

## Resilience to Disasters: A Paradigm Shift from Vulnerability to Strength

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The idea of producing a special issue on the theme of resilience was first proposed in late 2006 as part of the plans to disseminate the deliberations of our first International Resilience Workshop held at Talloires, France, in July 2007. The workshop brought together a group of interested researchers, planners, practitioners and policy makers from the disaster response and health sectors, both academic researchers and practitioners to present and discuss the salient points of convergence in their work on human, ecosystem and/or institutional/structural resilience. The abstracts submitted and presented for discussion at Talloires were then developed into the articles included in this volume. Graduate students made up over a third of the workshop participants, and the case studies and innovative ideas discussed included resilience of emergency responders (Pietrantonio and Prati, Italy), the role of civic courage and *Upstanders* during the war in Bosnia and Herzegovina (Broz), the role of social innovation in building institutional resilience (Westley), national emergency response planning in the UK (Amlôt), measures of resilience in the UK national health service (Cowley), the Federation of International Red Cross and Red Crescent Societies (IFRC) Psychosocial Support Centre's shift in policy from trauma counseling to resilience building (Christensen), a pilot study of resilience in New Orleans, Louisiana, post-Hurricane Katrina (Glandon *et al.*), a preliminary analysis of social-ecological resilience with respect to traditional water resource management in rural Tanzania and traditional ecological knowledge concerning plant uses in rural Niger (Strauch *et al.*), the role of animals (pets and livestock) in promoting resilience (Lindenmayer), and resilience of international humanitarian workers operating in Africa (Filot and Uriarte, Belgium and Spain, respectively). Abstracts submitted to the workshop but not developed into articles have been included in this volume.

A wide range of conceptualizations and definitions of resilience with corresponding indicators and/or assessment/measurement scales were examined in small working group and plenary sessions. The

workshop concluded with a consensus on the need for a programmatic applied research strategy to develop the envisioned multi-dimensional and cross-scale "*Resilience Index*" (RI) for the purposes of gauging sustained global public health and well-being encompassing human, institutional and social-ecological resilience. Subsequent international conference and seminar venues have provided avenues for further development of the interdisciplinary and cross-sector discussions initiated at Talloires, most notably Resilience 2008, convened in Stockholm by the Resilience Alliance (April 2008), and two panel discussions on building community resilience – one at the Institute of Health, Warwick University, UK (July 2008) and the other at the University of Massachusetts in Boston (November 2008) engaging the leadership of the guest editor as a key speaker and/or discussion moderator/facilitator.

The International Resilience Workshop – Talloires 2007 tackled the following set of key questions:

- i. What is resilience, and how is it assessed and/or measured?
- ii. How are the questions "resilience of whom or what?" and "resilience to what?" being addressed in different disciplines and/or practice sectors?

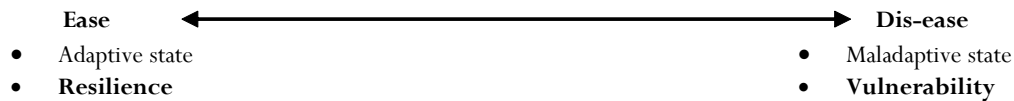
### **i. What is resilience, and how is it assessed or measured?**

A multi-dimensional construct, resilience is defined as the capacity of individuals, families, communities, systems, and institutions to anticipate, withstand and/or judiciously engage with catastrophic events and/or experiences; actively making meaning with the goal of maintaining normal function without fundamental loss of identity.<sup>1</sup> At the individual level, human resilience is a normal and common response to adversity.<sup>2-7</sup> At the level of family and/or community, the capacity to anticipate, withstand and maintain normal function following disasters is mediated by right *types*, *timing*, and *levels* of social support of which international humanitarian assistance is one form.<sup>8</sup>

Sixty-two years ago, the United Nations held its inaugural international health conference in New York where it adopted a holistic definition of health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”<sup>9</sup> Health is a dynamic steady state, a state of successful adaptation to the stresses and strains that may be chronic or acute, of ordinary or extraordinary magnitude. Health

is a process, mediated by social and economic capital, also known as “resources for health”.<sup>10-12</sup> The same may be true of resilience. As explained by the theory of Salutogenesis (origins of health)<sup>13</sup> the dynamics of health and ill health demonstrate a wide spectrum of levels of adaptation along the ease ⇔ dis-ease continuum (see Figure).

**Figure: The theory of Salutogenesis (Origins of Health)**



The assumption here is that good health reflects an adaptive state (a dynamic steady-state, and not a static state), while ill health/disease demonstrates the opposite, a maladaptive state of vulnerability. While systems of health care delivery have traditionally focused on curative measures of disease control, dwelling on vulnerability, health promotion through prevention of vulnerability to disease has increasingly been taking a more long-term view of removing the obstacles to health by focusing on the root causes of disease, most of which lie outside the mandate of health care services and in the domain of social, cultural, economic and geo-political situation of communities, countries, and/or regions. Hence the focus on resilience as a basis for sustainability, also with respect to the physical/natural environment and the inter-connected social-ecological systems which influence international humanitarian policy and public health practice are in turn impacted by them.

## ii. How are the questions “resilience of whom or what?” and “resilience to what?” being addressed in different disciplines and/or practice sectors?

Health in a broad sense of the term is thus not only the absence of disease, but also the presence of capacity, motivation and conditions that promote wellness. Health promotion is about creating and sustaining dynamic steady states of well-being. Human resilience depends on and also impacts institutional and environmental/ecosystem sustainability.

Although it has in the past been studied from different disciplinary perspectives in the behavioral, clinical and social sciences, human resilience is closely linked to ecosystem resilience. While we as human scientists may examine the interplay of social cohesion,

social networks and support systems that contribute to the integrity of the emotional ecosystem in which human lives and livelihoods thrive, often in the face of adversity of different forms and levels of magnitude (including complex emergencies triggered by floods, droughts, and/or armed conflict); environmental scientists (including ecologists, economists, conservation biologists, anthropologists, and sociologists) have also advanced our understanding of resilience of the natural/physical ecosystem as part and parcel of the coupled natural and social systems that contribute to the sustainability of our planet, and/or threaten it, as the case may be. It is important to note that humans are the dominant players in social-ecological interactions that have brought the planet to the state of imminent peril, loss of resilience and reduced sustainability of resources, including human resources. However, not all humans are equal: some are more equal than others in terms of their contributions to sustainability.

As articulated clearly by the Resilience Alliance, “Ecosystem resilience is the capacity of an ecosystem to tolerate disturbance without collapsing into a qualitatively different state that is controlled by a different set of processes. A resilient ecosystem can withstand shocks and rebuild itself when necessary. Resilience in social systems has the added capacity of humans to anticipate and plan for the future. Humans are part of the natural world. We depend on ecological systems for our survival and we continuously impact the ecosystems in which we live from the local to global scale. Resilience is a property of these linked social-ecological systems (SES). “Resilience” as applied to ecosystems, or to integrated systems of people and the natural environment, has three defining characteristics:

- “The amount of change the system can undergo and still retain the same controls on function and structure
- “The degree to which the system is capable of self-organization
- “The ability to build and increase the capacity for learning and adaptation”<sup>14</sup>

The above three points have guided the multi-disciplinary research and policy/practice analyses conducted by members of the Resilience Alliance following the leadership of Buzz Holling’s (1973)<sup>15</sup> and Elinor Ostrom’s (1990)<sup>16</sup> seminal publications on today’s researchers in the interdisciplinary fields of resilience theory and also cognitive sciences. Critical among the above three points is the question of learning and adaptation at all levels – individual, collective, and institutional – particularly with respect to local, regional, and international humanitarian policy and public health in Africa.

### **Resilience to disaster – myth or reality?**

The literal meaning of the word disaster is “dis-aster”, the sudden misalignment of stars causing destruction. Thus the Tsunami (December 2004) and Gujarat earthquake (January 2001) would fit this simple definition of “natural disaster”. Whether or not individuals and/or communities and their institutions can anticipate, recognize the warning signs of, and respond to disasters effectively may predict resilience. The United Nations definition of disaster: “*a serious disruption of the functioning of a society, causing widespread human, material, or environmental losses which exceed the capacity of the affected society to cope using only its own resources*”<sup>17</sup>, is often interpreted as a call for external human and material resources without due acknowledgement of and/or respect for existing human resources and strengths. Such an observation compelled a Belgian veteran disaster response expert in public health to plead, “*Stop Propagating Disaster Myths*” at the turn of the millennium, pointing out that the resilience of those affected by disasters - who are not “too shocked and helpless to take responsibility for their own survival” - was often undermined by western disaster expert teams who lacked familiarity with local needs and priorities, and more importantly, the mindset and/or motivation to learn.<sup>18</sup> Similarly, “humanitarian spins”, akin to the seven deadly sins of medieval theology may erode both the resilience of disaster-affected communities and the integrity of international humanitarian assistance agencies.<sup>19</sup> Valuable lessons learned from the significantly more effective disaster response of grass-root organizations with long range strategies of coping with

adversity, such as that of the Self Employed Women’s Association (SEWA) of India has since served to model disaster response that delivers timely assistance to effectively restore human lives and livelihoods.<sup>20</sup>

This special issue of *African Health Sciences* is well placed and timely in its attempt to explore the implications of resilience thinking for African systems of health care service policy and practice today. As African families, communities, countries and regions continue to face the seemingly intractable problems of conflict and political instability, systems of health care service provision have continued to be depleted. Many African Universities and Medical Schools find themselves drained of the most valuable human resources. Trained and qualified healthcare service professionals, nurses in particular, are actively recruited by western countries for higher wages. While this continues to erode the resilience of African systems of health care service provision by reducing institutional capacity for sustaining prevention-oriented public health over the long term, it is considered by many a necessary means of supporting family and community in the short term as remittances keep local economies alive.

### **Adaptive learning, a key component of the dynamics of resilience at all levels**

People and the formal and informal institutions that govern their lives and livelihoods actively learn from events and experiences including complex emergencies as and when they struggle to adapt and reorganize themselves with the goal of maintaining ‘normal’ function. In the context of systems of health care provision, emergency responders including fire fighters, ambulance drivers, para-medics, health center, clinic and/or hospital emergency doctors, nurses, and others are exposed to situations of extreme distress and suffering while assisting emergency victim-survivors. Some of these are humanitarian agency personnel, both local and international. Unless there are mechanisms for the “institutional memory” for them to tap, mistakes already made by their predecessors are likely to be repeated, threatening the emotional and social integrity of emergency response teams. This is why our International Resilience Workshop – Talloires 2007 sought to open up the discussion between emergency response practitioners, researchers, and policy makers from representative disciplinary and sector backgrounds. The IFRC’s model of good practice in building community resilience<sup>21</sup> had already provided grounds for optimism in this regard.

Similarly, efforts to galvanize the governments of United Nations members states to adopt resilience-

building strategies of disaster mitigation and response have made some progress, starting with a focus on school-based training in disaster preparedness.<sup>22</sup> The Hyogo Framework of Action 2005-2015 is not widely known in African health systems where the focus needs to be on maintaining effective health care services with contingency plans for disaster/emergency response. So far, the number of governments who have adopted and/or piloted education programs designed to inform and train children, youth, as well as adult citizens in practical disaster preparedness and response strategies at the local level is limited. However, the concept of disaster reduction by building human and institutional resilience resonates with the aim of this special issue, which examines the paradigm shift from vulnerability to strength as presented in the lead article (Almedom). We welcome our readers' participation in this ongoing discussion.

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