

# Rethinking Response, Preparation, and Recovery

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*IBRD Capstone*

Seattle, Washington  
September 22, 2010



**ACTING IN TIME**  
Against Landscape-Scale Disasters

## ICS Rule #1 :

If they can  
see your  
incident  
from space –

it is generally  
*not* a good  
thing.

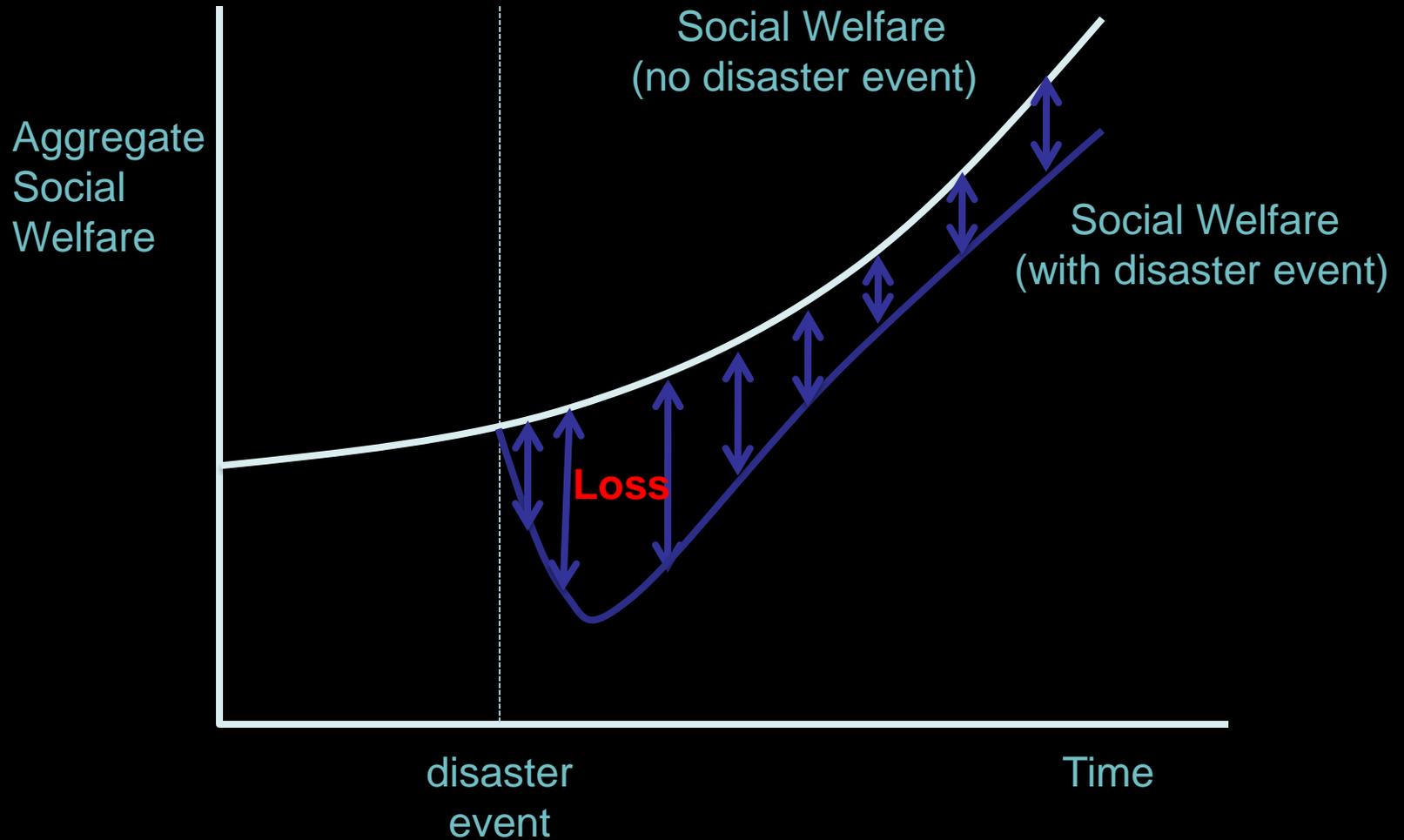


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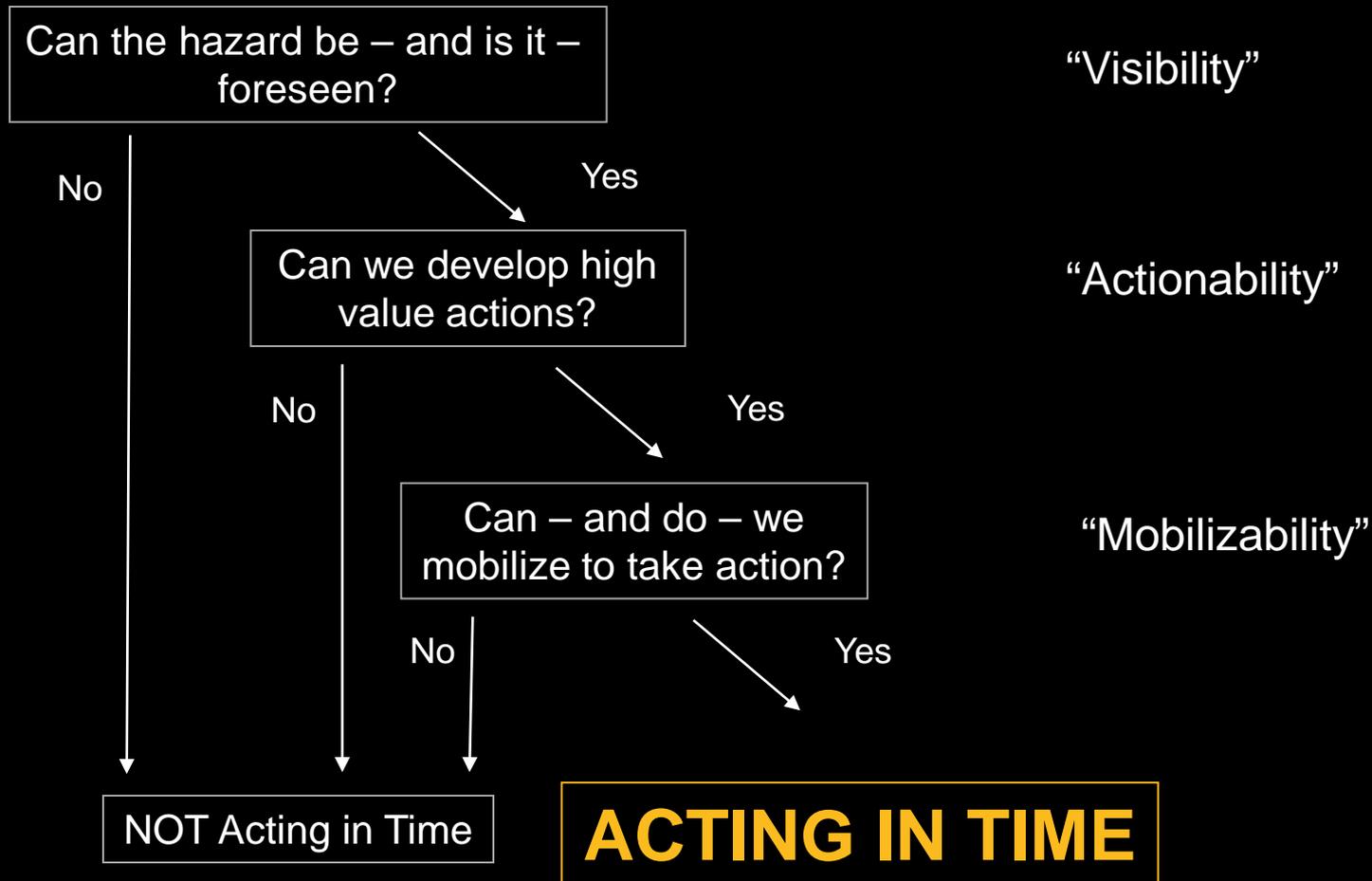
Disaster Recovery Project

# The Time Path of Social Welfare With and Without a Disaster



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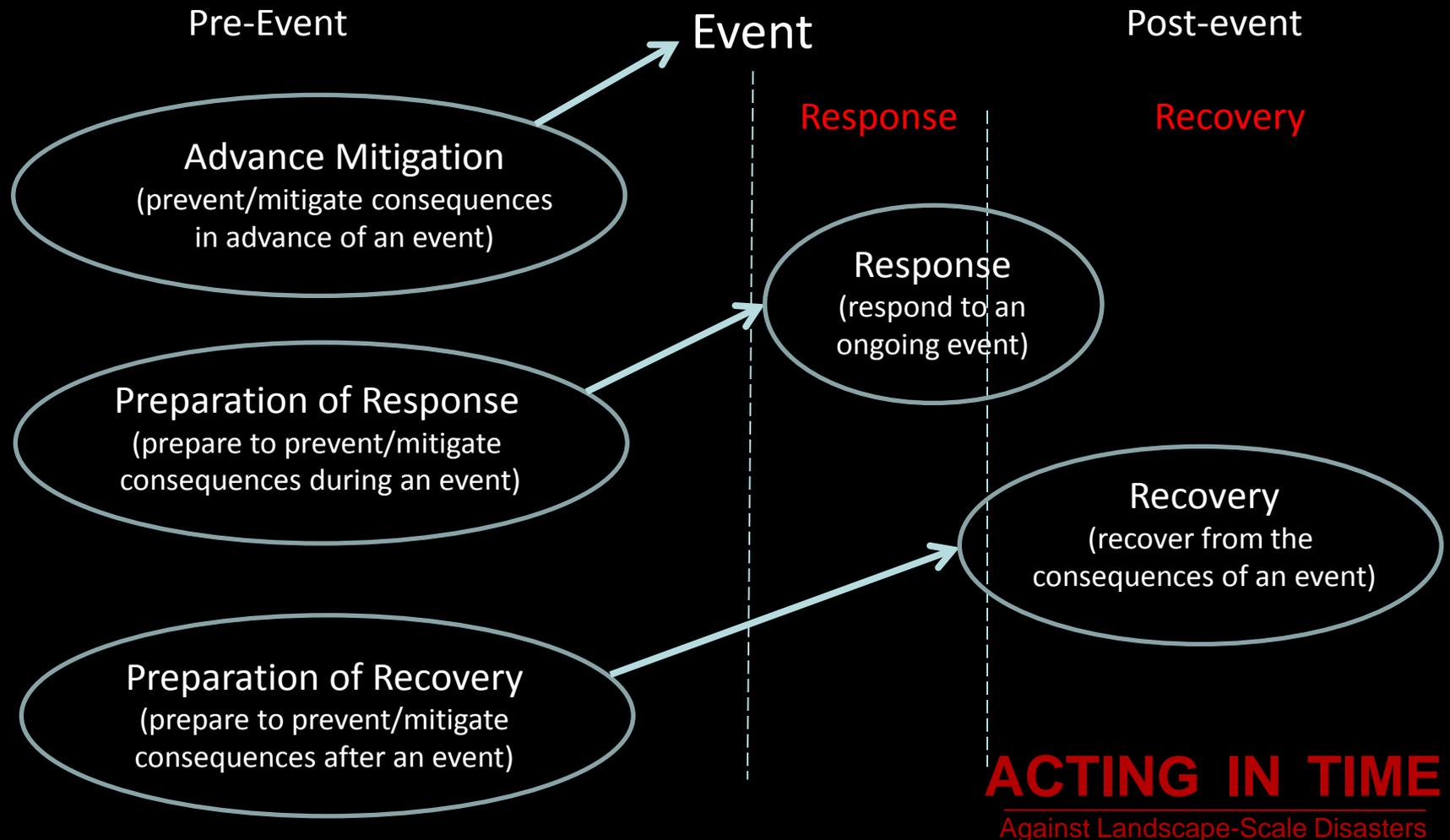
# The Simple Analytics of Acting in Time



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# The Comprehensive Risk Management Framework:

## Five Points of Action against Landscape-Scale Social Hazards



# Katrina as Comprehensive Risk Management *Failure*: The (Many) Failures of Katrina

## Time *Before* Katrina

- Centuries to Decades
- Decades to Years
- Years to Months

## Failure

- Placing value in harm's way
- Failing to protect value
- Failing to build coordination structures training
- Failure to mobilize

- Days to Hours

## Time *of and After* Katrina

- Hours to Days
- Weeks to Years

- Failure to execute
- Failure to recover

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# Key Questions for Comprehensive Risk Management Strategy-Building



## The Central Questions:

What is the appropriate overall **LEVEL** of investments in the five CRMF domains *taken together*?

What is the best **DISTRIBUTION** of investments *across* the five CRMF domains?

What is the best **SET** of investments *within* each domain?

Is it likely that our current level and mix is approximately right –  
-- or is it likely to be systematically biased?

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# Systematic biases in human beings (and organizations)



People and organizations have trouble:

Balancing the future against the present (“myopia”)

Dealing with probabilistic events (especially low probability events)

Thinking about dreadful and frightening events

But addressing large risks involves **exactly** these three challenges

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# Current Mix is Likely to be Systematically Biased



Myopia → all three “advance” investments are likely to be too low

Prevention and mitigation -- low

Preparation for response -- variable

Preparation for recovery – historically, nearly nonexistent

After the event: response and recovery are immediate, current, obvious, and unavoidable → probably overrepresented

Thus, in general the current mix of spending is likely biased

Most underinvested-in: advance recovery

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# Today's Discussion: Re-orienting our Philosophy of Response, Preparation, and Recovery



As professionals in disaster response and recovery, you know:

Most of the capacity you will have is what is provided locally

Outsiders turned loose locally without guidance would likely compound the disaster

We therefore need to rethink

Our (tacit) doctrine of response  
and, therefore: preparation for response

Our doctrine of recovery  
and, therefore: advance recovery

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# There is a major revolution underway ... and we are in the middle

- Revolutions are hard to see from the middle
- Already underway
- In many places, largely implemented
- But not *acknowledged* ...
  - Language does not reflect the post-revolutionary reality
  - Criticism is based on the pre-revolutionary perspective (and, therefore, often misplaced)
  - Not fully integrated into resource planning and allocation

***You all are on the front lines of this revolution –  
and need to carry it through to completion***

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# Drawing Lessons from Katrina for Landscape Scale Disasters

- Most recent, most salient, largest landscape disaster in US history
- If we get lessons right, they will guide acting in time against other disasters
- If we don't get the lessons right ...

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# Katrina: the lessons

- Obvious failures of *response*
  - Too many agencies
  - Too little coordination
- Corresponding prescription: need a unitary command structure
  - Superagency
  - “Military Model” : Centralized command and control hierarchy

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# Katrina: the lessons

**W A I T !**

- Obvious failures for response
  - Federal agencies
  - To improve coordination
- Correction of response
  - a primary concern and structural
  - Support
  - “Mission” and control hierarchy

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# Katrina: the **REAL** lessons

Actually, a centralized, unified, superagency response:

- Isn't really possible
- Wouldn't work even if we could do it
- Isn't really the military model

***Treats a true crisis as a (big) routine situation***

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# Katrina: errors in the diagnosis

- Not all of the problems were in the response
- The problems that *were* in the response weren't a simple failure of operational leadership

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# Katrina: errors in the prescription

- The structure of our constitutional system virtually guarantees that we can't (*ever*) have a single, coordinated, unified response

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# Landscape Scale Disasters: “Katrina-class” and larger

- Overwhelmingly likely to be:
  - Multi-jurisdictional
  - Multi-level (federal, state, local)
  - Multi-sector

“Cross-boundary”

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# Unitary Command and Control is *not* one of the alternatives ...

- Can't feasibly produce unitary command  
→ All serious alternatives are decentralized
- Decentralization is therefore not a *choice* ...  
... *it is a fact*
- Real alternatives:
  - Decentralized action done *badly*
  - Decentralized action done *well*

*Making a virtue out of necessity*

***Actually, making a virtue out of a virtue***

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# Changing our Philosophy

Philosophically – we seem to be trying to *centralize* rather than *trying to make decentralization work*

Imagine the alternative:

*What would it take to make **decentralized intelligent adaptation work?***

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# Theory of *Emergence*

- School of fish; flock of birds
- Elements of “emergent” phenomena
  - Independent agents
  - Decentralized decision-making
  - Local information
  - Rules ( / conditions ) for actions / interactions

## ***Decentralized Intelligent Adaptation***

**Results Emerge at the Next Level of Organization  
(Fish → School)**

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# Examples of Emergence

- Ant colonies and beehives
- Evolution
- Free market economies
- Future of disaster response (?)
- ...

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# Using Emergence

- Don't try to engineer a solution / performance
- Create conditions that favor a good response:
  - Agents (capabilities)
  - Rules ( authority / mandate )
  - Information regime
  - Coordination

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# “Fast and Light”

## Analogy from mountain climbing

- 60's to 80's: “siege” mountaineering
  - Large expeditions (climbers, sherpas)
  - Large amounts of equipment
    - Fixed rope
    - Bottled oxygen
    - ...
  - Porters
- Alternative: “Alpine Style”
  - Carry little, move fast, reduce number of moving parts, increase skills and self-reliance, small support group, increase safety by reducing exposure time

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# “Fast and Light” in emergency response

- Multiple operational units
  - Self-contained
  - Mobile
  - Communications capabilities
  - Practiced
  - Mix of specialized and more general
  - Authorized to act
  - Seeking to be coordinated
- Coordinating structures (“Unified Command” and “Area Commands”)

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# The local role in “Fast and Light”

Organized to integrate with and guide arriving teams

- Local knowledge
- Local authority (for example, law enforcement)
- Direct teams that are resourced and skilled but lack local knowledge and authority
- “Unified Command”
  - Team commander retains command of the team
  - Local officials serve on command team
  - E.g.: New Orleans Fire Department trucks staffed by one NOLA firefighter and others from other jurisdictions
- Team Unified Command seeks coordination, resources, instructions from appropriate higher levels

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# The role for the “center” in “Fast and Light”

- Establishing overall goals and priorities
- Providing aggregated (big picture) information
- COORDINATION
- Resource procurement and allocation (“supply chain manager”)
- Monitoring progress
- **NOT:**
  - Directing operational activity

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# Example of “Fast and Light”: Coast Guard rescues in NOLA

- Self-dispatched
- Mobile
- Self-contained
- Self-sustaining
- Didn't wait to be asked and didn't wait for others to get established to work with
- Coordinated with others
- Established and shared awareness of the situation

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# A (Mostly) Hopeful Note: Fast and Light is ...

- **Consistent** with the best of what we did in response to Katrina
- **Consistent** with the best of what we are doing now to prepare for future events
  - National Response **Framework**

But:

- Inconsistent** with the mindset of many outsiders/critics of FEMA (press, Congress, ...)
- National **Operations** Center

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# Implications

- Design/Build more Fast and Light units
  - Coast Guard
- Build the four elements:
  - Capabilities (units)
  - Structure / Systems (NIMS, Area and Unified Commands)
  - Skills (Red Card / training experience selection)
  - Coordination
    - Technical / Operational (common operating picture)
    - Political
- **Build local capacity to interface with F&L units**

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# What is true for Response ... is also true for *Recovery*

- Recovery is intrinsically *de*centralized
- Impossible to direct centrally
- Task: support emergence of a great recovery
- What can we do now that will allow recovery to be
  - Swift
  - Inclusive
  - Reliable
  - As inexpensive as possible

**How do we build a platform  
for accelerated recovery?**

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Example:

## The post-earthquake world in the Bay Area



### ASSUME:

- Mitigation was effective:
  - buildings do not collapse
  - basic services disrupted but restorable
  - relatively few deaths and injuries
- Response was effective
  - survivors rescued, injuries treated
  - fires contained

### BUT THERE IS STILL:

- Massive disruption, displacement, destruction
- Many buildings unusable

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# Implications



- “Tipping”: People (home and business owners) have to decide whether and when to reinvest while they
- are uncertain about how rapid and effective government (and other) recovery efforts will be
  - are uncertain about what others will do
  - have just witnessed the destruction of many of the things that they loved about their the Bay Area
  - stand in the midst of widespread system collapse
  - are suddenly not creditworthy (along with nearly all other people and organizations in the area)
  - are traumatized

*They are sudden, involuntary pioneers in a new and scary land... and they don't have to stay.*

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# Perceptions, Perceptions, Perceptions



“Tipping” will:

begin quickly

take place (at the outset) in the *absence* of much real data about the recovery

go on for a long time

→ Accelerated actions that drive positive perceptions are key to an effective recovery

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# New Orleans: A case in point



Recovery in general has been very slow

But in some neighborhoods, it has been substantially faster

What made the difference in places where the recovery was relatively fast?

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# Key elements in rapid recovery in New Orleans



- capable local leadership
- rapid, substantive action (to encourage tipping in)
- inclusiveness
- self-reliance
- defining work on a human scale
- ability to seek out and interface successfully with outside sources of help (government, foundations, universities, corporations, NGOs ...)
- ability to evolve/adapt as challenges changed ...
- and develop new skills and capacities

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# Key elements necessary for rapid recovery



Local and central capacities – and an ability to coordinate them

Key resources: *physical, financial, organizational*

Mechanisms for building positive perceptions

Mechanisms for managing broader goals and insuring alignment with them

# Domains for *advance* recovery actions



Financial devices

Political devices

Neighborhood devices

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# Financial devices



## Mechanisms to provide spendable cash

- Reserve fund

- Funded individual endowment

- Funded mutual endowment

- Earthquake-proof credit instrument

## Mechanisms for planning

- Post-event budget framework

- Using existing review cycles to focus on recovery

## Mechanisms to build and maintain relationships

- Annual road trip / Post-disaster road trip

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# Political devices



Mechanisms to harmonize political leadership

- Agreements

- Protocols

- Staff interaction

- Joint exercises

Design and construct a unified marketing campaign

- Local firm with national reach

- Out-of-area national firm

Pre-approve emergency authority for zoning, permitting, ...

Build and maintain relationships with outside agencies

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# Neighborhood devices



Strengthen local leadership and capacities

Training

General leadership

Planning, budgeting, organizing, fundraising

Relationships with

Planning, design, architecture firms

Universities

Major businesses

Foundations (in and beyond the Bay Area)

Build surge capacity to provide training and support

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# What should we do?



Build a comprehensive strategy for social risk management  
(based on the Comprehensive Risk Management Framework)

Assemble a comprehensive, five-domain description of  
current activities

Search for additional valuable investments in each domain

Build an “advance recovery” strategy – and execute it  
***(which is just what you are doing!)***

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# The bottom line



Recovery will be long and difficult – no matter what you do.

But it will be a lot faster, less expensive, and more reliable if you build a platform for accelerated recovery in advance.

This *can* be done.

And *you can do it*.

It's best to move ***in advance*** with all deliberate speed.

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