiencies in compressed time.



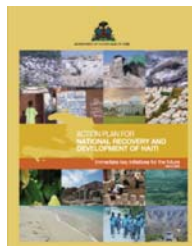
Louisiana Recovery Authority, 2006



BRR, Banda Aceh, 2005-2008

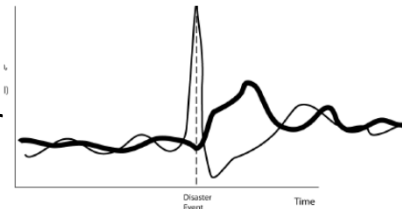
Budgeting for reconstruction

- Budgets need to account for:
 - Additional costs for information, data, communication, public involvement, and planning
 - Iteration: initial budgets will always be wrong
 - Contingencies: time compression creates a high probability of mistakes



Summary

- Time compression means that actions, financial flows, and information all occur in a very short time period, often simultaneously.
- Actions occur faster than information can support and coordinate them.
- This leads to a variety of challenges that are characteristic of post-disaster recovery.
- Institutional design and budgets need to reflect this understanding.



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