From Populations to People:
An Integral Approach to Human Security and Natural Hazards

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Almost ten years ago, Hurricane Mitch stormed through Central America and destroyed over 22,000 lives and an incalculable amount of homes, infrastructure and property. Mitch was a Category 5 hurricane—the strongest category measured—but the disaster that occurred in 1998 was not attributable to the storm alone. Many of those who were most affected by the hurricane were considered "vulnerable populations," and their outcomes were generated as much by social, economic, and political relations as by the storm itself. Indeed, vulnerability research shows that negative outcomes from natural hazards are often generated by structural factors, and that there is a high correlation between vulnerability and demographic characteristics such as age, race, gender, family structure, and life cycle (Hogan and Marandola 2007).

Vulnerability research has contributed to a better understanding of the populations and places that are most likely to experience negative outcomes from natural hazards, and it provides explanations of the underlying causes of vulnerability. Targeting vulnerable populations and the places where they are located (i.e., vulnerability "hot spots") is emerging as a key response to hazards and environmental change. External interventions aimed at reducing vulnerability often address exposure and risk (e.g., early warning systems, strengthening infrastructure) or adaptive capacity and resilience (e.g., education, drought-resistant seeds). Yet transforming knowledge about vulnerability into effective action has proven remarkably difficult (Wisner et al. 2004). Although the 1990's were designated as the International Decade for Natural Disaster Reduction (IDNDR), there is evidence that disasters have in fact increased in the first decade of the 21st century (Dore and Etkin 2003). In fact, there are indications that despite the growing knowledge and understanding of vulnerability to natural hazards, many populations are becoming *more* vulnerable to many types of shocks and stressors (Leichenko and O'Brien 2008).

This is perhaps a good time to ask what is missing from vulnerability approaches, and what other types of approaches might be needed to support disaster reduction in the 21st century. One potential answer to the question of "what is missing?" is greater attention to individuals and communities and their experiences of security and insecurity. What is the role of beliefs, values, and worldviews in preparing for and responding to natural hazards? Although many analyses of social vulnerability take into account the goals and priorities of communities, they rarely pay attention to what Hochachka (2005) refers to as "human interiority" (see also Wilber 1996). This relates to the interior dimensions of human consciousness, which is associated with the stages of human development, values, and worldviews that influence perspectives and actions (Simpson 2007). This "interior dimension" is a critical constituent of human security, which describes a condition where individuals and communities have the options necessary to end, mitigate or adapt

to threats to human, environmental and social rights; have the capacity and freedom to exercise these options; and actively participating in pursuing these options (GECHS 1999). The interior dimension of human security has received little attention in research on vulnerability, nor in interventions aimed at reducing vulnerability to natural hazards.

Vulnerability assessments in practice often inadvertently places people and communities in the passive role of victims, with little attention to agency or the capacity of individuals or groups to act or exert power over their situation (Wisner et al. 2004). Although coping capacity and adaptive capacity are considered important components of vulnerability, most vulnerability assessments focus on material and institutional dimensions, such as access to resources and entitlements, institutions and governance, and social networks. They rarely explore the interior dimensions of adaptive capacity, including how values, beliefs and worldviews influence interests, actions and outcomes. Perceptions of and responses to risk are not always rational and scientifically grounded, but instead tend to be influenced by what individuals and communities have experienced, and what they value and prioritize. Yet as Hogan and Marandola (2007) point out, in most natural hazards research "[p]erception is seen as separate from the life history and personal involvement with the place, which are sources of an individual's worldview." Although it is recognized that perceptions and perspectives of individuals both influence and are influenced by the local context, "what matters to people and why" is often disregarded in vulnerability analyses.

One type of approach that addresses this interior dimension of human security—and which can be used *with* vulnerability research to support disaster reduction in the 21st century—is an integral approach, as developed by Wilber (1996) and described by Hochachka (2005) and Simpson (2007). An integral approach draws attention to the exterior factors (objective realities) that contribute to vulnerability, but also to the interior factors (subjective realities) that influence the response capacities of individuals and communities. An integral approach to human security is one which explores consciousness and culture and how they interact with society and systems to generate vulnerability. It recognizes the importance of shifts in worldviews and "ways of thinking" as precursors for changes in the local economic, social, and political context (Hochachka 2005). As explained by Hochachka (2005, p. 10), "[t]he integral framework builds on previous approaches to explicitly bring together both tangible and intangible (or exterior and interior) aspects to community development, such as economic security and environmental sustainability as well as worldviews, personal growth, beliefs, and self-development of participants and practitioners."

Hochachka (2005) illustrates how an integral approach has been used to develop sustainability in El Salvador, and lessons from her work can be applied to disaster reduction as well. El Salvador is the smallest of the Central American countries, covering an area of approximately 20,647km^2 and with a population of 6.9 million in 2007 (PAHO 2007). The population of El Salvador is vulnerable to numerous types of natural hazards, including earthquakes, volcanoes, hurricanes, tsunamis, droughts, floods, and landslides. In 1998, Hurricane Mitch affected over 57,000 lives (including 239 deaths) and caused $6 billion in damages, mostly as the result of widespread flooding and landslides (PAHO 2007; Bradshaw 2002; Crone *et al*. 2001). El Salvador also experienced two significant earthquakes in 2001, the first of which caused 827 deaths, 4,520 injuries and affected more than 1.1 million people (PAHO 2007; Woerschning and Snyder 2003). As the result of these disasters, the Salvadorian government established a new government

agency to address hazard mitigation, including the consolidation and strengthening of infrastructure (Rose et al. 2004).

Although attention to the technical aspects of natural hazards, such as monitoring of earthquakes, volcanoes, and slopes, may contribute to risk reduction, it is important to recognize how the economic, social, and political context has generated vulnerability for many Salvadorians. El Salvador experienced twelve years of civil war beginning in 1981. Although the war ended in 1992, Salvadorian society still suffers from several socio-economic problems due to the conflict, including the social effects of large-scale population migration to the United States and other countries during the civil war. Studies have found that individuals and communities who were directly exposed to the war experience widespread psychosocial distress such as anxiety, depression, sleep disturbances and suicidal tendencies (Ugalde *et al.* 2000: 170). Some of the other social after-effects of the war include household and street violence, alcoholism, and drug addiction. Since the war ended, El Salvador has experienced a continual rise in crime and non-political violence (Bourgois 2001, Kincaid 2000, and Cruz 1999).

El Salvador's economy has undergone substantial economic liberalization since 1992, when structural adjustment programs were enforced to reduce subsidies, decentralize economic and social policies, liberalize trade, and introduce a greater reliance on markets (Hecht et al. 2006). As a result, the economy of El Salvador has seen a shift from a reliance on the export of primary products from 62% to 40% and an increase in the export of manufactured goods from 38% to 60% of the total exports. With a GDP of $15.8 billion in 2004 (equal to $2,340 per capita GDP), El Salvador is considered a lower middle income country by the World Bank. The country is also characterized by great economic inequality: the poorest 10% of the population account for only 0.7% of the income, while the richest 20% account for 55.9% of the income. Since 1997, El Salvador has experienced an increase in incidences of HIV/AIDS, malaria, and tuberculoses, and worsening outbreaks of dengue and cholera (WHO 2007).

Vulnerability to natural hazards must be understood within the wider context of these political, economic, and social changes. Yet even though vulnerability assessments may point to female-headed households, rural households, the urban poor, and other populations as "particularly vulnerable" to natural hazards, it has nonetheless been difficult to reduce vulnerability through "exterior" interventions alone. An integral approach draws attention to the need to address the interior dimensions of human security, which includes building self-esteem, confidence and trust. It has not been the government, but churches in El Salvador that have concentrated on these "interior" dimensions by addressing problems with self-esteem, sense of belonging, and the reconstruction of community life, especially for ex-combatants. The church can be seen as a more appropriate institution to tackle these local and personal problems because government is seen as being plagued by bureaucratic, authoritarian centralisation (Gomez 1999). In the community studied by Hochachka (2005), she found that values of cooperation, collaboration, solidarity and group organization created an important community base for dealing with the civil war, social migrations after the war, and recent natural disasters.

To truly reduce the vulnerability of populations to natural hazards requires addressing the underlying processes and causes – i.e., the social, economic, and political relations that make people vulnerable in the first place. This is an endeavour that must take place at the scale of populations. Yet it is also important to look at the people within the populations and address the

interior dimensions of human security that influence the capacity of individuals and communities to respond to hazards and shocks. Population studies combined with "people studies" can provide new and useful insights for reducing vulnerability to natural hazards, and an integral approach to human security can help promote outcomes that are both socially and environmentally sustainable.

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