Vulnerability and Resilience in Natural Disasters: A Marketing and Public Policy Perspective

Stacey Menzel Baker

This essay addresses how the definitions of disaster and vulnerability serve as guides for market and policy responses and shows how a fundamental lack of understanding of what creates a disaster and what constitutes human (and consumer) vulnerability constrains the ability of individuals, communities, and institutions to mitigate and/or recover from natural hazards and the responses that follow. The essay outlines the current state of affairs on conceptualizations of disaster and vulnerability, distinguishes between risk and vulnerability, and notes ten paradoxes of disaster that create constraints on resilience. Fundamentally, the perspective taken here is that disaster is socially constructed and that vulnerability is a dynamic process that depends on a host of contextual factors. The essay shows that sustainable models of economic, social, and environmental development are at the heart of disaster and vulnerability analysis. Furthermore, it argues that market and policy responses must consider both the resource deficits and adaptive capacities of disaster survivors and the characteristics of the environments in which they live to cocreate opportunities for resilience.

Keywords: consumer welfare, disaster, vulnerability, risk, resilience, sustainability, vulnerable consumers

In December 1989, after considering the social, economic, and environmental costs of natural disasters, the General Assembly of the United Nations declared the 1990s as the "International Decade for Natural Disaster Reduction" (IDNDR). Although world leaders asserted that "fatalism about natural disasters is no longer justified" (United Nations 1989, p. 1), the declaration did not preclude natural and social forces from rendering further devastation. A 1995 earthquake in Kobe, Japan, left 310,000 people homeless (Begley 1995) and, at that time, registered the highest-ever costs for a natural disaster (US$110 to US$150 billion) (Hewitt 1997). In 2005, Hurricane Katrina hit the Gulf States in the United States and was the most costly and destructive natural disaster in U.S. history (Federal Emergency Management Agency [FEMA] 2006). Although both Japan and the United States are recognized leaders in the science of natural disasters and business, criticisms of ineffective preparedness and response to these disasters proliferated. Furthermore, these are not isolated events. Earthquakes in China; volcanoes in Peru; tsunamis in southeast Asia; droughts and famine across Africa; and hurricanes, floods, and tornados in the United States are sometimes interpreted as destroying or affecting everyday human and material life; at other times, they are interpreted as part and parcel of daily life. Regardless of the temporal horizon, the social, economic, and environmental costs of disaster are significant.

From 1997 to 2006, 268 million people per year on average were affected by natural disasters, meaning that approximately 2.7 billion global citizens were in some way affected by natural disasters in one decade (International Federation of Red Cross and Red Crescent Societies 2007). During that period, 3670 natural hazard events were reported, approximately 1.2 million people were killed, and economic impacts around the world were estimated to be US$800 billion. These figures represent a significant increase from the previous decade (1987–1996); the number of people affected increased by 17%, the number of disasters grew by 60%, deaths doubled, and cost of the damage increased by 12% in 2006 prices (International Federation of Red Cross and Red Crescent Societies 2007). Thus, on balance, the United Nation's IDNDR might be viewed as a failure. Its approach was based on the state-of-the-art in disaster thinking at the time, which did not conceive of a role for markets or marketing or employ the theory and practice of marketing to understand the causes of disasters in magnitude or in event.

Some marketing scholars might ask why the discipline should care about or be involved in disaster studies or what disaster has to do with marketing. Regardless of whether marketing is understood as a management function, a societal process, or both (see Andreasen 2005; Shultz 2007; Webster 2005; Wilkie and Moore 1999, 2003), disaster research begs involvement from marketing scholars. As a function, marketing is fundamentally concerned with needs assessment and fulfillment and with the efficient distribution of resources. The dialogue on disaster recovery reveals that underfulfillment of needs and insufficient resource dis-

Stacey Menzel Baker is Associate Professor of Marketing & Sustainable Business Practices, College of Business, University of Wyoming (e-mail: smbaker@uwyo.edu). The author thanks Jim Gentry and Ron Hill for their inspiration to pursue research on consumption constraints and Eric Arnould and John Mittelstaedt for their insights at various stages of this essay.

ISSN: 0743-9156 (print), 1547-7207 (electronic)

tribution are common grievances and sources of real or perceived injustice. The view of markets and marketing as social processes recognizes market interactions and other forms of consumption as dominant modes of human action (Arnould 2007; Baker 2006; Sen 1999). Arnould (2007, p. 105) argues that "successful, progressive practices of citizenship 'should' take place through market-mediated forms in our culture because these are the templates for action and understanding available to most people." In the case of disasters, markets provide solutions to the real problems of survivors' everyday lives (i.e., markets are the provisioning system for food, clothing, shelter, work clothing, toys, recreational equipment, and so on). Furthermore, markets and access to resources are the means by which disaster survivors might achieve a higher state of existence (Manfredo and Shultz 2007; Sen 1999).

Other readers (e.g., policy makers, disaster scholars) might wonder what marketing scholars could offer to disaster scholarship. To be sure, in general, the public opinion of marketers is low if marketing is viewed solely as an organizational function that manipulates, manages, and controls people (Arnould 2007; Mick 2007). However, many marketing scholars argue that marketing should be understood as more than invasive practices manipulating passive dupes into engaging in behaviors in which they would not otherwise engage were it not for marketing's influence. Marketing can be understood (1) as a form of "constructive engagement" in which societal processes provide market "solutions in relation to the welfare of the stakeholders of a marketing system or systems over time" (Shultz 2007, p. 294), (2) as having a goal of serving "the common good" (Mick 2007, p. 291), and (3) as a form of deliberative democracy in which multiple stakeholders are engaged in decision-making processes (Ozanne, Corus, and Saatcioglu 2009; Santos and Laczniak 2009).

One problem is that, socially, disasters and market functions are defined in different spheres, limiting abilities to imagine the potentially positive role of markets and marketing in the assessment and fulfillment of human needs in times of disasters. Problems that are not fully defined cannot be solved, and solutions that are not imagined cannot be implemented. The forms of thinking that led to the IDNDR created a conceptual constraint on its ability to achieve its objectives. The aim of the current essay is to stimulate a conversation among scholars on how the marketing and consumer research literature can contribute to discussions on disaster, and vise versa. If marketing is to make a contribution to disaster preparedness and response, it needs to understand how disaster science views the world, and disaster science needs to understand marketing's contributions to its worldview.

Though by no means the only lens through which disasters may be explored, the focus here is on how definitions of disaster and vulnerability may constrain the resilience of consumers and the communities in which they live. The essay begins by examining alternative definitions of disaster and then moves to a discussion on how a vulnerability framework contributes to an understanding of humans in disaster situations. The essay concludes with a discussion of several paradoxes of disaster, which provide insight into the factors that constrain the resilience of impacted groups and offer several opportunities for further research to interested scholars.

Understanding Disaster and the Role of Consumption

In the social sciences, systematic studies of disaster began shortly after World War II (Quarantelli 2005). Different types of disaster research are distinguished by catalytic agents: technological, terrorism/war, natural. Regardless of type, in general, disasters are recognized as unique in that they affect a collective (as opposed to an individual or a family) and that losses exceed the capacity of a community to absorb or resist them (Cardona 2004). In other words, the affected collective is dependent on external resources to recover.

Alternative Approaches to Defining Disaster

Scholars in anthropology, geography, economics, sociology, psychology, public health, and business all contribute to the literature on natural disasters. Though not necessarily a negative factor, a consistent definition of disaster is not evident in this literature. At least three approaches to defining disaster are evident (Perry 2007; Perry and Quarantelli 2005):

1. Disasters can be viewed as being created by a hazardous fleeting event (e.g., tornado, hurricane, earthquake) that disrupts routines (Davies 2002). The policy response in this case focuses on getting a community back to "normal," but normal may not be good for all community members (e.g., the status quo could be poverty). This is the dominant paradigm in disaster research in general (Fordham 2004) and mental health responses in particular (see Myers and Wee 2005). In this case, public officials and politicians prioritize perceived vulnerability to determine how resources should flow (Hilhorst 2004).
2. Geographers and geophysical scientists tend to define disasters as equivalent to natural hazards (e.g., firestorms, tsunamis). According to this perspective, policy should be focused on controlling natural events by preparing for and mitigating potential damages (Perry 2007). Policy responses requiring early warning systems, designated emergency shelters, and so forth, are consistent with this definition of disaster.
3. Disasters can be defined as a social phenomenon, such that disaster is socially constructed and rooted in the social structure of the community affected by a natural hazard (Quarantelli 2005). In this case, the policy response to a natural hazard does not focus on returning a community back to normal but instead uses the natural hazard event as an opportunity to create social change within a community.

These definitions are not and need not be mutually exclusive, but the definition is important because how disaster is defined affects how and to whom resources for recovery are allocated (Perry 2007). If disaster is viewed as a social process, recovery may be assigned to the local community, whereas if disaster is construed as a natural event to be managed, control of resources may be bequeathed to a state or national government. It appears that much of the dissatisfaction from the response to natural hazards flows from different definitions of disaster that operate among different social groups. Many people believe that governments should protect them from risk of disaster (Quarantelli, Lagadec, and Boin 2007), perhaps because some people believe that nature can be controlled and managed. However, when disaster is defined as a hazard, this allows members of all stakeholder groups to remain blameless for social inequalities and unequal distribution of resources because problems can be blamed on nature (Bankoff 2001; Harwell 2000).

The Role of Markets and Consumption

Disasters affect every aspect of life—biological, environmental, social, and economic/material (Hoffman and Oliver-Smith 1999)—and since ancient times, markets have been symbiotic with religious, social, civic, and commercial aspects of life (Mittelstaedt, Kilbourne, and Mittelstaedt 2006). Notably absent from the alternative definitions of disaster outlined previously is the role of markets, consumption, and economic/material aspects of life. For example, the major participants in the four-phase model of disaster management (mitigation, preparedness, response, and recovery) are government, media, and nongovernmental organizations. Guion, Scammon, and Borders (2007) note how the current approach leaves out the voice of the consumer. This approach also leaves out the voice of marketers who try to provide solutions to problems in consumers' lives (e.g., mitigating risk, reducing vulnerability).

Prominent disaster researchers explicitly recognize that disaster occurs at the intersection of natural and social phenomenon (Oliver-Smith 2004; Wisner et al. 2004), but they only implicitly recognize that disasters are also material and economic. For example, Oliver-Smith (2004, p. 16) theorizes that disaster occurs at the intersection of the natural environment and social structures:

> Cultural values can complicate the relationship [between natural and social phenomenon], convincing the wealthy that it is safe to live on hurricane coasts and on fault lines with spectacular views;… insurance also buffers loss and induces people to occupy risky places. But both the wealthy and the poor are implicated in the construction of vulnerability. The wealthy, through their excessive consumption,… [and] the majority poor, through their desperate, and sometimes inappropriate, use or overuse of the few resources available to them, both degrade their environments and place themselves in harm's way, largely through the lack of reasonable alternatives for daily survival.

Here, Oliver-Smith notes that both the wealthy and the poor are responsible for and are affected by natural hazards, but he does not also explicitly recognize that disaster occurs at the intersection of the natural environment, social structures, *and* the material/economic world.

In other words, current conceptualizations of disaster do not adequately account for consumer desires or the market mechanisms that provide solutions to consumers' needs and wants, nor do they consider people's right to basic goods and services or their right to participate in a meaningful way in consumption choices. When consumers become dependent on market mechanisms to provide solutions to their problems (Arnould 2007), they rely on a consistent availability of the goods and services necessary for survival, self-determination, and dignity; that is, they rely on markets to provide them with consumption adequacy (Hill 2002, 2005). In many parts of the world, consumers also rely on material possessions as an expression of their identities (Belk 1988). A marketing and public policy definition of disaster and response to disaster must explicitly recognize the interrelationship among natural, social, and material/economic phenomena. A conceptual tool that makes that complex relationship explicit is the notion of vulnerability, the focus of the next section of the essay.

Vulnerability, Risk, and Material Resources

"Vulnerability is the conceptual nexus that links the relationship that people have with their environment to social forces and institutions and the cultural values that sustain or contest them" (Oliver-Smith 2004, p. 10). The vulnerability concept has a practical application for marketers who seek constructive engagement with consumers and for public servants who are responsible for distributing goods and services to the affected public. There is recognition within government circles that vulnerability needs to be addressed (Davis 2004; United Nations 1989). At the same time, there is recognition that the concept of vulnerability can become a tool in the struggle for resources (Frerks and Bender 2004) because the definition of vulnerability affects how and to whom resources are allocated.

Alternative Approaches to Defining Vulnerability

As with the definition of disaster, definitions of vulnerability vary widely. Across the social sciences, vulnerability is generally recognized as powerlessness, dependence, and a reduced capacity of individuals, groups, or communities to act in their own best interests (Baker, Gentry, and Rittenburg 2005; Baker, Hunt, and Rittenburg 2007; Cardona 2004; Gentry et al. 1995; Hill 2001). Wisner (2004) outlines four different approaches to vulnerability analysis in disaster. Each approach has implications for policy. First, demographic approaches suggest that vulnerability is a status and that all people within particular social categories (e.g., women, African Americans, the elderly) are vulnerable (e.g., Commuri and Ekici 2008). Although demographic approaches facilitate the identification of who should receive assistance, the premise behind equating vulnerability to demographic groups is fundamentally flawed (Baker, Gentry, and Rittenburg 2005; Bankoff 2001; Cardona 2004; Escobar 1995; Fordham 2004; Wisner 2004). Demographic approaches in vulnerability analysis reduce people to a "homogenized, culturally undifferentiated mass of humanity variously associated with powerlessness, passivity, ignorance, hunger, illiteracy, neediness, oppression and inertia" (Bankoff 2001, p. 23). As Amartya Sen (1999, p. 8), Nobel Prize winner in economics, notes, "It is a terrible burden on people to narrowly define their identities including those firmly based on communities and groups." Narrowly defining an identity and equating that identity to vulnerability limits human potential and marginalizes individuals in those groups.

In general, public policies avoid the gross overgeneralization of equating vulnerability to particular demographic characteristics. For example, the community guidelines for "hazard vulnerability assessment" provided by FEMA make no reference to any particular group as more vulnerable than another (Wisner 2004). To be sure, some groups are considered more "at risk" than others, but vulnerability and risk are not the same thing (an issue that is addressed subsequently). In reality, it is difficult to aggregate vulnerability data because the experience of vulnerability is not homogeneous (Bankoff 2001; Hilhorst and Bankoff 2004). This may be one explanation for the problems associated with articulating the rights of particular groups and may be one explanation for Leonard and Scammon's (2007) finding that pets' rights are more clearly articulated than people's rights in some demographic groups, including the sick, poor, and elderly. Furthermore, some individuals or groups may be omitted in vulnerability analysis based on aggregate data because they are not perceived as vulnerable. For example, Klein and Huang (2007) find that teens' consumer needs were not met after a tsunami, perhaps in part because teens are not a group typically considered vulnerable.

Taxonomic approaches are a second major method of vulnerability analysis. Classification schemes, often based on perceived causal agents, are used to delineate different types of vulnerability, such as physical (e.g., living in a disaster-prone areas), economic (e.g., need for continuous aid), social (e.g., proportion of female-headed households, incidence of tourists in the hazard location), informational (e.g., emergency response training), environmental (e.g., deforestation), or personal (e.g., tourist, renter) (see, e.g., Morrow 1999). Wisner (2004) considers taxonomic approaches an advance over demographic approaches, but still a major weakness is that vulnerability is viewed as a one-dimensional construct, and again there appears to be confusion between the constructs of risk and vulnerability.

A third approach to vulnerability analysis can be labeled as a "situational approach" (Wisner 2004). Scholars using this approach treat vulnerability as a multidimensional concept and as a dynamic process, not a static state as in demographic and taxonomic approaches (Anderson-Berry 2003; Baker, Gentry, and Rittenburg 2005; Baker, Hunt, and Rittenburg 2007; Hilhorst and Bankoff 2004; Wisner et al. 2004). Here, whether vulnerability exists is treated as an empirical question to be determined by examining the nature of the actual situation and the reality of everyday lives (Baker, Gentry, and Rittenburg 2005; Cardona 2004; Wisner 2004). That is, whether vulnerability is experienced depends on the specific hazard (context), the characteristics of the person, and the characteristics of the situation. In this approach, vulnerability is regarded not as a property of groups but rather as an outcome of economic, social, and environmental conditions (Baker, Gentry, and Rittenburg 2005; Hill and Stamey 1990; Hilhorst and Bankoff 2004; Wisner 2004). For example, "it is not female gender itself that marks vulnerability, but gender *in a specific situation*" (Anderson-Berry 2003, p. 16, emphasis in original).

The situational perspective also takes temporal factors into account, by recognizing that vulnerability can be a temporary state (Gentry et al. 1995; Shultz and Holbrook 2009). In other words, scholars in this perspective view vulnerability not as fixed and objective but rather as fluid and socially constructed (Cardona 2004; Morrow 1999; Wisner 2004). For example, community vulnerability after a disaster can be a temporary state. Dynamic processes resulting from relationships in the affected community can facilitate movement away from vulnerability and/or exacerbate vulnerability (Anderson-Berry 2003; Baker, Hunt, and Rittenburg 2007).

The situational perspective moves vulnerability analysis away from checklist approaches (demographic and taxonomic) and provides a more sensitive theoretical tool for the analysis of the powerlessness and dependence of people (Anderson-Berry 2003; Wisner 2004). A major criticism of the situational approach is that findings from one disaster situation lack generalizability to other disaster situations. It is true that the empirical findings from one disaster cannot be equated to another, but frameworks for analysis (e.g., constructs, nomological networks) can be generalized and can provide useful guides for marketers and public policy makers. Furthermore, the same generalizability criticism could be leveled against demographic and taxonomic classifications; they also often fail the generalizability test because there are always situations in which established rules hold and those in which established rules do not hold (Wisner 2004).

The fourth approach to vulnerability analysis in disaster research can be labeled as "contextual and proactive" (Wisner 2004). In this approach, community members define their perceived strengths and weaknesses, and importantly, outsiders do not. Community members also decide what risks they can live with and what risks need to be managed. The philosophy and methods of participatory action research (Ozanne and Saatcioglu 2008) and a deliberative democracy (Ozanne, Corus, and Saatcioglu 2009) are consistent with this approach to vulnerability analysis (see also Viswanathan et al. 2009). The power of this approach is that the voices of underrepresented groups that sometimes fall through the cracks in situational analysis are taken into account. However, the major weakness is that many people will be constrained by a short-term time orientation and everyday life activities that make taking time to engage in self-protection or empowerment-building opportunities difficult (Viswanathan et al. 2009; Wisner 2004).

Each approach to vulnerability analysis has particular strengths and limitations. Currently, it appears that disaster researchers are moving away from demographic and taxonomic analysis and toward situational approaches (Wisner 2004). As social inequalities become more exposed by disaster researchers, it is likely that community-based participatory approaches will be blended with situational approaches. For example, when Hurricane Katrina hit New Orleans in 2005, 30% of the population was living in poverty, and one in three people did not own a car, making them dependent on external factors for protection (Bolin 2007). Thus, the circumstances of the everyday existence of the New Orleans population before the hurricane shaped the perceptions of the response and the security of her citizens. The lessons learned from Katrina and other disasters will likely affect the evolution of the concept of vulnerability and the groups that have the right to define its existence and its solutions.

Vulnerability Versus Risk

As previously noted, risk and vulnerability are conceptually distinct (Cardona 2004; Wisner et al. 2004). Risk is a quantifiable susceptibility to harm in the future (Mittelstaedt and

Mittelstaedt 2008). Measures of risk are based on historical data, which make it possible to develop objective probabilities for future harm, and may be examined with expected utility models (Johnson 2004). In contrast, vulnerability is the materialization of risk. That is, risk is the objective probability that security will be lost, and vulnerability is a loss of security. Risk may be viewed as a property of groups and vulnerability as an outcome of actual exposure to risk (see also Bolin and Stanford 1999).

The distinction between risk and vulnerability is subtle but important. Both risk and vulnerability are latent constructs that necessitate different responses. If an individual, group, or institution is at risk, measures can be taken before a hazard to mitigate risk. If an individual or group is vulnerable (powerless, dependent), actions can be taken after the hazard to reduce vulnerability. In other words, public policy makers and civil servants are responsible for identifying risk (subjective and objective assessments of the future potential of disaster), reducing risk (preventing or mitigating disasters), and reducing vulnerability through disaster management (response and recovery policies) (Cardona 2004). Social marketers can play a role in this process by influencing consumer behaviors to reduce risk (e.g., advertising that encourages household emergency preparedness plans and kits), managerial marketers can play a role in this process by providing products to mitigate risk (e.g., insurance), and markets can play a role in this process because they are the provisioning system in the recovery process (e.g., food distribution).

The direction of the relationship between risk and vulnerability is largely dependent on operational definitions of each (risk to what and vulnerability from what). Thus, the direction of the relationship is largely an empirical question, but it could easily be bidirectional. For example, there are risk factors (e.g., living in poverty) that increase the likelihood of being vulnerable in a hazard event (e.g., famine, hurricane). In addition, being vulnerable in a hazard event increases a person's potential for further harm (risk) because capacity for self-protection is reduced and dependence is increased (see also Baker, Gentry, and Rittenburg 2005). The marketing and disaster literature as well as policy responses could be enhanced greatly by disentangling further the differences between vulnerability and risk.

Vulnerability and Material Resources

In a disaster, survivors often must renegotiate the means of acquiring food, clothing, shelter, electricity, running water, and other day-to-day necessities. To varying degrees, survivors are dependent on markets, government, and nongovernmental organizations to provide access to material resources to meet their needs, and their consumption needs always exceed available resources (Manfredo and Shultz 2007). The dependence survivors experience is largely a function of the production capabilities, safety nets, and financial resources available to them. If people can grow their own food and have other skills necessary for self-sufficiency, their experience of vulnerability may be reduced in the context of hazard events, or it may also be increased because they may have large crop losses and not know how to navigate the exchange system. For people dependent on the marketing system, policies and marketing systems that enhance food security and access to utilities and other material resources reduce vulnerability and ultimately enhance quality of life (Shultz et al. 2005).

Not all survivors are affected by the loss of material possessions in the same way. For some, particularly in the developed world, recovery from a natural disaster involves more than the reconstitution of basic necessities. For consumers who have come to define themselves through their material possessions (Belk 1988), the process of sifting through remnants (if any) and replacing assets contributes greatly to their powerlessness and lack of security; at the same time, however, this process is essential for recovery (Baker, Hunt, and Rittenburg 2007; DeLorme, Zinkhan, and Scott 2004; Ikeuchi, Fujihara, and Dohi 1999; Sayre 1994). Having personal control over acquisition, consumption, and disposition of material possessions plays a significant role in consumer identity development and maintenance (Arnould and Thompson 2005; Baker 2006). A significant part of disaster recovery is the transformation of individual and collective identities and their relationship to material possessions (Baker, Hunt, and Rittenburg 2007; Ikeuchi, Fujihara, and Dohi 1999; Sayre 1994). The disaster literature and its use of vulnerability analysis would be enhanced greatly by more explicit recognition of the role of both basic necessities and symbolic possessions in exacerbating or diminishing vulnerability at the individual and community levels. The catalytic properties of vulnerability, market systems, and material possessions are the focus of the next section of the essay.

Factors Enhancing and/or Constraining Resilience in a Natural Disaster

Adopting a perspective of disaster as socially constructed and vulnerability as a dynamic process provides a robust theoretical lens for thinking about the resilience of individuals and communities and the role of institutions in the process. Vulnerability analysis is incomplete without a focus on adaptation and resilience (Baker, Gentry, and Rittenburg 2005; Bankoff 2001; Fordham 2004; Lee, Ozanne, and Hill 1999; Wisner et al. 2004) and the role of markets and marketing in that process. Indeed, viewing vulnerability as one-dimensional (as in demographic or taxonomic approaches) is a "conceptual constraint" on an understanding of a culture's risk, vulnerability, and adaptability (Bankoff 2001, p. 31). To develop an understanding of the factors that constrain or facilitate resilience, ten paradoxes evident in the disaster literature are examined next. These paradoxes, among others, provide ample opportunities for further research from marketing, public policy, and disaster scholars, including experts in consumer culture, consumer welfare, development, behavioral decision making, economic analysis, and social marketing.

> Paradox 1: People are aware of the risks of living in disaster-prone locations. People live in disaster-prone locations anyway.

Disasters occur because people live in communities. Disaster-prone communities are often located in (1) areas viewed as desirable and filled with a significant population of wealthy people or (2) areas filled with a significant population of people living in poverty (Hewitt 1997; Hilhorst and Bankoff 2004; Wisner et al. 2004). Knowledge of the risk from natural hazards does not preclude people from settling in an area (Davies 2002), nor does it create a willingness in people to be relocated, because people become attached to places and often do not want to move somewhere unfamiliar (Delica-Willison and Willison 2004).

Paradox 2: People are aware of the risks of disaster. People and the systems on which they are dependent are unprepared for natural hazards anyway.

Illusions of invulnerability often inhibit planning for a natural hazard. In other words, people, especially those who have never been in a disaster, have a tendency to underestimate their risk from natural hazards (Greening and Dollinger 1992). The insured (often underinsured) may believe that they have a safety net and rationalize away the need to plan further regarding the threat of future impact. The uninsured, many of whom live in poverty, may be unable to plan beyond day-to-day living and/or may live in a continuous state of disaster.

Paradox 3: Science enables people to predict the time, severity, and location of impact of a natural hazard with some degree of accuracy. Science may create expectations that nature can be controlled. Nature is uncontrollable.

Development ideologies reveal beliefs that nature can be conquered and that often the solution to disaster is more economic development (Harwell 2000). Economic analysis shows that widespread deforestation of mangrove trees in Thailand exacerbated the effects of the 2004 tsunami (Barbier 2007b). Based on this analysis, a policy response of replanting mangrove trees was suggested. Barbier (2006, 2007a) argues that environmental enhancement or economic development responses on their own are insufficient. In this case, replanting is a solution with potential externalities because of decades-long impacts on a natural system that continuously evolves into an equilibrium state. Rather, solutions require a much more nuanced analysis of the interrelationship among nature, economic development, and social well-being, and the participation of local community members in this analysis is essential for resilience across the system (Barbier 2006).

Paradox 4: The wants and needs of disaster survivors differ. Members of governmental and nongovernmental organizations often assess survivors' needs. Often, all survivors of a natural hazard are provided with similar resources, and/or the people with the greatest needs are not given the most resources.

A fundamental philosophy of marketing is that the wants and needs of consumers differ (Mittelstaedt, Kilbourne, and Mittelstaedt 2006). Although heterogeneity of demand is recognized and needs assessment activities appear to flow from that understanding, when recovery resources are distributed, all survivors essentially get the same thing (e.g., FEMA houses are all exactly the same). Such an approach is unlikely to satisfy needs and wants most of the time, but the alternative (providing nonuniform resources) would likely create dissatisfaction as well (e.g., raise questions on fairness).

Despite diversity of need, responses are often perceived as favoring those with political power. For example, after Hurricane Andrew, commercial fisherman were provided assistance in Louisiana, where policy makers are attuned to the needs of fishermen, but fishermen were provided little assistance in South Florida, where the priority was on supporting tourism providers (Dyer and McGoodwin 1999). Fundamentally, the differences in power and access to recovery resources are related to market demand. Similarly, Marshall (1979) finds that after a typhoon in Micronesia, communities hit hardest received average per capita amounts of food well below other communities. In other words, distribution of relief is not always equivalent to needs.

Paradox 5: Resources are provided to survivors to assist them in the movement away from vulnerability. When assistance is provided, survivors may lose their resilience and independence anyway.

Material resources provided by outsiders are often donated to facilitate the resilience of individuals and communities. However, just as in commercial exchanges (Mittelstaedt, Kilbourne, and Mittelstaedt 2005), there are unintended consequences that flow from the distribution of relief resources. If individuals, communities, or institutions do not carry the full burden of the consequences of their lack of self-sufficiency, they may become less resilient in the future and believe that it is appropriate to be completely dependent on the generosity of outsiders (i.e., wait for a bailout). For example, if two people lose their homes in a tornado and one has insurance that eventually pays to rebuild the house but the other does not and the government steps in to help rebuild (for the good of the community), the insured person may never buy tornado insurance again. This is the moral hazard of relief resource distribution; there may be a long-term consequence of people losing their resilience and independence (Davies 2002).

Paradox 6: The impact of disaster is a consequence of prosperity and a consequence of poverty.

The growing impacts of natural disasters (discussed in the opening of this essay) are "ironically ... a consequence [both] of great affluence and of greater poverty" (Bankoff 2001, p. 19). Responses to disaster often reproduce these power relations (Harwell 2000). For example, policy responses to natural hazard often focus on returning individuals and communities back to normal. The problem with doing so is that status quo is not good for people living in poverty—that is, normal means inadequate social, economic, and environmental infrastructures. In addition, the resources for resilience available to the rich and poor differ markedly because financial resources can minimize loss and provide options on where to live (Wisner et al. 2004).

Paradox 7: Disaster relief may present opportunities for social change. Some people push for social transformation, while others desire the status quo before the natural hazard.

Disaster relief may present opportunities for changing capacity (Cox et al. 2008), but the distribution of relief may be the true disaster (Marshall 1979). In other words, there is not a disaster until there is a community with various groups vying for resources. Change can occur with conflict and consistent pressure against policies (Baker, Hunt, and

Rittenburg 2007; Hilhorst and Bankoff 2004), but change may create vulnerability for people in groups comfortable with the status quo.

Paradox 8: When people are labeled as "vulnerable," it is a policy act that allows external resources to be released. The labeling of people as vulnerable can make then more vulnerable.

Because the social construction of vulnerability is necessary before valuable resources can be distributed, "the labeling of vulnerable people is a policy act" (Hilhorst and Bankoff 2004, p. 7). Yet people experiencing vulnerability are often excluded in the resource distribution process (International Federation of Red Cross and Red Crescent Societies 2007), making them more vulnerable (Hilhorst and Bankoff 2004). In other words, resources may be efficiently distributed, but they may be ineffective at meeting survivors' needs. What is adaptive for the group may be maladaptive for the individual, and vice versa (Oliver-Smith 1999).

Paradox 9: Vulnerability makes people dependent on external factors to move them away from vulnerability. Interdependence can make people more vulnerable.

A market is a complex system of interrelated entities that takes different forms in different contexts (Arnould 2007; Layton 2007; Mittelstaedt, Kilbourne, and Mittelstaedt 2006; Wilkie and Moore 1999). The primary actors in the market are marketers (firms and nongovernmental organizations), consumers, and governmental entities. Existing networks can increase the resources available for adaptation after a natural hazard. Thus, dependency is not necessarily a weakness (Bankoff 2001); yet the interconnectedness of the actors in the system means that risk, vulnerability, and resilience are shared (Baker, Hunt, and Rittenburg 2007; Mittelstaedt and Mittlestaedt 2008). In other words, "sustainability does not imply the absence of external support" (Suda 2000, p. 99), and sustainability means that risk, vulnerability, and resilience must be shared.

Paradox 10: The recovery of individuals and communities is dependent on institutional responses (business, nongovernmental organizations). Disaster studies often fail to take institutional responses into account.

The disaster literature has been dominated by a focus on community and individual perspectives, but it has failed to take institutional perspectives and responses into account (Dyer 1999). Marketers and policy makers have long been involved in returning individuals and communities to self-sufficient modes of production. For example, during the Great Depression, part of the recovery was to help consumers adapt to their current circumstances (Hill, Hirschman, and Bauman 1996). Failing to take into account the role of markets and marketing in recovery fails to capture the actual experience of vulnerability to resilience.

Concluding Remarks

Many myths exist about the powerlessness of so-called vulnerable people (Frerks and Bender 2004) and the exploitation of people by markets and marketing (Sen 1999; Shultz 2007). When people experience vulnerability, they do not passively accept their situations; instead, they actively and constructively work to reduce their vulnerability, and markets and marketing play a role in that process (Baker, Gentry, and Rittenburg 2005; Baker, Hunt, and Rittenburg 2007; Sen 1999). The United Nation's (1989) objectives for the IDNDR, including (1) to strengthen the capacity of countries to cope with losses created by hazards of a natural origin, (2) to devise guidelines and strategies for knowledge development while accounting for unique cultural and economic characteristics of countries, (3) to foster development of scientific and engineering knowledge that could help reduce human and material losses, (4) to disseminate information on prediction and mitigation measures, and (5) to evaluate the effectiveness of programs designed to provide natural disaster education, will not be met until the theories and practices of marketing are included to understand the causes and consequences of marketing and consumption on disaster.

This essay has argued that a systemic lack of understanding of what constitutes disaster and what constitutes vulnerability constrains the resilience of individuals, communities, and institutions affected by natural hazards. Disasters are extreme contexts that reveal people's dependence on external organizations and the environment, the economic and social structure of a community, the resilience of impacted stakeholder groups, and how knowledge and material resources can be deployed to reduce vulnerability and increase resilience (see also Oliver-Smith 1999). The answers for disaster preparedness, mitigation, and recovery in Japan should not be the same as the answers in the United States, nor is the answer for Louisiana the same answer for Iowa. Context matters. Until disaster is recognized as socially constructed and vulnerability is operationalized as a multidimensional concept, market and policy responses will exacerbate vulnerability for people in communities affected by natural hazards.

The global struggle for more sustainable models of economic, social, and environmental enhancement is at the heart of disaster and vulnerability analysis. Sustainable models of disaster reduction and recovery policies will recognize that the networks of actors in the market (firms, nongovernmental organizations, government, consumers) all share the burden of risk and experience of vulnerability. Networks that place the burden of risk on actors less able to accept it or that continually place the greatest vulnerability on less powerful groups will not maximize quality of life and human potential. Such networks will be unsustainable over time (see also Mittelstaedt and Mittelstaedt 2008). To be sure, marketing as a form of constructive engagement for the common good has much to offer, but the "power to do good goes almost always with the possibility to do the opposite" (Sen 1999, p. xiii). Deep analysis of the actual factors that create disaster and vulnerability and the involvement of the impacted public will be essential if any good is to come from the involvement of marketing and public policy.

References

Anderson-Berry, Linda J. (2003), "Community Vulnerability to Tropical Cyclones: Cairns, 1996-2000," *Natural Hazards*, 30 (1), 209–232.

Andreasen, Alan R. (2005), "Marketing Scholarship, Intellectual Leadership, and the Zeitgeist," *Journal of Public Policy & Marketing*, 24 (Spring), 133–36.

Arnould, Eric J. (2007), "Should Consumer Citizens Escape the Market?" *Annals of the American Academy*, 611 (May), 96–111.

——— and Craig J. Thompson (2005), "Consumer Culture Theory (CCT): Twenty Years of Research," *Journal of Consumer Research*, 31 (March), 868–82.

Baker, Stacey Menzel (2006), "Consumer Normalcy: Understanding the Value of Shopping Through Narratives of Consumers with Visual Impairments," *Journal of Retailing*, 82 (1), 37–50.

———, James W. Gentry, and Terri L. Rittenburg (2005), "Building Understanding of the Domain of Consumer Vulnerability," *Journal of Macromarketing*, 25 (2), 128–39.

———, David M. Hunt, and Terri L. Rittenburg (2007), "Consumer Vulnerability as a Shared Experience: Tornado Recovery Process in Wright, Wyoming," *Journal of Public Policy & Marketing*, 26 (Spring), 6–19.

Bankoff, Greg (2001), "Rendering the World Unsafe: 'Vulnerability' as Western Discourse," *Disasters*, 25 (1), 19–35.

Barbier, Edward B. (2006), "Natural Barriers to Natural Disasters: Replanting Mangroves after the Tsunami," *Frontiers in Ecology and the Environment*, 4 (3), 124–31.

——— (2007a), "To Replant or Not to Replant Natural Barriers? Perhaps That Is the Wrong Question," in *Proceedings of the Conference on Macromarketing and Development: Building Bridges and Forging Alliances*, Stacey Menzel Baker and Daniel Westbrook, eds. Washington, DC: The International Society of Marketing and Development and the Macromarketing Society, 435–40.

——— (2007b), "Valuing Ecosystem Services as Productive Inputs," *Economic Policy*, 22 (January), 177–229.

Begley, Sharon (1995), "Lessons of Kobe," *Newsweek*, (January 30), (accessed December 1, 2008), [available at www.newsweek.com/id/106978].

Belk, Russell W. (1988), "Possessions and the Extended Self," *Journal of Consumer Research*, 15 (September), 139–68.

Bolin, Bob (2007), "Race, Class, Ethnicity, and Disaster Vulnerability," in *Handbook of Disaster Research*, Havidàn Rodríguez, Enrico L. Quarantelli, and Russell R. Dynes, eds. New York: Springer, 113–29.

——— and Lois Stanford (1999), "Constructing Vulnerability in the First World: The Northridge Earthquake in Southern California, 1994," in *The Angry Earth*, Anthony Oliver-Smith and Susanna M. Hoffman, eds. New York: Routledge, 89–112.

Cardona, Omar D. (2004), "The Need for Rethinking the Concepts of Vulnerability and Risk from a Holistic Perspective: A Necessary Review and Criticism for Effective Risk Management," in *Mapping Vulnerability: Disasters, Development & People*, Greg Bankoff, Georg Frerks, and Dorothea Hilhorst, eds. London: Earthscan, 37–51.

Commuri, Suraj and Ahmet Ekici (2008), "An Enlargement of the Notion of Consumer Vulnerability," *Journal of Macromarketing*, 28 (June), 182–86.

Cox, Robin S., Bonita C. Long, Megan I. Jones, and Risa J. Handler (2008), "Sequestering of Suffering: Critical Discourse Analysis of Natural Disaster Media Coverage," *Journal of Health Psychology*, 13 (4), 469–80.

Davies, Hugh (2002), "Tsunamis and the Coastal Communities of Papua, New Guinea," in *Natural Disasters and Cultural Change*, Robin Torrence and John Grattan, eds. London: Routledge, 28–42.

Davis, Ian (2004), "Progress in Analysis of Social Vulnerability and Capacity," in *Mapping Vulnerability: Disasters, Development & People*, Greg Bankoff, Georg Frerks, and Dorothea Hilhorst, eds. London: Earthscan, 128–44.

Delica-Willison, Zenaida and Robin Willison (2004), "Vulnerability Reduction: A Task for the Vulnerable People Themselves," in *Mapping Vulnerability: Disasters, Development & People*, Greg Bankoff, Georg Frerks, and Dorothea Hilhorst, eds. London: Earthscan, 145–58.

DeLorme, Denise, George Zinkhan, and Hagen Scott (2004), "The Process of Consumer Reactions to Possession Threats and Losses in a Natural Disaster," *Marketing Letters*, 15 (4), 185–99.

Dyer, Christoper L. (1999), "The Phoenix Effect in Post-Disaster Recovery: An Analysis of the Economic Development Administration's Culture of Response after Hurricane Andrew," in *The Angry Earth*, Anthony Oliver-Smith and Susanna M. Hoffman, eds. New York: Routledge, 278–300.

——— and James R. McGoodwin (1999), "'Tell Them We're Hurting': Hurricane Andrew, the Culture of Response, and the Fishing Peoples of South Florida and Louisiana," in *The Angry Earth*, Anthony Oliver-Smith and Susanna M. Hoffman, eds. New York: Routledge, 213–31.

Escobar, Arturo (1995), *Encountering Development: The Making and Unmaking of the Third World*. Princeton, NJ: Princeton University Press.

FEMA (2006), "Hurricane Katrina, One-Year Later," news release, HQ-06-127, (August 22), (accessed December 1, 2008), [available at www.fema.gov/news/newsrelease.fema?id=29108].

Fordham, Maureen (2004), "Gendering Vulnerability Analysis: Towards a More Nuanced Approach," in *Mapping Vulnerability: Disasters, Development & People*, Greg Bankoff, Georg Frerks, and Dorothea Hilhorst, eds. London: Earthscan, 174–82.

Frerks, Georg and Stephen Bender (2004), "Conclusion: Vulnerability Analysis as a Means of Strengthening Policy Formulation and Policy Practice," in *Mapping Vulnerability: Disasters, Development & People*, Greg Bankoff, Georg Frerks, and Dorothea Hilhorst, eds. London: Earthscan, 194–205.

Gentry, James W., Patricia F. Kennedy, Katherine Paul, and Ronald Paul Hill (1995), "The Vulnerability of Those Grieving the Death of a Loved One: Implications for Public Policy," *Journal of Public Policy & Marketing*, 14 (Spring), 128–42.

Greening, Leilani and Stephen J. Dollinger (1992), "Illusions (and Shattered Illusions) of Invulnerability: Adolescents in Natural Disaster," *Journal of Traumatic Stress*, 5 (1), 63–75.

Guion, Deirdre T., Debra L. Scammon, and Aberdeen Leila Borders (2007), "Weathering the Storm: A Social Marketing Perspective on Disaster Preparedness and Response with Lessons from Hurricane Katrina," *Journal of Public Policy & Marketing*, 26 (Spring), 20–32.

Harwell, Emily (2000), "Remote Sensibilities: Discourses of Technology and the Making of Indonesia's Natural Disaster," *Development and Change*, 31 (1), 307–340.

Hewitt, Kenneth (1997), *Regions of Risk: A Geographical Introduction to Disasters*. Essex, UK: Addison-Wesley/Longman.

Hilhorst, Dorothea, (2004), "Complexity and Diversity: Unlocking Social Domains of Disaster Response," in *Mapping Vulnerability: Disasters, Development & People*, Greg Bankoff, Georg Frerks, and Dorothea Hilhorst, eds. London: Earthscan, 52–66.

——— and Greg Bankoff (2004), "Introduction: Mapping Vulnerability," in *Mapping Vulnerability: Disasters, Development & People*, Greg Bankoff, Georg Frerks, and Dorothea Hilhorst, eds. London: Earthscan, 1–9.

Hill, Ronald Paul (2001), *Surviving in a Material World: The Lived Experience of People in Poverty*. Notre Dame, IN: University of Notre Dame Press.

——— (2002), "Compassionate Love, Agape, and Altruism: A New Framework for Understanding and Supporting Impoverished Consumers," *Journal of Macromarketing*, 22 (1), 19–31.

——— (2005), "Do the Poor Deserve Less Than Surfers? An Essay for the Special Issue on Vulnerable Consumers," *Journal of Macromarketing*, 25 (December), 215–18.

———, Elizabeth C. Hirschman, and John F. Bauman (1996), "The Birth of Modern Entitlement Programs: Reports from the Field and Implications for Welfare Policy," *Journal of Public Policy & Marketing*, 15 (Fall), 263–77.

——— and Mark Stamey (1990), "The Homeless in America: An Examination of Possessions and Consumption Behaviors," *Journal of Consumer Research*, 17 (December), 303–321.

Hoffman, Susanna M. and Anthony Oliver-Smith (1999), "Anthropology and the Angry Earth: An Overview," in *The Angry Earth*, Anthony Oliver-Smith and Susanna M. Hoffman, eds. New York: Routledge, 1–16.

Ikeuchi, Hiromi, Takehiro Fujihara, and Itsuko Dohi (1999), "Involuntary Loss of Extended Self of Victims of Great Hanshin Earthquake and Northridge Earthquake," in *European Advances in Consumer Research*, Vol. 4, Bernard Dubois, Tina M. Lowrey, L.J. Shrum, and Marc Vanhuele, eds. Provo, UT: Association for Consumer Research, 28–36.

International Federation of Red Cross and Red Crescent Societies (2007), *World Disasters Report: Focus on Discrimination*. Bloomfield, CT: Kumarian Press.

Klein, Jill G. and Laura Huang (2007), "After All Is Lost: Meeting the Material Needs of Adolescent Disaster Survivors," *Journal of Public Policy & Marketing*, 26 (Spring), 54–59.

Johnson, Eric J. (2004), "Rediscovering Risk," *Journal of Public Policy & Marketing*, 23 (Spring), 2–6.

Layton, Roger A. (2007), "Marketing Systems: A Core Macromarketing Concept," *Journal of Macromarketing*, 27 (3), 227–42.

Lee, Renee G., Julie L. Ozanne, and Ronald Paul Hill (1999), "Improving Service Encounters Through Resource Sensitivity: The Case of Health Care Delivery in an Appalachian Community," *Journal of Public Policy & Marketing*, 18 (Fall), 230–48.

Leonard, Hillary A. and Debra L. Scammon (2007), "No Pet Left Behind: Accommodating Pets in Emergency Planning," *Journal of Public Policy & Marketing*, 26 (Spring), 49–53.

Manfredo, Mark R. and Clifford J. Shultz II (2007), "Risk, Trade, Recovery, and the Consideration of Real Options: The Imperative Coordination of Policy, Marketing, and Finance in the Wake of Catastrophe," *Journal of Public Policy & Marketing*, 26 (Spring), 33–48.

Marshall, Mac (1979), "Natural and Unnatural Disaster in the Mortlock Islands of Micronesia," *Human Organization*, 38 (3), 265–72.

Mick, David Glen (2007), "The End(s) of Marketing and the Neglect of Moral Responsibility by the American Marketing Association," *Journal of Public Policy & Marketing*, 26 (Fall), 289–92.

Mittelstaedt, John D., William E. Kilbourne, and Robert A. Mittelstaedt (2006), "Macromarketing as Agorology: Macromarketing Theory and the Study of the Agora," *Journal of Macromarketing*, 26 (Fall), 131–42.

Mittelstaedt, Robert A. and John D. Mittelstaedt (2008), "The Role of Risk in Marketing Systems" in *Macromarketing: Systems, Causes, and Consequences: Proceedings of the 33rd Annual Meeting of the Macromarketing Society*, William E. Kilbourne and John D. Mittelstaedt, eds. Clemson, SC: Macromarketing Society, 64.

Morrow, Betty Hearn (1999), "Identifying and Mapping Community Vulnerability," *Disasters*, 23 (1), 1–18.

Myers, Diane and David F. Wee (2005), *Disaster Mental Health Services*. New York: Routledge.

Oliver-Smith, Anthony (1999), "What Is a Disaster? Anthropological Perspectives on a Persistent Question," in *The Angry Earth*, Anthony Oliver-Smith and Susanna M. Hoffman, eds. New York: Routledge, 18–34.

——— (2004), "Theorizing Vulnerability in a Globalized World: A Political Ecological Perspective," in *Mapping Vulnerability: Disasters, Development & People*, Greg Bankoff, Georg Frerks, and Dorothea Hilhorst, eds. London: Earthscan, 10–24.

Ozanne, Julie L., Canan Corus, and Bige Saatcioglu (2009), "The Philosophy and Methods of Deliberative Democracy: Implications for Public Policy and Marketing," *Journal of Public Policy & Marketing*, 28 (Spring), 29–40.

——— and Bige Saatcioglu (2008), "Participatory Action Research," *Journal of Consumer Research*, 35 (October), 423–39.

Perry, Ronald W. (2007), "What Is a Disaster?" in *Handbook of Disaster Research*, Havidàn Rodríguez, Enrico L. Quarantelli, and Russell R. Dynes, eds. New York: Springer, 1–15.

——— and Enrico L. Quarantelli, eds. (2007), *What Is a Disaster? New Answers to Old Questions*. Philadelphia: Xlibris.

Quarantelli, Enrico L. (Henry) (2005), "A Social Science Research Agenda for the Disasters of the 21st Century: Theoretical, Methodological and Empirical Issues and their Professional Implementation," in *What Is a Disaster? New Answers to Old Questions*, Ronald W. Perry and Enrico L. Quarantelli, eds. Philadelphia: Xlibris, 325–96.

———, Patrick Lagadec, and Arjen Boin (2007), "A Heuristic Approach to Future Disasters and Crises: New, Old, and In-Between Types," in *Handbook of Disaster Research*, Havidàn Rodríguez, Enrico L. Quarantelli, and Russell R. Dynes, eds. New York: Springer, 16–41.

Santos, Nicholas J.C. and Gene R. Laczniak (2009), "Marketing to the Poor: An Integrative Justice Model for Engaging Impoverished Market Segments," *Journal of Public Policy & Marketing*, 28 (Spring), 3–15.

Sayre, Shay (1994), "Possessions and Identity in Crisis: Meaning and Change for Victims of the Oakland Firestorm," in *Advances in Consumer Research*, Vol. 21, Chris T. Allen and Deborah Roedder John, eds. Provo, UT: Association for Consumer Research, 109–114.

Sen, Amartya (1999), *Development as Freedom*. New York: Alfred A. Knopf.

Shultz, Clifford J., II (2007), "Marketing as Constructive Engagement," *Journal of Public Policy & Marketing*, 26 (Fall), 293–301.

———, Timothy J. Burkink, Bruno Grbac, and Nataša Renko (2005), “When Policies and Marketing Systems Explode: An Assessment of Food Marketing in the War-Ravaged Balkans and Implications for Recovery, Sustainable Peace, and Prosperity,” *Journal of Public Policy & Marketing*, 24 (Spring), 24–37.

——— and Morris B. Holbrook (2009), “The Paradoxical Relationships Between Marketing and Vulnerability,” *Journal of Public Policy & Marketing*, 28 (Spring), 124–27.

Suda, Collette A. (2000), “Natural Disaster Preparedeness, Environmental Degradation and Sustainable Development in Kenya,” *African Study Monographs*, 21 (3), 91–103.

United Nations (1989), General Assembly Resolution 236, Session 44, (December 22), (accessed December 1, 2008), [available at http://www.un.org/documents/ga/res/44/a44r236.htm].

Viswanathan, Madhubalan, Srinivas Sridharan, Roland Gau, and Robin Ritchie (2009), “Designing Marketplace Literacy Education in Resource-Constrained Contexts: Implications for Public Policy and Marketing,” *Journal of Public Policy & Marketing*, 28 (Spring), 85–94.

Webster, Frederick E., Jr. (2005), “A Perspective on the Evolution of Marketing Management,” *Journal of Public Policy & Marketing*, 42 (Spring), 121–26.

Wilkie, William L. and Elizabeth S. Moore (1999), “Marketing’s Contributions to Society,” *Journal of Marketing*, 63 (Special Issue), 198–218.

——— and ——— (2003), “Scholarly Research in Marketing: Exploring the ‘4 Eras’ of Thought Development,” *Journal of Public Policy & Marketing*, 22 (Fall), 116–46.

Wisner, Ben (2004), “Assessment of Capability and Vulnerability,” in *Mapping Vulnerability: Disasters, Development & People*, Greg Bankoff, Georg Frerks, and Dorothea Hilhorst, eds. London: Earthscan, 183–93.

———, Piers Blaikie, Terry Cannon, and Ian Davis (2004), *At Risk: Natural Hazards, People’s Vulnerability, and Disasters*, 2d ed. London: Routledge.