Natural Hazards Center

University of Colorado at Boulder

Social Impacts of Technological Disasters: Implications for The Netherlands

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Introduction

- Several decades of social science research have documented impacts of disasters among individuals, groups, and communities
- What makes an event a disaster is not just physical effects associated with it but people's awareness of and reactions to it





Social Impacts of Disasters

- Ongoing debate about the value of distinguishing between "natural" and "technological" or human-caused disasters
- Research and experience tells us there are important differences in how people react to different types of disaster events



Implications for The Netherlands

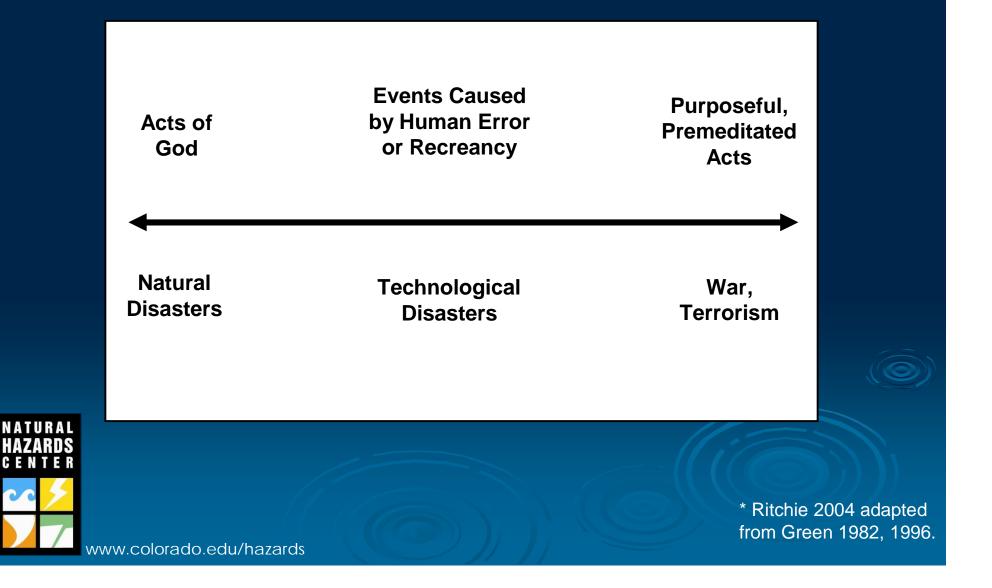
- Given the strong emphasis on flood protection and prevention in the Netherlands, a catastrophic flooding event is likely to be a result of technological failure
- Thus, the social responses, reactions, and impacts of such an event are likely to resemble those we have observed in the U.S. following human-caused events

Lessons from Research

Consider disasters – natural and technological – on a <u>continuum</u>, with overlapping qualities, characteristics, and social impacts...



Continuum: Types of Disaster Events



A General Comparison of Natural and Technological Disasters

- Etiology (Causes)
- Physical Damage Characteristics
- Disaster Phases
- Human Impacts
- Community Impacts



Ideas from US-based Research

NATURAL DISASTER

"Act of God" Often warning prior to impact **Destruction of built environment** Immediate Federal legislated response Impacts are primarily short-term (6 months-2 years) **Community recovery through** emergence of "Therapeutic Community" **Closure and certainty; community** security reestablished

Improved community preparation for future natural disasters

TECHNOLOGICAL DISASTER

"Act of Humans" - Blame No warning prior to impact Destruction of ecology Protracted legal response Impacts are long-term (3-15 years)

Failure of community recovery through emergence of "Corrosive Community"

Lack of closure; community uncertainty and fear of the future persist

Continuing secondary trauma and social vulnerability

But, keep in mind that...

There are no hard and fast "rules." Disaster events, especially catastrophic ones, tend to unfold differently.



Why does this matter?



Human Impacts of Technological Disasters

- Long-term, chronic psychological and sociological stress
 - Uncertainty
- Long-term negative health outcomes



Community Impacts of Technological Disasters

Long-term social disruption

- Collective trauma
- Reduced trust
- Corrosive community and diminished social capital
- Competing definitions of the situation
- "Outsiders just don't understand"



Considerations

- Recognize that there are varying social impacts associated with different types of disaster events
- Consider these in preparedness, response, recovery, and mitigation efforts of The Netherlands' multi-layered approach



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