

AVISO

AN INFORMATION BULLETIN ON GLOBAL ENVIRONMENTAL CHANGE AND HUMAN SECURITY

ISSUE NO. 14

October 2005

Hurricane Katrina Reveals Challenges to Human Security

"Hurricane Katrina reveals many key lessons about the need to address environmental change as an issue of human security."

Hurricane Katrina reinforced many key lessons about the nature of environmental change; these lessons explain why rapid and incremental environmental changes are first and foremost an issue of human security, and must be framed as such.

There is a widespread belief in the world today that understanding environmental change is merely about getting the science right. The popular view is that once science can fully understand the origins and consequences of these changes, this knowledge can be used to solve environmental problems through some combination of technologies and policy instruments such as regulation and market-based mechanisms. There is also a widely

held belief that of all the policy challenges governments, addressing environmental change is economically inefficient and merits low priority (Lomborg 2005).

These beliefs were blown away by Hurricane Katrina, which swept into the southern United States and devastated New Orleans. Katrina reminded the developed countries of the world that environmental change is not an issue that is "out there" and can be addressed sometime in an ambiguous future. Nor is it an issue that can be detached from other processes of social, economic, or institutional change. Katrina revealed that environmental change is first and foremost an issue of human security: over one thousand

1: Coping with Traumatic Events in the Aftermath of a Disaster

Disasters are traumatic events that affect survivors, rescue workers, and the friends and families of those who have been involved. Recovery from a catastrophe such as Hurricane Katrina depends not only on the ability to rebuild buildings, infrastructure, neighborhoods, and communities, but also on the ability to recover the sense of security that has been lost by those affected by the disaster. Common emotional reactions after a disaster include shock, fear, grief, anger, guilt, helplessness, numbness and sadness. These, in combination with cognitive reactions such as confusion, indecisiveness, worry and difficulty concentrating, make recovery a challenge in the days, weeks and months following a disaster (see www.ncptsd.va.gov). Physical and interpersonal conditions can also influence the capacity to cope with and recover from a disaster. Post-traumatic stress disorders and other mental health effects may continue long after the event (Norris 2005). Because the victims of disasters often have limited access to health care, counselling and other resources, there is a great need to investigate low-cost, alternative approaches to managing PTSD and depression (see <http://www.siib.org/>). These psychosocial consequences influence human security and must be considered when assessing the outcomes of environmental change.

lost, and nearly 1 million people need emergency aid to meet their basic needs, such as food and water. The number of displaced persons has been estimated at over 1.3 million—the number displaced during the Dust Bowl of the 1930s. Recovery from the disaster, particularly in the Gulf Coast, has been estimated at USD 200 billion, and will take years. Many, however, may never recover their sense of security.

Environmental changes are framed and discussed as human security issues, catastrophes such as Hurricane Katrina will continue to occur,

and they will be just as damaging. Human security is the condition when and where individuals and communities have the options necessary to avoid or adapt to risks to their basic needs and rights; have the capacity and freedom to exercise these options; and can actively participate in attaining these options (GECHS 1999). Human security is something that can be felt and experienced, but it is often difficult to measure. It is a people-centered concept that focuses on enabling individuals and communities to respond to change. In terms of environmental change, responses can include addressing the social processes that make people



Source: Kerala Monitor.

or new insights. In fact, they have been re-again and again in countries throughout that are facing multiple and linked consequences of global environmental change and other changes; whether in relation to the loss of coral reefs that buffer coastal communities from tsunami storm surges in Asia, the recurrence of drought that impact lives and livelihoods in Africa, heat waves that are deadly to elderly urban residents in the United States and France, or floods that impact women and children in Bangladesh. The lessons emphasize that environmental change is not just about understanding the science, but also about understanding the social processes that make people vulnerable. They also show that many of the solutions to environmental insecurity are within the control of policy.

Lessons from Katrina

The first and perhaps most obvious lesson from Hurricane Katrina is that human security is not guaranteed by a high national GDP, powerful armed forces, a well-established disaster management system, or good access to information and technology. In this respect vulnerability to environmental change does not adhere to the North-South divide - cyclones have massive social impacts everywhere they strike. Indeed, the very processes that generated so much wealth in New Orleans created the land use changes in the Mississippi Delta region and the socioeconomic inequalities that made New Orleans and its poor vulnerable to Hurricane Katrina. The fact that this wealth creation was the (now realized) result of an extreme weather event could become one of the worst social, economic, and infrastructure catastrophes in U.S. history.

Hurricane Katrina has shown that coastal areas are indeed highly vulnerable to extreme events and rapid environmental and social change. About 10% of the world's population (i.e., three billion people) live within 200 kilometers of a coastline and by

vulnerable, and/or mitigating environmental risks. When disregarded, human insecurities, including those arising from environmental change, can and do lead to negative outcomes, including mental health problems, violence and conflict (see Box 1).

This policy briefing identifies some of the key lessons related to environmental change and human security that were revealed by Hurricane Katrina. Environmental change can include many dimensions, including land use and land cover changes, changes to hydrological systems and to the quantity and quality of water supply, and alterations of species habitats and the consequent reduction in biological diversity. It also includes climate change—which refers not only to changes in long-term average temperatures and precipitation, but to changes in climate variability and the frequency and magnitude of extreme events. Indeed, as President Bush himself noted in his address to the nation on September 15, 2005, Hurricane Katrina “was not a normal hurricane.”

The lessons described below are not novel findings

in coastal areas is likely to have doubled. The Mississippi Delta has been considered "a poster child for problems resulting from human activities in coastal areas" (Fischetti 2001). It is a region where overpopulation, pollution, industrial activity, sea level rises, habitat loss, over fishing, and other factors have severely degraded the coastal environment. As both the Asian tsunami and Katrina have shown, such degradation has reduced the resilience of coastal social-ecological systems, so that extreme events have more severe outcomes (Adger et al. 2005). One of the challenges for policy is to balance the economic development in the coastal regions with environmental protection, so that the security of the environment in these areas is not undermined.

Urban slums are also places where environmental change is intense and rapid. More than half of the world's population now lives in urban areas, many of them in slums and ghettos in coastal or high-risk areas. Their health, livelihoods and lives are exposed to multiple environmental and social threats. However, unlike urban slum dwellers in the megacities of the global South, the vulnerabilities of poor urban populations in rich countries like the United States are not always easy to detect in normal times. When a disaster like Hurricane Katrina hits, rather invisible vulnerabilities become suddenly exposed. Katrina has revealed to a larger audience expressions of environmental degradation and crime that, across the United States, have long existed but were well hidden. As disturbing as the images of destruction and violence were to the broader public, such violence was more familiar to residents in the poorer sections of New Orleans than the more affluent stream of tourists might imagine. In fact, Katrina revealed that reinforcing processes of environmental degradation, violence, and acute vulnerability to natural disasters exist in cities in the North as much as in the

South. The impact of extreme events on social systems is a complex one, and it is important to study about the ways in which human-induced environmental degradation causes direct, first-order

effects on natural systems (such as changes in crop yields from climate change, or loss of wetlands due to urban expansion). It is also about how these changes interact with existing and evolving economic, social, technological, and institutional conditions to render people increasingly vulnerable to extreme events (Leichenko and O'Brien, forthcoming). These conditions are dynamic, and influenced by many other contemporary processes, including neoliberal economic and social policies. Rising social and economic inequalities, the removal of social safety nets, and institutional changes combined to inhibit both anticipatory and reactive responses. Regardless of whether an extreme event occurs in the global North or the global South, its impact will be most severe on those whose lives are already living in environmentally sensitive locations, under fragile or degraded conditions, and in conditions of social insecurity. Katrina, like the Asian tsunami, has shown that it is the poor who tend to suffer the most, and that vulnerability to environmental change is socially differentiated across gender, class, race, and age (see Box 2).

Managing Risks

Events such as Hurricane Katrina highlight the increasing risks confronting human well being in the twenty-first century. These risks span the ecological, livelihood and knowledge realms (Mehta et al 2001) and are compounded by factors such as inequalities and economic globalization. The lesson reinforced by Katrina is that, while extreme events have always occurred, their impacts are increasing as environmental degradation and social marginalization are intensifying over time.

Hurricane Katrina has also thrown the spotlight on the dangers of inadequate governance to manage risk. What was notable in the case of New Orleans was that the science was already well-understood, but both anticipatory and reactionary responses failed miserably. As a 2001 article in Scientific American put it, "New Orleans is a disaster waiting

to happen” (Fischetti 2001). In this respect, the New Orleans disaster reflects a larger picture that is visible at a global scale. Despite warnings of the grave consequences of environmental change that have come from the Intergovernmental Panel on

Climate Change (IPCC), the Millenium E Assessment, and the world’s leading scier academies, there is still insufficient effort to addressing these environmental proble a meaningful way. Moreover, there has be

Box 2 “Disaster is seldom gender neutral.”

Hurricanes do not have equal consequences for everyone. Race, class, and age were highlighted as factors that influenced vulnerability to Hurricane Katrina in New Orleans. However, gender presents another dimension of vulnerability to environmental change – one that was rarely discussed in the aftermath of Hurricane Katrina. As Joni Seager pointed out in an editorial published in the Chicago Tribune (Seager 2005), there is a close relationship between gender and poverty: “everywhere in the world women are the poorest of the poor. In New Orleans, a city with a poverty rate higher than the national average, 15% of all families live below the official poverty line; 41% of female-headed households with children fall below this line. People in poverty are the least likely to have access to good information ahead of disaster, the least likely to have a place they can go to and stay for days or weeks, and the least likely to have the means to leave. In the days ahead of the storm a lot of people did get out of New Orleans, almost all of them by car. Poverty combines with ideologies about gender to produce a metric of deep disadvantage in terms of mobility.”

“International disaster and refugee agencies have been profoundly influenced by feminist insights into the importance of the gender dynamics of disaster. From Oxfam to the UN High Commission on Refugees, experts now routinely incorporate the understanding that disasters magnify gender disadvantage, that women and their children have specific post-disaster recovery needs, and that preparations for gender-specific emergency intervention and recovery are integral to disaster planning. This knowledge appears to have entirely bypassed American commentators, planners and media.” The gender dimensions of human security represent an important aspect of global environmental change, yet one that is also seldom adequately captured in traditional impact studies.



Source: Kerala Monitor.

“What made this one of the largest disasters in recent U.S. history was not only the development decisions and consequent land use changes, but also the existing socioeconomic inequalities in the Mississippi Delta region.”

consideration of the real reason why mental change matters—namely because it will increasingly affect human security.

Policy that embraces social and ecological and prioritizes human security is key. This governance, however, was absent in the New Orleans. In fact, while the vulnerability to hurricanes was known, little was done to mitigate this vulnerability in advance. The land use changes that increased both exposure and vulnerability to the hurricane were not adequately addressed. Proposed solutions involved a massive program of southern Louisiana that would have involved reclamation of wetlands and marshes, at a price tag of USD 14 billion (Fischetti 2001). However, the socioeconomic factors addressed, such as extreme poverty and lack of access to education, which restricted the capacity of the population to respond to the hurricane. Hurricane Katrina thus exposed the failings of federal and state governance in terms of the lack of action on the defenses against the flooding of New Orleans and the inability to address social aspects of vulnerability in New Orleans.

The institutional and technological systems for responding to disasters—assumed to be so advanced in the United States—were also shown to be embarrassingly inadequate. It was clear to the American public that as the evacuation proceeded and the storm gathered, law and order—already tenuous in parts of New Orleans—were collapsing rapidly. In the first instance, one must ask why so little was done to stabilize the area given that the federal government has clear legal authority to intervene when law and order has failed within a city or state, even if they have not been requested. The foot dragging was perhaps because the relationship between North and South and black and white has a long and complex history in the United States. The White House was criticized for appearing more concerned about how various courses of action involving the use of force might affect Southern perceptions of its party than it was about saving lives and reducing suffering. In other words, disaster response plans were not decoupled from political considerations, a fact that slowed things down at a time when speed was essential. Again, this reflects a larger picture, where measures

to address global environmental change have not been decoupled from political considerations.

Other failures in risk management were highlighted by Katrina. Since the September 11 attacks, the Federal Emergency Management Agency (FEMA), the agency responsible for managing natural disasters in the United States, was placed under the mandate of the Department of Homeland Security (DHS). A number of commentators warned that this was “very dangerous and troubling” for emergency management, as it also involved shifting attention and resources away from natural disaster management towards fighting the war on terrorism (Wisner 2004, p.192). While the DHS vision of homeland security based on preserving freedoms, protecting America, and securing the homeland sounds right, its approach—focusing on external agents as a cause of disaster—has been proved to be inadequate. Ironically, it seems that responses to the security risk posed by terrorism have inadvertently heightened people’s insecurity to natural disasters (Ellemor and Barnett 2005).

In short, Hurricane Katrina has raised some very important questions about the state of our collective responses to global-scale environmental change. If environmental change continues to be dealt with as an issue for science rather than society to deal with, and as a long-term problem rather than an immediate challenge, then it is likely that the “disasters waiting to happen” will occur again and again, and with increasing costs. However, if environmental change is treated as a priority that is closely linked to many other contemporary issues and challenges, and as an issue relevant to human security, then disasters like Hurricane Katrina can be averted. Although the lessons from Hurricane Katrina are not new, they ring louder with each new disaster, and eventually they must be heard.

Contributors

Karen O'Brien is Chair of the Global Environmental Change and Human Security (GECHS) Project and an Associate Professor in the Department of Sociology and Human Geography at the University of Oslo, Norway.

Joni Barnett is an Australian Research Council Fellow based at the School of Anthropology, Geography, and Environmental Studies at the University of Melbourne.

Indra De Soysa is an Associate Professor with the Department of Sociology and Political Science at the Norwegian University of Science and Technology in Trondheim, Norway.

Richard Matthew is an Associate Professor of International and Environmental Politics in the Schools of Social Ecology and Social Science at the University of California at Irvine (UCI). He is the Director of the Center for Unconventional Security at UCI.

Lyla Metha is a Research Fellow with the Environment team at the Institute of Development Studies at the University of Sussex in the United Kingdom.

Joni Seager is Dean of the Faculty of Environmental Studies at York University in Toronto, Canada.

Maureen Woodrow is the Executive Officer for the GECHS Project and a sociologist who works in the area of coastal community adaptations following resource loss.

Hans Georg Bohle is Professor and Chair of the Department of Geography and Development Geography at the University of Bonn, Germany.

5
Hughes, T., Folke, C., Carpenter, S. and J. 2005. 'Social-Ecological Resilience to disasters', *Science* 309 (12 August): 1036-

and Barnett, J. 2005. "National Security Agency Management After September 11". *Journal of Mass Emergencies and Disasters*.

1. 2001. Drowning New Orleans. *Scientific October*:77-85.

99. Global Environmental Change and Security. GECHS Science Plan, IHDP: Bonn.

. Robin and Karen O'Brien. Forthcoming. *Disasters: Global Environmental Change in Globalization*. Oxford University Press (to be published in 2006).

Lomborg, B. (editor). 2005. *Global Crises, Global Solutions*. Cambridge: Cambridge University Press.
Mehta, L., Leach, M. and Scoones, I. 2001.

Environmental Governance in an Uncertain World. *IDS Bulletin* 32(4).

Norris, F. H. 2005. Range, Magnitude, and Duration of the Effects of Disasters on Mental Health: Review Update 20 (<http://www.redmh.org/research/general/effects.html>.)

Seager, J. 2005. "Natural disasters expose gender divides." Editorial in *Chicago Tribune*, September 14, 2005. <http://www.chicagotribune.com/features/printedition/chi-0509140325sep14,1,4508255.story>

Wisner, B. 2004. "Assessment of Capability and Vulnerability." Pp. 183-193 in *Mapping Vulnerability: Disasters, Development and People* edited by Greg Bankoff, Georg Frerks, and Dorothea Hillhorst. London: Earthscan.

a publications of the GECHS project. Issues are available on the GECHS website and the project office.

Global Environmental Change and Human Security (GECHS) project is a core project of the International Dimensions Programme on the Global Environmental Change (IHDP). The main goal of the GECHS project is to advance interdisciplinary, international research and policy efforts on the human security and environmental change. The GECHS project promotes collaborative and interdisciplinary research, and encourages new methodological approaches.

The GECHS project involves activities including research projects, workshops, training activities, publications and policy briefings.

Interested individuals should contact the project office for further information.

GECHS International Project Office
Karen O'Brien (Chair)
Department of Sociology and Human Geography
University of Oslo
P.O. Box 1096 Blindern
0317 Oslo, Norway

Phone: +47 22 85 52 57
Fax: +47 22 85 52 53
E-mail: info@gechs.org
www.gechs.org
