

# Emerging Trends Toward Holistic Disaster Preparedness

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## ABSTRACT

Our research reflects an emerging shift in understandings of effective preparedness practices from siloed approaches toward more holistic views. We trace a shifting perspective emerging in literature and present in the early qualitative data of current preparedness experts' interviews within an international humanitarian organization whose core mission is disaster preparedness and response. Designing effective information systems for disaster preparedness requires us to better understand the dynamic and implicit ways practitioners define effective work. Our pilot research begins to uncover preparedness experts' perspectives, with plans for the study to investigate how preparedness practitioners view, conduct, and evaluate their work at the lowest-level<sup>1</sup>. Our long-term research goal is to realize implications for the more effective design of tools and systems to support disaster preparedness.

## Keywords

Preparedness, Resilience, Holistic, Humanitarian Response, Disaster Risk Reduction.

## INTRODUCTION

Literature from the last decade reflects an emerging shift in understandings of effective preparedness practices for mitigating the negative effects of disasters upon communities. As preparedness practitioners are seeking to incorporate their long-term experience into current practice, the literature reveals a professional community in transition. Though hindered by traditional organizational structures and conceptual boundaries, new terms are emerging and old terms are being redefined to make room for new perspectives on emergency preparedness. This struggle for preparedness to negotiate a new place in the broader humanitarian and governmental disaster response communities has become especially apparent following the 2005 Asia Tsunami and the subsequent adoption of the Hyogo for Action Framework (HFA) by over 168 countries as a strategy for reducing economic, environmental, social and human losses of disaster (ISDR 2007, Castleton 2008).

Our pilot study is the first phase of a multi-method case study conducted in partnership with an international organization whose core mission is emergency preparedness and response. A key end-goal of our full research is to uncover "hidden work"—ways of thinking and operating that are implicit and unarticulated—in emergency preparedness practice (Suchman 1995). We expect this deeper understanding of implicit practices and perspectives to be critical for designing effective emergency preparedness information systems in the broadest sense of the term, to include tools, technologies (automated and non-automated), and human processes.

In this early work-in-progress paper, we focus on an emerging trend reflected both in the literature and our qualitative pilot work: a shift in emergency preparedness approaches from siloed, segmented approaches to a more holistic view. Through the literature review, we asked, *How is the larger international humanitarian community defining preparedness?* We conducted a two-pronged literature search: (1) first searching broad scholarly databases such as University of Washington World Cat and Google Scholar for publications within the

<sup>1</sup> Lowest-level should not be misconstrued to have least importance or decision-making authority. Humanitarian organizations are structured to support lowest-level practitioners as ultimate decision-makers (Chambers 1997).

past 20 years pertaining to international disaster preparedness and (2) second, conducting a targeted search of both academic publications and operational documents likely to be considered credible and reflective of perspectives of reputable practitioners operating in the field. We scoped for both what preparedness practitioners were doing, and how academics interpreted that work, giving greater weight to operationally respected sources.

## PAST VIEWS OF PREPAREDNESS WORK

Examining past perspectives of preparedness provides useful framing for current practitioner perspectives.

### Preparedness as a Response-Oriented Activity

Preparedness has traditionally been framed in terms of disaster response, with preparedness playing a supporting role to response. In other words, disaster preparedness was viewed as a way to make response easier, more efficient, or better overall. One agency disaster preparedness document explains that, “disaster management has traditionally consisted of preparedness for efficient and centralized emergency response, not the development of community-based or localized preparedness capacity” (IFRC 2000). Another way this concept is characterized is as short-term preparedness (Sutton and Tierney 2006). Response-oriented approaches tend to encourage activities such as resource mobilization and allocation, “stockpiling resources necessary for effective response,” pre-planned decision and communication procedures, and “developing skills and competencies to ensure effective performance of disaster-related tasks” (IFRC 2000, Sutton and Tierney 2006). As such, these preparedness activities are more immediate-term than long-term, focusing on preparing to respond quickly when disaster strikes (Sutton and Tierney 2006).

### Preparedness as Different from Development

While preparedness historically “serves” response, it does not neatly fit within the field of response (Yodmani 2001). At the end of the 20<sup>th</sup> century, although preparedness work was generally carried out by disaster responders, this work was not entirely integrated with response activities. Where practitioners and researchers placed preparedness within the disaster landscape varied and continues to vary considerably. Preparedness was viewed as distinct from both development and response efforts. Therefore, despite common elements, these fields developed parallel, uncoordinated, and sometimes conflicting operations, which did not lead to optimal outcomes (Yodmani 2001).

The term “disaster mitigation” emerged—referring to community tasks, such as digging dykes, to minimize the destructive effects of disasters (Christopolis 2001). Because disasters were viewed as one-off, somewhat rare, and almost entirely unpredictable, disaster preparedness and mitigation were often characterized as operating in a realm distinct from development activities and was often carried out by members, or former members, of the disaster response community. Practitioners in the development community who were dedicated to minimizing risks in impoverished communities tended to leave disaster risk to disaster responders (Kreimer 2000). Then when disaster struck, development workers stepped aside while response efforts were carried out and “when the emergency work was over, reconstruction efforts began to get the country ‘back on the development track’” (Yodmani 2001). As a result, preparedness practitioners continued to see a need to move preparedness from reactive relief activities to proactive activities integrated within development.

### Preparedness as a Highly Specialized Field

Around 2000, “risk” began to emerge as a new way to talk about preparedness. It incorporated the minimization of destructive effects of disasters and readying communities to “take precautionary measures and respond to an impending disaster” by assessing and developing plans for threats and vulnerabilities (Alexander 2002, Christopolis 2001, Sutton and Tierney 2006). There came “a paradigm shift in emphasis internationally from a disaster management to a disaster *risk* management approach” (Prevention Consortium 2009). This became a robust sector devoted to interventions and studies around disaster risk reduction (DRR), with organizations featuring separate programs and divisions.

Even today, these stand-alone units focusing on DRR are often treated as siloed programs only loosely related to other organizational activities, in much the same way that development programming for health or agriculture each have fairly distinct sectorial boundaries. In one recent survey of humanitarian professionals, respondents were asked if DRR was integrated into other development programming. Responses revealed “the current reality that humanitarian and development departments operating within the same agency are often operating as independent, non-integrated silos” (Castleton 2008). Although organizations have come to recognize the need for preparedness as a robust development activity within communities, not only as a part of response, DRR

remains strongly associated with response and hence is still conceptually separate from other development programs. Although this “otherness”—i.e., the sense that preparedness is somehow separate from response and separate from other development activities— persists within humanitarian practice, this siloed attitude is beginning to fade, and there is a rise of more inclusive terminology and perceptions of preparedness.

## EMERGING HOLISTIC PERSPECTIVES

The field is pushing beyond a siloed view of a single DRR sector, instead calling for cross-sector mainstreaming and harnessing the term “resilience” to close the gap between development and response.

### Stretching Beyond Siloed Programmatic Boundaries

In the last decade, with the advent of multiple-organization agencies focused in DRR, DRR experts have strongly advocated for the need to “mainstream” preparedness across sectors (Castleton 2008, ISDR 2007, Prevention Consortium 2009). Mainstreaming occurs when previously isolated topics, such as environment and gender, become recognized as cross-cutting themes to be integrated into program design across all sectors. The failure of communities to prepare, respond to, and recover from disasters is increasingly characterized not as a failure in response but as a failure in overall development:

*“A paradigm shift in the development sector – from income poverty to human poverty – has been paralleled in the disaster management sector by a shift from seeing disasters as extreme events created by natural forces, to viewing them as manifestations of unresolved development problems. This has led to increased emphasis on integration of poverty reduction programs with other sectorial issues such as environmental management, gender and public health,”* (Yodmani 2001).

This has opened doors within mainstream programming to see DRR as an essential part of their own sector, with initiatives that incorporate DRR under the terms of sustainable and holistic plans in health and other sectorial domains (Kapila 2008). Congruent with this trend, the humanitarian field more broadly is increasingly characterizing its own role in terms of broader human rights (Stevens 2008).

As preparedness practitioners encourage their professional communities to erase traditional boundaries of preparedness, these practitioners have embraced a term that represents holistic views that leap across the strong disaster management-DRR gap: *resilience*. The perspective represented by the term resilience is helping to create a new space where response and development cannot be divided by traditional boundaries. A 2012 literature review concludes that preparedness is moving into a new “*state of resilience...a state that is defined as the ability of a system to maintain or restore an acceptable level of functioning despite disruptions and failures*” (Hemond and Robert 2012). Resilience is particularly effective in eliminating the previous associations that has kept preparedness and DRR separate from development. Whereas DRM is considered closely linked to disaster management and DRR considered to be distinct from both response and development, resilience has emerged to fuse preparedness into central activities of both development and response. Resilience researchers Walker and Westley explain, “*the very dynamics between periods of abrupt and gradual change and the capacity to adapt and transform for persistence are at the core of the resilience*” (2011). This quote illustrates the bridge that resilience forms over the previous chasm between where development ended and response began.

### Capacity in New Terms

A more holistic attitude is also becoming apparent in the preparedness community’s conception of capacity. A prevailing message in recent literature is that DRR no longer views capacity solely within its traditional narrow scope (i.e., where ‘increasing capacity’ equates to developing specialized technical skills) but instead recognizes social and adaptive capacities of communities as components critical to successful preparedness. Although the dominate approach to preparedness practiced 20 years ago involved outsiders teaching preparedness for response, over the past decade participatory practices have become the rule in preparedness and DRR.

Community participation and capacity are being considered as central to the identity of DRR work. Interaction’s focus on the state of DRR in 2008 reports that international and non-governmental organizations (NGOs) recognize communities as already exercising prevention activities, and their empowerment as central to effective future preparedness. Specifically, Mercy Corps emphasizes that, “*risk reduction activity depends on the community’s capacity and participation*” (Carter 2008), and American Red Cross underscores the need for empowering communities to define needs and priorities and to conduct planning (Scheurer 2008). Further, Oxfam dedicates an entire article to capacity building, emphasizing that capacity is less about technical skills and primarily about the community articulating what makes it vulnerable and advocating for their human rights: “*Communities, with their intimate knowledge of the situation on the ground, hold the key to which disaster risk*

*reduction programs are most needed, and wanted, which will last, which will fail, and which have the potential to address key rights and move development forward” (Stevens 2008).*

These examples represent a professional community with a shifting corporate definition of development capacity. The professional community no longer accepts a piecemeal definition of capacity that categorizes skills, individuals and communities in terms of task-based skills. Even the term “resilience” underpins this broader view of capacity, as rooted in local communities who are the primary actors (Hemond and Robert 2012). Resilience research (outside of disaster response) emphasizes social adaptability as a key component of resilience: “*Adaptability is the capacity of a socio-ecological system to adjust its responses to changing external drivers and internal processes*” (Folke et al. 2010). This view is being echoed within the NGO community: “It is the capacity of communities, themselves, that build a more resilient community” (Carter 2008). We see this emerging use of resilience and holistic cross-sectorial approaches to preparedness beginning to emerge in the perspectives of emergency preparedness experts who participated in our pilot study.

### **PRELIMINARY RESEARCH: A PREPAREDNESS SPECTRUM**

In this section, we describe how community-wide shifts beginning to appear in recent literature are playing out among preparedness experts. Our pilot research aligns with a shift away from segmented, siloed perspectives to more holistic views. Pilot data includes interviews with (1) five emergency preparedness experts in different nations and organizational levels, (2) a key informant with the organization, who serves as the liaison between our research team and the organization, and (3) a small group of employees who recently conducted an internal study of organizational capacity relevant to emergency preparedness and response. All interviews were approximately one hour long and were audio recorded, with notes fleshed out immediately after interviews. Interview topics included defining emergency preparedness, describing who drives emergency preparedness at various levels of the organization, and identifying stakeholders whose perspectives should be sought in future phases of the research.

Our pilot interviews revealed a spectrum of perspectives on disaster preparedness between segmented and holistic approaches, heavier toward the holistic end of the spectrum. Our data suggests that instead of a dualistic picture, with some stakeholders representing purely segmented perspectives and others squarely within a holistic perspective, there exists a complex mix, or spectrum, of the two perspectives among experts and among the other emergency preparedness stakeholders with whom they engage. For example, when they defined preparedness, some practitioners presented heavily holistic views: “*I think you have to look at the full umbrella across the mitigation, the risk reduction, the preparedness, the contingency planning, the recovery. They all have to be kind of considered; I don’t think you can pull out one piece and say you are only working on one thing.*” But others defined preparedness more narrowly, as a subset of holistic approaches centering on the concept of resilience: “*Preparedness contributes to disaster reduction and to resilience... Preparedness is a subset of risk reduction, which is a subset of resilience.*”

And other participants represented mixed perspectives, for example by discussing disaster preparedness work in terms of short-term tasks such as stockpiling relief goods but then defining preparedness in a holistic way: with a broad scope focused on reducing vulnerability before disaster strikes. Capacity frequently emerged as an issue important to emergency preparedness, with a few traditionally framed references to capacity that emphasized training for specific technical skills such as conducting assessments and preparing reports. But much more common were references to capacity in terms of soft skills such as community facilitation, management and administrative capacity, “*We can focus on stock and training and funding, but if they don’t have the capacity to manage, then the preparedness doesn’t come to much... A preparedness project should have something in it to ensure that minimum level of capacity.*”; and holistic views of capacity as anything necessary to reduce vulnerability to disaster: “*In my work, I define [disaster preparedness] as the capacity or skills of the person, community, and institution to recognize what is the risk, what is the vulnerability that they have and how they take different action to minimize loss and how can be reduced the consequence. For me this is preparation.*”

Preparedness experts typically had backgrounds in emergency response before coming to preparedness. Several of these experts expressed the desire to move from “reactive” to “proactive” work that better addressed root issues through a focus on community resilience. This proactive work, particularly when described by practitioners toward the holistic end of the spectrum, included a broader scope of work and a longer-term timeline. Practitioners with a deep background in DRR had highly holistic views of preparedness, erasing what were traditional response and development silos through a focus on cross-sector work and resilience:

“We are at a bit of a crossroads. There is a tension between just doing the usual thing and just being a bit like a domestic organization or maybe trying to move forward on it and trying to be a bit more developmental and visionary and even start questioning some of our traditional ways of dealing with disasters and not just focusing on the response anymore and not just focusing on preparedness anymore. I think that would be useful. But of

course it all depends on how the [international-level disaster preparedness team within the humanitarian organization] defines its own role, but from my experience- I also have a developmental background- I clearly see the need for having a bit more of a holistic view of disasters than just being able to respond to them.”

The above quote illustrates some tension between individual perspectives on preparedness among expert practitioners and the way the organization has traditionally framed its core mission. Individual experts described struggles to define preparedness work and to share that definition organizationally: “*We are constantly going back and forth on definitions.*” These “constant” negotiations regarding how the organization defines disaster preparedness work shows the influence of expert practitioners on the organization at large in acting as catalysts for more holistic approaches. The catalytic role of preparedness practitioners is a focus of future research that can capture stakeholder and organizational perspectives during the current transition in preparedness views.

## CONCLUSION

In summary, our preliminary research suggests the humanitarian community is gaining traction in a transition to a holistic view of preparedness. According to this emerging perspective, successful preparedness can be characterized by a) cross-sector mainstreaming, b) harnessing the term “resilience” to close the gap between development and response, and c) exposing the broader identity of capacity as community empowerment and central to preparedness. Because humanitarian organizations rarely have single, static, explicit definitions, uncovering implicit understandings such as this represents critical research for designers. As we turn our view to future research, we expect to identify deeper understandings of what practitioners value and how they define success. Our early observations confirm the continued need for research to reveal and understand the implicit values of practitioners and their organizations if we hope to contribute to enhancing effective practice.

## REFERENCES

1. Carter, E. (2008) Mercy Corps Indonesia. Building Resilient Communities, *Monday Developments* (InterAction), 10-11.
2. Castleton, A. (2008) Where Do We Stand? Results of the First U.S.-Based NGO Baseline Disaster Risk Reduction Survey, *Monday Developments* (InterAction).
3. Chambers, R. (1997) *Who's Reality Counts? Putting the First Last*. London: Intermediate Technology Publications.
4. Christopolis, I., Mitchell, J. and Liljelund, A. (2001) Re-framing risk: the changing context of disaster mitigation and preparedness, *Disasters*, 13.
5. Folke, C., Carpenter, S.R., Walker, B. and Scheffer, M. (2010) Resilience thinking: integrating resilience, adaptability and transformability, *Ecology and Society*, 15, 4.
6. Hemond, Y. and Benoit R. (2012) Preparedness: the state of the art and future prospects, *Disaster Prevention and Management*, 21, 4, 404-417.
7. Hilleboe, A. (2008) Catholic Relief Services. Integrating Disaster Risk Reduction into Development Activities, *Monday Developments* (InterAction), 8.
8. IFRC. (2000) Disaster Preparedness Training Programme, International Federation of Red Cross and Red Crescent Societies.
9. ISDR. (2007) Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, *Final report of the World Conference on Disaster Reduction (A/CONF.206/6)*. United Nations. [http://www.unisdr.org/files/1037\\_hyogoframeworkforactionenglish.pdf](http://www.unisdr.org/files/1037_hyogoframeworkforactionenglish.pdf).
10. Kapila, M. (2008) International Medical Corps. The Health Sector and Disaster Reduction, *Monday Developments* (InterAction), 14-15.
11. Kreimer, A. and Arnold, M. (2000) *Managing Disaster Risk in Emerging Economies*, World Bank Publications.
12. Provention Consortium. (2009) *Mainstreaming Disaster Risk Reduction into Development: Challenges and Experiences in the Philippines*, Geneva: IFRC/Provention Consortium.
13. Scheurer, R. (2008) ARC. Cyclone SIDR: Community-Based Early Warning in Bangladesh, *Monday Developments* (InterAction), 9.
14. Setchell, C. (2008) US Foreign Disaster Assistance. Multi-Sector Disaster Risk Reduction as a Sustainable Development Template: Bamako Flood Hazard Mitigation Project, *Monday Developments* (InterAction), 18-19.

15. Stevens, E. (2008) Oxfam America. The Priorities That Count, *Monday Developments* (InterAction), 20-21.
16. Suchman, Lucy. "Making Work Visible." *Communications of the ACM* 38, no. 9 (Sep 1995): 56-64.
17. Sutton, J. and Tierney, K. (2006) Disaster Preparedness: Concepts, Guidance, and Research, *Fritz Institute Assessing Disaster Preparedness Conference*. Sebastopol, California: Fritz Institute.
18. Walker, B. and Westley, F. (2011) Perspectives on Resilience to Disasters across Sectors and Cultures, *Ecology and Society*, 16, 2.
19. Yodmani, S. (2001) Disaster Risk Management and Vulnerability, *The Asia and Pacific Forum on Poverty*. Manila: Asia Development Bank, 32.