# Evaluating the Assessment of the UNISDR Disaster Risk Reduction Framework: Past, Present and Future

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## DEDICATIONS

I dedicate this thesis to my friends, family, and my beloved for the continuous love and support in all of my endeavors. Most importantly, to my parents who sacrificed so much for my success and life accomplishments. I will always be indebted.

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## Abstract

Evaluating the Assessment of the UNISDR Disaster Risk Reduction Framework: Past, Present and Future
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The goal of this paper is to critically evaluate and discuss the ways in which the success of disaster risk reduction is defined, and assessed in the United Nations International Strategy for Disaster Reduction (UNISDR). The UNISDR was created in 1999 as the first and largest organization to address Disaster Risk Reduction (DRR) on a global scale. Its presence and influence has thrived and evolved on the vision and purpose of ensuring the implementation of the International Strategy for Disaster Risk Reduction (ISDRR), established in 2005, with an emphasis on promoting a "culture of prevention."[1] This non-governmental organization is politically and financially supported by initiatives from the ISDR Support Group. This ensures the sharing of information and resources between the UNISDR and all UN Member states in the field of Disaster Risk Reduction. The following research will discuss the public perception of the organization in their disaster reduction efforts through the UNISDR Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (HFA) Midterm Review (MTR) assessment tools, and the roles of different actors involved in the assessments.

Using the Science, Technology, and Society (STS) co-production framework of knowledge, and its implications on the dichotomous relationship between expert and non-

[1] "What Is the International Strategy?" Who We Are. http://www.unisdr.org/who-we-are/international-strategy-for-disaster-reduction.

expert individuals in Disaster Risk Reduction (DRR) policy decision-making, I evaluate the role and input of stakeholders and disaster community members. I focus on their contribution to the knowledge gained from the United Nations' disaster assessment tools, as well as improvements of the HFA. Research on DRR and the frameworks introduce by the UNISDR have often been the topic of discussion, without much thought on the processes and individuals involved in assessing the effectiveness of these frameworks. This research will shed some light on this topic by examining the stakeholders of DRR, the characters behind the assessments, and the opportunities and barriers to change using the guidelines and policies of the HFA.

# CHAPTER 1: INTRODUCTION

The Hyogo Framework for Action (HFA) is a ten-year framework created by the United Nations office of disaster reduction (UNISDR), and endorsed by the United Nations General Assembly in 2005. The guideline aims to provide a detailed blueprint of the collaboration required from different sectors and actors to reduce disaster losses around the world. The development of the document included the partnerships of governments, disaster experts, and other international agencies, among many others to develop a coordinated Disaster Risk Reduction (DRR) system. The ultimate goal of this doctrine is to significantly reduce disaster losses by 2015 by building resilient communities and nations.

Disaster has been an important topic for Science, Technology and Society (STS) scholars. Many of the issues highlighted by scholars include studies done examining international organizations from a local standpoint, where the work of the organization is measured through the organization's output, and practices post-disasters within the DRR structure. Not much research has been conducted on the structural organization of international organizations servicing disaster communities. Research has been done to demonstrate the effects international organizations have on disaster communities through their policies, without a detailed perspective on why these specific policies were created, and how they assess their work within disaster communities.

In this paper, I examine the UNISDR Hyogo Framework for Action Midterm Review assessment tools. Specifically, I illustrate how the data produced from these assessments help the UNISDR understand and govern DRR, which subsequently affects

DRR locally, regionally, and nationally. This will demonstrate the effects of DRR, and the amount of participation from different stakeholders as it trickles down to the local, grassroots population, and marginalized groups. This study offers an institutional level of analysis on STS theories such as co-production by examining the internal structure of the UNISDR organization through frameworks and DRR policies. It provides a nuanced scope on the logic and execution methods used in international organizations, while evaluating whether the institution's goals resonate with the institution's actions.

Intervention in disaster reduction is a double-edged sword. Organizations such as the UNISDR do not only alleviate vulnerability, they are also at risk of exacerbating vulnerability in the communities they are designed to assist. With this in mind, disaster relief goes beyond outcomes such as decreasing risk and building resilience. The processes used to produce these outcomes play an even bigger role in defining the results. Are we limiting community members from contributing to their recovery process? Is expert knowledge the only type of knowledge used in the process? Or, does local knowledge matter? These are just a few questions I hope to resolve along with solutions to help improve the current assessment, and auditing methods in the UNISDR HFA.

The methods used in this research include an analytical examination of the UNISDR DRR Reports including, the 2005 HFA, and the 2010-2011 HFA Midterm Review. Along with these resources, I systematically analyze how and where co-production, and the inclusion of local knowledge are used in DRR from the UNISDR assessments of the 2005 HFA. Examining the presence of co-production will help determine the grassroots knowledge contribution, and the role disaster community members have in DRR. Quantitative data supplied by the HFA assessments, and HFA

Monitor questionnaires, as well as secondary research from academic journals, not limited to the STS community, will be used to assess the assessments of the UNISDR HFA, and DRR efforts.

This first chapter will discuss the dichotomy of natural disaster and human disasters, co-production and knowledge inclusion in disasters, vulnerability in DRR, and a historical analysis of the UNISDR, focusing on the evolution of the institution. The next chapter will discuss the goals, assessment tools, stakeholders involved in the HFA Midterm Review. The third chapter will examine the inclusivity of the assessment and how it affects HFA implementation in developing nations. The final chapter will assess the findings, and examine the upcoming improvements from the successor of the HFA.

**1.1: Natural vs. Human Disaster**

In the discussion of disasters, what may initially come to mind are "natural disasters," which are usually synonymous to hurricanes, tornadoes, or earthquakes. We preemptively dismiss any consideration for human-made disasters induced by society. Generally, there is an absence of accountability associated with human actions in the creation of disasters, with a defense mechanism to resort, to labeling disasters as "natural."[2] This brings us to our first question: are the disasters we face in society today "natural," or perpetuated human-made disasters?

Greg Bankoff, Mike Davis, and Scott Frickel represent leaders in a scholarship attempting to debunk the natural behind "natural" disasters. These scholars are

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[2] Greg Bankoff, "No Such Thing as Natural Disaster," (Harvard International Review, 2010), 1.

redefining what constitutes as a natural disaster, taking into account the human actions involved in disasters.

Greg Bankoff's article, "No Such Thing as Natural Disaster," (2010) challenges the conventional definition of natural disasters, and the misconstrued perceptions behind the world "natural." Instead of the term "natural disaster," he uses the term "hazard" to define the basic principle of how disasters come to be. According to Bankoff: "Hazards are natural events, occurring more or less frequently and of greater or lesser magnitude, but disasters are not. What makes a hazard into a disaster depends primarily on the way society is ordered."[3] Furthermore, he explains the ways in which human actions, and systems produced by humans, create a disproportion between groups in society, putting certain groups at more of risk than others.[4] One of the main reasons he believes society explains disasters as a natural aspect, is due to the fact that they are easier to explain in those terms, as well as the political convenience of blaming nature, which alleviates accountability, and defines disasters as a supernatural force.[5]

Taking into account the historical context of natural disasters, Bankoff connects colonial relief and political expediency of development aid as the reason for the popularity of natural disasters. The colonial practices of the 19th century are the predecessor and foundation of the development systems that are currently used in the modern world. This leads to his observation that relief campaigns are more focused on serving the interests of the "relievers rather than the relieved."[6] To demonstrate this he evaluates the post-Earthquake Haiti where policy-makers, and community members were

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[3] Ibid.
[4] Ibid.
[5] Ibid., 2.
[6] Ibid.

eager to claim "nature, fate, and God" as the cause for the disaster, instead of better evaluating other reasons that might have caused the disaster. Because the "natural" aspect of the disaster was the primary focus, factors such as the history of the area and human induced hazards of the area lead to an inconclusive understanding of the disaster in relation to Haiti's disaster history, which produced ineffective prevention methods. Bankoff's study of disaster and the 2010 Haiti Earthquake provides an empirical outlook on the knowledge gaps, and the effects caused by the absence of co-production, accountability from policy/ scientific structures, and society in provoking disasters. His research drives the importance of understanding the multiplicity of disasters and recognizing science, society, along with other knowledge production tools as means of resolve.

Sociologist, Scott Frickel provides another example where actors and government officials did not take into consideration the socio-political factors of disasters. In "On Missing New Orleans: Lost Knowledge and Knowledge Gaps in an Urban Hazardscape." Frickel discusses the government's role in disasters and disaster prevention, along with issues faced when making decisions solely using knowledge that is readily available, rather than "unknown" factors that are not taken into account at first glance. [7] He calls this phenomenon, "lost knowledge," and uses the Hurricane Katrina disaster in New Orleans to explain how this phenomenon affected the outcome of the hurricane and caused knowledge gaps between scientific tools used to predict hurricanes, and the historical aspects that were excluded while using these tools. He makes three

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[7] Scott Frickel, "New Orleans: Lost Knowledge and Knowledge Gaps in an Urban Hazardscape," (Forest History Society and American Society for Environmental History, 2008), 645.

observations in the New Orleans case: 1) New Orleans is not only the top producer of hazardous waste, but also a net importer of waste; 2) there is a high unevenness in our knowledge of pollution (the what, where, and how it affects us); 3) the fact of our ignorance towards toxic environments, and toxic bodies.[8] All of these factors led to the U.S and New Orleans' unprepared fate post Hurricane Katrina.

Similar to Frickel's approach, disaster historian Mike Davis, discusses the historical aspect of disasters in Los Angeles in "Los Angeles After The Storm: The Dialect of Ordinary Disaster." He examines the paranoia about nature and neglect in Los Angeles, which puts the city in the way of many types of disasters with a high occurrence. Calling attention to the prioritization of market forces, he notes: "For generations, market-driven urbanization has transgressed environmental common-sense."[9] Because the need for development and urbanization, trumps our understanding of disasters, the social construction and ideology of natural disasters imposes and influences false notions and expectations of the environment. Despite the concerns discussed by scientists and the warnings of highly inevitable disasters, Los Angeles' urbanization into natural territories continues. In the words of sociologist Benjamin Sims in light of the 2005 Hurricane Katrina Disaster in New Orleans, U.S: "We live in a world in which daily life is ever more tightly tied to widely distributed and multilayered infrastructure systems; a world in which technological infrastructure itself contributes to potentially enormous changes in the natural world, in which increasing population

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[8] Ibid., 648.
[9] Mike Davis, "Los Angeles After The Storm: The Dialect of Ordinary Disaster," (Editorial Board of Antipode, 1995), 223.

density in many areas contributes to natural disasters…"[10] It is almost as if society is challenging nature and its natural capabilities by attempting to outmaneuver the natural course of nature through science and technology. Frickel and Davis' observations offer a detailed explanation of how a dependence on scientific tools and knowledge alone creates an incomprehensive analysis of disasters.

Similar to critical disaster scholarship, the UNISDR understands the consequences of labeling disasters as natural. According to the organization, "There is no such thing as a "natural" disaster, only natural hazards." The main goal of the Disaster Risk Reduction (DRR) program is to reduce the damage caused by natural hazards such as earthquakes, floods, droughts and cyclones, through an ethic of prevention."[11] The main reason for this terminology shift is to avoid a misunderstanding of the problems in disasters, as explained by Sálvano Briceño, Director of the Secretariat of the International Strategy for Disaster Reduction: "the phrase 'natural disasters' conveys the perception that if disasters are natural there is little that can be done, except by preparing to respond to them, instead of reducing vulnerability and building resilience, which need to be the focus of risk reduction and management policies. This is why scholars increasingly try to avoid speaking about 'natural disasters' and rather refer only to 'disasters' or 'natural hazards'." [12] This understanding of natural disasters vs. natural hazards played a critical role in the negotiations of the UNISDR HFA, in which the UNISDR broke away from the

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[10] Benjamin Sims. "Things Fall Apart: Disaster, Infrastructure, and Risk." Social Studies of Science, 2007, 94.
[11] "What Is the International Strategy?" UNISDR News. http://www.unisdr.org/who-we-are/international-strategy-for-disaster-reduction.
[12] Sálvano Briceño. "Looking Back and Beyond Sendai: 25 Years of International Policy Experience on Disaster Risk Reduction." Int J Disaster Risk Sci International Journal of Disaster Risk Science, 2015. 3.

historical perception of disasters as "natural." Along with the need to understand disasters as forces that are sometimes the result of human inductions, involving the communities affected by disasters in policy also helps diversify the knowledge used to understand the societal and local characteristics that contribute to the result of disasters.

### 1.2 Disasters and Co-Production

Knowledge production, and the classification of knowledge based on what is socially accepted as "valuable," plays a crucial role in understanding how some knowledge, such as scientific knowledge carries more authority than local knowledge, in policy. In the DRR community, policy makers are indisputably deemed as the experts of disaster research with the powerful tool of not only possessing "the best knowledge," but also the privilege to create it. This knowledge creation can sometimes be used as a classification tool that produces the status quo of valuable knowledge, which consequently marginalizes unconventional types of knowledge from local and grassroots communities. Instead, a more cohesive and inclusive approach is supported in the Science and Technology Studies (STS) community called co-production. As the creator of this theoretical concept, Shelia Jasanoff, coins co-production as, "shorthand for the proposition that the ways in which we know and represent the world (both nature and society) are inseparable from the ways in which we choose to live in it."[13]

A daunting task in STS research is the implementation of co-production, and whether science (experts) can collaborate with society and local communities to solve sociotechnical issues. In her book, *States of Knowledge: The Co-Production of Science*

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[13] Sheila Jasanoff. States of Knowledge: The Co-Production of Science and Social Order. London: Routledge, 2004. Kindle Edition, 2.

*and Social Order*, Jasanoff, defends co-production through a milieu of different platforms in STS, to explain, "Scientific knowledge, in particular, is not a transcendent mirror of reality…it both embeds and is embedded in social practices, identities, norms, conventions, discourses, instruments and institutions---in short in all the building blocks of what we term the *social*."[14] Co-production of science and society means eliminating technological determinisms, as well as social constructivism to create a correlating, and interdependent platform for the social and science where neither one can advance without the other. If scientific knowledge is embedded in all aspects of the social world, then in return the social world is embedded in scientific knowledge.

Ultimately, this has allowed co-production to develop into "a process that is as foundational as constitution-making or state-making in political theory, because it responds to people's deepest metaphysical concerns."[15] It does this by blurring the disparities and redefining the boundaries between "the social and the natural, the world created by us and the world we imagine to exist beyond our control."[16] Through the recent academic debates in the field of STS, co-production has emerged as a challenger of natural and social determinism during the 1990's infamous "science wars." It came into STS studies as a "symmetrical" concept that calls on the social aspects of cognitive understandings, while highlighting the "epistemic and material correlates of social formations."[17]

More importantly, Jasanoff drives the notion that co-production is not a "fully fledged theory," but should be seen more as an idiom---"a way of interpreting and

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[14] Ibid., 3.
[15] Ibid.
[16] Ibid., 40.
[17] Ibid., 42.

accounting for complex phenomena so as to avoid the strategic deletions and omissions of most other approaches in the social sciences."[18] The concept of co-production by no means underestimates other theories and approaches in STS; neither does it stand alone as a sole solution to the integration of science and society in knowledge production. Instead, it must be properly situated in a historical context and combined with other existing theories.

The complexity of co-production requires understanding the surrounding historical, political, and social factors. Because of this, Jasanoff warns us of its usage to prevent an overstatement of the term. To organize the work in the "co-productionist idiom," Jasanoff divides co-production into two streams of thought: constitutive co-production and interactional co-production. [19] Constitutive co-production deals with "the ways that stability is created and maintained."[20] Influenced by Foucault and other scholars, as well as Bruno Latour's "Actor-Network Theory," in which the equalities between technologies and people, the natural/ unnatural, and the position each factor plays in relation to another are highlighted. On the other hand, interactional co-production focuses more on the epistemology of knowledge. Questions such as how knowledge is produced, problems are resolved and what determines 'credibility' is examined in this field of co-production.

Essentially, understanding co-production boils down to understanding its goals in STS. The first being, understanding the "*emergence and stabilization* of new objects," knowing how these new objects come about and more importantly continue to thrive.

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[18] Ibid., 51.
[19] Ibid., 48.
[20] Ibid., 49.

Second is the "framing and resolution of *controversy*," and understanding how they are created and resolved. Third is "the *intelligibility and portability* of the products of science and technology" across time, space, and culture. The last goal focuses on the "*cultural practices* of science and technology in contexts that endow them with legitimacy and meaning." Altogether, these four focal points in the "co-productionist idiom stresses the constant intertwining of the cognitive, the material, the social and the normative.[21]

The varied works included in Jasanoff's book shows the large scope of co-production in the field of STS. Borrowing from disciplines of anthropology, history, political science, sociology, and medicine, co-production connects many fields while focusing on relationships between science, knowledge and social order.

Although Jasanoff does not focus on community participation in knowledge making, other STS scholars highlight this aspect of scientific knowledge production. Jason Corburn, author of *Street Science: Community Knowledge and Environmental Health Justice*, for example, emphasizes the importance of local knowledge in the co-production of science and society. He explains Jasanoff's concept in terms of not only bringing the "social back to science policy making," but also how (local knowledge) is "applied, stabilized and institutionalized over time."[22] The UNISDR, along with it's efforts in reducing risk and vulnerability in disaster communities, aims to bring the social back to science/ policy in the HFA doctrine, but does not execute it in the assessment methods of the HFA MTR. The assessments focuses a great deal on the implementation of the document in local, regional, and national communities, with a minimum amount of

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[21] Ibid., 61.
[22] Jason Corburn. "Community Knowledge In Environmental Health Science: Co-producing Policy Expertise." Environmental Science & Policy 10, no. 2 (2007): 152.

data on how individuals directly involved in disasters are affected by the methods used in DRR, the HFA, and their input on the assessments done within their communities.

According to the UNISDR, their version of coproduction is mostly seen in the collaboration efforts with private sectors, and businesses within the disaster communities to create advocacy, awareness, and social investments to create sustainability. In the Private Sector Strengths Applied (2013), the UNISDR claimed: "The private sector can put many elements found among their business practices to use towards DRR. The private sector can make communities safer and more resilient by setting standards and quality assurance criteria for safer structures in urban areas, invest in programmes or individual projects towards risk reduction efforts in their country and community, provide expertise to help with administration, internal business processes, and external disaster risk assessments, and act as a wellspring for socially responsible volunteers and funding."[23] While this may be true, essentially, the UNISDR's version of co-production is built on an economic platform they share with business associates, which includes local businesses, but excludes the local community members that help these businesses thrive. Moreover, emphasis is placed on the economic structure of the communities to create stability and sustainability, rather than the social needs that have immediate effects on the community's resilience.

[23] "Private Sector Strengths Applied: Good Practices in Disaster Risk Reduction from Japan." http://www.unisdr.org/files/33594_privatesectorstrengthsapplied2013di.pdf. 3.

### 1.3: Co-Production and Inclusive Knowledge

The UNISDR's economic form of co-production fosters an underrepresentation of community members involved in disasters by limiting their knowledge contribution in the assessment the process. With little involvement from those directly affected by disasters, designated officials of the UNISDR are the main actors in handling the assessment process, which disables communities, and creates a higher dependency on the policy-makers of DRR. Similar to the notions of co-production displayed by Jasanoff, Bankoff, Frickel, and Davis, Jason Corburn's, *Street Science: Community Knowledge and Environmental Health Justice*, advocates for the need of democratic practices and policies that are inclusive to all members of society.

In his book, Corburn investigates how community based knowledge and information can be efficiently used in the decision making process of environmental health. Corburn focuses on the contributions of local knowledge in policymaking using what he describes as "street science," as a means of achieving environmental health justice. Corburn defines "street science" as a practice of science, political inquiry and action that uses an environmental health justice framework to include local knowledge about exposures and community practices with professional techniques.[24] Using "street science," his book aims to justify why scientific knowledge is always "co-produced," as well as to provide a "better descriptive, analytic, and prescriptive understanding of local environmental health knowledge".[25] The "street scientists" are individuals within local

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[24] Corburn, Jason. Street Science: Community Knowledge and Environmental Health Justice. Cambridge, MA: MIT Press, 2005. 3, 44.

[25] Ibid., 217.

communities who work in cooperation with advocacy groups that use the power of local knowledge to challenge expert knowledge, by involving themselves in the policy process to fight for justice in environmental health.

One of the central issues that arise in this book deals with the little trust science has on the lay public to democratize science. Corburn borrows from Thomas Dewey, Theda Scokpol, Shelia Jasanoff and others to advocate for the integration of experts and citizens: "This means that the professionals must be reconceptualized from "guarantor of safety", to "guarantor of recognition"- of new knowledge, new voices, new ideas, new possibilities, and new directions for interventions".[26] Using the model of co-production, "street science" shows how a deliberative process between experts and the community can transpire through local knowledge and stories from people.

For the purpose of this thesis, I will focus on two of Corburn's four case studies (subsistence fishing risks, and air pollution) in the low-income community of Greenpoint/Williamsburg (G/W) in Brooklyn, NY. In the first case of subsistence fishing, Corburn goes into detail about an activist group called the Watchpersons Project, along with G/W residents who used local knowledge to improve the EPA's Cumulative Exposure Project. The Cumulative Exposure Project was a program that measured air toxins at the community level.[27] A risk assessment procedure was used to measure the toxins in the air, but many locals disagreed with the procedure's thoroughness and caused the introduction of the BAEL project, a Watchperson Project, focused on serving the

[26] Ibid., 41.
[27] Ibid., 79.

needs of the local community within G/W, pushed for the EPA to pilot a new cumulative-exposure project in the G/W neighborhood.[28]

The new exposure assessment only included the assessment of a typical "American urban diet," which excluded the diets of the G/W majority ethnic groups, such as the Dominican, Caribbean, and local angler immigrant community members, whose diets consisted of locally caught fish from the East River.[29] The "American urban diet," produced by the EPA simplified the community's dietary model into one model without consideration for the multiplicity of ethnic groups and diets in Brooklyn, NY. To advocate for an expansion of the diets assessed to include those who eat locally caught fish, the Watchperson Project stepped in and collected their own data through interviews with the local immigrant community, and found major discrepancies between the their assessment and the EPA's urban diet assessment of G/W. After meeting with EPA analyst to present the discrepancies between the studies, and the importance of the including Angler diets in the exposure assessment, the EPA decided to work with Watchperson Project to conduct inclusive, and thorough interviews as an attempt to gain local knowledge to add to their analyst studies.

Through the research done by the Watchperson Project, the EPA concluded that the exposure of toxic contaminants found in the local anglers' diets exceeded the EPA's oral reference doses.[30] According to Corburn, "The narratives reflected what residents already knew, and the quantitative data allowed the EPA to find a way of incorporating

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[28] Ibid., 82.
[29] Ibid., 83.
[30] Ibid., 103.

local narratives into the exposure assessment."[31] The "street science" of local residents allowed the EPA a better look inside the lives of anglers, to find the information they would have never found through the assumptions of professional knowledge alone. Without the co-production of the expert knowledge from the EPA and the local of knowledge of the angler community, the information needed to make a risk assessment would have been inconclusive. As Jasanoff states in her "Science and citizenship: a new synergy" piece, "For governments to neglect the richness and complexity of public knowledge, therefore, is to risk serious loss of credibility."[32] By ignoring the importance of local knowledge and not allowing a co-productive environment to transpire between the angler population and the EPA during their initial risk assessment stage, the EPA endangered the lives of people in the angler community. If the Watchperson Project did not intervene and conduct their research, detrimental consequences could have been the ending result.

In the second case, Corburn gives another example of the importance of local knowledge to the doing of good science, such as the production of neighborhood exposure maps, used to communicate "street science" to the experts. The Toxic Avengers was a group of high school students that took action against neighborhood environmental hazards. The Toxic Avengers developed a community map of the community (known as the Skulls map) to organize residents in order to bring attention to the poorly maintained

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[31] Ibid., 107.
[32] Jasanoff, Sheila. "Science And Citizenship: A New Synergy." Science and Public Policy 31, no. 2 (2004): 94.

and dangerous Radiac waste facility in the G/W neighborhood at a court hearing disputing the environmental impacts of the facility.[33]

Though the student maps contained vital information, due to their cartoon like features more technical maps had to be generated in order to compete with the experts at the Radiac waste facility hearing. With an uphill battle between the community and the facility, the use of local knowledge accomplished two things: getting the senate to pass bills requiring USA waste to perform an EIS (environmental impact statement), and getting the court to block the facilities permit and ending its operation.[34]

In this case, the Toxic Avengers did not single handedly affect the environmental policy decision making process, but they did, however; help the community organize and by bringing attention to the issue and also involving policy makers through co-production, eventually to influence the decision in the case. The lawyers and policy makers understood the law while the community offered expertise on how harmful the facility was to their environment as a primary source, and together they were able to make a successful case in court. Corburn explains that the "street science" maps not only extended the understanding of scientists, but it also "radically challenged professional analyses."[35]

According to J.C. Gaillard et al., the UN recognizes the importance of local knowledge and calls for a "concerted worldwide effort to utilize existing scientific, technical and local knowledge in each country, adding new knowledge as needed in order

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[33] Corburn, Jason. Street Science: Community Knowledge and Environmental Health Justice. Cambridge, MA: MIT Press, 2005. 175.
[34] Ibid., 190.
[35] Ibid., 198.

to underpin the adoption and implementation of a public policy for disaster prevention."[36] In the UNISDR platform, the inclusion of local knowledge is rhetorically understood as a valuable tool in the organization, but such inclusion has not actually occurred. In order to benefit from the concept of co-production and collaborative knowledge the intentions of the General Assembly must be backed by implementation and other kinds of experts included in the writing of reports.

### 1.4: Disaster Governance and Producing Vulnerability

Disaster governance, like any type of governance, requires effective policy, a cohesive collaboration between the governing and the public, and a comprehensive plan on how to meet the needs of the community. Many of the current governing systems in place for disaster relief, as reflected by the authors above, create a disconnect between the policies produced by those governing and the communities they serve. Reasons for this disconnect range from political, economically, and social factors that influence how relief is administered, and why certain institutions, organizations, and states get involved in the relief aid process.

Authors such as Kathleen Tierney, and William Easterly, among others, have all attempted to debunk the issues and challenges surrounding risk governance, and the shortcomings within the DRR system. One of the common themes among these authors is the slow regression of collaboration international organizations have with local communities they serve, when moving through the different stages of relief. The most

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[36] J. C. Gaillard et al., "From Knowledge to Action: Bridging Gaps in Disaster Risk Reduction." Progress in Human Geography 37, no. 1 (2013): 97.

effective stage is the immediate relief stage, while the least effective stage starts at the rehabilitation and rebuilding stage. This may due to the amount of time and dedicated attention to the communities needed during the rebuilding stage that agencies do not have to provide.

In Tierney's "Disaster Governance: Social, Political, and Economic Dimensions," she focuses on some of the political, economical, and social forces that influence disaster governance and the characteristics of the systems created by these influences. She begins by explaining where the concept of governance is derived from and what actors are involved in the process: "The concept of governance itself arose in part from the recognition that functions that may formerly have been carried out by public entities are now frequently dispersed among diverse sets of actors that include not only governmental institutions, but also private-sector and civil society entities."[37] Understanding who the actors are in the process, explains some of the interests and justifications that drive the reasoning for the policies implemented.

Christopher Jasparro et al. identified some unexpected actors that were involved in the aid relief of the tsunami in "Lessons of the Indian Ocean Tsunami." From global criminal networks to terrorists and extreme groups exploiting disaster relief and infiltrating charities to induce propaganda, we realize that not all actors in disaster relief are there to assist disaster community members[38]. Due to the rise of unwarranted actors in disaster relief, the term "competitive compassion," is coined and defined as "the massive

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[37] Kathleen Tierney. "Disaster Governance: Social, Political, and Economic Dimensions." Annual Review of Environment and Resources 37 (2012): 341.
[38] Christopher Jasparro et al., "Transnational Geopolitical Competition and Natural Disasters: Lessons from the Indian Ocean Tsunami." *The Indian Ocean Tsunami: The Global Response to a Natural Disaster*. Edited by Pradyumna Karan. JSTOR, 2010, 286.

outpouring of aid from countries, multilateral organizations, nongovernmental organizations, and individual donors."[39] The competition is not propelled by pure compassion, they instead perpetuate fear within communities; fear of more criminals and terrorists groups that take advantage of the chaos and vulnerability during the aftermath of disasters.

Muthusami Kumaran et al. explain the role of NGOs in tsunami relief, and the necessity of coordination among relief agencies, as well as information sharing on the needs of community members. "Coordination, dialogue, and information sharing between NGOs are crucial to avoid problems stemming from duplication, wastage of resources, competition, and differences in approach." [40] Easterly, in "Cartels of Good Intentions," supports Kumuran et al. resonating that the duplication of aid is a sign of competition to satisfy the customer/ the country in need.[41] Easterly views this duplication as a method to diffuse blame among the various aid agencies involved when aid recipient countries do not make improvements according to plan.[42] "Multiple donors and multiple projects forfeits the gains of specialization and to higher-than-necessary overhead costs for both donors and recipients."[43] Without collaboration or a collective force, resources are wasted, resulting in no accountability with the needs of the community left unheard.

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[39] Ibid., 283.
[40] Muthusami Kumaran et al., "The Role of NGOs in Tsunami Relief and Reconstruction in Cuddalore District, South India." *The Indian Ocean Tsunami: The Global Response to a Natural Disaster*. Edited by Pradyumna Karan. JSTOR, 2010, http://www.jstor.org/stable/j.ctt2jcnz8. 194.
[41] William Easterly. "The Cartel of Good Intentions." Foreign Policy 131 (2002): 43.
[42] Ibid.
[43] William Easterly et al., "Where Does the Money Go? Best and Worst Practices in Foreign Aid." SSRN Journal SSRN Electronic Journal 22, no. 2 (2008): 38.

This produces ignorance towards local knowledge and research, preventing aid agencies from understanding where aid is needed, and specifically, what type of aid is needed. Easterly makes this point in the "Cartel of Good Intentions," stating, "In the foreign aid business, customers (i.e., poor citizens in developing countries) have few chances to express their needs, yet they cannot exit the system. Meanwhile, rich nations paying the aid bills are clueless about what those customers what."[44] We see this portrayed in the Kumuran et al., as well as Nina Munk's piece on Jeffrey Sachs. In Kumuran et al.'s "The Role of NGOs in Tsunami Relief and Reconstruction in Cuddalore District, South India," co-author Tricia Torris shares her experience with Action Aid India during the Indian Ocean tsunami relief in Cuddalore. During her experience she describes the limited amount of communication from the NGOs and the victims: 1) Different people received different types of shelter which made some of the shelters ineffective and useless 2) the sheet metal material used for some of the shelters were too hot to live in considering India's warm climate 3) winter clothes were donated to the victims, which were also useless in warm climate.[45] These issues among many others derived from the inconsistency of aid given to the community, the limited amount knowledge known about the community and their needs.

Sachs' study concluded that thousands of dollars in aid was thrown into a Kenyan community to "end poverty," but most of the aid was useless, due to geographical and environmental issues the community faced. For example, the "kitchen gardening" program encouraging the women in the community to grow their own vegetables, never

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[44] William Easterly. "The Cartel of Good Intentions." Foreign Policy 131 (2002): 41.
[45] Muthusami Kumaran et al., "The Role of NGOs in Tsunami Relief and Reconstruction in Cuddalore District, South India." *The Indian Ocean Tsunami: The Global Response to a Natural Disaster*. Edited by Pradyumna Karan. JSTOR, 2010, 203-204.

considered the high saline content in the groundwater, which led to the unsuccessfulness of the program.[46] All of these problems point to the broader issue of limited research being done on the nations receiving aid. There is a need for a robust understanding of the geographical area, the community's culture, and relevant resources that are useful within the geographical area, and the community.

**1.5: The History of UNISDR**

The creation of disaster relief in the United Nations began in the early 1960's where a series of earthquakes in Iran, Skoplje, and Yugoslavia, as well as hurricanes that affected areas such as Cuba, the Dominican Republic, Haiti, Jamaica and Trinidad and Tobago resulted in the death of over 23,000 people in a span of 8 years.[47] As a result of these deaths and the occurrences of disasters across the world, the United Nations established the United Nations Disaster Relief Office (UNDRO).

With an appointed Disaster Relief Coordinator, the general assembly outlined the duty of the office when it was first created in *Res. 2816*, as: "(f) To promote the study, prevention, control and prediction of natural disasters, ... (g) To assist in providing advice to Governments on pre-disaster planning. It endorses the Secretary-General's proposals for an adequate permanent office in the United Nations which shall be the focal point in the United Nations system for disaster relief matters; ... [and invite governments] ... (f) to

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[46] Nina Munk, "The Idealist: Jeffrey Sachs and the Quest to End Poverty (Excerpt)." The Huffington Post. September 1, 2013. http://www.huffingtonpost.com/nina-munk/post_5536_b_3857022.html. 2013.
[47] "History." UNISDR Who We Are. http://www.unisdr.org/who-we-are/history#60s.

improve national disaster warning systems."[48] In response to understanding the negative effects of rapid urbanization, and to increase of populations in developing countries has some correlation to creating disaster prone communities, the UNDRO established their risk identification and evaluations as "vulnerability analysis." This analysis was used as a rational in the decision making process to effectively mitigate disastrous natural events through a systemic model of permanent controls, and planning.[49]

Throughout the 1970s and much of the 1980s the UNDRO's main focus became decreasing the vulnerability of disaster prone areas, mainly in developing countries by using preventative measures such as planning and preparedness. Early warning monitoring systems, technical co-operation activities, and national/regional programs that focused on prevention were all put in place to assist in the creation of disaster relief preventative measures. The late 1980s and 1990s introduced The International Decade for Natural Disaster Reduction (IDNDR). *Res. 42/169* states: "The GA recognizes the importance of reducing the impact of natural disasters for all people, and in particular for developing countries. It decides to designate the 1990s as a decade in which the international community, under the auspices of the United Nations, will pay special attention to fostering international co-operation in the field of natural disaster reduction..."[50] The establishing of the decade was caused by the need to promote the

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[48] Ibid.
[49] "Natural Disasters and Vulnerability Analysis (Report of Expert Group Meeting)." Prevention Web. August 1980. http://www.preventionweb.net/files/resolutions/NL800388.pdf. 4.
[50] "History." UNISDR Who We Are. http://www.unisdr.org/who-we-are/history#60s.

international collaboration of stakeholders to reduce the social and economic losses of nations affected by disasters, especially of those in developing nations.[51]

In May 1994 the General Assembly organized The World Conference on Disaster Reduction in Yokohama, Japan where the Yokohama Strategy and its Plan of Action was endorsed in *Res. 49/22*.[52] The document provided guidelines for the governance of natural disasters through prevention, preparedness, and mitigation.[53] The decade of natural disaster prevention in UNDRO brought awareness to two major conclusions: 1) natural disasters threaten social and economic stability and 2) the solution to this threat is disaster prevention. Towards the ending of the IDNDR, in 1999 the IDNDR Programme Forum was formed to include 40 thematic sessions including panels, exhibits, open public forums, and poster sessions to support natural disaster prevention in the future, as well as and overview of the achievements of IDNDR.[54]

Following the close of the decade and the start of a new millennium, in 1999 UNDRO became the United Nations International Strategy for Disaster Reduction (UNISDR). The *GA Res. 56/195* mandated UNISDR to "serve as the focal point in the United Nations system for the coordination of disaster reduction and to ensure synergies among the disaster reduction activities of the United Nations system and regional organizations and activities in socio-economic and humanitarian fields."[55] This allowed

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[51] Damon P. Coppola. "The Management of Disasters." In Introduction to International Disaster Management, 696. 2nd ed. Elsevier, 2010. 5.
[52] "Yokohama Strategy and Plan of Action for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation." 1994. 6.
[53] Ibid.
[54] "History." UNISDR Who We Are. http://www.unisdr.org/who-we-are/history#60s.
[55] "Our Mandate." Who We Are. http://www.unisdr.org/who-we-are/mandate.

for the inclusion of disaster risk reduction in other areas of work and development in the UN.

As a part of the United Nations Secretariat, UNISDR's core functions extend to the development and humanitarian fields of the UN. Its areas of work includes ensuring disaster risk reduction (DRR) is applied to climate change adaptation, increasing investments for DRR, building disaster-resilient cities, schools and hospitals and strengthening the international system for DRR. Following the 2004 Indian Ocean Earthquake, the challenge of creating resilient communities became more imperative than ever. The UN's World Conference on Disaster Reduction (WCDR) in Kobe, Japan took the challenge of this task and began the creation of what is now known as the Hyogo Framework for Action (HFA). The vision of UNISDR is founded by the three fundamental goals of HFA: "integrating DRR into sustainable development policies and planning, developing and strengthening institutions, mechanisms and capacities to build resilience to hazards, and incorporating risk reduction approaches into emergency preparedness, response, and recovery programs."[56]

The executive position in UNISDR is titled United Nations Special Representative of the Secretary-General for Disaster Risk Reduction. The current holder of the title is Margareta Wahlström. The creation of the post in 2008 defined the representative of the office as a leader, facilitator, manager, and advocator of functions entrusted by the General Assembly (GA), Economic and Social Council (ECOSOC) and the Hyogo Framework for Action (HFA). The representative also ensures the strategic

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[56] "Our Mandate." Who We Are. http://www.unisdr.org/who-we-are/mandate.

and operational collaboration of activities such as: disaster-reduction and humanitarian disaster preparedness, response activities, as well as socio-economic activities of the UN system and regional organizations.[57]

In January of 2005 at Kobe, Hyogo, Japan, after a ten year review, the World Conference on Disaster Reduction endorsed the Hyogo Declaration and the Hyogo Framework for Action 2005-2015: building the resilience of Nations and communities to disasters. With the Hyogo Framework in place, came the introduction of the Inter-Agency Task Force for Disaster Reduction, later succeeded by the Global Platform for Disaster Risk Reduction (2006). This platform for disaster risk reduction became a "forum for Member States and other stakeholders to assess progress made in the implementation of the Hyogo Framework for Action, enhance awareness of disaster risk reduction, share experiences and learn from good practice, identify remaining gaps and identify actions to accelerate national and local implementation."[58] Every two years, the Global Platform for Disaster Risk Reduction produces the Global Assessment Risk Report on Disaster Risk Reduction to help monitor risk trends, and the overall progress in the implementation of Hyogo Framework for Action. The examination of this report will be discussed in further detail in the next chapter.

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[57] "UNISDR in the UN System." Who We Are. http://www.unisdr.org/who-we-are/unisdr-in-un.
[58] Ibid.

## CHAPTER 2: THE CONSTRUCTION OF THE UNISDR ASSESSMENT

This chapter will discuss the UNISDR review and assessment process of the most integral document in its Disaster Risk Reduction (DRR) efforts, The Hyogo Framework for Action (HFA), and the Mid-Term Review of the Hyogo Framework for Action. This review is an assessment discussing the halfway mark achievements of such document, including findings, discovered trends from multiple UNISDR resources, and a few independent parties. The UNISDR Hyogo Framework Mid-Term Review team was constructed with an advisory group consisting of a majority of UN officials, thinks tanks, research institutions governments, stakeholders, and a public call to individuals willing to participate in conducting studies for the MTR (Mid-Term Review).

Through a "participatory approach involving stakeholders at international, regional, and national levels, guided by the advice of the 2009 Global Platform for Disaster Risk Reduction, which requested a broad strategic review of the state of HFA implementation," the UNISDR Secretariat facilitated the MTR using these guidelines.[59] The ultimate goal of the MTR, as defined by the UNISDR, "is to assess the extent to which the HFA has progressed so far and to help countries and their institutional partners at all levels identify practical measures to boost commitment, resourcing, and effort in its further implementation, recognizing the evolving global context for disaster risk reduction."[60]

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[59] UNISDR Hyogo Framework for Action 2005-2015 Building the Resilience of Nations and Communities to Disasters, Mid-term Review 2010-2011, United Nations International Strategy for Disaster Reduction, Geneva, 2011. 8.
[60] Ibid., 78.

Creating the MTR required the collaboration of many international individuals, stakeholders, and entities, but before evaluating the issues within the assessment system, we must examine the structure of the review and its production. The objective of this chapter will be as follows: 1) a breakdown of how the MTR was created and what resources were used to facilitate the construction of the document; 2) analysis of the actors behind this document along with the institutions they represent; 3) outline of the tools used in the assessment (HFA Monitor); 4) outline of the findings of the MTR; 5) assessment the HFA Midterm assessment tools.

**2.1: Hyogo Framework for Action (HFA) Mid-Term Review (MTR) Process**

The MTR was created based on a requirement from the HFA outlining that the implementation of the framework "will be appropriately reviewed." [61] Periodic reviews per the request of the International Strategy for Disaster Reduction (ISDR) were done highlighting the status of implementation at the regional, national, and international levels. The Mid-Term Review became a broad strategic review of the HFA as an instrument, not an evaluation of DRR through the HFA. The information used to create the MTR was "primarily based on qualitative data, and self-assessment/ perceptions of stakeholders involved through the facilitation of the Secretariat General in a one-year period."[62]

The MTR is divided into two sections, "A Retrospective Examination of the period 2005-2010" and "A Prospective Scan of 2010-2015," (also referred to as the horizon beyond). The strategic questions used to define the purpose of MTR are:

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[61] Ibid.
[62] Ibid., 15.

- What is the overall progress on HFA implementation and what are the prospects, on prevailing trend, for achieving the desired outcome of a "substantial reduction in losses"?
- What have countries done to progress HFA and what do national authorities and other stakeholders consider as their big achievements, major constraints, and main lessons learnt?
- What have been the promoters and barriers to investment in disaster risk reduction and how can funding be placed on a more predictable and sustained footing?[63]
- What adjusting or strengthening is needed of the international architecture including the roles of ISDR institutional partners, to help accelerate HFA implementation?
- What adjustment of directions and priorities are needed to take up new opportunities for disaster risk reduction in relation to climate change and any other emerging issues?
- What types of key deliverables would make the biggest impact during the remaining period of HFA, and what key policy and strategic orientations should be taken up as we move towards and beyond 2015?[64]

As described in the introduction of this chapter, the MTR Advisory Board was one of the leading departments of the assessment. The Special Representative of the Secretary General for DRR appointed these board members "to provide advice that will enhance the relevance, quality and utility of the outcome of the Mid-Term Review of the Hyogo

[63] Ibid., 79.
[64] Ibid., 80.

Framework for Action, "based on" their personal capacity appointed the members.[65] In addition, a number of independent "experts" provided oversight and guidance throughout the process. The UNISDR secretariat, along with a project coordinator, supported the Advisory Board and facilitated the MTR process by "coordinating the review efforts of stakeholders and providing a harmonized framework of guidance and standards to enable valid comparisons, analyses, and syntheses to be made in a timely manner. A shared electronic workspace will be made available through the ISDR and Prevention websites where all documentation, reports and studies will be posted as available."[66] The Advisory Board was informed by: 1) a set of questions and sub-questions to help them understand elements that attributed to the obstacles, and successes of the HFA; 2) stand-alone literature review (conducted by, Mr. Kamal Kishore, a senior staff member in the UNDP Bureau for Crisis Prevention and Recovery); 3) existing reports (with special attention to national and UNISDR reviews and evaluations); the 2009 Global Assessment Report; national and regional Millennium Development Goals report; Global Platform including on cross-cutting issues; reports at community, national and regional levels), 4) outcomes of structured workshops held at regional and national levels, 5) in-depth studies (identified by UNISDR and independent consultants, member states, as well as national institutions), 6) One-on-One interviews with key informants, and finally, 7) On-line debates (organized by UNISDR against the same set of key questions common to the whole Review, and moderated by a senior official).[67]

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[65] Ibid., 81.
[66] Ibid.
[67] Ibid., 83-85.

**2.2: The Actors Involved in the Assessment**

Most of the actors and those leading the assessment were high UNISDR officials (listed below), and United Nations actors from other climate change and disaster management departments. Informal plenary sessions were co-chaired by Mr. Kasidis Rochanakorn, Director, OCHA Geneva; Mr. Michel Jarraud, Secretary General of World Meteorological Organization; Mr. Jordan Ryan, Assistant Administrator and Director of the Bureau for Crisis Prevention and Recovery of UNDP. Special Representative of the Secretary-General (SRSG) for Disaster Risk Reduction, Margareta Wahlström co-chaired all three debates.[68] The academic backgrounds of these individuals range from economy history, political science, social anthropology, meteorology archaeology, anthropology, international affairs, and philosophy of science.

Created in 2012, as the successor of the Scientific and Technical Committee (STC), the Scientific Technical Advisory Group (STAG) draws from individuals from different scientific backgrounds across the globe for substantive technical support of policies, and their implementation carried out in the International Strategy for Disaster Risk Reduction (ISDR) community.[69] The advisory group focuses on a "better integration of science and technology into policy, greater interaction among the scientific and technical disciplines, using evidence on risk reduction actions to facilitate decision-making, and promoting greater international collaboration."[70] Members include WHO experts on disease; a Program Director within the NSF with a research focus on social

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[68] Ibid., 69.
[69] "Scientific and Technical Advisory Group (STAG)." Networks & Communities. 2013. http://www.preventionweb.net/english/professional/networks/public/stag/#Members.
[70] "Scientific and Technical Advisory Group (STAG)." Sci and Tech Adv Group. 2013. http://www.preventionweb.net/english/professional/contacts/profile.php?id=4862.

and multidisciplinary aspects of natural, technological, and human-induced disasters; a Geoscience Australia natural hazards expert with a PhD in geophysics; a climate scientist in the Intergovernmental Authority on Development (IGAD) with a background in operational forecasting; a paleogeography professor at Beijing Normal University; the President of Science Council of Japan with a background in Engineering; a Public Health England Consultant, Medical Toxicologist, and Environmental Public Health professor; and the President of the Foundation Global Risk Forum GRF Davos and Chairman of the International Disaster and Risk Conference IDRC Davos, with a background in civil and earthquake engineering. The point of elaborating on the disciplines of the advisory group derives from the need for transparency in understanding the academic training of these advisors. As described above, most of the actors involved received training in the science and engineering fields, which can help shed some light as to why the social understanding of disaster is less prevalent. Co-production and the inclusion of local knowledge depict a more social science form of training, which is less relevant in the engineering field. This by no means labels one field supreme to the other, but instead shows how the collaboration of the two fields creates a cohesive partnership. Much can be gained from the shortcomings of science in the social field, and vice versa.

In addition to the advisory group, the MTR included individuals and independent consultants from several UN departments, and advisors from partnering departments such as: the League of Arab States on Climate Change, Sustainable Development Network of the World Bank, Office of Disaster Preparedness and Emergency Management, International Federation of Red Cross and Red Crescent Societies, African Regional Platform Commissioner for Rural Economy and Agriculture, and Huairou Commission, a

global coalition network that links grassroots women's community development organizations.[71]

### 2.3: The HFA Monitor Assessment Tool

The Hyogo Framework for Action (HFA) Monitor is a multi-tier qualitative and quantitative online tool for regional, national and local progress review facilitated by UNISDR and led by country governments.[72] The tool was a product of the Hyogo Framework for Action adopted in 2005 by 168 member states to assist states in tracking the progress of the HFA. The tool was designed and coordinated by the UNISDR Secretariat and is hosted on PreventionWeb, global platform for DRR initiatives.[73] For some countries special contractors are hired to develop the tool to fit a regions specific language. Since 2007 about one hundred countries have received access to the tool, and in 2009 the number of member states using the tool increased to 133. Intergovernmental organizations, along with government institutions at the local, regional and national levels are the proprietors of the tool.

The tool tracks progress and achievements in each section using a "scale of 1 to 5, with 1 representing 'minor' achievement and 5 indicating 'comprehensive'

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[71] UNISDR Hyogo Framework for Action 2005-2015 Building the Resilience of Nations and Communities to Disasters, Mid-term Review 2010-2011, United Nations International Strategy for Disaster Reduction, Geneva, 2011. 96-97.
[72] UNISDR, 2011: Global Assessment Report on Disaster Risk Reduction: Revealing Risk, Redefining Development. 73.
[73] "Individual Contractor to Develop Online Arabic Version of National HFA Monitor." UNISDR Vacancies. 2012. http://www.unisdr.org/who-we-are/vacancies/24896.

achievement."[74] Governments are able to track their achievements and progression in addition to uploading relevant documents and reports of their current standing. According to the UNISDR, a regional report in Indonesia using the HFA Monitor has led to three major outcomes: 1) HFA Monitor reports that have generated a better understanding of the HFA and its relevance to DRM and development in Indonesia; 2) A multi-stakeholder dialogue that brings together different government departments, NGOs and international organizations, the media and business sector. The NPDRR aims to involve even more government stakeholders in the next review; and 3) A common language, vision and understanding of the responsibility for disaster risk reduction in Indonesia.[75]

The HFA Monitor is broken down into three tiers: Local, Regional, and National. Each tier has a specific goal in assessing the progress of communities towards meeting the objectives outlined by the HFA. As outlined by the PreventionWeb website, these are the objectives of the three tiers:

- The Local HFA: Local Government Self-Assessment Tool
    - An online tool developed by UNISDR and its partners to assist local governments to assess their progress in building resilience to disaster. The Local HFA is an important element of UNISDR's work with local governments. In 2010, UNISDR and its partner organizations launched the global campaign Making Cities Resilient – "My City is Getting Ready!"
        - The objectives of the campaign are to increase understanding and encourage commitment by local and national governments to make

[74] UNISDR, 2011: Global Assessment Report on Disaster Risk Reduction: Revealing Risk, Redefining Development. United Nations International Strategy for Disaster Reduction, Geneva. 73.
[75] Ibid.

disaster risk reduction and resilience a policy priority and to bring the global Hyogo Framework closer to local needs.

- National HFA Monitor
    - An online tool to capture the information on progress in HFA, generated through the multi-stakeholder review process. The primary purpose of the tool is to assist countries to monitor and review their progress and challenges in the implementation of disaster risk reduction and recovery actions undertaken at the national level, in accordance with the Hyogo Framework's priorities.
    - The tool has been designed and coordinated by the UN Office for Disaster Risk Reduction (UNISDR) and is hosted on PreventionWeb. These reviews give countries easy access to their disaster risk information and allow the monitoring of trends in progress over the years. This is facilitated by an analytical tool which enables:
        - Governments to initiate specific searches and analyses of historical reporting that it has generated since 2008; and
        - Customized search and analysis of all public domain reports by disaster risk reduction stakeholders.
- The Regional HFA Monitor
    - An online tool to capture the information on the status and progress in disaster risk reduction efforts from a regional or sub-regional perspective. The main rationale behind the (sub-) regional HFA review process is to enhance the understanding of the trans-boundary issues of disaster risk and

risk reduction; and inform the (sub-) regional planning and programming process on gaps and challenges in disaster risk reduction efforts.

- The (sub-) regional review process is focusing on analysis of disaster risks and progress in risk reduction efforts from a (sub-) regional, trans-boundary perspective supported by the a synthesis of status and progress of HFA implementation at the national level; providing an account of projects and initiatives carried out by (sub-) regional organizations; and identifying gaps and challenges in HFA implementation from a sub/regional perspective.[76]

**2.4: Findings of the Hyogo Framework MTR Report**

According to the MTR document, using the assessment tools outlined thus far, the Hyogo Framework for Action MTR revealed the following: HFA implementation is uneven across the world; absence of systematic multi-hazards risk assessments and early warning systems factoring in social and economic vulnerabilities; insufficient level of implementation at the local level; difficulty in improving resilience to hazards in high risk societies; a significant need of strategic leadership and direction at the national level; and finally, a need to decentralize authority by empowering local communities, including at the grassroots level; and creating a social demand for disaster risk reduction so that individuals realize their own share of responsibility in increasing their resilience and in

[76] "HFA Monitoring & Review." Hyogo Framework. http://www.preventionweb.net/english/hyogo/hfa-monitoring/.

holding governments accountable for the development and implementation of coherent disaster risk reduction plans and investments.[77]

A study documenting the local implementation of the HFA in Makati City, Philippines using twenty tasks from the HFA implementation guideline for local governments, *A Guide for Implementing the Hyogo Framework for Action by Local Stakeholders*, surveyed the perception of multi-stakeholders (involved in local DRR) perceive the HFA local 20 tasks, while identifying trends and gaps within their work on DRR.[78]

In addition to the questionnaire consisting of two questions based on the 20 tasks that were administered by the HFA, officials were asked to rank each task in terms of relevance to their job duties as city officials (A – most relevant, B – some relevant, and C – not relevant), then were asked to rank the relevance amongst the most relevant tasks with one being the highest priority and five being the lowest.[79] The city officials included individuals from Department of Education (Dep-Ed Makati), Department of Engineering and Public Works (DEPW), Department of Environmental Services (DES), Makati Health Department (MHD), and the Office of the Mayor (OM). The tasks were outlines as followed: A Guide for the HFA Implementation for Local Stakeholders, 2010:

- Local/city governance (HFA priority 1 related):

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[77] UNISDR Hyogo Framework for Action 2005-2015 Building the Resilience of Nations and Communities to Disasters, Mid-term Review 2010-2011, United Nations International Strategy for Disaster Reduction, Geneva, 2011. 8.
[78] Yuki Matsuoka et al., "Implementation of Hyogo Framework for Action in Makati City, Philippines." International Journal of Disaster Resilience in the Built Environment Int J of Dis Res in the Bu Env 4, no. 1 (2013). 28.
[79] Ibid.

    - Task 1. Engage in multi-stakeholder dialogue to establish foundations for DRR.
    - Task 2. Create or strengthen mechanisms for systematic coordination for DRR.
    - Task 3. Assess and develop the institutional basis for DRR.
    - Task 4. Prioritize DRR and allocate appropriate resources.
- Risk assessment and early warning (HFA priority 2 related):
    - Task 5. Establish an initiative for community risk assessment to combine with country assessments.
    - Task 6. Review the availability of risk-related information and the capacities for data collection and use.
    - Task 7. Assess capacities and strengthen early warning systems.
    - Task 8. Develop communication and dissemination mechanisms for disaster risk information and early warning.
- Knowledge management (HFA priority 3 related):
    - Task 9. Raise awareness of DRR and develop education programme on DRR in schools and local communities.
    - Task 10. Develop or utilize DRR training for key sectors based on identified priorities.
    - Task 11. Enhance the compilation, dissemination and use of DRR information.
- Vulnerability reduction (HFA priority 4 related):
    - Task 12. Environment: incorporate DRR in environmental management.

- Task 13. Social needs: establish mechanisms for increasing resilience of the poor and the most vulnerable.
- Task 14. Physical planning: establish measures to incorporate DRR in urban and land-use planning.
- Task 15. Structure: strengthen mechanisms for improved building safety and protection of critical facilities.
- Task 16. Economic development: stimulate DRR activities in production and service sectors.
- Task 17. Financial/economic instruments: create opportunities for private sector involvement in DRR.
- Task 18. Emergency and public safety; disaster recovery: develop a recovery planning process that incorporates DRR.

- Disaster preparedness (HFA priority 5 related):
  - Task 19. Review disaster preparedness capacities and mechanisms, and develop a common understanding.
  - Task 20. Strengthen planning and programming for disaster preparedness.[80]

According to Mutsuoka et al., the study found about 50% or more of officials identified all four tasks under HFA-1 as most relevant, with more than 70 per cent identifying T4 (prioritize DRR and allocate appropriate resources) as the most relevant. HFA-5 was regarded as the most relevant with 60 per cent of officials selecting T20 and

[80] Ibid., 27-28.

over 50 per cent of officials selecting T19.[81] HFA-2 and HFA4 tasks were regarded as lesser relevance with an exception of T18 (HFA-4), which was the only task considered as most relevant by over 50 per cent of officials under. Of the HFA-4 tasks, the least relevant were T16 (19 per cent) and T17 (25 per cent), relating to economic development and the use of financial or economic instruments to encourage private sector participation in DRR were ranked least relevant. This is interesting considering the most prevalent form of co-production stemming from Science Technology Advisory Group stems from local business and private sector collaborations. On the contrary, similar to the findings of the HFA assessment DRR and H4-T13 which relates to addressing social needs of vulnerable groups, also ranked low.[82] The importance of the study lies in the ability of attaining valuable information regarding the issues city officials within local communities guard as important to their constituents in order to fulfill their responsibilities. Mutsuoka et al. demonstrate a viable example of gathering information to identify which HFA tasks need special attention in regard to the community implementing the tasks. The information presented in the study is a supplemental resource that can be used to address and target specific tasks relevant to the local government, as well as their constituents to further construct a stronger implementation of HFA policies, rather than aggregating data from multiple state, national, and global levels. The next chapter will take a closer look at the repercussions of aggregation, and the limited inclusion of community members, and minority groups on the implementation, and assessment of HFA.

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[81] Ibid., 30.
[82] Ibid.

# CHAPTER 3: THE NUTS AND BOLTS OF ASSESSMENT

Due to the nature of a self-assessment for the framework, and the magnitude of involvement form United Nations actors, an issue of predispositions and biases surfaces. Essentially, how can we be sure that the parties involved in the assessment of the HFA are neutral, and impartial in their assessments? The actual implementation of the HFA is assessed, but the tools used to produce that assessment are not assessed. Overall, very little input was directly contributed from actual community members, or grassroots organization within the communities at the global level of the HFA MTR. The only one mentioned throughout the entire document was Jan Petersen who is the founder and chair of the Huairou Commission, a global coalition network that links grassroots women's community development organizations. One organization was used as the sole representative of grassroots communities in to evaluate a document implemented by 168 countries. Albeit, it is outlined that the HFA Monitor is the reporting system for local, regional, and national communities, the individuals and parties that are completing the forms for submission to the international community are classified as stakeholders, and designated focal points by the UNISDR to disseminate the information. There is no indication as to how the information is gathered, whether community members have direct input as to what is recorded on the HFA Monitor forms. Training information pertaining to the assessors was not provided nor outlined, making it difficult to attain whether the data recorded on the communities were properly assessed and accurately translated.

After further examination of the questions, there is no explanation as to how the HFA Monitor questionnaires are formed. One set of questions is duplicated and distributed to all 168 countries that have implemented the HFA. In a research on environmental justice and expert knowledge groups in the aftermath of the 2012 Hurricane Katrina recovery, Barbara Allen, Director of Science and Technology Studies at Virginia Tech, found a major disconnect between the relevant issues expressed by grassroots environmental justice community members in New Orleans and disaster experts. "Portrayed as 'objective,' expert reports are embedded with values and agendas some times not shared by residents. More could be done to involve citizens with scientists who are asking questions aligned with local interests."[83] This represents a huge problem in catering to the needs of individual communities, and regions. The questionnaire only measures issues relevant to the UNISDR, and in the international disaster reduction community rather than issues relevant to each specific community.

DRR is not a "one size fits all" platform, so why are the HFA Monitor questionnaires constructed as such? How can issues within communities be addressed if questions relevant to each diverse community are not asked? Issues in one nation or community may not be problematic are in another, while issues that are problematic in one area are not being mentioned in the HFA Monitor questionnaire. It not only leads to skewed data of overall progression, while creating data gaps that cause a loss of relevant and vital information through aggregation.

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[83] Allen, Barbara L. "Environmental Justice and Expert Knowledge in the Wake of a Disaster." Social Studies of Science 37, no. 1 (2007): 109.

By excluding community members from the development process of the HFA Monitor questionnaire, a top-down approach is taken to understanding the effects of the implementation of the HFA. By giving self-proclaimed "experts" at the global level in the UNISDR the authority to decide which questions are relevant to understanding each communities experience with implementing the HFA, excludes and devalues the importance of community members to have an input on their community. One of the main examples of this argument is the absence of gender expertise and women leadership in disaster management at all levels of management, as well as the absence of "sex-differentiated data," that analyzes gender and power divisions within communities.[84]

Oxfam International, and international confederation focused on solutions to end poverty and injustice, also followed suit in this critique, stating: "Equally, whilst gender is considered to increase vulnerability, insufficient emphasis has been placed on the unique position and capacities of women to lead disaster risk reduction efforts in their communities. Women often demonstrate considerable resilience during disasters and can be powerful forces of change for their communities."[85] Marginalizing women, and perpetuating the social stigma of their vulnerability also creates a sense of dependency where they may devalue their own knowledge due to the underrepresentation of their knowledge at the global level, which will subsequently affirms their reliance on "expert" knowledge in the disaster prevention and recovery process.

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[84] Elaine Enarson. "Women, Gender and the Hyogo Platform for Action." Gender Notes No. 1. 2009. https://www.gdnonline.org/resources/GDN_gendernotes1.pdf. 1.
[85] "Oxfam Response to the UNISDR Mid-term Review of the Hyogo Framework for Action." December 2010. http://www.preventionweb.net/files/18197_302oxfaminternational.responsetomtr.pdf. 8.

Dejo Olowu, in his examination of the HFA implementation in African countries, uses the examples from South African, Ethiopian, and Cameroon studies where community members' involvement may have caused some delays in disaster response, but the long-term results of the reduced likelihood of dependency were significant.[86]

Risk is locally specific, and must be dealt as such. Holistic reports such as the HFA MTR and Global Assessment Report (GAR) are documenting that the progress of implementations of the HFA is not the most ideal solution to improving DRR globally. The first mistake cited is the recognition of DRR as a simplified global problem that can be solved using global tactics and assessment monitors. We must understand that risk and disaster is a common global issue we can all relate to, but it is also intricate and exclusive on a local, and regional basis. UNISDR myopically focuses on the goal of expediting the mainstreaming of DRR through the HFA universal goals and policies, without consideration for the diverse development stages each country faces on a global platform. It is crucial to secure a sense of agency to the local and regional community members by including and using their knowledge in the initial production stages of the HFA Monitor process. It is almost impossible to evaluate the true significance of a document like the HFA using a generalized holistic approach, without paying specific attention to the nuances of DRR that is unique in each community. Scholars such as Riyante Djalante et al. note this disconnect in their HFA implementation research in Indonesia, and although Indonesia has a long history of community based DRR, the experience within the DRR

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[86] Dejo Olowu. "The Hyogo Framework for Action and Its Implications for Disaster Management and Reduction in Africa." JÀMBÁ: Journal of Disaster Risk Studies 3, no. 1 (2010): 314.

local community is not being harnessed to facilitate community DRR knowledge for disaster preparedness. Their research found that HFA Priority Action 4 (Reduce the underlying risk factors) was the second most poorly implemented priority action. This was due to development problems, poor planning, and inappropriate development within the country, which contributes to the "vulnerability" of the disaster community.[87] Similar to co-production, they suggest using a "pooling of knowledge" method, which requires attaining information from different sources at all levels to reduce uncertainty. This will allow for multiple resources of knowledge better identification of thresholds in order to create a more comprehensive assessment of problems within.[88]

It is important to note that some local knowledge may not always be valid and useful, which is why proper assessments should be conducted to ensure the applicability and effectiveness of the knowledge to DRR within communities. Gaillard et al. note that scientific parameters sometimes may not fit in with local knowledge, and vice versa, solutions using "contextual specific local knowledge" may cohesively fit with scientific knowledge due to a change of pace and experience in the world, today.[89] A cohesive approach to solutions using community specific data that is disaggregated, along with scientific knowledge will allow for a more blended approach to solving DRR community specific issues. In this case, questions relevant to each community's type of disaster, their culture, and government are evaluated and assessed to ensure the solutions contrived are relevant to achieving DRR goals. In addition, knowledge and information on the pace and

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[87] Riyanti Djalante et al., "Building Resilience to Natural Hazards in Indonesia: Progress and Challenges in Implementing the Hyogo Framework for Action." Natural Hazards 62, no. 3 (2012): 796.
[88] Ibid., 797.
[89] J. C. Gaillard et al., "From Knowledge to Action: Bridging Gaps in Disaster Risk Reduction." Progress in Human Geography 37, no. 1 (2013): 96.

capacity of a community to achieve these goals, co-produced by both community members and the UNISDR DRR community, will be better understood.

Expecting different communities at different development stages to achieve similar goals at the same pace without regard to the disparities between the communities is impractical. This is seen in the case study conducted on Mongolia's integration of the HFA. Troy Sternberg et al. acknowledge the HFA's attempt to offer guidance on reducing risk, but find the recommendations to be unreasonable when contextualized in a disaster prone developing country, such as Mongolia. A weak disaster response and mitigation to Mongolia's 2010 winter dzud (extreme winter conditions) was caused by development issues preventing the effective implementation of the HFA due to governance, capacity, and funding.[90]

Similar results were found in Olowu's examination of the HFA implementation in Nigeria. He noted the country's development shortcomings: "the weakness of civil society institutions and the lack of good governance, evidenced by corruption, the selection of high level managers on political rather than professional criteria, incompetence leading to inappropriate responses, the neglect of preparedness, and an underestimation of severity," as the limitations to DRR and HFA implementation. The HFA specifically expresses its understanding of development and high risk issues in African Sates, with the following:

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[90] Troy Sternberg et al., "Integrating the Hyogo Framework into Mongolia's Disaster Risk Reduction (DRR) Policy and Management." International Journal of Disaster Risk Reduction 5 (2013): 7.

> "Disasters in Africa pose a major obstacle to the African continent's efforts to achieve sustainable, development, especially in view of the region's insufficient capacities to predict, monitor, deal with and mitigate disasters. Reducing the vulnerability of the African people to hazards is a necessary element of poverty reduction strategies, including efforts to protect past development gains. Financial and technical assistance is needed to strengthen the capacities of African countries, including observation and early warning systems, assessments, prevention, preparedness, response and recovery."[91]

Despite this acknowledgement, no actions were taken, following the listed strategies outline in the HFA. The current HFA Monitoring and report system seems to only focus on the global aspect of DRR by creating a general assessment monitor, then aggregating the local data from that assessment to evaluate the needs of all countries involved in the implementation of the HFA. Without 1) tailoring assessment tools, by making them relatable to the specific communities, 2) actually using that data from the assessment tools to evaluate area specific limitations, 3) creating community specific guidelines to assist in achieving these goals, 4) evaluating this data for trends, and areas needing improvement, we miss a huge opportunity to actually reduce risk in communities, and close accuracy gaps in the assessment systems currently in place. The holistic, aggregated approach favored by the HFA, is unlikely to be affected when

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[91] United Nations, Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters. 22 January 2005, A/CONF.206/6. Paragraph 27. 14.

implemented in developing nations, as we saw in Mongolia. Incremental approaches have to be taken in order for an implementation method that will influence the attainment of goals on a relative timescale. A report done by the Global Network of Civil Society Organizations for Disaster Reduction, including 7000 interviews of local community members from 48 countries showed that the UNISDR, despite claims made in their HFA goals, "is not 'trickling down' in operational terms." The report states "the key to unlocking ... local resources is through adopting participatory approaches - civil society, particularly grassroots women's groups, can play a critical role in facilitating this community engagement…disaster *victims* are able to fight back and that this ability is often overlooked by technocratic and command-and-control policies and policy makers."[92] The need for a co-productive approach, as described in the Global Network study was advocated during the International Decade of for Natural Disaster Reduction in the 1990s, but has yet to come to fruition.[93]

Thus far, DRR actions, including the HFA, seem have an imbalance between top-down and bottom-up resolutions, where top-down resolutions still have more agency than bottom-up resolutions. Although some autonomy is given to the local governments in DRR, the sufficient funding to create impactful DRR programming and education remains unresolved.[94] Without sufficient funding to support the prevention aspect of disaster in DRR, there cannot be a high expectation of effective programing at the local

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[92] Ben Wisner et al., "An Introduction to Neglected Disasters." JÀMBÁ: Journal of Disaster Risk Studies 2, no. 3 (2009): 156.
[93] J. C. Gaillard et al., "From Knowledge to Action: Bridging Gaps in Disaster Risk Reduction." Progress in Human Geography 37, no. 1 (2013): 98.
[94] "Oxfam Response to the UNISDR Mid-term Review of the Hyogo Framework for Action." December 2010. http://www.preventionweb.net/files/18197_302oxfaminternational.responsetomtr.pdf. 9.

level. In this case, expectations are set, but the tools to reach these expectations are missing. The biggest takeaway from all of the assessment tools and parties involved is as follows: If we eliminate aggregation and filtration of data attained at the different levels of assessment from communities, and instead maintained the data collected at each specific level, without aggregation (assessments done at the local level, are evaluated at the local level and solved at the local level), and used a blended knowledge approach consisting of community members, stakeholders, governments, and UNISDR representatives, as well as other organizations, a richer representation of the community being assessed will be painted.

# CHAPTER 4: CONCLUSION

## 4.1: The Future of the Hyogo Framework for Action: Sendai 2015

After The United Nations General Assembly's Resolution 66/199 request for UNISDR to facilitate the development of a post-2015 framework for disaster risk reduction, on March 18, 2015, 187 UN Member States deliberated and negotiated on the successor of the 2005-2015 Hyogo Framework for Action in Sendai, Japan.[95] The culmination of this objective at the World Conference on Disaster Risk Reduction (WCDRR), led to the preliminary adoption of the Sendai Framework for Disaster Risk Reduction (SFDRR), or the Sendai Framework for Action (SFA) 2015-2030. With the influence of this new framework on the grounds of having a more nuanced version of its predecessor (HFA 2005-2015), with more framework targets, and "legally-based instrument for disaster risk reduction," that will emphasize the original Millennium Development Goals' (MDGs) agenda, the highly anticipated fifteen year framework has a daunting task to accomplish.[96] Although the document is still under revision and negation between member states, stakeholders, and institutions, drawing from the principles of the Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action10 and the Hyogo Framework for Action, the preliminary adoption of the framework focused on the following goals:

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[95] "Post-2015 Framework for Disaster Risk Reduction." We Coordinate. Accessed June 22, 2015. http://www.unisdr.org/we/coordinate/hfa-post2015.
[96] Ibid.

1. Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020-2030 compared to the period 2005-2015;
2. Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020-2030 compared to the period 2005-2015;
3. Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030;
4. Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;
5. Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020;
6. Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030;
7. Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.[97]

The major differences between the SFA 2015-2030, and it's predecessor the HFA 2005-2015, goes beyond the framework length from 10 years (HFA) to 15 years (SFA).

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[97] Sendai Framework for Disaster Risk Reduction 2015-2030 (Draft resolution submitted by the President of the General Assembly). 15 May 2015. A/CONF. 69/L.67. Paragraph 18. 6-7.

As outlined throughout the thesis, the HFA had three major issues. First, regional and local level disaster management were marginalized, and received very little attention from the global and international level in the assessment and implementation process of the HFA. Secondly, although the UNISDR, and the DRR community understood the importance of destabilizing the categorizing of disasters as "natural," there was evident neglect towards man-made vulnerabilities and "vulnerable communities" that were marginalized and susceptible to disasters due to regional development issues, as well as, cultural and economic factors. Lastly, the HFA did not create an inclusive assessment process of the HFA on all levels of disaster management. Instead, a self-assessment process was used which neglected the direct input of local and regional communities. This led to severe gaps in the needs and priorities of disaster prone, and vulnerable communities.

**4.2: Opportunities for Change**

Despite the shortcomings of the HFA, the SFA actually plans on rectifying some of these issues. The SFA plans to make a major shift from the goal of reducing vulnerability to focusing on the strengthening of resilience, which may be one of the biggest improvements to the framework.[98] The focus and labeling of communities as vulnerable actually induces vulnerability on populations. It perpetuates the negative connotation behind the term "vulnerable." Emphasizing on the efforts of increasing resilience, adds a more positive spin on a long-term goal on objective without the

[98] Tim Prior et al., "Global Disaster Politics Post Sendai." CSS Analyses in Security Policy 173 (2015): 3.

negative connotation of labeling and categorizing a community's strength. The next big step in the framework is the collaboration, and inclusion of marginalized groups such as women, children/youth, the elder community, indigenous peoples, migrants, and other local level grassroots communities.[99] This improvement also extends to the role of developing nations, such as African countries, where the goal is to "Enhance access of States, in particular developing countries, to finance, environmentally sound technology, science and inclusive innovation, as well as knowledge and information-sharing through existing mechanisms, namely bilateral, regional and multilateral collaborative arrangements, including the United Nations and other relevant bodies."[100] Although this mandate was highly contested by developed nations known as the Western Europe and Others Group (WEOG), such as Canada, New Zealand, Australia, and the U.S as an observer, due to the compensation of technology transfers and intellectual property rights, delegations managed to agree, contingent on further review of the mandate.[101] The final big leap of SFA is the set of clearly outlined targets and goals (listed in the beginning of this chapter) that will help in evaluating the framework in 2030. The HFA defined goals that it hoped to reach by 2015, but did not define an actual method to evaluate the completion of those goals. In addition the SFA has scaled up its partnerships with other international organizations such as: Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES), United Nations Sustainable Development Solutions Network (UNSDSN), Roll Back Malaria (RBM), and Future Earth to support the

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[99] Sendai Framework for Disaster Risk Reduction 2015-2030 (Draft resolution submitted by the President of the General Assembly). 15 May 2015. A/CONF. 69/L.67. Paragraph 36. 20.
[100] Ibid., Paragraph 47. 22.
[101] Tim Prior et al., "Global Disaster Politics Post Sendai." CSS Analyses in Security Policy 173 (2015): 3.

multilateral issues in developing countries ranging from health to sustainability, and humanitarian issues.[102] From a holistic standpoint, the SFA is stepping in a progressive direction to improving DRR efforts on all levels of management. Due to the framework still being in the negotiation and finalization process it is hard to thoroughly evaluate the framework in its entirety. It has been noted by Center for Security Studies (CSS) at ETH Zurich researchers, Tim Prior and Florian Roth that the March 2015 SFA conference left many attendees with a feeling of "disillusionment" due to the exclusion of specific mandates and clauses, as well as the SFA's declining to upgrade the UNISDR office from a strategy to a program, (despite the irony that many observers believed the shortcomings of the HFA was caused by the weak leadership from the UNISDR).[103]

While the SFA is still a work in progress with the hopes of finalization some time by the end of 2015, the improvements it plans to make from the HFA seem somewhat promising. The conclusive analysis of the HFA, the MTR, and the HFA Assessment Monitors have proven the need for a more locally and regionally strategized plan for DRR with assessments that prioritize the involvement of local communities at the higher level. Instead of the high dependence of a single, holistic self-assessment of DRR frameworks, I believe DRR calls for a more multi-assessment process that includes a holistic assessment from both internal and external parties, as well as a local, regional, and national assessment without any use of aggregation at the international level.

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[102] Elizabeth Carabine. "Revitalising Evidence-based Policy for the Sendai Framework for Disaster Risk Reduction 2015-2030: Lessons from Existing International Science Partnerships." PLOS Currents Disasters, 2015, 6.
[103] Tim Prior et al., "Global Disaster Politics Post Sendai." CSS Analyses in Security Policy 173 (2015): 4.

### 4.3: Barriers to Change

The solutions listed above seem attainable, but reforming a multilateral, global system such as the HFA and the SFA requires a multitude of negotiations, resources, and collaborations. The biggest limitations are the most obvious, monetary resources, and budgeting. In order for a more inclusive assessment and implementation evaluation requires funds and resources to support the action. Resources are needed to recreate the assessment monitor, and actually distribute to the local communities to be completed, which might be difficult due to the low literacy rates in most developing countries. I suggest instead of UNISDR designated focal points, community members should be given the task of designating their own focal point (whether a community leader, or trusted individual) that will represent the needs of the community. The entrusted focal point will then act as a liaison between the community by evaluating and distributing the community data of the HFA implementation to the UNISDR focal point, and city officials to evaluate, and create solutions in collaboration with community members. With this process, all local data will be assessed and evaluated at the local level by giving local communities the authority to participate in their resilience and sustainability.

Coordination also becomes a limitation that must be addressed at all levels. Guidelines should be placed to create a "checks and balance" system to evenly distribute authority and power among different levels of DRR (locally, regionally, nationally, and internationally). Currently, the system places the UNISDR as the overseeing body at the global level, making it difficult to communicate and address organizations and local communities at the lower level. Decentralizing, and alleviating the UNISDR from an autonomous institution in DRR initiatives, to a guiding resource designed to assist the

needs of each level of DRR, might prove to be more effective in tending to the needs of communities at each level.

Lastly, co-production and inclusion efforts, although democratic, may actually create a slower process of recovery and resilience. Expanding the involvement of stakeholders and community members will create a multitude of voices, making it difficult to efficiently execute decisions and minimize losses. The checks and balances in place will create a structure that will designate each level, and organization an efficient way of contributing to the DRR process, by allowing each level the authority to act and provide to a specific portion of the DRR process to reduce delays, and confusion within the recovery stage. Ultimately, every level will have a specific role, without interference from other levels of DRR, unless deemed necessary through the guidance of the UNISDR.

### 4.4: Final Thoughts

Although the SFA has not improved from the HFA to the extent of decentralizing disasters, it has made a commendable effort in being a more inclusive strategy by acknowledging those directly affected by the implementation of these frameworks.

The goal of this thesis focuses on evaluating the inclusivity of the assessment process of the UNSIDR 2005 Hyogo Framework for Action, and its implementation by evaluating knowledge production processes through a co-production framework while contributing an institutional level of analysis. Although, the initial objective of this research method was to base the evaluation process on primary resources, such as interviews with individuals within the UNISDR system, many difficulties were faced in

attaining that goal due to a lack of response from potential resources and time constraints. This slight hindrance of basing the majority of this research on public resources ultimately proved to be beneficial by allowing an additional assessment of the transparency and comprehensiveness of the public documents available within the UNISDR organization. For the majority of the research, the public documents available were comprehensive and thorough, while others did leave a few gaps, such as those mentioned in chapter three, regarding the history of the HFA Monitor systems, and the process used to develop the questionnaire.

Overall, the journey and progression of DRR is never-ending, and neither is the need for humanity to live in a state of resilience, rather than fear. The simple existence of DRR on a global platform has been a crucial step in a progressive direction over the decades, but in order for the future of DRR to remain secure the focus should deviate from globally mainstreaming disaster, to localizing disaster, where resilience transforms from a goal in policy, to a means of survival for communities.

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