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Disaster Recovery Community Renewal and Resilience

Lessons, Challenges and Opportunities

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What Should Happens in Recovery?

Recovery is planning, design and construction, as well as a social process

The repair and rebuilding of housing, infrastructure, business and…

Rebuilding of the economy, government services, jobs, schools, health care, and community life

Never a return to pre-event conditions

Policy Decisions & Dilemmas

TOPIC	RECONSTRUCTION DILEMMA
Leadership	New Reconstruction Authority vs Existing Government Systems?
Collaboration	**National vs. Local Authorities**
Priority	Housing, Infrastructure, Economy, Structural/nonstructural ???
Beneficiaries	With Legal Tenure or All Those Affected in Need?
Focus	Temporary or Permanent Housing Solutions
Support	Cash vs Housing Built? Total or Patial Subsidies
Delivery	Executors or Community Driven?
Solutions	Single/Standardized/Multiple Housing Options?
Speed	**Fast vs Deliberate?**
Community	Preserve local Identity or Introduce Reforms?

Capacity? Trust?

Resettlement?

What are the best approaches to optimize recovery in YOUR event?

Recovery Speed Slowed by Disruption of Complex Urban Systems

Scale of Loss and Many Other Factors

EVENT/LOCATION	YEAR	EST. YEARS TO RECOVER
Northridge/ Los Angeles, CA	1994	2-4
Wenchuan, China	2008	3-4
Maule, Chile	2010	4-5
Hanshin Awaji/Kobe, Japan	1995	7-10
Hur. Katrina/New Orleans, Gulf Co.	2005	5-20
Great Eastern/Tohoku, Japan	2011	10+
Christchurch New Zealand	2011	10-20
Hur. Sandy/New York, New Jersey	2012	10-20
Port au Prince, Haiti	2010	Decades

What Else Can Go Wrong?

Weak government, loss of records or key staff

- Resolution of Land Tenure, Lack of Management / Coordination
- Limited and Slow Funding, Over-reliance on NGOs
- Lawlessness and Corruption

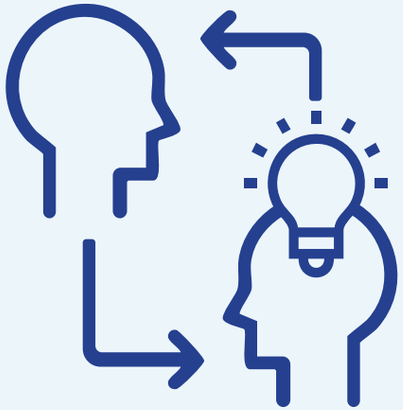
Limited Focus on the Recovery of Social Systems

- Housing, health care, education, business/jobs

Haiti: Limited NGO housing,
400,000 informal homes, Cannan

New Orleans Govt funds levee
40K houses demo'd, ltd rebuild
Economy 80% of pre-hurricane

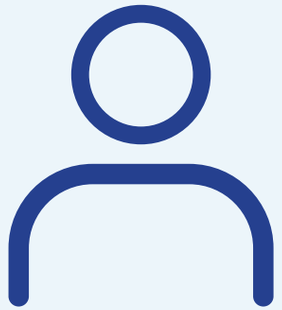
Early Decisions Impact Recovery



Combine advance knowledge of local building and social conditions and early damage estimates

How to organize government response?

- Use new or existing programs
- Subsidize supply or demand
- How to create a registry of victims
- How to engage private sector and NGOs
- Logistics in timing/finance of infrastructure & housing



Who should get aid and how?

Where to put emergency/ new housing?

Multiple Dimensions of Recovery Speed and Success

Physical Rebuilding

Scale and concentration of damage

Economic conditions at the time of the disaster

Available funding/aid for reconstruction

Time needed:

- Public and private sector construction capacity
- Infrastructure replacement needs

Community Rebuilding

Citizen involvement in re-planning

Information and leadership by government

Focus on needs of impacted population

- Re-investment in jobs and services
- Investment in all housing needs including rental and affordable housing

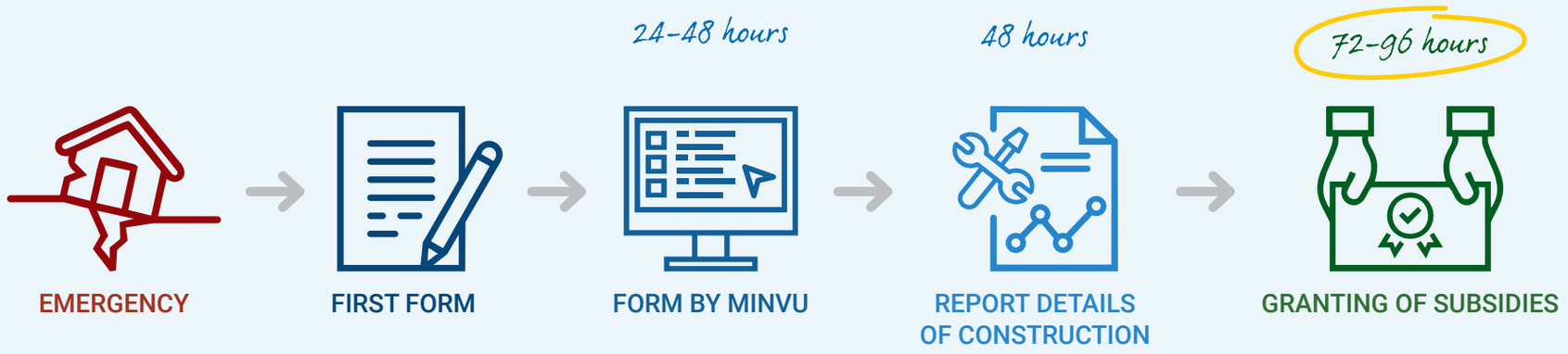
Ongoing Decisions Require Adaption

Coordination and cooperation, listening/ problem solving needs to be institutional and ongoing

Build on existing strengths, institutionally/locally

Fiscal and Physical masterplans should be flexible and change over time as needed

Building codes change with lessons



Building Codes change

Some Procedures work better than others in different events

Preparedness is a Moving Target

The CASE of Chile Earthquake 2011

All infrastructure/ public facilities → **100%** → Govt Funds ← **60%** ← **370,000 housing units repaired**

+Rental, TA-supportted self-construction and cash for materials


Housing repair


New Housing On-site


New Housing on newly developed land


Housing acquisition of existing units


Houses in multifamily buildings

different events

Chile 2011 & 2019 Earthquakes **Rebuilt in 4 years**, but very slow after wildfire 2024

Chile: Localized Housing Solutions

Dispersed Sites 2011

PROBLEM APPROCAH	REPAIRABLE UNITS LAND OWNER	NON-REPAIRABLE UNITS LAND OWNER	NON LAND OWNER
Self Led	12,000 Bank of Materials	5,000 Acquisition 1,000 Do it Yourself	17,000 Acquistion Subsidy
State Led	12,000 Social Condo Repair Buildings	8,000 Social Condo Demo/Rebild	30,000 New Development
Third Party Intermediary	85,000 Repair Subsidy	48,000 Pre-certified Houses	4,000 Urban Densification

Single Family Homes: Site Built and Pre-fab

Social Housing: renovation/new

Planning for Future Events

Recupera Chile:

Economic Development

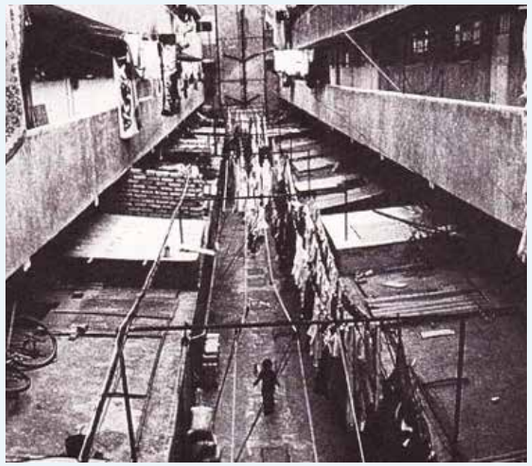
Dichato Tsunami Protection

Over 130 Sustainable Reconstruction Town Plans

The Case of Mexico

There is no single solution!

1985
Mexico City
Earthquake



2017
Mexico
City/Puebla
Earthquake

Federal District vs New Agency

Executors vs Community

Deliberate vs Fast

Reforms vs Preserve Identity

Different political conditions

Preparedness Always a Moving Target

In Search of the Right Policy Mix for Preparedness

Mexico's public housing ecosystem

INSTITUTION	FUNCTION	STRENGTHS
National Housing Comission(CONAVI) (2006)	Grants subsidies for structural improvements and new housing.	Implements a successful rural housing program. USD 650 millions in subsidies per year.
National Institute of the Workers' Housing Fund (INFONAVIT) (1972)	Largest Public Mortgage Company in Latin America USD 87 billions in assets.	Granted mortgages for housing acquisition and improvements for USD 11.5 billions in 2023.
State Workers Housing Fund (FOVISSSTE) (1973)	Provides mortgages with preferential rates to state workers.	Grants USD 2.5 billion mortgages annualy in urban centers.
Federal Mortgage Corporation (1963)	Capitalizes the mortgage market and grants guarantees.	USD 8.5 billions in assets.
National Sustainable Land Institute (INSUS) (1974)	Acquires and consolidates land and regularizes home ownership.	Extensive experience in granting property titles in rural areas. Titled 7,500 Has during its best years (1989-1991).

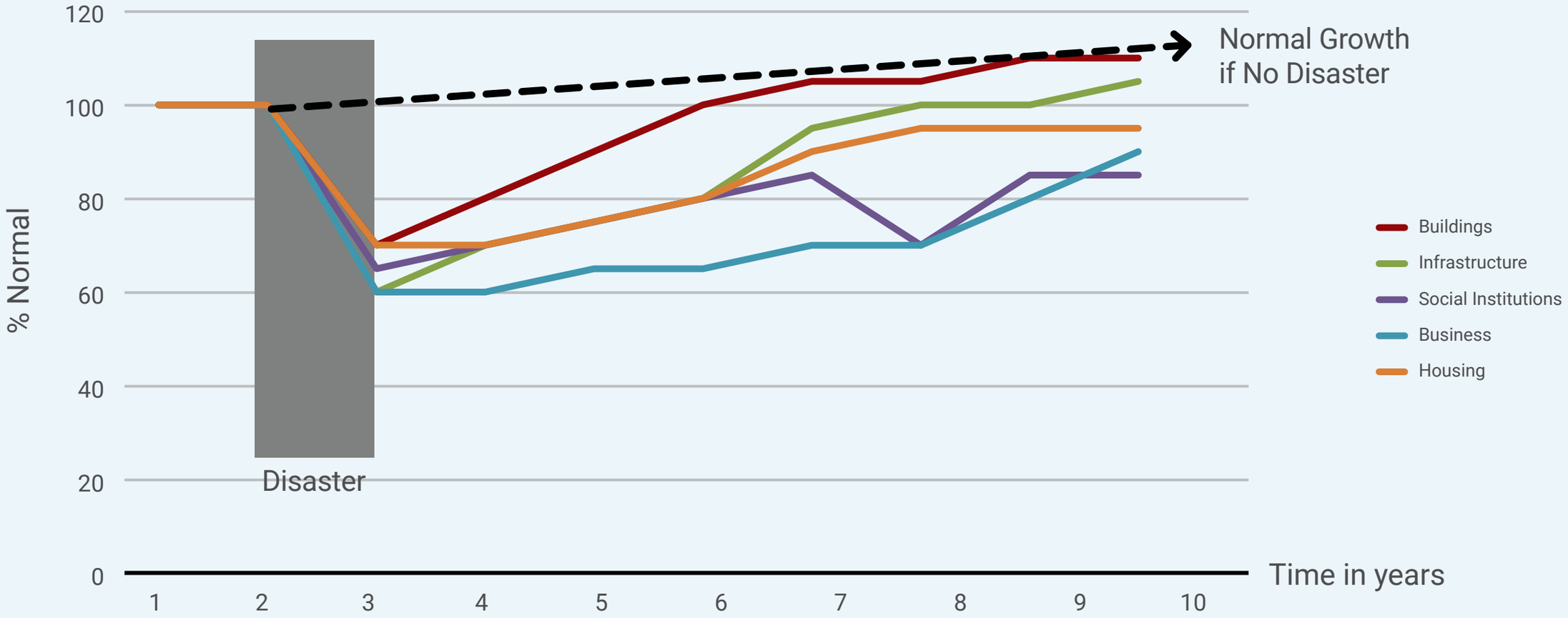
Infonavit plans to build one million homes and finance 1 million.

Improvements between 2025 and 2030 linked to the national nearshoring strategy.

NO One Solution for different location, different local ability, political and economic times

Recovery Vectors

Vary by Sector Over Time and by Political/Social/Economic Conditions at the Time of the Event



Hard Truths: Housing Recovery Programs Cannot Keep Up with Scale of Disasters/Need

Housing rarely recovers fully

in rich and poor nations

Despite better more inclusive programs, the poor and vulnerable have few options

Despite improved recovery methods, cannot meet housing needs

- 60% of World Population Urban by 2030
- Wars/Climate disasters multiply recovery needs
- Ad-hoc construction prevalent globally

Destroyed buildings in Gaza City.

Agence France-Presse — Getty Images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Hard Questions

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Can we afford to continue to "**throw away**" partially damaged buildings?

Can we afford to "**keep paying**" to rebuild over and over in disaster prone regions?

Feb 6, 2023 M7.8 Southern Turkey and Northwestern Syria; 1.5m people homeless

Lessons From Post-Disaster Reconstruction Efforts

1 Know the risks and vulnerabilities

2 Mitigate risks

(e.g. flood protection and infrastructure upgrades; improved codes and planning regulations; building seismic retrofits)

3 Build Back Better without recreating risks:

- Keep losses manageable, restore services first, revive the local economy
- Plan, consult, and act simultaneously
- Finance for all levels of housing need
- Leadership and community involvement
- Coordinate and communicate continuously

Avoid relocation if possible

Centralize planning, decentralize construction, adapt existing programs and remain community focused

“Build Better Before”

Requires Increasing Housing Capacity

> …the same factors that constrain the construction of quality shelter in ‘normal times,’ hamper post-disaster shelter recovery.”

Better to have them, and not need them, than to need them, and not have them.

Requires specialized programs to support what the market does not: affordable, accessible housing for marginalized populations.

Those often most vulnerable to disasters

Housing Programs

- *Build Readiness*
- *Create Markets*

Resilient Housing Capacity Features

“Build Better Before”
reframes disaster preparedness, limits loss, hastens recovery

2

Provides **funding** to develop government and private sector skills for **housing delivery**

Includes **education, training, and outreach**

Professional education, workforce development and public engagement

Addresses chronic housing **problems** helps to prevent them becoming acute in a disaster

The Future

We can make a huge difference in the world