TMI’S SOCIAL PROGENY: PSYCHOSOCIAL IMPACTS OF CHRONIC TECHNOLOGICAL DISASTERS

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Comprehensive approach to crisis management

- Environmental
- Physical
- Psychological
- Cultural
- Social
AMELIORATED PSYCHOLOGICAL DISTRESS

SOCIAL PROCESS
(Therapeutic Community)

NATURAL DISASTER
EXACERBATED PSYCHOLOGICAL DISTRESS

ENVIRONMENTAL CONTAMINATION

SOCIAL PROCESS
(Culture of Distress)
Disaster Victim Responses:

- “My friends, who were luckier than I, and some local people dug me out...only when I was being carried to the helicopter did I realize what a feat they performed.”
  Armenian earthquake victim

- “People hold grudges in this town. They don’t forget. And I’ll tell you, I no longer respect people unconditionally...conditional respect, that’s what the fire taught me. That is what it has taught me as a parent and I will pass it on to my children.”
  Centralia mine fire victim
Chronic Technological Disasters

- Long-lasting
- High level of human/technological involvement
- Environmental Contamination
Examples of “CTDs”

- Coal Mine Fire
Centralia Mine Fire
Centralia, PA
Centralia Mine Fire
Centralia, PA
Examples of “CTDs”

- Coal Mine Fire
- Chemical contamination
Keystone Landfill
Littlestown, PA
Escambia Superfund Site
Pensacola, FL
Kennedy Heights
Houston, TX
Minamata, Japan
Examples of “CTDs”

- Coal Mine Fire
- Chemical contamination
- Radiation
Three Mile Island
Middletown, PA
Hiroshima, Japan
Physical Effects

- Ambiguous
- Invisible
- Poison
- Endless
Escambia Superfund Site
Pensacola, FL
Escambia Superfund Site
Pensacola, FL
Kennedy Heights
Houston, TX
Kennedy Heights
Houston, TX
Keystone Landfill
Littlestown, PA
Keystone Landfill
Littlestown, PA
Three Mile Island
Middletown, PA
Social Effects

- Reality Disjuncture
- Institutionalized Liminality
- Internal Social Conflict
- Social Breakdown
Psychological Effects

- Anxiety
- Somatic Complaints
- (Post-) Traumatic Stress Disorder
- Intrusion/Hypervigilence
- Avoidance/Denial
- Depression
CTD effects LONG-TERM

- Increased levels of psychological distress found 6 years after TMI (Baum and Fleming, 1993)
- Increased levels of psycho-social distress found 8 years after benzene contamination (Couch and Mercuri, 2007)
CTD Conflict LONG-TERM

- TMI @ 35
- Minamata – continued conflict after 35 years
Stage Model

Natural Disasters

- Warning
  - Threat
    - Impact
      - Inventory
        - Rescue
          - Remedy
            - Recovery
              - Rehabilitation

“CTDs”

- Warning
  - Threat
    - Impact
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Recovery or Transformation?

- **RECOVERY?**
  - “the regaining of something lost or taken away”
  - “restoration or return to a former (and better) state or condition”

- **TRANSFORMATION**
  - “change in form, appearance, nature, or character”
  - “to change into another substance; transmute”
  - “metamorphosis”
Disaster Management: What to do?

Two Basic Approaches:

- Expert Intervention – top-down solution
- Empower people and communities
PARTICIPATORY CRISIS MANAGEMENT:

Work with Communities toward EMPOWERMENT
Decision-making as PROCESS

- Proof of the Pudding is partly in the **Doing**
- Involve Communities from Beginning
- Involve Communities Seriously
- Build Trust
- Social justice issues
References

- Baum, Andrew; Fleming, India. “Implications of psychological research on stress and technological accidents.” American Psychologist 48.6 (June 1993): 665-672.

COMMUNITY, NOT COMMODITY
Communities

- Low Socio-economic Status
- Racial/Ethnic Minority
- Rural
Keystone Landfill
Littlestown, PA
Damages --- Natural Disasters

- Buildings Damaged
- Human/Biospheric Relations Are OK
Damages --- “CTD”

- Buildings Are OK
- Human/Biospheric Relations Damaged
“Culture of distress”

- Alienation
- Anger
- Blame
- Mistrust
- Social conflict
- Preoccupation
- Change in “home”
- Endless problem

- Severe uncertainty
- Powerlessness
- Pervasive fear
- Constant vigilance
- Stigma
- Social isolation
- Disillusionment
- Anomia
Human Costs

- Health impacts
- Changes in “Self”
- Changes in Worldview
- Divorces
- Lost Friendships
- Broken Social Communities
Economic Costs

- Health-related expenses
- Lost productivity
- Decreased property values
- Decreased real estate development
- Decreased economic development
Outcomes

- “Techfix” (technological solution)
- Relocation (move people away from the problem)
“Techfix” --- Problem Solved
“Techfix” --- Problem Solved (OR IS IT??)
Relocation
Relocation

The operation was a success, but the Community died.
Disasters:

- Environmental
- SOCIAL