



Lessons From Recent Earthquakes: Societal Impacts

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Presentation Themes

- **Societal issues raised by recent earthquakes in five key areas**
- **Future research needs**



Issue #1 Earthquake Mortality and Morbidity



Earthquake Mortality and Morbidity

- Topic of great interest in 1980s, into 1990s
- Research identified several risk factors for deaths, injuries in various earthquake events: age, gender, religious and cultural norms
- Then what happened? Why no further systematic, comparative research?

Issue #2 Earthquake Disasters and Collective Action

- Various forms of collective action have developed in recent earthquakes:

pro-social behavior: massive volunteering

looting

social protests



Earthquake Disasters and Collective Action

What societal factors influence the emergence of different forms of collective action?

What are the consequences of these forms of emergent behavior for affected societies?



Issue #3 New Technologies, Social Media, and Disasters

- Pervasive ICT is changing how the public responds in earthquakes and other disasters



New Technologies, Social Media, and Disasters

- Response activities are becoming increasingly decentralized and self-organizing



Research Findings and Other Evidence

- **Most people use social media responsibly during disasters**
- **People can quickly repurpose information technologies for use during disasters; they improvise and innovate**
- **Social media are used in tandem with other information sources: official communication, conventional mass media broadcasts**

Research Findings and Other Evidence

- **Concept of “people as sensors” has considerable applicability, e.g., USGS research**
- **On Twitter, researchers have been able to detect differences in transmission patterns between accurate information and false rumors**

New Technologies, Social Media, and Disasters: Research Questions

- **How are official response agencies responding to the expansion of IT and social media?**
- **Is widespread use of new technologies consistent with the organizational cultures of typical emergency management organizations?**
- **What are the societal consequences of expanding IT and social media?**

Issue #4: Earthquakes, Disasters, and Development



- **Earthquake and disaster impacts are increasingly viewed through the lens of development**

Disasters and Development

- **Movement away from classical view of disasters as arising from “natural” forces**
- **Focus on social forces and trends that lead, over time, to a buildup of disaster risk**



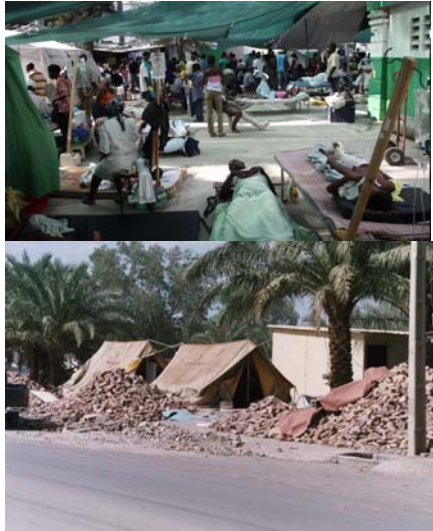
Disasters and Development: Social Forces and Trends

- **Exploitation of natural resources, ecosystem services, leading to environmental degradation**
- **Weak governance systems, failing and failed states**
- **Massive and increasing poverty**
- **Rapid and uncontrolled urbanization**

Growth of informal settlements in high-hazard areas

Absence of land-use controls, building standards

Disasters and Development: Research Questions



- To what extent do current international development programs adequately address disaster vulnerability?

Issue #5 Post-Earthquake Recovery

- Recovery is the least-studied phase of the disaster cycle



Findings from Earthquakes and Other Disasters

- **Recovery is a holistic process, but is not managed holistically: activities are “stovepiped” rather than integrated across recovery domains (transportation, other infrastructure, housing, health care, employment)**

Findings from Earthquakes and Other Disasters

- **Social inequalities are often reproduced during the recovery process**

Income and social status

Gender

Race, ethnicity

**Land tenure, property
ownership**



Findings from Earthquakes and Other Disasters

- **Catastrophic disasters present special recovery challenges that are not present in less severe events...**

...Yet it is the most vulnerable communities, societies that are most likely to experience catastrophes

Recent Earthquakes Offer Unparalleled Opportunities to Learn About Recovery

- **Different types of societies, governmental and governance systems**
- **Multiple communities affected in individual societies**
- **Different types of impacts**
- **Different types of assistance provided**

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