QUANTIFY EARTHQUAKE DISASTER & ENHANCE RESPONSE POLICY TO IMPROVE RESILIENCY

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- ## Sep 19th M7.1
  - 400 fatalities
  - 44 Collapsed
    in Mexico City
  - Over 4000 damaged
    in Mexico City

Strongest earthquakes in Mexico since 1902

- Magnitude 8+
- Magnitude 7+
- Tectonic fault lines

MEXICO

1932 Jalisco, 8.1

1995 Colima, 8

Mexico City

19 Sept Puebla, 7.1

1985 Michoacan, 8

7 Sept Chiapas, 8.1

500km
200 miles

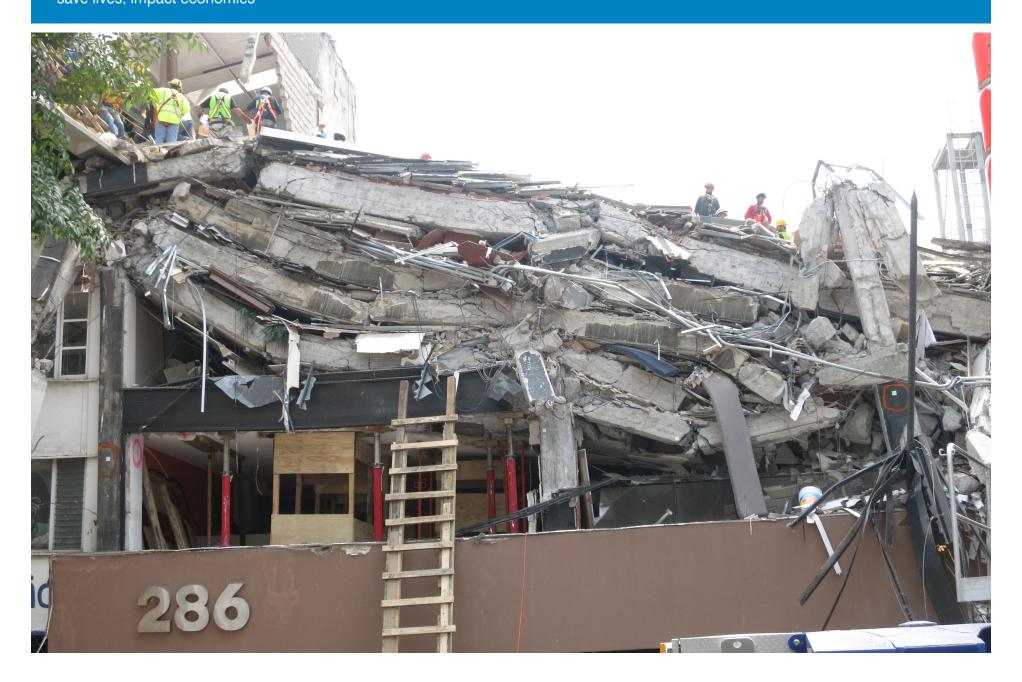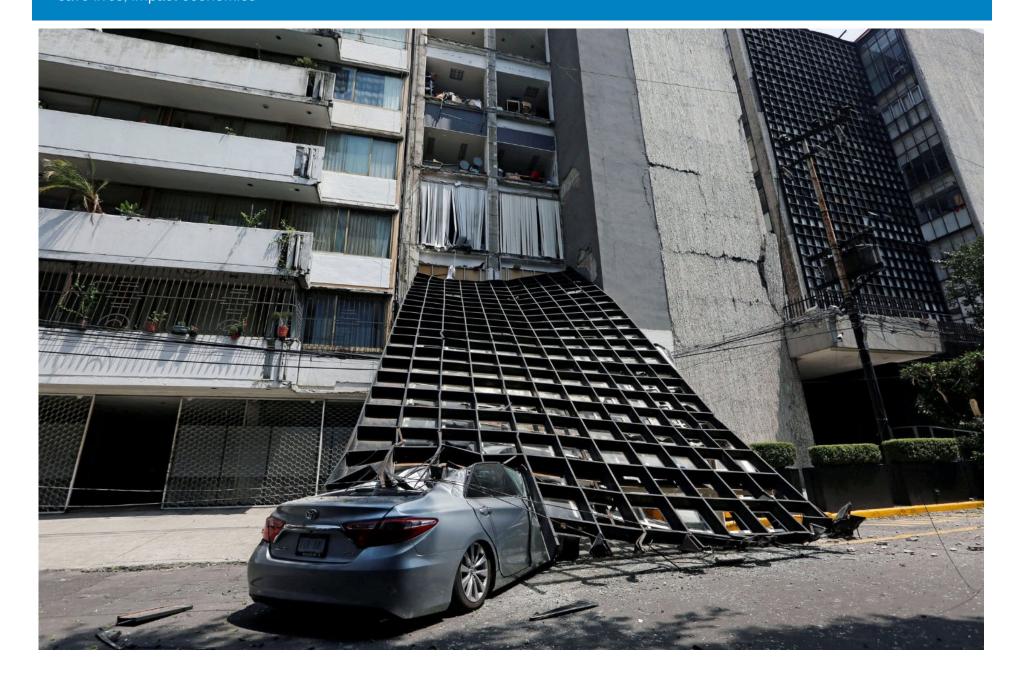Source: US Geological Survey

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Major damage to commercial, schools, hospitals and residential buildings
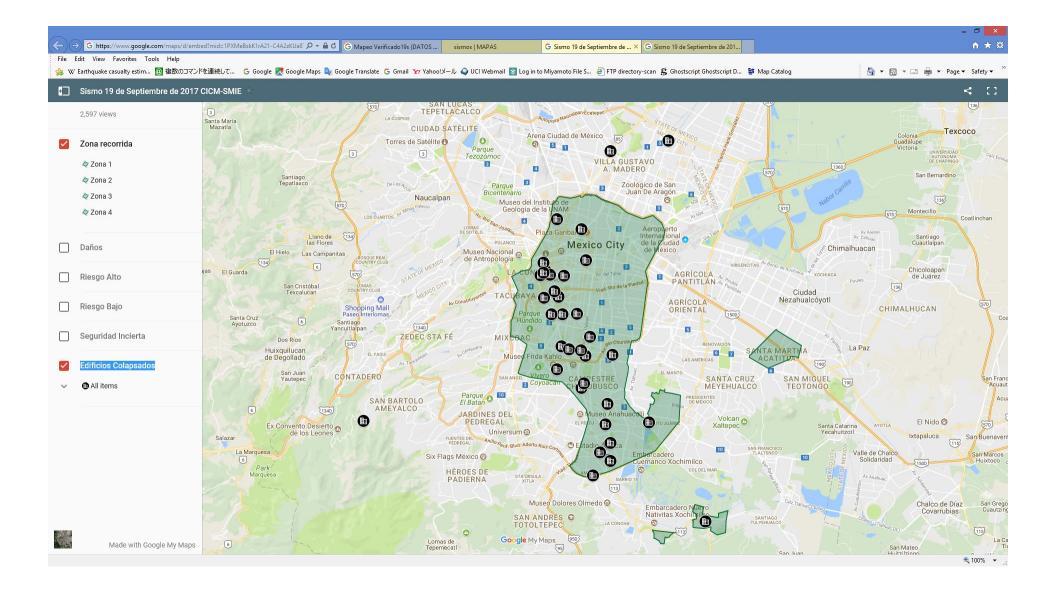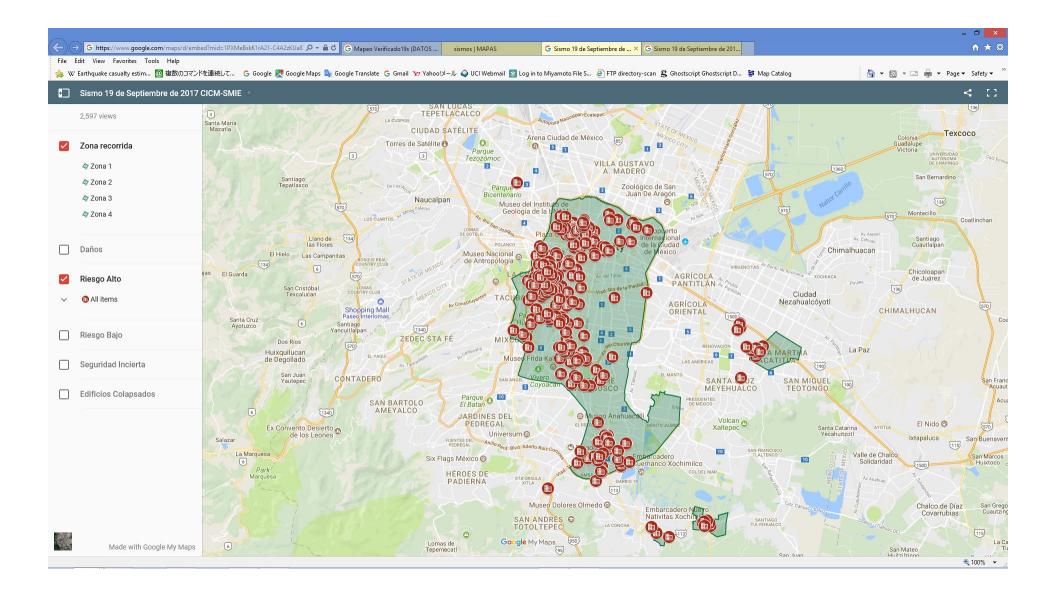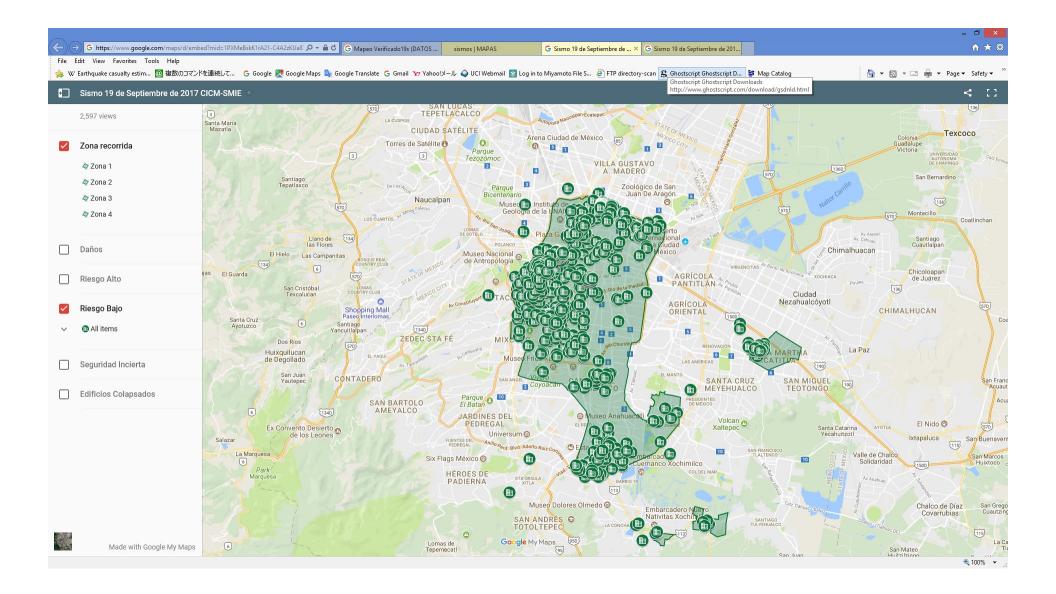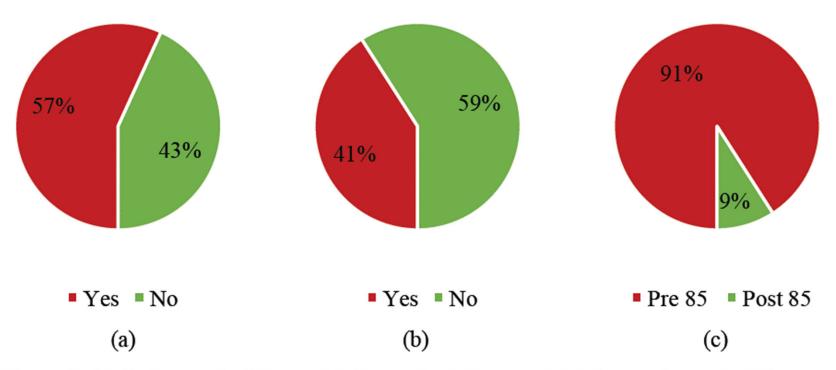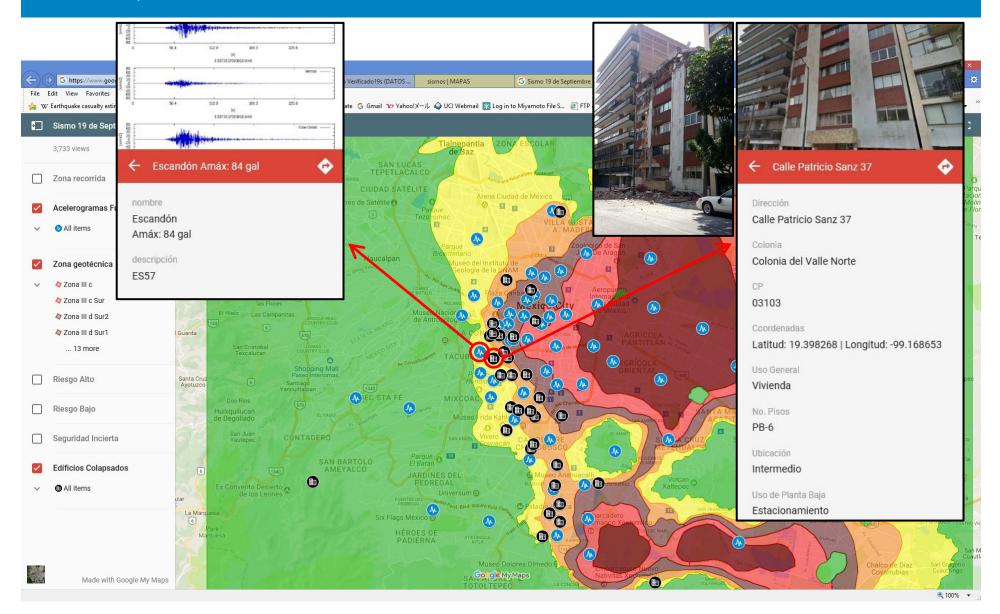
Collapsed building distribution

Damaged building distribution

Figure 7. (a) Soft story buildings; (b) Corner buildings; and (c) Approximate building age
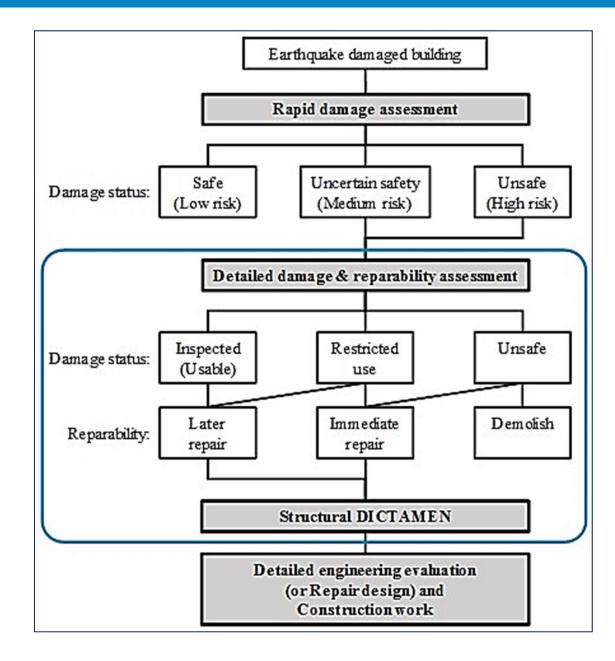
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PREPARE in Latin American countries

USAID Project

PREPARE

– Mexico City, Mexico

– Zapopan, Mexico

– San Jose, Costa Rica

– Pasto, Colombia

– San Salvador, El Salvador

Enhance Disaster Response and Recovery by Risk Identification and Policy Work
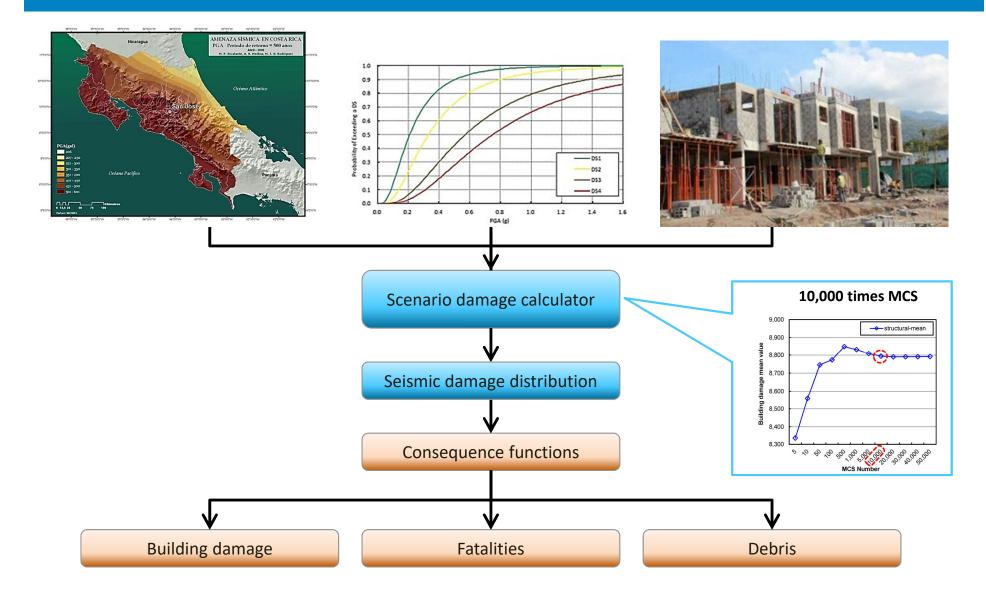
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1. Disaster Imagination (Probabilistic damage identification)

2. Generate public interest and support

3. Policy work for disaster recovery financing

4. Rapid damage assessment frame work

5. Debris management frame work

6. USAR team

7. Sustainable system

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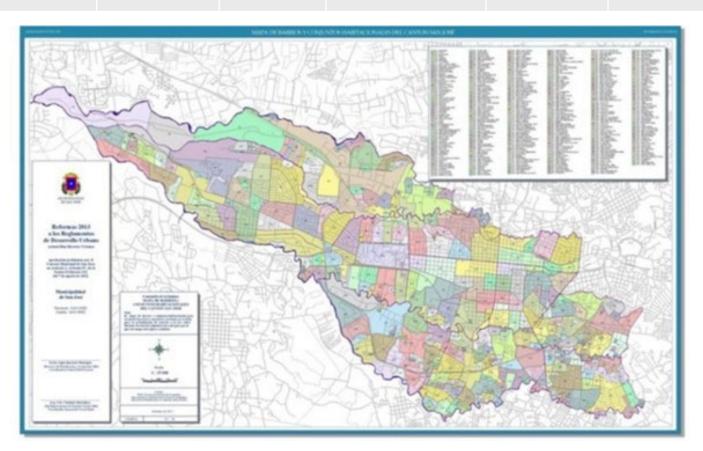| Political divisions		Buildings		Occupants	
Barrios	Districts	No.	Area, m^2	Day	Night
196	11	85,800	26,900,000	472,000	352,000
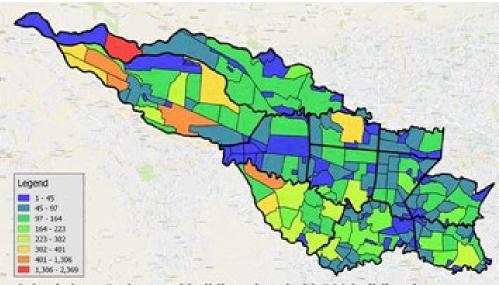
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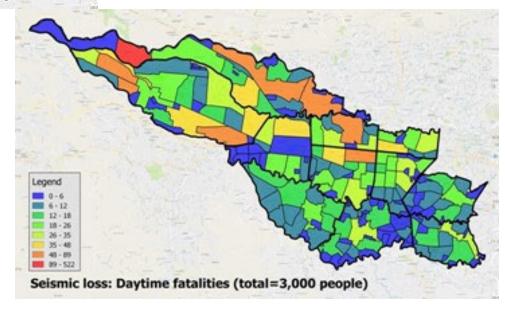
Structural damage		Fatalities		Yellow-tagged buildings		Red-tagged buildings		Debris volume
%	km^2	%	No.	%	No.	%	No.	m^3
42%	11	0.64%	3,000	33%	28,000	26%	22,500	4,940,000

Legend
- 1 - 45
- 45 - 97
- 97 - 164
- 164 - 223
- 223 - 302
- 302 - 401
- 401 - 1,306
- 1,306 - 2,369

Seismic loss: Red-tagged buildings (total=22,500 buildings)

Legend
- 0 - 6
- 6 - 12
- 12 - 18
- 18 - 26
- 26 - 35
- 35 - 48
- 48 - 89
- 89 - 522

Seismic loss: Daytime fatalities (total=3,000 people)

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- Validity of rating system?
- Cost-benefit of government mandate seismic strengthen program where Green tag ratio is over 50%
- Increase Resiliency by working on narrow targeted strengthen program and recovery policy to reduce recovery time

make the world a better, safer place.