Lecture 4. Psychological Effects and Community Stress

Response Strategies to Chronic Exposures and Contamination

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"Humanity's inability to fit its doings into that [natural] pattern is changing planetary systems fundamentally. Many such changes are accompanied by life-threatening hazards. The new reality, from which there is no escape, must be recognized – and managed."

UN Commission on Environment and Development, 1987

Chronic Contamination

- Residence near a hazardous waste site
- Residence in a re-used industrial facility
- Life near an acute chemical spill or industrial facility that has left a situation of chronic contamination

Environmental psychology is

"the large body of study concerned with the consequences of man's manipulations of his environment…. In short, the environmental sciences are concerned with human problems in relation to an environment of which man is both victim and conqueror."

Proshansy, Ittelson, Rivlin (1970), *Environmental Psychology: Man and His Physical Setting*

Mindscape of a chronically contaminated community

- It requires a mental shift to accept the fact that one might have been affected by toxic exposures in the environment.
- Factors affecting a perceived threat to health include: witnessing dumping activity at a site, unusual defects in plants and animals, odors in air or water, proximity and length of residence near hazardous site.

Factors affecting susceptibility to "toxic threat"

- Most susceptible group – young women engaged in childrearing
- Education is a factor
- Length of residence near the site
- Economic dependence on the polluting industry

Social changes found in contaminated communities

- Toxic exposure contradicts many of Western societies most closely held cultural assumptions and beliefs.
- May see decreases in social support for affected community members – the so-called “corrosive community.”
- Community may be divided in “believers” and “non-believers”.

Inherent conflicts between community needs and government authorities

- Citizens find out that there must be proof of link between ill health and contamination before action can be taken.
- Health officials struggle with scientific uncertainties, data gaps, limited resources.

Loss of communality

- Kai Erickson talks about technological disasters as “ a new species of trouble.” One of the greatest losses is the loss of common understanding in the community.
- This loss of communality can stem from social conflicts set up by contamination and can result in a net loss of social support for the victims.

Illusion of safety

- Much of the health threat from a contaminated environment may come from the loss of the illusion of safety.
- The illusion of safety is a psychic defense mechanism in which one believes that one is immune to misfortune, illness or death. When this feeling is breached, people can feel very unprotected and vulnerable.

Addressing the Psychosocial Elements of Slow Motion Technological Disaster

Asbestos Contamination in Libby, Montana

US EPA

Historical Perspective

- Vermiculite was discovered in Libby in the late 1800s
- Vermiculite mined in Libby from 1920s to 1990
- Libby supplied 80% of world's vermiculite

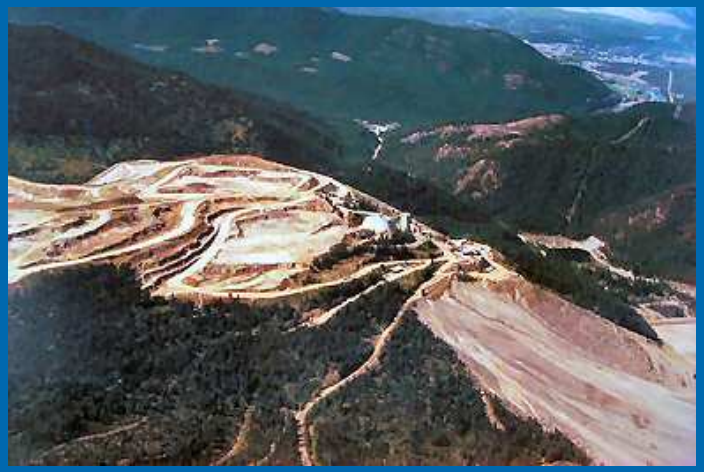

Photo source: US EPA

Tremolite Asbestos Contamination

- Libby vermiculite naturally co-occurs with tremolite asbestos
- Worker, take home and environmental exposures to tremolite occurred in Libby and other sites throughout United States that received Libby vermiculite
- November 1999- US EPA started sampling, removal and cleanup activities in Libby

US EPA

Asbestos-related Diseases

- Pleural Plaques
- Asbestosis
- Mesothelioma
- Lung cancer

US EPA

ATSDR Public Health Actions

- Medical testing program for potentially affected Libby residents
- Mortality review for the Libby area
- Asbestos-related disease registry
- Community and physician health education
- Joint EPA/ATSDR stress mitigation program

EPA/ATSDR Libby Stress Project

- Provider education on technological disasters
- Community health fair
- Media outreach
- Patient support groups
- Community needs assessment for disaster mental health

ATSDR Community Center, Libby, Montana ATSDR

Follow up to Libby Stress Project

- SAMSHA performed a community needs assessment related to need for services
- SAMSHA awarded a technical grant to assist in the development of a training curriculum titled “Addressing the Psychosocial Elements of Slow Motion Technological Disasters.”

Why is the study of the psychosocial effects of technological disasters important?

Recommendations to improve responses

- Need for study of how communities recover from these events
- Need to re-assess effects of chronic contamination at routine intervals
- Exchange of information among public health, local governments and communities on how recovery occurs at these sites.
- Recognition of how often environmental and economic problems are intertwined at these sites.

“ To successfully advance in solving global problems, we need to develop new methods of thinking, to elaborate new moral and value criteria, and, no doubt, new patterns of behavior. Mankind is on the threshold of a new stage in its development. We should not only promote the expansion of its material, scientific, and technical basis, but what is most important, the formation of new values and humanistic aspirations in human psychology, since wisdom and humaneness are the ‘eternal truths’ that make the basis of humanity.”

I.T. Frokov, 1986

For further reading,

- Andrew Schneider and David McCumber. An Air That Kills: How the Asbestos Poisoning of Libby, Montana, Uncovered a National Scandal. New York: GP Putnam and Sons, 2004
- Michael Bowker. Fatal Deception: The Untold Story of Asbestos. USA: Rodale, 2003

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- ATSDR, Report on the Expert Panel Workshop on the Psychological Responses to Hazardous Substances, 2000. URL at: www.atsdr.cdc.gov/HEC/PRHS
- Bechtel RB and Churchman A, editors. Handbook of Environmental Psychology. New York: John Wiley & Sons, 2002.

For further reading,(continued)

- Valerie L. Kulerz. The Tainted Desert, Environmental Ruin in the American West. New York: Routledge, 1998
- Nancy Kreuger, Theories for social epidemiology in the 21st century: an ecosocial perspective. International Journal of Epidemiology 2001:30:668-677.

For further reading (continued)

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- Nancy Ryley. The Forsaken Garden, Four Conversations on the Deep Meaning of Environmental Illness. Wheaton, Illinois: Quest Books, 1998

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