Vulnerability Bibliography

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Background

In an effort to familiarize myself with the Cooperative Institute for Research in Environmental Sciences (CIRES) and the bibliography topic, I spent the first couple of weeks of the semester reading books and articles given to me by Roger Pielke Jr. and Bobbie Klein. We had a few meetings where they gave me a more in depth description of what they wanted in the bibliography and how it would most likely be used. I started by searching the Chinook library catalogue as well as the Internet for anything related to vulnerability and natural disasters. Upon finding useful books, I used their bibliographies or references to find others of a similar nature. I searched many online journals or literature catalogues as well as related websites. After another meeting I started searching for topics relating to vulnerability and either the military, computers, or health. Adding these to the bibliography will hopefully give other researchers a broader outlook on the overall topic of vulnerability. Putting the whole project together I went through all the information I found to make sure everything would be useful. I used the MLA format for the entire bibliography.

Definitions of Vulnerability

The following are examples of the many definitions of vulnerability:

"A condition or set of conditions which adversely affect people's ability to prepare for, withstand and/or respond to a hazard." (Warmington 1995: 1)

"Concerns the propensity of a society to experience substantial damage, disruption, and casualties as a result of hazard." (OECD-DAC 1994: 8)

"Vulnerability is a characteristic of individuals and groups of people who habit a given natural, social and economic space, within which they are differentiated according to their varying position in society into more or less vulnerable individuals and groups. It is a complex characteristic produced by a combination of factors derived especially (but not entirely) from class, gender, and ethnicity." (Varley 1994: 19)

"Vulnerability concerns the complex of social, economic, and political considerations in which peoples' everyday lives are embedded and that structure the choices and options they have in the face of environmental hazards. The most vulnerable are typically those with the fewest choices, those whose lives are constrained, for example, by discrimination, political powerlessness, physical disability, lack of education and employment, illness, the absence of legal rights, and other historically grounded practices of domination and marginalization." (Bolin and Stanford 1998: 9-10)

"The level of exposure of human life, property and resources to damage from natural hazards." (http://www.csc.noaa.gov/vata/intro2.html)

"Vulnerability refers to a system's susceptibility to change as a consequence of an extreme event." (Sarewitz and Pielke 2000: 5)

"The degree to which a system is sensitive to and unable to cope with adverse impacts of global change stimuli. Vulnerability is therefore a function of a system's exposure to global change stimuli and its adaptive capacity, that is, its ability to cope with these stimuli." (http://www.pik-potsdam.de/~richardk/eva/)

"Susceptible of sustaining damage, sensitivity of a system to change, degree of exposure to the system, ability to adapt to changes" (http://www.pik-potsdam.de/~richardk/eva/)

"An aggregate measure of exposure to risk and its consequences."

(http://www.eci.ox.ac.uk/vulnerability/WorkshopProceedings.html)

"The degree of susceptibility to a natural hazard." (Lewis 1999: 4)

"Vulnerability is the product of sets of prevailing conditions within which disasters may occur." (Lewis 1999: 5)

"The characteristics of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from the impact of a natural hazard. It involves a combination of factors that determine the degree to which someone's life and livelihood is put at risk by a discrete or identifiable event in nature or society." (Blaikie 1994: 9)

"Vulnerability analysis and assessments, in contrast, select a particular group or unit of concern (e.g. landless farmers, boreal forest ecosystems, coastal communities) and seek to determine the risk of specific adverse outcomes for that unit in face of a variety of stresses, and to identify a range of factors that may reduce response capacity and adaptation to stressors." (http://www.pik-potsdam.de/~dagmar/corelletal.pdf)

"The expected damage as resulting from the expected environmental perturbations in view of the expected transformation and adaptation process." (http://www.pik-potsdam.de/~dagmar/corelletal.pdf)

"Vulnerability is a pervasive socio-economic condition; it is the reason why the poor and disadvantaged are the predominant victims of disasters." (Lewis 1997: 46)

"Gender vulnerability: the inability to prepare, adjust, or adapt due to constraints inherent in a particular form of gender relationship." (Schroeder 1987: 33)

Vulnerability References

Disasters

Baum, A., and R. Fleming, and L. Davidson. "Natural Hazards and Technological Disasters." Environment and Behavior 15 (1983): 333-354.

- Berke, Philip R., and Timothy Beatly. <u>After the Hurricane: Linking Recovery to Sustainable Development in the Caribbean</u>. Baltimore: Johns Hopkins University Press, 1997.
- Blaikie P., et al. <u>At Risk: Natural Hazards, People's Vulnerabilities, and Disasters</u>. London: Routledge, 1994.
- Bolin, R., M. Jackson, and A. Crist. "Gender Inequality, Vulnerability, and Disaster: Issues in Theory and Research." <u>The Gendered Terrain of Disaster</u>. Ed. E. Enarson and B.H. Morrow. Westport, CT: Praeger, 1998. 27-44.
- Bolin, Robert, and Lois Stanford. <u>The Northridge Earthquake: Vulnerability and Disaster.</u>
 London: Routledge, 1998.
 - examines 'First World' vulnerabilities in light of California earthquake -
 - looks at different recovery strategies after the disaster -
 - explores different sections of vulnerability -
- Boughton, D.A., E.R. Smith, and R.V. O'Neill. "Regional Vulnerability: A conceptual Framework." <u>Ecosystem Health</u> 5(1999): 312-322.
- Burby, Raymond J. <u>Cooperating with Nature: Confronting Natural Hazards with Land-Use Planning foe Sustainable Communities</u>. Washington D.C.: Joseph Henry Press, 1998.
 - looking at how to maintain a sustainable environment in the face of natural disasters -
 - in efforts to eliminate vulnerability to natural disasters, it examines ways to manage the use of the land -

- Chambers, R. "Vulnerability, coping and policy." <u>Institute of Developmental Studies</u>

 <u>Bulletin</u> 20 (1989): 1-7.
- Commonwealth Secretariat. <u>The Future for Small States: Overcoming Vulnerability</u>.

 London: Commonwealth Secretariat, 1997.
- Community Vulnerability Assessment Tool: New Hanover County, North Carolina, case study. 1999. NOAA Costal Services Center. 30 April 2001. http://purl.access.gpo.gov/GPO/LPS3892>.
- Cutter, Susan L. <u>American Hazardscapes: The Regionalization of Hazards and Disasters</u>. Washington D.C.: Joseph Henry Press, 2002.
 - examines the different methods used to determine potential disaster vulnerability
 - provides some models assessing the risk or hazard and vulnerability to disasters
- Cutter, S.L. Living With Risk. New York: Edward Arnold, 1993.
- Davies, Hilary, and Megan Walters. "Do all crises have to become disasters? Risk and risk mitigation." <u>Disaster Prevention and Management: An International Journal</u>. Vol. 7. No. 5. (1998): 396-400.
 - looks at how and why crisis become disasters and the risk and uncertainty involved -
- Delica, Zenaida G. "Balancing Vulnerability and Capacity: Women and Children in the Philippines." <u>The Gendered Terrain of Disaster</u>. Ed. E. Enargon and B.H. Morrow. Westport, CT: Praeger, 1998. 109-113.

- D'Ercole, Robert, and Patrick Pigeon. <u>Natural disasters in South East Asia and Bangladesh Vulnerability Risks and Consequences</u>. March 1998. http://www.cred.be/centre/publi/155e/begin.htm#Contents.
- El-Masri, Souheil and Graham Tipple. "Urbanization, poverty and natural disasters:

 Vulnerability of settlements in developing countries." <u>Reconstruction After</u>

 <u>Disaster: Issues and Practices.</u> Ed. Awotona, Adenrele. Chapter 1. 1997.
- French, Richard H. "Flood Hazard Assessment on Alluvial Fans: An Examination of the Methodology." Nevada Water Resources Center Publication No. 45040. 1984.

 HazLit Search. Online. 1997.
 - http://www.Colorado.EDU/hazards/litbase/docs/docs5/08200.htm>.
 - examines the methods for assessing flood hazard on alluvial fans previously recommended by FEMA –
- Hammar-Klose, Erika S. and E. Robert Thieler. <u>Coastal Vulnerability to Sea-level Rise:</u>

 a preliminary database for the U.S. Atlantic, Pacific, and Gulf of Mexico coasts.

 Woods Hole, Mass: U.S. Geological Survey [Costal and Marine Geology

 Program, Woods Hole Field Center], 2001.
- Heijmans, Annelies. "'Vulnerability': A Matter Of Perception". <u>Disaster Management</u>

 <u>Working Paper 4</u>. University College of London: Benfield Greig Hazard Research

 Centre, 2001.
 - examines the different ways the term and idea of vulnerability is used, and the underlying perspectives –

- Jallow, B.P., and M.K.A. Barrow, and S.P. Leatherman. "Vulnerability of the coastal zone of The Gambia to sea level rise and development of strategies and adaptation options." Climate Research Vol. 6, No. 2. 1996. http://www.int-res.com/journals/cr/crSpecial3.html.
 - AVVA technique used to analyze vulnerability to sea level rise/ adaptation strategies identified -
- Jeffery, Susan E. "The Creation of Vulnerability to Natural Disaster." <u>Disasters Vol.6.</u>
 No. 1. (1982): 38-43.
- Kreimer, A. and M. Munasinge. "Reducing Environmental Vulnerability and Managing Disasters in Urban Areas." Ed. A. Kreimer and M. Munasinge. Washington D.C.: World Bank Discussion Paper No. 168, World Bank, 1992. 21-50.
- Kunreuther, Howard, and Richard J. Roth, Sr. <u>Paying the Price: The Status and Role of Insurance Against Natural Disasters in the United States</u>. Washington D.C.:

 Joseph Henry Press, 1998.
 - looks at how insurance programs deal with natural disasters and proposes ideas involving these insurance companies in reducing loss in the future –
- Lewis, James. <u>Development in Disaster-prone Places: Studies of Vulnerability.</u>

 Southampton Row, London: Intermediate Technology Publications, 1999.
 - examines where vulnerability comes from, the experience of vulnerability, patterns of vulnerability, and different ways to reduce vulnerability also relies on area specific case studies to further ideas presented -

- Lewis, James. "Development, Vulnerability and Disaster Reduction; Bangladesh Cyclone Shelter Projects and Their Implications." <u>Reconstruction After Disaster: Issues and practices</u>. Ed. Awotona, Adenrele. Chapter 4. 1997.
- Martin, Larry R.G. "Risk Assessment and Management: Emergency Planning

 Perspectives." <u>University of Waterloo Press</u>. 1988. HazLit Search. Online. 1997.

 http://www.Colorado.EDU/hazards/litbase/docs/docs7/12520.htm>.
 - contains seven papers addressing method assessment –
- McEntire, David A. "Triggering agents, vulnerabilities and disaster reduction: towards a holistic paradigm." <u>Disaster Prevention and Management: An International Journal</u>. Vol. 10. No. 3. (2001): 189-196.
 - creates a model of vulnerability to clarify nature of disaster and assist in future emergency management -
 - looks at relationships between disasters, both man-made and natural, and mental health, and reducing vulnerabilities –
- Methods and Models of Vulnerability Research, Analysis and Assessment. 25 January 2002. Potsdam Institute for Climate Impact Research. http://www.pik-potsdam.de/~dagmar/vulnerability.html.
 - deals with methods of vulnerability assessment
- Mileti, Denis S. <u>Disasters by Design: A Reassessment of Natural Hazards in the United</u>

 <u>States</u>. Washington D.C.: Joseph Henry Press, 1999.
 - mainly looking at the different ways to reduce the costs that result from disasters -

- Mitchell, James K. <u>Crucibles of Hazard: mega-cities and disasters in transition</u>. Tokyo: United Nations University Press, 1999.
 - looks at the relationship between a lack of policy and planning, and the growth of the vulnerability of certain mega-cities to disasters and natural hazards -
 - specifically looks at Mexico City and its social vulnerability, and examines the assessment methods used to measure this vulnerability -
- Oliver-Smith, A. "Peru's Five Hundred Year Earthquake: Vulnerability in Historical Context." <u>Disasters, Development, and Environment</u>. Ed. A Varley. New York: John Wiley and Sons, 1994. 31-48.
- (OECD-DAC) Organization for Economic C0-Operation and Development, Development Assistance Committee. <u>Guidelines for Aid Agencies on Disaster Mitigation.</u> Paris: OECD, 1994.
- Pan-American Health Organization. <u>Fact Sheet: Women, Health, and Development</u>

 Program: Gender and Natural Disasters. Washington D.C.: December 2001.
 - examines the different reasons for women's vulnerability to disasters and why women may be more vulnerable than men –
- Parker, Dennis, Nabiul Islam and Ngai Weng Chan. "Reducing Vulnerability Following Flood Disasters: Issues and Practices." Reconstruction After Disaster: Issues and Practices. Ed. Awotona, Adenrele. Chapter 3. 1997.
- Parker, R.S. "Issues and trends in emergency preparedness for technological disasters: moving beyond the 'natural' and 'technological' labels." <u>Environmental</u>

- Management and Urban Vulnerability. Ed. A. Kreimer and M. Munasinge.

 Washington D.C.: World Bank Discussion Paper No. 168, World Bank, 1992.

 237-59.
- Parker, R.S. "Vulnerability and resiliency: environmental degradation in major metropolitan areas of developing countries." Environmental Management and Urban Vulnerability. Ed. A Kreimer and M. Munasinge. Washington D.C.: World Bank Discussion Paper No. 168, World Bank, 1992. 107-52.
- Pielke, Roger A. Jr. "Reframing the U.S. Hurricane Problem." <u>Society and Natural</u>
 Resources 10 (1997): 485-499.
 - looks at the concepts of vulnerability in relation to the hurricane problem faced by the United States –
- Pitman. "Population and Vulnerability." <u>Project Communication</u>. Washington D.C.: World Bank, 1997.
- Quarantelli, E.L. "Urban vulnerability and technological hazards in developing societies." Environmental Management and Urban Vulnerability. Ed. A. Kreimer and M. Munasinge. Washington D.C.: World Bank Discussion Paper No. 168, World Bank, 1992. 187-236.
- Report of the Seminar on Vulnerability: Livelihood security, climatic disasters, and climate change. 30 November 2000. Green College, University of Oxford. 30 November 2000.

http://www.eci.ox.ac.uk/vulnerability/WorkshopProceedings.html>.

- Sarewitz, D. and R.A. Pielke Jr., eds. <u>Extreme Events: Developing a Research Agenda</u>

 for the 21st Century. Boulder, Co: Environmental and Societal Impacts Group,

 National Center for Atmospheric Research, 2000.
- Schroeder, Richard A. <u>Gender Vulnerability to Drought: A Case Study of the Hausa</u>

 <u>Social Environment</u>. Madison: University of Wisconsin Madison, 1987.
 - examines idea of gender vulnerability -
 - looks at why women would be more vulnerable to drought –
- Stephen, L., and T.E. Downing. "Getting the Scale right: A comparison of analytical methods for vulnerability assessment and household-level targeting." <u>Disasters</u> 25 (2001): 113-135.
- The H. John Heinz III Center for Science, Economics, and the Environment. <u>The Hidden Costs of Coastal Hazards: Implications for Risk Assessment and Mitigation.</u>

 Washington D.C · Covelo, California: Island Press, 2000.
- Tierney, Kathleen J., et al. <u>Facing the Unexpected: Disaster Preparedness and Response</u> in the <u>United States</u>. Washington D.C.: Joseph Henry Press, 2001.
 - focuses on the impact of a disaster and the response to it -
 - also looks at the different methods used to assess vulnerability to disaster
- Turton, David. "Warfare, Vulnerability and Survival: A Case Study from Southwestern Ethiopia." <u>Disasters</u> Vol. 15. No. 3. (1992).

Twigg, John, and Mihir R. Bhatt. <u>Understanding Vulnerability: South Asian Perspectives</u>.

103-105 Southampton Row, London: Intermediate Technology Publications on behalf of Duryog Nivaran, 1998.

- gives numerous South Asian perspectives on vulnerability –

Twigg, John. "Sustainable Livelihoods and Vulnerability to Disasters." <u>Disaster</u>

<u>Management Working Paper 2</u>. Benfield Greig Hazard Research Centre, for the Disaster Mitigation Institute (DMI). 2001.

- summarizes the most recent ideas revolving around vulnerability and maintaining sustainable livelihoods in regards to disasters -
- focuses on the sustainable livelihoods (SL) framework –

United States. U.S. National Committee for the Decade for Natural Disaster Reduction,

Commission on Geosciences, Environment, and Resources, National Research

Council. <u>A Safer Future: Reducing the Impacts of Natural Disasters</u>. Washington

D.C.: National Academy Press, 1991.

- a collaborative effort to create a program involving many different elements all in an effort to reduce any impact from a natural disaster -

Varley, Ann. <u>Disasters, Development, and Environment</u>. New York: John Wiley & Sons, 1994.

- looks at how important the analysis of vulnerability is for both disaster research and disaster mitigation -
- looks at the origins of the analysis of vulnerability –

- Vinas, Carolina Serrat. "Women's Disaster Vulnerability and Response to the Colima Earthquake." <u>The Gendered Terrain of Disaster</u>. Ed. E. Enargon and B.H. Morrow. Westport, CT: Praegar, 1998. 161-172.
- Warmington, V. <u>Disaster Reduction: a review of disaster prevention, mitigation and preparedness.</u> Ottowa: Reconstruction and Rehabilitation Fund of the Canadian Council for International Cooperation, 1995.
- Weichselgartner, Juergen. "Disaster mitigation: the concept of vulnerability revisited."

 <u>Disaster Prevention and Management: An International Journal</u>. Vol. 10. No. 2. (2001): 85-95.
 - attempting to reduce vulnerability to disasters, this presents an assessment of vulnerability based on concepts such as potential damage -
- World Health Organization. "Community Emergency Preparedness: A manual for managers and policy makers." <u>The Australian Journal of Disaster and Trauma Studies</u>. Geneva: World Health Organization, 1999.
 - analyzes social vulnerability in a guided and systematic way, then describes the tools and techniques used in the analysis of vulnerable groups to natural hazards and man-made hazards –

Computers

Bumgarner, John N. Wave Goodbye to Liability: Penetration testing of a computer network requires careful planning and limits on the scope of the work. January 2001. http://www.securitymanagement.com/library/000977.html>.

- introduces a testing procedure used to assess vulnerabilities within a computer system -
- Coffield, Dana. "Networks at Risk: Assessing Vulnerabilities." <u>eWeek</u>. 24 September 2001. http://www.eweek.com/article/0,3658,s=722&a=14960,00.asp.
 - in light of September $11^{\rm th}$ attacks, article mentions the importance of assessing the vulnerability of our telecommunications network -
- Cordesman, Anthony, H. and Justin G. Cordesman. <u>Cyber-threats, information warfare,</u>
 and critical infrastructure protection: defending the U.S. homeland. Westport,
 Conn: Praeger, 2002.
 - assessing the threats to computers on a local and a national scale –
- Doll, Mark W. "Lax Computer Security Puts Nation At Risk." <u>Ernst & Yong LLP</u>. 15 November 2001.
 - http://www.ey.com/global/gcr.nsf/US/Lax Computer Security Puts Nation at Risk>.
 - exemplifying the need to assess vulnerabilities to our infrastructure looks at authentication, authorization, interoperability, recovery, and validation as the main issues to be dealt with –
- Doll, Mark W. "Partners for Protection; Both the public and private sectors need to work together to ensure the security of IT infrastructure." Intelligent Enterprise. 1
 February 2002.
 - http://www.intelligententerprise.com/020201/503trust1 1.shtml?privacy>.
 - more in-depth look at the issues mentioned in "Lax Computer Security Puts Nation at Risk" article focuses on the immediate need to assess vulnerabilities to our infrastructure -

Homeland Defense: Threats and Policies in Transition. 15 July, 1998. The Terrorism Research Center. 15 July 1998.

http://www.terrorism.com/homeland/ct&ciafinal.shtml.

- Hundley, Richard O. and Robert H. Anderson. <u>A Qualitative Methodology for the Assessment of Cyberspace-Related Risks</u>. 1996. Rand Documents. http://www.rand.org/cgi-bin/Abstracts/e-getabbydoc.pl?P-7988.
- Jacques, Berleur, Colin Beardon, and Romain Laufer, eds. <u>Facing The Challenge of Risk</u>
 and Vulnerability in an Information Society: <u>Proceedings of the IFIP WG9.2</u>
 Working Conference on Facing the Challenge of Risk and Vulnerability in an
 <u>Information Society</u>. Amsterdam: North-Holland, 1993.
- Neeley, DeQuendre. <u>The Hacker Files: A look at hack attack trends threatening the corporate network and tips on where system administrators can go for help.</u> July 2000. http://www.securitymanagement.com/library/000884.html.
 - examines certain threats to computer networks and provides some steps to assessing vulnerability -
- Spangler, Todd. "Networks At Risk: Assessing Vulnerabilities/ Network Edge." <u>eWeek.</u>
 24 September 2001.
 - http://www.eweek.com/article/0,3658,s=722&a=14960,00.asp.
 - notes that possible the most vulnerable parts of this infrastructure are the systems at the edges of the Internet -

- United States. Committee on Science. U.S. House of Representatives. <u>Cyber Security How Can We Protect American Computer Networks from Attack?</u> 10 October 2001. http://www.house.gov/science/full/oct10/full_charter_101001.htm.
 - looking at the vulnerabilities of our infrastructure, the underlying causes of these vulnerabilities, and the federal response -

United States. Committee on Science. U.S. House of Representatives. Cyber Terrorism –
A View From the Gilmore Commission. 17 October 2001.

http://www.house.gov/science/full/oct17/full_charter_101701.htm.

- continuation of first hearing – presents The Gilmore Commission- some different ideas about assessing the computer terrorist threat –

United States. Congress. Senate. Committee on the Judiciary. Subcommittee on Technology, Terrorism, and Government Information. Cyber attacks: the national protection plan and its privacy implications: hearing before the Subcommittee on Technology, Terrorism, and Government Information of the Committee of the Judiciary, One Hundred Sixth Congress, second session, on examining vulnerability of U.S. systems to cyber attack, focusing on the administrations national plan for information systems protection and its implications regarding privacy, February 1, 2000. Washington: U.S. G.P.O.: [U.S.G.P.O., Supt of Docs, Congressional Sales Office, distributor], 2001.

Health

- Das Gupta, Monica, Lincoln C. Chen, and T.N. Krishnan, eds. <u>Women's Health in India:</u>

 <u>Risk and Vulnerability</u>. Bombay; Oxford: Oxford University Press, 1995.
- Desimone, Leslie, A. and Lance J. Ostiguy. <u>A Vulnerability Assessment of Public-Supply</u>

 <u>Wells in Rhode Island</u>. Northborough, Mass: U.S. Dept. of the Interior, U.S.

 Geologic Survey; Denver, CO: Information Services [distributor], 1999.
- Earthquakes and People's Health, Vulnerability Reduction, Preparedness and

 Rehabilitation: Proceedings of a WHO Symposium Kobe. 27-30 January 1997.

 World Health Organization Center for Health Development. 27-30 January 1997.

 http://www.whomsa.org/it/text4/04_disasters.html.
 - analyses vulnerabilities to people's health in regards to earthquakes
 - also looks at vulnerability reduction and preparedness
- Hearne, Glenn, A., et al. <u>Vulnerability of the Uppermost Ground Water to</u>

 <u>Contamination, to the Greater Denver Area, Colorado</u>. Denver, Co: U.S. Dept. of
 Interior, U.S. Geological Survey; Denver, CO: Earth Science Information Center,
 Open-File Reports Section [distributor], 1995.
- Knobler, Stacey L., Adel A.F. Mahmoud, and Leslie A. Pray, eds. <u>Biological Threats and Terrorism: Assessing the Science and Response Capabilities</u>. Washington D.C.:

 National Academy Press, 2002.

- McLeod, J.D. and R.C. Kessler. "Socioeconomic Status Differences in Vulnerability to Undesirable Life Events." <u>Journal of Health and Social Behavior</u> 31 (1990): 162-172.
- Mental health in natural and technological disasters: reducing vulnerabilities. Mental Health Promotion, Department of Mental Health, World Health Organization. http://www.whomsa.org/it/text4/04 disasters.html>.
- Parachini, John. <u>Anthrax Attacks, Biological Terrorism and Preventive Responses</u>. Santa Monica, Ca: RAND, 2001.
- Patz, J. A., and J.M. Balbus. "Methods for assessing public health vulnerability to global climate change." <u>Climate Research Vol. 6, No. 2</u>. 1996. 1996. http://www.int-res.com/journals/cr/crSpecials3.html.
 - uses specific methods for linking climate variables with human disease -
 - also uses GIS, as well as complex integrated mathematical models –
- <u>Risk, Vulnerability, Resiliency Health System Implications</u>. 16 September 1996. Health

 Promotion and Programs Branch of Health Canada. http://www.hc-sc.gc.ca/healthcare/issues.htm>.
 - looks at how the health system is interrelated with risk, vulnerability, and resiliency -
- Shehadeh, Lamia R., ed. <u>Women and War in Lebanon</u>. Gainesville: University Press of Florida, 1999.

- discusses why women would be more prone or vulnerable to psychological health problems in war situations -
- The evaluation and reduction of physical and functional vulnerability. Mitigation of disasters in health facilities: evaluation and reduction of physical and functional vulnerability. Washington D.C.: Pan-American Health Organization-International Decade for Natural Disaster Reduction, 1993.
 - looks at both structural and non-structural vulnerability –
 - looks at functional vulnerability -
 - analyzes the vulnerable aspects of hospitals -
 - gives many ways to reduce all types of vulnerabilities -
- United States. Committee on Environmental Epidemiology, Board on Environmental Studies and Toxicology, commission on Life Sciences, and National Research Council. Environmental Epidemiology, Volume 1: Public Health and Hazardous Wastes. Washington D.C.: National Academy Press, 1991.
 - looks at how the public exposed to hazardous waste sites or materials is impacted health wise -
- United States. Committee on Risk Assessment of Hazardous Air Pollutants, Board on Environmental Studies and Toxicology, Commission on Life Sciences, National Research Council. Science and Judgment in Risk Assessment. Washington D.C.: National Academy Press, 1994.
 - looks at the various facets of risk assessment -
- United States. Committee on Risk Assessment Methodology, Board on Environmental Studies and Toxicology, Commission on Life Sciences, National Research

Council. <u>Issues in Risk Assessment</u>. Washington D.C.: National Academy Press, 1993.

- mostly focusing on the assessment of risk and how that is used in research -

United States. Committee on Techniques for Assessing Ground Water Vulnerability,
Water Science and Technology Board, Commission on Geosciences,
Environment, and Resources, National Research Council. <u>Ground Water</u>
<u>Vulnerability Assessment: Contamination Potential Under Conditions of</u>
<u>Uncertainty</u>. Washington D.C.: National Academy Press, 1993.

 uses the vulnerability of groundwater to develop a quality method for assessing vulnerability in general –

Military

Abell, John M., et al. <u>Degraded States Vulnerability Analysis. Phase II</u>. Aberdeen Proving Ground, Md: U.S. Army Laboratory Command, Ballistic Research Laboratory; [Springfield, Va: National Technical Information Service, distributor], 1990.

<u>DOT Releases Report Assessing Vulnerability Of Transportation Infrastructure Relying</u>
<u>on Global Positioning System.</u> 10 September 2001. U.S. Department of
Transportation.10 September 2001. http://www.dot.gov/affairs/dot9201.htm>.

- working with the Department of Defense to assess how the national transportation infrastructure can deal with future vulnerabilities in order to remain safe -

Kupchan, Charles. The Vulnerability of Empire. Ithaca: Cornell University Press, 1994.

Meeting the Homeland Security Challenge: Maritime and Other Critical dimensions. 30

April 2002. The Institute for Foreign Policy Analysis.

< http://ifpafletchercambridge.info/default.htm>.

- a convention in March focusing on challenges faced by the US, and looks at how to meet current threats, key issue being vulnerability to maritime terrorism.

Parachini, John. <u>Combating Terrorism: Assessing Threats, Risk Management, and Establishing Priorities</u>. 26 July 2000.

http://cns.miis.edu/pubs/reports/paraterr.htm.

- Smith, James M, ed. <u>Searching for National Security in an NBC World: four papers on changing nuclear, biological, and chemical threats and U.S. government policy in the post-Cold War international security environment</u>. Colorado: USAF Institute for National Security Studies, US Air Force Academy, 2000.
- United States. General Accounting Office. <u>Defense Health Care: improvements needed to reduce vulnerability to fraud and abuse: report to the Committees on Armed Services, U.S. Senate and House of Representatives</u>. Washington D.C.: The Office; [Gaithersburg, Md (P.O.Box 6015, Gaithersburg 20884-6015): the Office distributor], 1999.
- United States. General Accounting Office. <u>Inventory Management: Vulnerability of sensitive defense material to theft: report to the ranking minority member.</u>

 Committee on Government Affairs, U.S. Senate. Washington D.C.: the Office;

[Gaithersburg, Md (P.O.Box 6015, Gaithersburg 20884-6015): the Office distributor], 1997.