International Environmental Epidemiology Institute (IEEI)

"Environmental Health Consequences of Civil Unrest“

- Bibliography with annotations / summaries[1], November 28, 1996 -

1. **Babille, M., de Colombani, P., Guerra, R., Zagaria, N., Zanetti, C. (1994): Post-emergency epidemiological surveillance in Iraqi-Kurdish refugee camps in Iran. Disasters 18, no.1: 58ff.**

   In 1991 a computerized epidemiological surveillance system was developed to monitor health trends in approximately 25,000 acutely displaced Kurds in refugee camps in Northwestern Iran. In addition, community-based surveys offered information unobtainable from health facilities. Weekly population movements, attack rates, point-prevalence estimates, and case-fatality ratios were analyzed. The overall crude mortality rate (CMR) in the camps under study was 9 times higher than the reported CMR for Iraq. Concerning morbidity, the most common conditions included acute respiratory infections, diarrhoea, skin infections, eye diseases, and typhoid fever. - It is concluded that epidemiological surveillance systems should be implemented during mass-migrations in developing countries also in post-emergency settings. Surveillance appears to be indispensable in order for the international agencies to keep abreast of events and to safeguard human rights when international attention subsides.

2. **Berke, P.R., Kartez, J. Wenger, D. (1993): Recovery after disaster: Achieving sustainable development, mitigation and equity. Disasters 17, no.2: 93ff.**

   This paper reviews key findings and raises issues that are not fully addresses by the predominant disaster recovery literature. A conceptual model for understanding local disaster recovery efforts is presented, with a focus on local participation in redevelopment planning and institutional cooperation. The conceptual and practical significance of this model is demonstrated by presenting case studies of local recovery experiences.

3. **Black, R. (1994): Environmental change in refugee-affected areas of the Third World: the role of policy and research. Disasters 18, no.2: 107-16**
   Department of Geography, King's College, London

   The current nature of policy responses to environmental change in refugee assistance programs is reviewed. Based on existing documentary material and a survey of UK-based NGO's, it is concluded that although refugee assistance agencies are aware of environmental issues, this is rarely translated into effective policy measures to identify and combat environmental degradation. Current World Bank guidelines classify resettlement schemes as projects which often have significant environmental impacts and therefore require an Environmental Impact Assessment to be carried out. Various existing methods used to calculate environmental impacts are considered, and a number of pitfalls are identified.

4. **Degg, M. (1994): International Workshop on Geographical Information Systems in Assessing Natural Hazards. University for Foreigners, Perugia, Italy, 20-22 Sept. 1993. Conference report, Disasters 18, no.2:177-8**
   Department of Geography, Chester College, Chester, UK

   Overall aim of this workshop was to discuss and evaluate potentials and limitations of Geographical Information Systems (GIS) as applied to the prediction, prevention and mitigation of

[1] The annotations / summaries are partially based on authors' abstracts, where available

natural disasters. The array of modelling and simulation facilities provided by GIS, coupled with their ability to handle and integrate multiple spatial data sets, would seem to offer possibilities for hazard assessment, disaster mitigation, and emergency response. The author comments that one unfortunate aspect of the workshop was the predominantly Western, academic orientation of the speakers and participants. The sessions would have benefited from greater input from non-academics, social scientists, and organizations in Third World countries concerned with hazard mitigation, disaster management and emergency response planning.

5. **Drabek, T.E. (1995): Research Committee on Disasters, XIII World Congress of Sociology, Bielefeleld, Germany, 18-22 July 1994. Disasters 19, no.1: 74-5**
Department of Sociology, University of Denver, Denver, CO, USA

   The Research Committee "Sociology of Disasters" of the International Sociological Association (ISA) hosted ten sessions with about 50 papers from 15 different countries during this Congress. Issues discussed included theory (conceptualization, measurement), mitigation (mix of cooperative / coercive strategies; fragmentation and denial), response (adaptive strategies, evacuation modelling), and recovery (long-term impacts, coping strategies).

6. **Ferguson, E.W., Villasenor, A., Cunnion, S., de Ville de Goyet, C., Young, F.E., Laporte, R.E. (1995): A global health disaster network is needed. Letter, BMJ 1995, May 27; 310(6991): 1412**
Life and Microgravity Sciences and Applications, NASA, Washington, DC; NASA Science Networking, Washington, DC; Department of Preventive Medicine and Biometrics, Bethesda, MD; Emergency Preparedness and Disaster Relief Organisation, PAHO, Washington, DC; Office of Emergency Preparedness, Department of Health and Human Services, Rockville, MD; Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh, PA, USA

   In situations of disaster, the lack of accurate and timely information typically is compounded by our inability to establish real time communications among international health agencies, non-government disaster and relief organizations, affected governments and local communities, and the people themselves, which leads to needless morbidity, mortality, and waste in both manmade and natural disasters. Being in the middle of a telecommunications revolution, one should begin to establish a global health disaster network directed at preventing disasters and planning responses to disasters. In a pilot project, PAHO with support of NASA is linking through the Internet the major coordinators of disaster management in Central America. It is concluded that training of health care professionals in monitoring international disasters and in telecommunications is important.

7. **Gallaher, F.B. (1995): First Harvard Symposium on Complex Disasters. Conference report. Disasters 19, no.3: 274-5**
Center for Population and Development Studies, Harvard University, Cambridge, MA, USA

   The primary intent of the Symposium was to encourage thoughtful dialogue, including discussion between university academics, field response personnel and headquarters / bureaucratic personnel. Topics included the relationship between natural/environmental disasters and politically generated events like Somalia and Rwanda; the evolving alignment and potential conflict between civilian and military response to both natural and political disasters; and the difficulty in responding to politically generated disasters without understanding the root causes and political complexities. The need for rapid assessments, complex needs of refugee populations, and the ethical issues in relief efforts were also discussed.

8. **Gessner, B.D. (1994): Mortality rates, causes of death, and health status among displaced and resident populations of Kabul, Afghanistan. JAMA 272(5): 382-5**
Médecins sans Frontières, Paris, France / Alaska Division of Public Health, Anchorage, AK, USA

This retrospective, population-based household survey studied the mortality and health effects from civil war in Kabul, Afghanistan, 1993. The most common cause of death was gunshot or other war trauma; for children younger than 5 years, deaths resulting from measles, diarrhoea, and acute respiratory tract infection predominated. It was concluded that, while provision of basic public health measures would likely decrease mortality among both displaced and resident populations, the most urgent health need was for a cessation of hostilities against the civilian population. An urgent need was found for adequate epidemiologic surveillance during civil conflicts in developing countries.

9. **Glass, R.I., Dalia, M., Nieburg, P., Allegra, D.T. (1984): Organizing epidemiologic surveillance for a refugee population. Ch. 30 in: US-Department of Health and Human Services (DHHS) (1984): Emergency refugee health care. A chronicle of experience in the Khmer assistance operation 1979-80. Washington, D.C.**

The epidemiologist involved in disaster assessment faces a number of specific problems related to the political environment and rapidly changing health profile, needs, and opportunities to intervene. Data must be collected rapidly under highly adverse conditions. Epidemiologic information must be applied to a decision-making process since it can influence determining relief supplies, equipment, and personnel needed to respond effectively. A variety of epidemiologic methods has been demonstrated to be of value before, during, and after disasters. Standardized procedures need to be developed that can be linked to operational decisions and actions. Incorporation of epidemiologic surveillance and disaster management can dramatically reduce the health consequences of catastrophic events on the affected populations.

10. **Goma Epidemiology Group (1995): Public health impact of Rwandan refugee crisis: what happened in Goma, Zaire, in July, 1994? Lancet 1995, Feb. 11; 345:339-44**
Goma (Zaire), Geneva (Switzerland), Atlanta, GA (USA), Paris (France), Washington, DC (USA), Brussels (Belgium), Amsterdam (Netherlands), Brest (France)

The flight of 500,000 - 800,000 Rwandan refugees into Zaire in July, 1994, overwhelmed the world's response capacity. During the first month after the influx, almost 50,000 refugees died, an average crude mortality rate of 20-35 per 10,000 per day. This death rate was associated with explosive epidemics of diarrhoeal disease caused by *Vibrio cholerae* 01 and *Shigella dysenteriae* type 1. The immediate, medical cause of most deaths was diarrhoeal disease, but the underlying causes were the historical, ethnic, demographic, socioeconomic, and political factors that led to the collapse of Rwandan society and to this mass population migration. - A standardized surveillance system was established, allowing relief agencies to monitor disease trends, reassess priorities, and evaluate the effectiveness of interventions. The relief program, based on these rapidly acquired health data and effective interventions, was associated with a steep decline in death rates.

11. **Gorman, R.F. (1994): Historical dictionary of refugee and disaster relief organizations. International Organizations Series, No. 7, Scarecrow Press, London**

This book aims to insert the various bodies and events of disaster relief in their historic context. It explains the essential tasks, presents profiles of leading organizations, and gives summaries of the most significant humanitarian relief events of the century. Included are a timeline of events, organizational profiles and charts, statistical data, and (annotated) bibliographies.

12. Neal, D.M., Phillips, B.D. (1995): Effective emergency management: Reconsidering the bureaucratic approach. Disasters 19, no.4: 327-37
University of Texas, Denton, TX, USA; Texas Woman's University

The command and control approach is compared with the "Emergent Human Resources Model" (EHRM) approach to emergency management. It is reported that decades of systematic research show that a rigid, bureaucratic command and control approach to emergency management generally leads to an ineffective emergency response. It is suggested that flexible, loosely coupled organizational configurations can create a more effective disaster response. The state of California, based on its extensive disaster experience, has legislated the legitimate role of emergent groups as part of the formal local government response to disaster.

13. Poklewski-Koziell, S., Dorais-Slakmon,J. (1994): No life without water. Red Cross, Red Crescent no.3: 8-10
MediaNatura, London

In armed conflicts, water supplies are often compromised, sometimes deliberately, with wide-scale humanitarian consequences. In many conflicts, the major causes of death and poor health are water-related. According to a recent CDC study, dehydration, malnutrition, cholera, and diarrhoeal diseases are responsible for between 30 and 50 per cent of the lives lost among displaced people around the world. In many cases, water and sanitation may be seen as the backbone of emergency relief.

14. Sandler, R.H., Jones, T.C. (eds.) (1987): Medical care of refugees. Oxford University Press, Oxford
Harvard Medical School; Cornell University Medical College

In 37 chapters, the book comprehensively covers basic and specialty considerations in patient care, with a strong representation of infectious diseases. Topics range from epidemiology and health planning, environmental health and sanitation, and immunization programs all the way to sexually transmitted diseases in refugee medicine. Appendices deal with information resources, organizations, and geographic distribution of communicable diseases of importance in refugee health care. - For chapter 3, "Environmental Health and Sanitation", see Swenson & Schodorf.

15. Schnitzer, J.J., Roy, S.M. (1994): Health services in Gaza under the autonomy plan. Lancet 1994, Jun 25; 343: 1614-7. Commentary: Health and self-determination. Lancet 1994, Jun 25, 343:1581-2
Massachusetts General Hospital, Boston, MA, USA; Centre for Middle Eastern Studies, Harvard University, Cambridge, MA, USA

The authors report that people living in the Gaza strip, under limited self-rule since the Israeli-PLO peace agreement of May, 1994, inherit a health-care system provided by four sectors: the Israeli government, the UN Relief and Works Agency, NGOs, and private facilities. There are huge numbers of refugees, a looming water crisis, civil unrest, and a health care bill that

is unsustainable. Gaza has experienced 27 years of military occupation, and over 6 years of civil unrest (the Palestinian uprising or Intifada). Four plans have been drawn up for health services in autonomous Gaza, namely by (i) the Palestine Red Crescent and the Palestine Health Council, (ii) WHO, (iii) the World Bank, and (iv) the UN Relief and Works Agency. The authors conclude that none of the plans is exactly right. They recommend that the level of donated technology should be sensitive to local culture and matched to the technological level of the recipient society. Gazans need access to educational programmes at all levels; economic assistance should be redirected towards assuring a continuous, reliable stream of basic supplies. The water crisis demands immediate attention, with strong measures to ensure conservation, a ban on overpumping, and the exploration of additional sources.

16.Swenson, R.H., Schodorf, E. (1987): Environmental health and sanitation. Ch.3 in: Sandler, R.H., Jones, T.C. (eds.): Medical care of refugees. Oxford University Press, Oxford

The first section of this book chapter provides an overview of environmental health (management) in a refugee camp, e.g. water purification, food sanitation, and personal hygiene. The section also covers volunteer philosophy and abilities, a simple method to prioritize environmental health activities, health education, and the community development approach. The second section discusses various water and sanitation technologies, concerning camp site selection, water supply, excreta disposal, solid waste management, vector control, housing, and fire safety. Finally, there is a detailed checklist of 68 public health measures in 7 categories.

17.Toole, M.J. (1995): Mass population displacement. A global public health challenge. Infect.Dis.Clin.Am. 9(2): 353-66
Centers for Disease Control and Prevention, Atlanta, GA, USA

In 1980, approximately 5 million refugees worldwide were under the care of the UN High Commissioner for Refugees. Since the end of the cold war in 1991, the number and frequency of mass population migrations has dramatically increased. A new term - complex emergency - has been coined, referring to relatively acute situations affecting large populations, usually involving war or civil strife, food shortages, and population displacement, resulting in significant excess mortality. Estimated Crude Death Rates (CDR) are presented for 12 refugee populations, reaching values of 22 (Somalian refugees in Kenya) and 102 (Rwandan refugees in Zaire) deaths per 1,000 per month. The scope of the problem of population displacement appears to be growing and its geographic impact spreading.The challenge now is to predict complex emergiencies earlier in their evolution and to develop more effective methods of intervening to prevent the most devastating public health consequences.

18.UN High Commissioner for Refugees (UNHCR), Centre for Documentation on Refugees; Refugee Policy Group (RPG) (1991): A selected bibliography on refugee health. Geneva
Geneva, Switzerland; Washington, DC, USA

This bibliography is a joint project of the UNHCR's Centre for Documentation on Refugees and the Refugee Policy Group. Requests to contribute to this bibliography were addressed to about 300 organizations, institutes and individuals directly concerned with refugees or having published material on refugee health. About 120 responses were received. The bibliography contains references to published documents as well as to unpublished materials in the public domain in English, French, or Spanish. References are grouped into the following categories:

general health aspects and policies; primary health care and health services in developing countries; feeding programmes and nutrition; ethnomedicine in a cross-cultural context; medical care and health services in resettlement countries; psycho-social problems; mental health and psychiatric treatment; vulnerable groups: women, children and elderly refugees; guidelines and manuals; bibliographies. The annex contains a comprehensive thesaurus.

19. UN High Commissioner for Refugees (UNHCR) (1995): The state of the world's refugees. In search of solutions. Oxford University Press, Oxford
Geneva, Switzerland

As of 1995, the world's major refugee situations included war in former Yugoslavia, West African refugees (Liberia, Sierra Leone), Haitian asylum seekers, reintegration in Mozambique, conflicts in the Caucasus, displaced Sri Lankans, Vietnamese boat people, exile and repatriation at the Horn of Africa, and the Rwanda/Burundi emergency. Environmental dimensions of the refugee problem are discussed under the headlines "Wood, land and water", "Human consequences of environmental change", and "Understanding environmental impact". The appendix contains numerous statistical tables.

20. United Nations (1993): Agenda 21. The United Nations Programme of Action from Rio. DPI/1344, New York
New York

Chapter 7, "Promoting sustainable human settlement development", of Agenda 21 primarily deals with natural disasters. The urgent need to also address the prevention and reduction of man-made disasters, however, is stressed, too. The objective is to enable all countries to mitigate the negative impact of natural and man-made disasters on human settlements, national economies, and the environment. Three distinct areas are foreseen, namely, the development of a "culture of safety", pre-disaster planning and post-disaster reconstruction. Means of implementation described include "financing and cost evaluation", "scientific and technological means", and "human resource development and capacity-building".