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Hurricane Katrina Reveals Challenges to 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

“Hurricane Katrina reinforced many key lessons about the nature of environmental change.”

held belief that of all the policy challenges facing governments, addressing environmental issues 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 has reminded the developed countries of the world that environmental change is not an issue that is “out there” and can be addressed some time in an ambiguous future. Nor is it an issue that can be detached from other processes of social, economic, or institutional change. Katrina showed that environmental change is first and foremost an issue of human security: over one thousand

Box 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, shame, 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 reactions 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). Since the victims of disasters often have limited access to health care, counselling and other services, 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.

lives were lost, and nearly 1 million people required emergency aid to meet their basic needs, including food and water. The number of displaced individuals has been estimated at over 1.3 million—exceeding the number displaced during the Dust Bowl of the 1930s. Recovery from the disaster, whose cost has been estimated at USD 200 billion, will take years. Many, however, may never recover their sense of security.

Until environmental changes are framed and addressed 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 redressing the social processes that make people



Source: Kerala Monitor.

or new insights. In fact, they have been revealed again and again in countries throughout the world that are facing multiple and linked consequences of global environmental change and other processes of change; whether in relation to the loss of mangroves that buffer coastal communities from tsunamis and 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 on women and children in Bangladesh. The lessons emphasize that environmental change is not merely 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 well 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 a global 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 urban poor vulnerable to Hurricane Katrina. The cost of this wealth creation was the (now realized) risk that an extreme weather event could become one of the worst social, economic, and infrastructural catastrophes in U.S. history.

Hurricane Katrina has shown that coastal areas are indeed highly vulnerable to extreme events due to rapid environmental and social change. About half the world's population (i.e., three billion people) live within 200 kilometers of a coastline and by 2025 the

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

population 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 increasing population, pollution, industrial activity, shoreline changes, habitat loss, over fishing, and invasive species have severely degraded the coastal environment. As both the Asian tsunami and Hurricane Katrina have shown, such degradation decreases the resilience of coastal social-ecological systems so that extreme events have more damaging outcomes (Adger et al. 2005). One of the challenges for policy is to balance the economic benefits of development in the coastal regions with environmental protection, so that the security of the people living in these areas is not undermined.

Urban agglomerations are also places where environmental change is intense and rapid. More than half of the world’s population now lives in cities, many of them in slums and ghettos in marginal or high-risk areas. Their health, security and livelihoods are exposed to multiple environmental and social threats. However, unlike destitute urban slum dwellers in the megacities of the global South, the vulnerabilities of poor urban residents in rich countries like the United States are not so easy to detect in normal times. When a disaster like Hurricane Katrina hits, rather invisible vulnerabilities become suddenly exposed. Katrina also revealed to a larger audience expressions of violence and crime that, across the United States, are usually well hidden. As disturbing as the images of public looting and violence were to the broader public, this violence was more familiar to residents of the poorer sections of New Orleans than the city’s steady stream of tourists might imagine. In short, Katrina revealed that reinforcing processes of poverty, 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 not merely 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 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 Ecosystem Assessment, and the world’s leading scientific academies, there is still insufficient effort devoted to addressing these environmental problems in a meaningful way. Moreover, there has been far

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.”

too little consideration of the real reason why environmental change matters—namely because it does and will increasingly affect human security.

Governance that embraces social and ecological risks and prioritizes human security is key. This type of governance, however, was absent in the case of New Orleans. In fact, while the vulnerability of the city to hurricanes was known, little was done to mitigate this vulnerability in advance. The landscape changes that increased both exposure and vulnerability to the hurricane were not adequately addressed. Proposed solutions involved a massive reengineering of southern Louisiana that would have involved reclamation of wetlands and marshes, with a price tag of USD 14 billion (Fischetti 2001). Nor were the socioeconomic factors addressed, including extreme poverty and lack of access to transportation, which restricted the capacity of many people to respond to the hurricane. Hurricane Katrina thus exposed the failings of federal and local governance in terms of the lack of action on bolstering 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.

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GECHS

The 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 in the area of human security and environmental change. The GECHS project promotes collaborative and participatory research, and encourages new methodological approaches.

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

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