

Vulnerability, New Orleans, and All That Jazz

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After its rampage, Hurricane Katrina left many questions about the future of New Orleans. Important among these questions is, what will happen to the city's most vulnerable inhabitants—the poor, the weak, the forgotten? Will the recovery process treat them fairly, providing them equitable access to resources? Or will the least vulnerable—the rich, the powerful, those at the center of attention—quickly grab those resources, leaving the vulnerable to fend for themselves? This essay explores the issues of vulnerability in New Orleans.

The concept of vulnerability means many things to many people, but most agree that it entails the likelihood of harm to people and to the places or things they value by a hazardous event, such as a hurricane or the floods spawned by that hurricane. Although agreement breaks down after that point, experts accept some representations of vulnerability more than others. This essay will use the commonly accepted description of vulnerability as a function of three components: exposure, sensitivity, and adaptive capacity. *Exposure* is the degree to which people and the places or things they value are open to a potentially harmful event; *sensitivity* is the degree to which they are harmed by that exposure; and *adaptive capacity* is the degree to which they can mitigate the potential for harm by taking action to reduce exposure or sensitivity. The expression *places or things they value* not only refers to economic value and wealth, but also to cultural, spiritual, and personal values. In addition, this expression refers to critical physical and social infrastructure, including such physical infrastructure as police,

emergency, and health services, communication and transportation networks, public utilities, and schools and daycare centers, and such social infrastructure as extended families, neighborhood watch groups, fraternal organizations, and more. The expression even refers to such factors as level of urbanization, economic growth rates, and economic vitality. People value some places and things for intrinsic reasons and some because they need them to function successfully in our society.

Some people and the places or things they value can be highly vulnerable to low-impact events because of high sensitivity or low adaptive capacity, while others can have little vulnerability to even high-impact events because of insensitivity or high adaptive capacity. One hazardous event may result in varying patterns of harm because of these variations in vulnerability.

Some groups of people are inherently more vulnerable to hazardous events than others. The very old or very young, the sick, and the physically or mentally challenged are vulnerable. Disadvantaged groups, such as minorities, poorly educated, or non-English speakers, are more vulnerable than the majority, English-speaking population. Women, who typically spend more time and effort on caregiving to parents, children, and the sick than men do, are more vulnerable because that caregiving leaves them in harm's way longer. Certain particularly vulnerable groups combine these categories, such as the poor—who can be old, minority, non-English speaking, and female, for example. Another example is the single-mother household, which can be headed by a poor woman of color who is responsible not only for caregiving, but also for providing the family income.

Katrina's impacts on New Orleans revealed a complex picture of vulnerability. In principle, everybody who lived in the city before Katrina struck was in some way vulnerable to a big hurricane through simple physical exposure. Yet, the level of vulnerability varied dramatically from person to person, family to family, and neighborhood to neighborhood. It is true that some people were more vulnerable because their exposure—some experts would say their *physical vulnerability*—was greater than that of other people. But what was more striking after the event was the disparity in *social vulnerability*—the social factors that affect the sensitivity of people to harm and their capacity to respond and adapt—uncovered by Katrina. Far and away the most vulnerable portions of New Orleans were those areas dominated by poor blacks. These citizens' socioeconomic position meant that they had far less access to communication and transportation networks during the onset of the disaster, thereby leaving large numbers abandoned to their fate in the city. In contrast, the relatively wealthy white population tended to have fewer limitations and easily evacuated before the waters came rushing in. During recovery, poor blacks had (and continue to have) less access to police, emergency, and health services, to public utilities, and to schools and daycare centers. They also have less access to government services that can speed the recovery and reconstruction efforts. It is likely that the poorest, most vulnerable people of New Orleans will be the last to recover, will have the least capacity to adapt and reduce their future exposure and sensitivity, and therefore will continue to be the most vulnerable.

Understanding vulnerability thus makes it possible to ask tough questions about the equity and justice of the recovery and reconstruction of New Orleans. To reduce the physical vulnerability of the poorest homeowners, if they can afford to rebuild, should

they be allowed to do so in low-lying areas that are sure to be flooded again sometime in the future? If they were allowed to rebuild in these areas, should the rebuilding efforts account for the physical reality of New Orleans and require them to elevate their houses? If they rebuild and disaster-resistant building materials and techniques drive the cost of rebuilding beyond the means of poorer homeowners, should society pick up the additional costs of building stronger, safer homes?

Equally difficult questions surround social vulnerability. Since the key to reducing vulnerability in New Orleans is to raise the socioeconomic standard of vulnerable people, should society invest in job creation, better schools, public transport, and affordable housing? For equity and justice, should the size of these investments be directly related to the vulnerability of a neighborhood (i.e., the most vulnerable neighborhoods should receive the most financial assistance)?

On the one hand, not accounting for vulnerability during recovery and reconstruction of New Orleans will lead to neighborhoods that are as vulnerable or even more vulnerable to flooding in the future. It will perpetuate environmental injustice and festering inequities in the socioeconomic structure of the city. On the other hand, reducing vulnerability will entail enormous financial costs to the city, the state, and the nation, with no guarantee that vulnerability reduction will work until the next Katrina blows through New Orleans.

The time has come to make decisions on vulnerability reduction in New Orleans. In the past, such choices have ended up focusing on reducing physical vulnerability because Americans prefer solving problems using physical engineering rather than socioeconomic engineering. It is clear, however, that to address vulnerability holistically, it is necessary

to reduce social vulnerability, too.

Reducing social vulnerability requires an interdisciplinary approach. From the above, it is evident that such an approach includes not only the physical sciences, but also the social sciences *and* the humanities. Unless society addresses questions of equity and justice, then today's most vulnerable people and places will remain the most vulnerable into the future.