

Natural Hazards Center

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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**



DISASTER DEFINITION

IT'S GOING
TO TAKE SOME
TIME TO GET
A GRASP ON 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 continuum, 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?*



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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**
- **Failure to understand varying social impacts can exacerbate or cause problems**

