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## **At Risk: Natural Hazards, People's Vulnerability, and Disasters**

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## Abstract

Presently in its second edition, "At Risk" stands as a primary text in risk and vulnerability studies. The authors focus on the political and economic causes of disaster, arguing that vulnerability is at the foundation of risks and recovery practices. Through focusing on natural hazards, such as floods, earthquakes, and volcanoes, "At Risk" demonstrates how social groups with little economic or political power are the most at risk during times of disaster. The author's "Pressure and Release" model for risk and hazard progression is an interesting addition to disaster scholarship.

**KEYWORDS:** Risk, Vulnerability, Natural Hazards, Sustainability, Resource Allocation

**At Risk: Natural Hazards, People's Vulnerability, and Disasters**

Piers Blaikie, Terry Cannon, Ian Davis, and Ben Wisner

New York, NY: Routledge, 2004, 2<sup>nd</sup> Edition, 464 pp

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In a very interesting style, Piers Blaikie and colleagues approach the study of disaster from the risk and vulnerability perspective. Inherent to their claims in *At Risk* is the contention that social vulnerability and multifarious forms of risk are the root cause of disasters. Turning away from a strict agent-specific approach espoused by scholars in disciplines like geography and engineering, the authors in *At Risk* reinforce a more sociological approach to disasters: risk + vulnerability = disaster. The authors pick a rather interesting cover picture for their text depicting "The Great Wave" wood block print by Japanese artist, Katsushika Hokusai. From the cover's depiction, the authors in *At Risk* contend that Hokusai's work best represents how disasters are formed. In Hokusai's "The Great Wave," a fishing vessel is in the process of being smashed by a large wave with the volcano of Mount Fuji in the background. Blaikie, et. al., argue that hazards, vulnerability, and risk are all uniquely intertwined in the development of death and destruction from disasters. These factors affect, and in turn are affected by, a society's capacity to cope (social resilience) tempered by culture. It is against this conceptual fabric that the authors set out to prove the notion that vulnerability and risk best demonstrate a more valid approach to disaster research vis à vis the agent specific approach. The holistic and humanistic perspective of Blaikie and his colleagues is apparent. In the 1994 preface of *At Risk*, the authors claim to reassert that appropriate disaster mitigation is best realized from the potential that humans have to unite, to persevere, to understand what effects them, and to take common action (*At Risk*, 1994, p. xvii).

To provide a more detailed exploration of their central thesis, the authors set out to describe their conceptual framework and theory in part I of *At Risk*. With an initial focus on LDCs (less developed countries), Blaikie and colleagues contend that violent conflict, illness, and hunger lead to more loss of life than earthquakes, epidemics, or famine. It is from this initial praxis on page three that

the authors establish their social causation paradigm for disaster development. Principal to the central argument of *At Risk* is the premise that vulnerability to hazards can be part of one's normal existence in everyday life. It is the vulnerability to hazards that manifests societal risk to disaster. Defined by the authors, vulnerability refers to the "characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard" (p.11). Blaikie et al. point to various social factors that can lead to vulnerability. Chiefly among these factors are economic imbalances, disparity in power among social groups, knowledge dissemination, and discrimination in welfare and social protection (pg. 5). The authors demonstrate that people most often live in physical areas of hazard that is commensurate with their economic stability. In other words, some societal work opportunities may be present only in areas of high hazard and risk. Often agrarian-based jobs place workers in living conditions that produce a more significant level of risk to natural hazards than to city-dwellers in more expensive neighborhoods. Thus, the variety of land and space for work and habitation provide varying degrees of opportunity and risk of hazard.

The authors argue that factors such as race, class, gender, and ethnicity all affect social susceptibility to hazards. Social groups on the lower end of a fixed economic level are typically more at risk to natural hazards such as earthquakes, landslides, and the like. Resources that are available for hazard prevention may only be accessible to those social groups capable of exerting more political and economic influence. This premise is somewhat valid in non-natural hazard experiences. For example, lower-income people in urban housing projects may experience a greater risk to violent crime than families that live in more affluent neighborhoods. For Blaikie and other researchers, hazard vulnerability is determined by social influences and power and not by the forces of nature. For some, however, risk and hazard potentialities are presented in personal choice. California has a high degree of wildfire hazard, yet many high-income persons still choose to live in forested areas susceptible to wildfire risk.

*At Risk* argues that the social, political, and economic factors contributing to vulnerability and risk are often difficult to address. Such concerns can raise issue with conceptions of power stability and equality. As a result, it is argued that power-elites would rather choose to focus on the natural or technological aspects of hazards than on issues such as social vulnerability or inequality. In this sense, Blaikie's text manifests a premise more in alignment with traditional concepts of power theory and decision-making found in the political science and public administration literature.

Blaikie et al. recognize that vulnerability to hazards and risk not only affect one's ability to cope with a disaster, but also affect a person's means for mitigation (pre-disaster event) and recovery (post-disaster event). It is possible to realize the concepts described in *At Risk* within a reformed version of the Integrated Emergency Management System Model. If social vulnerability creates hazard and risk emanation, then mitigative measures and improved recovery efforts aimed at vulnerability should help minimize loss. Yet, here is the political paradox: mitigation can imply a present problem in the hazard control system with some social groups more susceptible than others to particular risks from hazards. Such efforts in hazard mitigation can uncover sensitive social issues placing power-elites and other influential stakeholders in difficult political circumstances.

The authors employ their study of risk and vulnerability around the formula identified in chapter 2 of *At Risk*: Risk (Disaster) = Hazard + Vulnerability. This formula represents the author's view that disaster risk is directly affected by the hazard produced and the degree of hazard vulnerability experienced by exposed persons in a particular period of time and space. This generic formula,  $R = H + V$ , is certainly not new and actually finds its origins in risk analysis and safety engineering studies of frequency and severity exposure to risks.

From this central premise, Blaikie and his colleagues explore their conceptual framework of vulnerability analysis through the Disaster Pressure and Release Model and the Access Model. According to the authors of *At Risk*, natural hazards on one side of the Pressure and Release (PAR) Model put pressure on people and resources that are vulnerable. On the other side of the PAR model, root causes, dynamic pressures, and unsafe conditions also apply pressure to those in vulnerability. The authors argue that root causes, such as limited access to power and resources, manifest a progression in vulnerability through dynamic pressures like inadequacies in training, local institutional systems, or ethical standards in government. Blaikie et al. further contend that these dynamic pressures produce unsafe conditions in the physical and social environments of those persons and groups most susceptible to vulnerability to risk. Physically unsafe conditions include dangerous locations and unprotected buildings. Socially unsafe conditions include risks to local economies, inadequacies in disaster preparedness measures, and the like.

In the root cause phase of the PAR model, the most important root causes are those which have an economic, demographic, or a political foundation. Such foundations affect society's social, financial, and political systems influencing

public policy and government administration. In essence, root causes can portray how power is disseminated across social groups and within the body politic. Consequently, Blaikie et al. explain that those at low economic levels tend to have less power over their sociopolitical and physical environs than the well-to-do. As a result of this disparity, risk vulnerability is greater for them.

Dynamic pressures channel root causes within the PAR model. Epidemics, rapid urbanization, and current states of war are examples of the dynamic pressures identified in *At Risk*. In the “unsafe condition” phase of the PAR model, Blaikie and his colleagues explain that physical factors, as well as human action or inaction, can create unsafe conditions. In the PAR model, pressure can be released on those vulnerable to risk by decreasing or eliminating the various root causes, dynamic forces, and/or unsafe conditions present.

The Access Model explained in *At Risk* is an expanded analysis of the factors presented in the PAR model. The Access Model is intended to help one understand just how these various forces identified in the PAR model can influence the daily lives of those persons and groups most affected by disaster risks and vulnerability. According to the Access Model, hazards and risk have specific characteristics of time and space which may trigger a disastrous event such as a tsunami. Against this backdrop of risk, people conduct their daily lives and are also affected by the sociopolitical environment in which they live. A trigger event, like a tsunami, impacts not just the personal lives of victims, but also sociopolitical and legal structures. The intensity and degree of the disastrous impact can affect different social groups and institutions in various ways with the most vulnerable social groups and institutions being the most at risk for disruption. In this sense, the construct of the Access Model could be visualized as akin to the “Zone-of-Danger” theory embedded in American tort law jurisprudence. Thus, the farther a social group is outside of the zone of danger (produced by risk and vulnerability), the more stable they are pre- and post-disaster. The central premise behind the Access Model is that risk and vulnerability of social groups can be minimized by identifying the intervention points through which enhancements in the allocation of additional assets and resources can be made.

Part II of *At Risk* applies the PAR and Access models to specific types of natural hazards ranging from famines and biological hazards to floods, earthquakes, and volcanoes. Of particular interest is chapter 8 which analyzes the progression of vulnerability in the Kobe and Gujarat earthquakes and Montserrat volcanic eruptions. In part III, *At Risk* ends the risk and vulnerability analysis by identifying seven objectives of risk reduction: (1) *communicate* understanding of

vulnerability; (2) *analyze* vulnerability; (3) focus of *reversing* the PAR Model; (4) emphasize *sustainable development*; (5) *improve* livelihoods; (6) *add* recovery; and (7) *extend* to culture (i.e. build a safety culture).

*At Risk* presents an interesting argument about how disasters can affect those groups most vulnerable to associated risks and hazards. Building upon the strengths of their previous edition, the authors produce a viable alternative to the more traditional agent-specific approach to disasters and emergency management.