

THE CONTEXT AND CONCEPT OF INDIVIDUAL AND HOUSEHOLD PREPAREDNESS:
THE CASE OF FAKO DIVISION IN CAMEROON

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The case of Fako Division in Cameroon

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ABSTRACT

Almost every day, we see and hear about disasters impacting individuals and households in communities worldwide. Impacts experienced include loss of life and injury, loss of property, and more. Disasters are often devastating for those who experience them. It is for this reason that preparedness is advocated by national and international organizations such as the Federal Emergency Management Agency and the United Nations. And, it is for this reason that researchers have often attempted to assess how prepared people are.

Yet, what is this thing they call preparedness? What does it look like? What is involved in becoming a wholly prepared person? One might have assumed that organizations like FEMA and researchers would have addressed these fundamental questions prior to recommending that people become prepared or measuring how prepared people are, but that is not the case. The absence of an understanding of what preparedness is and entails is a critical theoretical gap with significant practical implications.

This research explored the basic issue of what preparedness means and entails to people in Fako Division, Cameroon—a place threatened by many hazards and which has experienced many disasters. From the analysis of the 33 interviews conducted in this study, the researcher found that preparedness is a dynamic state of readiness that is dependent on context, a social process, and a process of completing activities to save lives and minimize the effects of disasters. In addition, the researcher found that Cameroonians view a wholly prepared person as a) one who would have knowledge about hazards and what to do about them, b) one who would engage others, including their families and neighbors, in discussions about activities related to hazards

and what to do about them, and c) one who would engage in activities to minimize loss from hazards, sustain themselves in the face of hazards, and flee from hazards.

The findings from the interview data synch to a large extent with what is implied, but not clearly stated, in the existing research literature. The researcher address this synchrony and posit a definition of preparedness and identify the theoretical components of preparedness.

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DEDICATION

In memory of my dad James Aloh Nojang and my uncle George Bejuka. Your unwavering belief in the power of hard work and education has been my guidance in life. You shall not be forgotten.

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LIST OF ABBREVIATIONS

AIDS.....	Acquired Immunodeficiency Syndrome
DDES.....	Department of Disaster and Emergency Services
DRR.....	Disaster Risk Reduction
HIV.....	Human Immunodeficiency Virus
MINATD.....	Ministry of Territorial Administration and Decentralization
UNISDR	United Nations International Strategy for Disaster Reduction
U.S.....	United States

CHAPTER 1. INTRODUCTION

There is a lack of conceptual clarity about what individual and household disaster preparedness means even though researchers operationalize the concept frequently. This difference in the way the concept is viewed by different scholars – process vs. state – creates an issue with the way the concept is measured because our conceptualization and operationalization of individual and household preparedness, profoundly influences the way we determine how prepared people really are. In addition to the fact that a clear and consistent explanation has not been offered, the reviewed literature did not capture the interdependency between preparedness and the phases of response and recovery, nor did the literature integrate the completion of preparedness activities with the phases of response and recovery. This study begins to address this issue by exploring the meaning of this concept in a setting far away from where the extant research has been conducted – Cameroon. The ultimate goal of this study is to explore the meaning of individual and household preparedness from the perspective of individuals who reside in the most disaster-prone areas within Cameroon – Fako Division.

This study stands to contribute to the preparedness research in a number of ways. First, the study aims to address the issue of conceptual clarity about preparedness that has needed scholars' attention for a long time. Second, given Cameroon's background, as well as vast array of hazards, and vulnerabilities, this study stands to benefit Cameroonians by exploring how they conceptualize individual and household preparedness. These findings can be used by organizations and government agencies that seek to build the capacity to address disaster issues within Cameroon in order to begin measuring individual and household preparedness based on the people's conceptualization of it.

Background

Cameroon is located on the west coast of central Africa. Cameroon shares boundaries with Chad to its north; Central African Republic in the east; Nigeria in the west; and Republic of Congo, Equatorial Guinea, and Gabon in the south. Cameroon also has 2 official languages English and French, an unofficial national language (Pidgin English) and, approximately 250 tribes who speak 250 different tribal languages (Breton & Fohung, 1991; Ndongo-Semengue & Sadembouo, 1999).

Cameroon has a total land area of 475,440 square kilometers (183,568 square miles) and an estimated population of 22 million people (World Bank, 2014). Formerly a German protectorate, Cameroon was partitioned between the French (French Cameroon) and British (Southern Cameroon) after World War I, primarily as a mandate from the League of Nations and later as a trust under the United Nations (Ardener, 1962; Gardinier & Institute of Race Relations, 1963; Joseph, 1977; Le Vine, 1964). Reunified into a whole in 1961 by a United Nations plebiscite (Konings & Nyamnjoh, 1997), Cameroon is currently divided into 10 administrative divisions of which 2 are English-speaking divisions and 8 French-speaking (Central Intelligence Agency, 2014). This study will focus on Fako Division in the Southwest Region of Cameroon because it is in the closest proximity to a variety of the nation's hazards and has had the most recent hazardous events.

Cameroon is popularly known as "Africa in miniature" due to its diverse geography, climate, culture, and languages (Ayanji, 2004). For example, Cameroon is replete with streams, rivers, and lakes (Bang, 2014). It also has Sahelian semi-desert climate conditions in the north and a grassland and equatorial rain forest in the south (Bang, 2014; World Bank, 2014); crater lakes exist in the northwest; and an active volcanic mountain is in the southwest (Bang, 2014).

This diversity in geography and climate offers significant opportunity for agriculture, and for this reason, over two-thirds of the nation's population is dependent on agricultural activities for revenue (World Bank, 2014). The country exports agricultural products that include banana, coffee, cotton, cocoa, maize, and cassava (World Bank, 2014).

Cameroon is also endowed with significant natural resources, including oil and gas, high value timber species, gold, bauxite, and tin (Ndille & Belle, 2014; World Bank, 2014).

Cameroon's annual Gross Domestic Product (GDP) is about \$29.6 billion (World Bank, 2014).

While the country's economic productivity has historically been low, recent economic reports indicate a growth of about 4.8% in 2013, with an overall increase in price rates and a decrease in inflation (World Bank, 2014). In addition, unlike its neighbors (i.e. the Central African Republic, Chad, and Nigeria) and many African nations that have been impacted by wars and political instability, Cameroon has, since independence in 1960, enjoyed a high level of political stability (World Bank, 2014).

Hazards

Given the geological setting, climatic conditions and tectonic activity, Cameroon has been, and is currently impacted by a wide variety of hazards that have resulted in very costly disasters, both in terms of economic losses and the loss of human lives (Bang, 2008).

Cameroonians are frequently affected by a variety of geological hazards because Cameroon has 2 fault shear zones (the Fouban and Central Africa Shear Zones) that are responsible for the nation's volcanic and seismic activities (Bang, 2012). In addition, within the past three decades, Cameroonians have experienced gas disasters, two of which were carbon-dioxide emissions from crater lakes (Bang, 2014; Bang & Few, 2012; Baxter, Kapila & Mfonfu, 1989). The most deadly of these emissions was the August 21, 1986 explosion at Lake Nyos in Cameroon's Northwest

region; this event resulted in the death of about 1,746 people along with over 3,000 cattle, sheep, other animals, and insects (Shanklin, 1988).

Cameroonians are also impacted by major landslides (Ayonghe, Mafany, Ntasin, & Samalang, 1999; Ayonghe, Ntasin, Samalang, & Suh, 2004; Bang, 2014; Kometa, 2012). Between 1990 and 2004, there were 12 major landslides recorded throughout the nation (Bang, 2013). Because Cameroon is geographically located within both the equatorial and tropical regions, and is physically located on the west coast of Africa, individuals and households are also affected by atmospheric hazards (Bang, 2014; Bederman, 1966) and major floods (Apa et al., 2012; Bang, 2014; Disaster Relief Emergency Fund, 2012, 2013; Kometa, 2012; Ndille & Belle, 2014). For example heavy rainfalls in Cameroon's North and Far North Regions in 2012 and 2013 resulted in a very costly flood disaster due to rupture of the Maga Dike and flash flooding, respectively (Disaster Relief Emergency Fund, 2012, 2013). These events led to the evacuation of over 9,000 people in 2013, and made 25,000 people homeless in 2012, as well as significant damage to both personal and public infrastructures (Disaster Relief Emergency Fund, 2012, 2013). Between 1998 and 2010, Cameroon as a nation experienced 12 major flood events (Bang, 2014).

In addition to geological and atmospheric hazards, Cameroonians have been repeatedly impacted by disease epidemics (Bang, 2014; Gaston, Tongwa, Burnley, & Isabella, 2012; Sprigge, 2010). Some of the epidemics include episodes of cholera in 1996, 1998, and 1999 as well as Red Diarrhea in 1997, 1998, 1999, 2010, and 2011 (Bang, 2014). Thousands of people were affected by these events. There were also 695 cases of meningitis in 1998 (Bang, 2014). Furthermore, because cholera is a waterborne illness, severe storm surges related to flood events between 2009 and 2011 left thousands of Cameroonians infected with cholera and hundreds dead

(Sprigge, 2010). The most significant of these epidemics, and the leading causes of death in Cameroon, is the Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) and malaria. Malaria is transmitted by the bite of anopheles mosquitos (Yohannes et al., 2005). Empirical evidence shows that puddles of water are prime habitat for anopheles mosquitos (Yohannes et al., 2005). Heavy rainfalls and the subsequent flooding conditions in Cameroon creates conducive conditions for the insect's lifecycle, facilitating the spread of this mosquito and the malaria parasite (Demgne, 2001). In addition, it is estimated that about 5.5% of all Cameroonian adults between the ages of 15 and 49 are HIV -positive (Arcand & Wouabe, 2010; Mbanya et al., 2002). While HIV/AIDS accounts for 14% of all deaths in the nation, malaria is a close second accounting for 13% of the deaths in Cameroon (Center for Disease Control in Cameroon, 2013).

Moreover, between 1980 and 2011, Cameroon also experienced 20 major fires; 3 airplane crashes resulting in a total death of 188 individuals; famine/drought/locust invasions (Bang, 2014); and an average of 1,000 fatal road accidents a year (Bang, 2014; Gaston et al., 2012), which accounted for about 4% of the nation's total deaths (Center for Disease Control in Cameroon, 2013). Although there have been several ongoing efforts to minimize the impacts of these hazards and associated events in Cameroon, these efforts have had little effect in reducing Cameroonians' vulnerability to these hazards.

All of the discussed hazards manifested in one form or another in Fako Division in the Southwest Region of Cameroon, the focus of this research. The most significant risks in Fako Division, are posed by the volcano, landslides, major storms, HIV/AIDS, and malaria. For example, located on one of these fault shear zones is Mount Cameroon in Fako Division, the only active volcanic mountain along Cameroon's volcanic line (Apa et al., 2012; Bang, 2014;

Kometa, 2012; Njome, Suh, Chuyong, & de Wit, 2010; Zogning, et al., 2009). Eruptions occurred in 1909, 1922, 1954, 1959, 1982, 1999, and 2000 (Bang, 2013; Njome et al., 2010). The most significant eruption in recent history, both in terms of property damage and population displacement, was the 1999 eruption where lava from the eruption destroyed farmland, plantations, and local highways; significantly impacted the agrarian economy and livelihood of the local communities situated at the foot of the mountain, and triggered the evacuation of individuals and households in these communities (Bang, 2013; Déruelle et al., 2000; Suh et al., 2005). Cameroonians in Fako Division are also affected by landslides. Based on the information that the researcher could find, the most devastating of these events in Cameroon's history was the 2001 landslide on volcanic cones in Limbe, a city in Fako Division, resulting in 24 deaths; the destruction of 120 houses; and over 2,800 Cameroonians being left homeless (Ayonghe et al., 2004). In addition to volcanic eruptions and landslides, major storms, tornados, and hurricanes with strong winds that injure people and damage property are frequent events in Fako Division which is on the west coast and in areas in the southern regions of Cameroon partly due to low-and-high pressure fronts colliding in this area and the area's proximity to the sea (Bang, 2014; Bederman, 1966; Forgwe, 2010). Excessive rainfall in early 2000 led to floods in the coastal cities in Fako Division and Littoral Regions of Cameroon (Fogwe, 2010).

Vulnerabilities

Disasters and their effects are not limited to a particular city, state, nation, or geographical region (McEntire & Lindsay, 2012; Mileti, 1999; National Research Council [NRC], 2006). Like most countries in the world, the central African nation of Cameroon has a diverse array of vulnerabilities that can be classified as social-economic, physical, environmental (Bang, 2008, 2013, 2014) infrastructural, and political (Balgah & Buchenrieder, 2011). As

discussed earlier, these vulnerabilities make Cameroonians susceptible to hazards. Yet, only a mediocre effort has been, and is being, made to address these vulnerabilities (Gaston et al., 2012). For example, despite the wide variety of natural resources in the country, about a third of Cameroon's population of 22.25 million people (World Bank, 2014) live in severe poverty (United Nations Development Project, 2013; World Bank, 2014). Recent studies indicate that the current poverty rate in Cameroon is high and is expected to increase (Awum, Bayie, & Fonda, 2001; Bang, 2013; Bang & Few, 2012; Baye, 2006; Fambon, Baye, Noumba, Tamba, & Amin, 2004; Ndille & Belle, 2014; World Bank, 2014). It is estimated that about 22.1% of Cameroon's urban residents and 49.9% of the rural dwellers are living below the poverty line (Bang, 2008). In addition, financial restraint or the unavailability of funds for local social projects that could alleviate the poverty situation for most Cameroonians has significantly contributed to further limiting access to basic necessities (Bang, 2013). Poverty has also led to a significant proportion of the poor (70%) constructing and living in make-shift structures in hazard-prone areas (Ndille & Belle, 2014). The interaction of Cameroon's hazards with these vulnerabilities sets the stage for potential disasters.

Like most countries in the developing world, Cameroon is also experiencing a massive migration of people from rural to urban areas. It is estimated that the population density for urban areas in Sub-Saharan African countries in particular has increased from 20% to about 50% in the last 50 years (Robert et al., 2003). This phenomenon has occurred in Cameroon. For example, the coastal city of Limbe in Fako Division has experienced a doubling of its population between 1970 and the present (2014), growing from a population of 51,600 to over 100,000 (Kometa, 2012). As a result, most of Cameroon's population lives below the poverty line (Bang,

2008) and resides in congested and poorly constructed buildings (Ndille & Belle, 2014) increasing these Cameroonians' vulnerability to hazards and associated events.

Cameroon's geographical location also makes its citizens vulnerable to a variety of hazards. The fact that Cameroon lies between the equatorial and the tropical geographical regions of the world makes Cameroonians vulnerable to storm surges, tornadoes (Bang, 2014) and flooding (Kometa, 2012). In addition, Cameroon also has an active volcanic mountain and fault zones making its citizens vulnerable to volcanic eruptions, earthquakes, and landslides, which as discussed previously, has affected Cameroonians both in terms of property losses and the loss of lives. Limbe in Fako Division for example is located at the foot of Cameroon's active volcanic mountain, on a fault line, and on the west coast, making its population significantly susceptible to volcanic activities.

The state of Cameroon's critical infrastructure such as basic utilities (water or electricity) and roads, also makes Cameroonians vulnerable. The inaccessibility of potable water and unhygienic conditions have resulted in some widespread epidemics, such as cholera (Gaston et al., 2012; Sprigge, 2010). Women and children are particularly vulnerable to such hazards (Sprigge, 2010). Furthermore, empirical evidence indicates that the poor state of roads, or the degree of disrepair where the roads exist, increases the potential scope of Cameroon's hazard events (Bang, 2013, Krajick, 2003). The implication of poor road conditions lies in the fact that the roads have significantly hindered the response to disasters, particularly as it relates to first responder endeavors during hazardous events as well as the evacuation of individuals and households when a hazard event is imminent (Bang, 2013).

Even in situations where aid is designated to address the nation's infrastructure problems and to increase disaster management efforts, embezzlement and corruption severely hamper the

effective and efficient use of this assistance (Bang, 2013), making Cameroonians ever more vulnerable to these hazards; this makes individual and household preparedness more important. Certainly, individuals and households cannot prevent natural disasters from occurring, but potentially, “they [individuals and households] can greatly reduce damage from these disasters by being prepared” (Spittal, McClure, Siegert, & Walkey, 2008, p. 798).

Preparedness

Despite Cameroon’s vulnerability to hazards and experience with hazards, the nation had no formal disaster management system until the late 1960s (Bang, 2014). The fact that Cameroon did not develop a formal emergency management system until then was consistent with the emergence of formal emergency management systems in the world (NRC, 2006; Wisner, Blaikie, Cannon, & Davis, 1994). Since then, the disaster management system in Cameroon has been governed by a series of laws and decrees including: Law No. 86–16 (December 6, 1986) that reorganized civil protection; Law No. 98–15 (July 14, 1998) that relates to infrastructural risks, classifying a number of establishments as dangerous, unhealthy, or obnoxious; Decree No. 98–31 (March 9, 1998) that determined the organization of emergency and relief plans; Decree No. 96 – 054 (March 12, 1996) that determined the composition and duties of the National Council of Civil Protection; Decree No. 2004 – 99 (April 26, 2004) that reorganized the Ministry of Territorial Administration and Decentralization [MINATD] (Ayanji, 2004; Bang, 2014); and Decree No. 2005–104 that transformed the Department of Civil Protection in MINATD to the Department of Disaster and Emergency Services [DDES] (Ndille & Belle, 2014).

Under Decree No. 2005–104, the DDES is in charge of disaster management coordination endeavors and by law is responsible for disaster preparedness efforts in Cameroon (Ndille & Belle, 2014). This law stipulates that DDES, under MINATD, coordinates disaster risk

reduction efforts through a decentralized structure of over 379 local governments [divisional, sub-divisional, and district heads] (Gaston et al., 2012; Ndille & Belle, 2014). Other agencies, such as the Departments of Town Planning and Housing, Transportation, Defense, Public Health, Social Affairs, etc., are identified as partners in the disaster preparedness efforts (Gaston et al., 2012). With this decentralized structure, local governments do not have individual disaster management departments (Ndille & Belle, 2014). In fact, although local elected officials and administrators, such as council officials and chiefs, are perceived to be responsible for disaster management efforts, “there is no explicit reference to these actors in the available legislation” (Gaston et al., 2012, p.3).

There are non-governmental organizations (NGOs) such as Plan International and Helvetas; Movement for Democracy, Development, and Transparency; the Research and Development Association; and the Global Center for Compliance, Hazard, and Disaster Management, which are actively engaged in pre- and post-disaster activities (Bang, 2014). Some of the disaster-management activities that are done by these organizations include seminars to foster public awareness about Cameroon’s vulnerabilities and disaster-relief assistance (Bang, 2014). Although Cameroon’s national disaster management legislation recognizes the importance of diverse stakeholder groups in the overall disaster management efforts, the legislation fails to identify these organizations or to provide a clear description of these organizations’ roles in the overall disaster management system and/or these organizations’ role in bringing about disaster preparedness for the nation.

Research indicates that educating communities particularly communities within low-income nations about the potential vulnerabilities and mechanisms to mitigate or to prepare to deal with such vulnerabilities is a highly cost-effective method of reducing the effects of the

hazards and associated events (Njome et al., 2010). Yet, there is a dearth of public-information programs to educate Cameroonians about the level of exposure and vulnerability related to Cameroon's hazards or the preparedness actions that would enable the vulnerable population to prepare for, respond to, and recover from Cameroon's hazards (Ndille & Belle, 2014). This deficiency is a result of the fact that most of the nation's disaster management personnel are political appointees who are trained in civil administration (Bang, 2013). In particular, those individuals employed at the local level to manage disaster risk reduction are usually uneducated and unskilled in disaster management (United Nations Development Project, 2010). Given the importance of disaster education, the lack of skilled disaster management professionals to educate Cameroonians about how to manage these vulnerabilities results in inadequate preparedness and the subsequent ineffective management of probable hazard events (Bang, 2013). Given these issues with emergency management professionals in Cameroon and Fako Division in particular, individuals and households are left to deal with disaster management concerns largely on their own, making issues of preparedness important.

There are many laws in Cameroon related to reducing disaster risk, and these laws create the government structure for managing the nation's of preparedness, response, recovery, and mitigation efforts. Despite establishing of the DDES, the laws are implemented inconsistently, and/or the laws do not facilitate collaboration between the other sectors, perhaps because disaster management activities are lumped together with other activities within the MINATD (Bang, 2014; Gaston, 2012; Ndille & Belle, 2014). In addition, empirical evidence indicates that even in situations where there are laws specifically geared towards disaster preparedness the legislation has remained theoretical rather than practical (Ndille & Belle, 2014). For example, while the Law No. 86-16 of 1986 reorganizes civil protection and calls for the establishment of a "national

observatory for disasters with local branches to permanently monitor disaster prone areas” (Ndille & Belle, 2014, p. 152), this structure is still not in existence 28 years following the law’s enactment. Also, to the extent that Cameroon’s laws related to preparedness are practical, individuals and households are left on their own to be prepared for disasters and associated events. Empirical studies about the 2010 Limbe flood in the Southwest Region indicate that there are no independent structures within Cameroon’s disaster management framework that are specifically geared toward individual and household preparedness or towards preparedness in general (Ndille & Belle, 2014), and as such, it is unclear not just what preparedness means for Cameroonians but also the extent to which they are ready for disasters.

Significance

The concept of preparedness is not new; it is engrained in people’s day-to-day activities. Individuals and households have always engaged in some form of emergency preparedness, ranging from preparing food to preparing for technological and terrorist hazard events (Quarantelli, 2000). As the world’s population increases, so, too, has the construction of communities in hazard-prone areas (Berke, Song & Stevens, 2009; Cutter & Finch, 2008; Lindell, Perry, Prater & Nicholson, 2006; Mileti, 1999). This construction on hazard-prone areas has resulted in an increasing probability of more costly disasters—in terms of economic losses and the loss of human lives—occurring each year (see for example: Burby et al., 1999; Cutter & Emrich 2005; Godschalk, Norton, Richardson & Salvesen, 2000; Kunreuther & Rose 2004; Lindell & Huang, 2008; Mileti, 1999; NRC, 2006) and a greater need for disaster preparedness.

The number of hazard events that occur each year in Cameroon has been increasing as have the impacts on individual communities, administrative regions, and the nation at-large (Ayanji, 2004; Bang, 2014; Gaston et al., 2012). The increasing number of disasters comes with

a great need for disaster preparedness to respond to and recover from present and future disasters, particularly at the individual and household level. At the same time, Cameroon's government and the disaster management policy as depicted by the Department of Civil Protection, have been more focused on disaster response than on recovery, mitigation or preparedness (Bang, 2014).

Although there is considerable literature on individual and household disaster preparedness in general (see, for example, Andrews, 2001; Baker & Cormier, 2013; Basolo et al., 2009; Bethel, Foreman, & Burke, 2011; Boscarino, Adams, Figley, Galea, & Foa, 2006; Edwards, 1993; Flint & Stevenson, 2009; Heller, Alexander, Gatz, Knight, & Rose, 2005; Kim & Kang 2009; Lindell & Whitney, 2000; Mileti, 1999; Mishra & Suar, 2012; Nguyen, Shen, Ershoff, Afifi, & Bourque, 2006; Redlener & Berman 2006; Spittal et al., 2008), there is a dearth of empirical qualitative research on individual and household preparedness in Cameroon. In addition, while there is considerable empirical literature on individual and household preparedness, a clear definition of individual and household preparedness as well as a specific metric for measuring and comparing preparedness within units of analysis in a country and globally are lacking. The current literature places an emphasis on operationalizing the concept without explaining what preparedness is and without transcending the hazards or their context. Clearly, residents within communities across Cameroon are vulnerable to hazards and associated events (Awum et al., 2001; Ayanji, 2004; Bang, 2013; Bang & Few, 2012; Baye, 2006; Fambon et al., 2004; Gaston et al., 2012; Kometa, 2012; Ndille & Belle, 2014). Yet, many authors have argued that the potential impacts of hazards and associated events on people and property could be lessened with adequate preparedness (Basolo et al., 2009; Russell, Goltz & Bourque, 1995; Spittal et al., 2008).

As mentioned earlier, this study begins to bridge that gap in the literature, offers some conceptual clarity, and highlights the importance of individual and household preparedness to Cameroon's disaster management efforts.

Conclusion

This chapter has reviewed Cameroon's natural resources, hazards, and vulnerabilities as well as the nation's overall disaster preparedness efforts. Chapter 2 reviews the existing literature related to individual and household preparedness.

CHAPTER 2. LITERATURE REVIEW

Chapter 2 reviews the theoretical foundation for this study. The first section presents the importance of preparedness. The second section discusses the conceptualization of individual and household preparedness in the United States context. The third section presents conceptualizations of individual and household preparedness in the international disaster context. The fourth section discusses how the concept has been operationalized in the research thus far. The fifth section presents a critique of the literature.

Importance of Preparedness

Preparedness is advocated by diverse entities worldwide. Examples of support come from the profession, government, organizations, and practitioners, including (a) scholars, (see, for example, Andrews, 2001; Basolo et al., 2009; Boscarino et al., 2006; Flint & Stevenson, 2009; Kim & Kang 2010; Kirschenbaum, 2002, 2005; Mileti, 1999; Paton, 2003; Redlener & Berman 2006), (b) practitioners at the nation state level (see, for example, Emergency Management Authority of Turkey, 2014; Federal Emergency Management Agency [FEMA], 2011; Ministry of Territorial Administration and Decentralization, 2014), (c) the regional level (see, for example, Caribbean Disaster Emergency Management Agency [CDEMA], 2001), and (d) the international level (see, for example, International Federation of Red Cross and Red Crescent Societies, 2000; United Nations International Strategy for Disaster Reduction, 2014; United States Agency for International Development [USAID], 2013).

Furthermore, the emphasis on the importance of preparedness is evident in major international policy documents, such as the Hyogo Framework for Action and the International Decade for Natural Disaster Reduction. These documents discuss the importance of preparedness and use the word “preparedness” (United Nations International Strategy for Disaster Reduction,

2014). Clearly, preparedness is a global issue, a current issue, and one that is pertinent for all units of analysis including individuals, households, communities, states, nations and international bodies (see for example: CDEMA, 2001; Emergency Management Authority of Turkey, 2014; FEMA, 2011; National Disaster Management Agency, Ghana, 2014; National Disaster Management Agency, Grenada, 2014; Ministry of Territorial Administration and Decentralization, 2014; United Nations International Strategy for Disaster Reduction, 2014; USAID, 2013). Thus, there is considerable consensus that preparedness is important for how humans deal with disasters.

Given this perceived consensus, it is logical to think that everyone, within all levels of analysis (i.e., individuals, households, communities, states, nations and international bodies) must then understand the meaning of preparedness similarly, yet to assume so would be false. There is a significant lack of consensus about what the concept means to scholars who presume to measure how prepared people really are (see, for example, Andrews, 2001; Basolo et al., 2009; Boscarino et al., 2006; Edwards, 1993; Heller et al., 2005; Kim & Kang 2009; Kirschenbaum, 2002; Mileti, 1999; Nguyen et al., 2006; Redlener & Berman, 2006; Spittal et al., 2008) and rarely is the concept defined in practice and policy.

Conceptualizations in the United States (U.S.) Disaster Context

A review of the disaster literature on preparedness reveals an emphasis on individual and household preparedness as fundamental to the larger U.S. level of readiness to deal with hazards and associated events (Bourque, Mileti, Kano & Wood, 2012; Kano, Wood, Bourque & Mileti, 2011; Kapucu, 2008; Kusenbach, Simms, & Tobin, 2010; Mileti, 1999; Redlener & Berman, 2006). Thus, individual and household disaster preparedness has been broadly examined by various scholars and from different dimensions (see, for example, Andrews, 2001; Baker &

Cormier, 2013; Basolo et al., 2009; Bethel et al., 2011; Boscarino et al., 2006; Edwards, 1993; Flint & Stevenson, 2009; Heller et al., 2005; Kim & Kang 2010; Lindell & Whitney, 2000; Mileti, 1999; Mishra & Suar 2007; Nguyen et al., 2006; Ram et al., 2007; Redlener & Berman 2006; Spittal et al., 2008).

With an emphasis on preparing for natural disasters, there is significant evidence in the disaster literature indicating that, while some individuals and households may engage in preparedness or are somewhat prepared, the majority of people in the United States are generally not prepared (Andrews, 2001; Basolo et al., 2009; Boscarino et al., 2006; Edwards, 1993; Heller et al., 2005; Kim & Kang 2010; Mileti, 1999; Nguyen et al., 2006; Redlener & Berman, 2006; Spittal et al., 2008). Yet, much of the available literature on individual and household preparedness has failed to clearly articulate the meaning of the concept. Indeed, the vast majority of the reviewed literature on individual and household preparedness did not offer the reader a clear definition of the concept or any dimensions that might be associated with it (Andrews, 2001; Basolo et al., 2009; Boscarino et al., 2006; Bourque et al., 2012; Dooley, Catalano, Misha, & Serxner, 1992; Eisenman et al., 2009; Farley, Barlow, Finkelstein, & Riley 1993; Heller et al., 2005; Phillips, Metz & Nieves, 2005; Siegel, Shoaf, Afifi, & Bourgue 2003; Spittal et al., 2008).

The bulk of scholars in this review have consistently addressed individual and household preparedness as the activity of getting ready or the completion of activities, but went on to measure preparedness as a state (Basolo et al., 2009; Bourque, 2013; Edwards, 1993; Eisenman et al., 2006; Faupel, Kelley, & Petee, 1992; Kim & Kang 2010; Mishra & Suar, 2007; Lindell & Prater, 2000; Pampel, 2012; Ronan & Johnston 2003, 2005; Spittal, Walkey, McClure, Siegert, & Ballantyne, 2006; Spittal et al., 2008, United Nations International Strategy for Disaster Reduction [UNISDR], 2014). For example, conceptualizing individual and household

preparedness Basolo et al. (2009) postulated that individual and household preparedness is a general term for “preparedness and mitigation actions” (p. 340). Going beyond Basolo et al. (2009), Edwards (1993) defined individual and household preparedness as “activities that have the potential to save lives, lessen property damage and increase individuals and community control over the subsequent disaster response” (p. 294). Kim and Kang (2010) defined individual and household preparedness as “any preventative action taken by individuals and households before and during a hurricane disaster, including seeking, processing and sharing hurricane-related information and paying monetary, temporal and psychological costs to minimize possible harm” (p. 472).

On the other hand, some other scholars have addressed the concept as a state of being ready and measure it as such (Bourque et al., 2012; Kano et al., 2011; Kapucu, 2008; Redlener & Berman, 2006). For example, Kapucu, (2008) defined the concept as “being ready to help your family, friends, and neighbors when a disaster or an emergency strikes” (p. 526). Similarly, Redlener and Berman (2006) explained that individual and household preparedness is being “ready for all hazards, from low probability events like terrorism to cyclical and periodic events like natural disasters and prolonged power failure” (p. 90-91).

Some authors suggest a definition of preparedness that they perceive as current and appropriate within the disaster context. That is these definitions share some degree of similarity:—doing something to be ready or prepared. Please see Appendix A for the definitions of individual and household preparedness that are offered by the literature. However, there is no consensus about any of these definitions in the reviewed literature. Rarely has any single definition identified in Appendix A been cited by other scholars as the conceptualization of

individual and household preparedness grounding their study. See Appendix A for the definitions of individual and household preparedness offered by the U.S.-centric literature.

Given this lack of standardization in defining individual and household preparedness it seem that, the agreement in the disaster literature that people are generally not prepared (Basolo et al., 2009; Edwards, 1993; Heller et al., 2005; Lehman & Taylor, 1987; Levac, Toal-Sullivan & O’Sullivan, 2012; Lindell & Perry, 2000; Mileti, 1999; Russell et al., 1995; Steinberg, Basolo, Burby, Levine, & Maria Cruz, 2004; Wright & Rossi, 1981) is based on the fact that scholars have measured the concept without a clearly articulated conceptualization of individual and household preparedness. Although preparedness has been largely discussed in the literature as both a state of readiness and the process of getting ready (Andrews, 2001; Basolo et al., 2009; Boscarino et al., 2006; Bourque et al., 2012; Dooley et al., 1992; Eisenman et al., 2009; Farley et al., 1993; Heller et al., 2005; Kim & Kang 2010; Phillips, et al., 2005; Redlener & Berman 2006; Siegel et al., 2003; Spittal et al., 2008), there has been limited and, in most cases, no connection made between the two. In addition, the reviewed literature showed little or no articulation about what is entailed in an ideal state of readiness/preparedness.

Conceptualization in the International Disaster Context

There are some similarities between the international disaster literature and the U.S.-centric body of research on individual and household disaster preparedness. Although the bulk of disaster literature on individual and household preparedness is U.S. centric, there exists some international literature on the concept (Boon, 2013; Cretikos et al., 2008; Kirschenbaum, 2002, 2005; Panton, 2003; B.K. Paul & Bhuiyan, 2010; S.K. Paul & Routray, 2011; Ronan, Crellin & Johnston, 2012; Shaw, Shiwaku, Kobayashi, & Kobayashi, 2004; Tekeli-Yeşil, Dedeoğlu, Tanner, Braun-Fahrlaender, & Obrist, 2010; Terpstra, 2011; Terpstra & Gutteling, 2008).

Similar to the U.S.-centric literature, the bulk of the reviewed international literature discussed the disaster preparedness of individuals and households without offering a definition for the concept (Boon, 2013; Cretikos et al., 2008; Doocy, Russell, Gorokhovich, & Kirsch, 2013; Gowan, Kirk & Sloan, 2014; Loke, Lai & Fung, 2012; Palm, 2009; Panton, 2003; B.K. Paul & Bhuiyan, 2010; S.K. Paul & Routray, 2011; Ronan, et al., 2012; Shaw et al., 2004; Tekeli-Yesil et al., 2010; Terpstra, 2011; Terpstra & Gutteling, 2008; Thomalla & Schmuck, 2004). In the rarer situations where a definition is offered, individual and household preparedness is conceptualized in terms of completing activities. For example, Kirschenbaum (2002) explained that individual and household preparedness is “composed of four major independent derivative behaviors which reflect actions related to obtaining supplies-provisions, attaining emergency skills, planning for future threats and providing physical protection against various types of potential disasters” (p.). Benson, Twigg, and Rossetto (2007) defined individual and household preparedness as “activities and measures taken before hazard events occur to forecast and warn against them, evacuate people and property when they threaten and ensure effective response (e.g., stockpiling food supplies)” (p.16). Again, all of these definitions (see Table 1 for a complete list of definitions offered by the international literature) show similarities because they seem to suggest that individual and household preparedness involves doing something. Similar to the U.S.-centric literature, some of these definitions hinted that individuals and households may be preparing to protect themselves from hazards and associated events or to respond in emergencies and disaster situations.

Table 1. Definitions of individual and household preparedness offered by the international literature.

Definitions	Citation
No definition	Boon, 2013; Cretikos et al., 2008; Doocy et al., 2013; Gowan et al., 2014; Loke et al., 2012; Palm, 2009; paton, 2003; B.K. Paul & Bhuiyan, 2010; S.K. Paul & Routray, 2011; Paton, 2003; Ronan et al., 2012; Shaw et al., 2004; Tekeli-Yesil et al., 2010; Terpstra, 2011; Terpstra & Gutteling, 2008; Thomalla & Schmuck, 2004
Definition	Citation
“the capacities and knowledge developed by ... individuals to anticipate and respond effectively to the impact of likely, imminent or current hazard events or conditions”	Hyogo Framework for Action, 2008
“measures taken to prepare for and reduce the effects of disasters”	International FRC 2000, p.6
“composed of four major independent derivative behaviors which reflect actions related to obtaining supplies-provisions, attaining emergency skills, planning for future threats and providing physical protection against various types of potential disasters”	Kirschenbaum, 2002, p.
“activities and measures taken before hazard events occur to forecast and warn against them, evacuate people and property when they threaten and ensure effective response (e.g., stockpiling food supplies)”	Benson et al., 2007, p.16
“measures taken to prepare for and reduce the effects of disasters”	Buckle, 2012, p. 499

While there is consensus among the offered definitions that individual and household preparedness involves some actions being taking in response, the concept is again being viewed as a process (continuously completing and updating activities) and not a state (the extent to which one is prepared or ready). There is agreement in the international body of research reviewed that even though some individuals and households may engage in preparedness

activities, individuals and households are generally not prepared (Kirschenbaum, 2005; S.K. Paul & Routray, 2011; Tekeli-Yesil et al., 2010; Terpstra, 2011; Terpstra & Gutteling, 2008).

It should be noted that, contrary to the U.S.-centric literature which has largely measured preparedness with different levels of analysis (i.e., individuals, households, communities, state, and national) and predominantly used the word “preparedness”, the international literature also uses the words “disaster risk reduction (DRR)” and “disaster risk management” to mean what others seem to mean when they use the word “preparedness”. The DRR concept is an initiative of the United Nations International Strategy for Disaster Reduction (UNISDR). According to UNISDR, DRR is

the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (p. x)

Thus it is within this context that individual and household preparedness is discussed by the international community.

Operationalization of Preparedness

As previously noted, scholars have typically discussed the concept of individual and household preparedness without offering a definition for the concept. As such, the literature has typically operationalized individual and household preparedness without actually conceptualizing it, and even when a conceptualization is offered, there is no consensus among authors (Andrews, 2001; Basolo et al., 2009; Dooley et al., 1992; Edwards 1993; Eisenman et al., 2009; Heller et al., 2005; Lindell, Arlikatti & Prater 2009; Mileti & Darlington 1997; Lindell & Huang, 2008; Russell et al., 1995; Spittal et al. 2008; Turner, Nigg, & Heller-Paz, 1986). This lack of a concise definition for the concept is partially responsible for the variation in measures used to determine what activities individuals and households should take for disaster

preparedness (see for example: Andrews 2001; Basolo et al., 2009; Boscarino et al., 2006; Edwards 1993; Heller et al., 2005; Kim & Kang 2010; Mileti 1999; Nguyen et al., 2006; Redlener & Berman 2006; Spittal et al., 2008).

Analysis of the vast number of measures that have been used to operationalize individual and household preparedness (see Appendix B for a sample list of measures) was revealed through lecture, readings and analysis related to a graduate-level course, Preparedness Theory and Practice, taken by the researcher. Within this course's work, individual and household preparedness literature was analyzed to establish how the concept has been conceptualized and operationalized in the available body of research.

Based on what was learned, a number of activities seem to fall within a category best labeled 'plan' (Andrews, 2001; Basolo et al., 2009; Boscarino et al., 2006; Edwards, 1993; Eisenman et al., 2009; Nguyen et al., 2006; Phillips et al., 2005). This label meant that all of the category's activities seemed to be related to individuals and households creating and exercising an emergency or a disaster plan. In addition to the activities related to planning and having a plan, some activities could also be best classified as 'subsistence' (Andrews, 2001; Boscarino et al., 2006; Dooley et al., 1992; Edwards, 1993; Eisenman et al., 2009; Farley et al., 1993; Heller et al., 2005; Horney, Snider, Malone, Gammons, & Ramsey, 2008; Nguyen et al., 2006; Spittal et al., 2008) meaning that all of these activities are related to individuals and households taking actions to survive or sustain themselves for a period of time immediately before and after impact. Still other measures focus on 'loss minimization' (Andrews, 2001; Edwards, 1993; Farley et al., 1993; Heller et al., 2005; Nguyen et al., 2006; Spittal et al., 2008). Where the earlier measures are concerned with people just surviving, the loss minimization measures are focused on eliminating or reducing the impact to property in the interest of eliminating and/or reducing the

recovery process required to address disaster-related impacts. Other activities could be classified as ‘knowledge’ (Andrews, 2001; Bourque et al., 2012; Eisenman et al., 2009; Farley et al., 1993; Heller et al., 2005) which refers to knowing what to do during disaster response as well as what is needed to recover from hazards and associated events. Closely related to knowledge are activities that could be best classified under the label ‘integration’ (Kim & Kang, 2010; Phillips et al., 2005) which means that individuals and households are taking actions that would allow them to be technologically and socially connected to their community. While the activities related to the knowledge category are concerned with knowing what to do and what is needed, the activities related to integration are more focused on how well individuals and households are connected through technology and personally within social networks in order to be able to communicate, receive/process risk communication warnings, and be positioned to access support and resources post disaster as a way to effectuate response and recovery. Lastly, some activities could best be categorized as ‘mobility’ (Phillips et al., 2005; Siegel et al., 2003) or performing activities that allow individuals and households to have the capacity to access transportation for response and recovery.

The activities grouped logically into the aforementioned categories as a whole constitute individual and household preparedness. However, it is still worth knowing that the activities included as measures of preparedness in research were quite diverse. What was measured differed from author to author and from article to article; for example, while subsistence is an appropriate categorical label, the activities included such things as collecting and storing basic necessities, such as water (Andrews, 2001; Dooley et al., 1992; Edwards, 1993; Eisenman et al., 2009; Farley et al., 1993), food (Andrews, 2001; Boscarino et al., 2006; Dooley et al., 1992; Edwards, 1993; Eisenman et al., 2009; Farley et al., 1993; Kusenbach et al., 2010; Pampel, 2012;

Spittal et al., 2006), a battery-operated radio (Andrews, 2001; Edwards, 1993; Eisenman et al., 2009; Kelley, 2011; Pampel, 2012), supplies (Bourque et al., 2012; Boscarino et al., 2006; Kelley, 2011; Pampel, 2012), pet food (Eisenman et al., 2009; Kelly, 2011), first-aid kit (Heller et al., 2005; Lindell & Whitney, 2000; Ronan et al., 2012), cash (Eisenman et al., 2009; Kelley, 2011; Kim & Kang, 2010; Siegel et al., 2003), blankets (Baker, & Cormier, 2013; Burke, Bethel, & Britt, 2012; Eisenman et al., 2009; Kelley, 2011), having a working flashlight (Heller et al., 2005; Kelley, 2011; Pampel, 2012; Ronan et al., 2012). While there is consensus in the literature that subsistence is related to preparedness, there appears to be a dearth of explanations about why the collection of these supplies is meaningful to the broader concept of individual and household preparedness.

Considering this range of measures, it is evident that scholars have been exploring different dimensions of individual and household preparedness without explicitly or assertively stating that what they measured were dimensions and that their measures were operationalization of these dimensions. Had these assertions been made and had the measures been situated within these categories, then despite varying measures, the literature could be more easily codified, and conclusions with implications for policy and practice could be drawn.

Critique of the Literature

This review has established that the vast majority of the literature has discussed individual and household preparedness without actually offering a definition for the concept (Andrews, 2001; Basolo et al., 2009; Boscarino et al., 2006; Bourque et al., 2012; Dooley et al., 1992; Eisenman et al., 2009; Farley et al., 1993; Heller et al., 2005; Kim & Kang 2010; Phillips et al., 2005; Redlener & Berman, 2006; Siegel et al., 2003; Spittal et al., 2008). In those rare

circumstances where a conceptualization is presented, there exists considerable ambiguity and cloudiness in the way preparedness as a concept is defined and then presented.

The literature has not presented a concise or consistent definition for individual and household preparedness, and even where one is presented or suggested, it is usually discussed in the sense of a process (completing activities) and not a state (the state of being ready). Take the aforementioned definitions. For example, the Basolo et al. (2009) definition over-simplifies the concept of preparedness and is too general; their definition seemed to imply that the concept represents the activities related to preparedness and mitigation. In other words, preparedness is connected to doing something but with no specifications. Edward's (1993) definition offers more information about the concept, but preparedness is, again, being linked to the completion of activities. Edward's (1993) conceptualization hinted at the fact that preparedness is a means towards survival, loss minimization, and control. Similar to previous definitions, preparedness is related to the completion of activities. Like Edwards (1993), Kim and Kang (2010) connect preparedness to loss minimization. While this new conceptualization identifies a pre-disaster dimension for preparedness, the fact that the definition focusses on a particular hazard event limits its generalizability to individual and household preparedness for all hazards.

Unlike Basolo et al. (2009), Edwards (1993), and Kim & Kang (2010), whose definitions largely conceptualized preparedness as a process (the act of completing activities), Kapucu's, (2008) and Redlener and Berman's (2006) definitions go beyond the process to recognize preparedness as a state of being ready. Yet, all these definitions do not make a connection to what people are preparing for.

The cloudiness in the definitions of preparedness, particularly in relation to what people are preparing for, makes it difficult to understand what preparedness means much less how

prepared people are. Moreover, this gap in the literature results in a lack of clarity regarding what we are asking people to do: whether, for example, simply completing activities such as having a plan and some supplies (Horney et al., 2008) is adequate to effectively respond to and recover from hazard events. On the surface, it would appear that completing activities in some categories identified through the literature review and not in other categories would leave a person unprepared and the person's process of getting ready incomplete. Additionally, the researcher argues that it is the degree to which the completed activities allow individuals and households to achieve their goals of response and recovery that makes people prepared.

Even when the concept is discussed as a state of being ready, the definitions failed to clearly stipulate how this state of readiness might be recognized or explain if this state is an end point or if it is dynamic. Again, this issue has not been noted in the literature. Given the existing challenges with conceptualizing individual and household preparedness in the literature, identifying what people are preparing for would be an important part of conceptualizing individual and household preparedness going forward. Indeed, explicit links have not been made between the recommended preparedness activities and the effectiveness of the response to as well as the recovery from hazards and associated events. Typically people seek to be ready to effectively respond and recover from hazards and associated events.

Disaster response is generally defined as the period when a hazard event is imminent, during, and after a hazard event in which immediate actions are taken to save lives, property, and/or the environment (Mileti, 1999, Godshalk, Beatley, Berke, Brower, & Kaiser, 1999). The implication here is that an effective response demands that immediate actions be taken prior to, during, and after a hazard event in order to minimize loss to people and property. Here, effective response refers to actions that are accurate, appropriate, adequate, efficient, and time-bound

(Jensen, 2013). In response to hazards and associated events, individuals and households typically take either protective actions (Comstock, Prevention & Mallonee, 2005; Tierney, Lindell & Perry, 2001) or preparatory actions (Kang et al., 2007; Tierney, Lindell & Perry, 2001). Dependent on the availability of time to warn and to make a decision to act (Lamb, Walton, Mora & Thomas, 2011), individuals and households may engage in one of two withdrawal behaviors, that is, evacuate or shelter-in-place (Haynes et al., 2009; Kirschenbaum, 2006; Paveglio, Carroll, & Jakes, 2010; Perry & Lindell, 2003). The preparedness literature identifies activities such as securing furniture (Andrews, 2001; Farley et al., 1993; Heller et al., 2005) and moving objects (Spittal et al., 2008), which could be classified as protective activities. The literature also identifies actions which could be classified as preparatory activities that individuals and household engage in prior to a hazard event: storing water (Andrews, 2001; Dooley et al., 1992; Edwards, 1993; Eisenman et al., 2009; Fawley et al., 1993) and storing food (Andrews, 2001; Boscarino et al., 2006; Dooley et al., 1992; Edwards, 1993; Eisenman et al., 2009; Fawley et al., 1993). Despite identifying these response-related activities, the literature falls short of making the connection between these activities and the state of readiness to respond.

As with response preparedness, individuals and households engage in pre-disaster activities that would enable them to effectively recover from hazard events. Disaster recovery is defined as “the differential process of restoring, rebuilding, and reshaping the physical, social, economic, and natural environment through pre-event planning and post-event actions” (Smith & Wenger 2006, p. 237). The recovery literature has offered different dimensions for measuring recovery (see for example: Abramson, Garfield, & Redlener, 2007; Chang, 2010; Comerio, 2005; Gardoni & Murphy 2009; Willigen, Edwards, Lormand & Wilson, 2005). Yet, Abramson,

Stehling-Ariza, Park, Walsh & Culp, (2010) offered five empirical categories which were found to meaningfully measure the effectiveness of individual and household recovery. These include 1) stable housing, 2) social role adaptation, 3) physical health, 4) mental health, and 5) economic stability. Stable housing refers to the ability to reestablish housing immediately after a disaster. Post-disaster, individuals and households seek to find shelter to begin establishing some sense of normalcy. The availability of stable housing creates a foundation for building stability and security, and return to normalcy. Closely related to stable housing is a stable economy. Disasters typically put significant financial constrain, or burden, on individuals and households. Having the ability to alleviate some of the financial burden could help individuals and households to gain some stability, setting them on a path towards recovery. Regarding social role adaptation, the idea is that people all have more than one role in their lives, such as parent, teacher, friend, or leader. What Abramson et al. (2010) are suggesting is that it is important that individuals look at the extent to which people have resumed those roles or adapted otherwise if they have lost those roles. The notions of mental and physical health refers to the fact that, pre-disaster, individuals and households engage in routine day-to-day activities which are usually interrupted by disasters. As such, reducing the post-disaster feeling of helplessness and despair, arising due to inactivity and the disruption of routine activities, would allow individuals and households to return to some form of normalcy.

Based on these five dimensions, it could be argued that effective recovery preparedness needs to encompass actions that promote post-disaster housing stability, social role adaptation, positive physical and mental health, and a stable economy. While the literature did not make the connection between preparedness activities and disaster recovery, actions such as buying insurance (Andrews, 2001; Edwards, 1993; Farley et al., 1993; Heller et al., 2005; Nguyen et al.,

2006), duplicating important documents (Bourque et al., 2012; Eisenman et al., 2009), and the ability to temporarily reside with neighbors or friends (Kim & Kang, 2010) can facilitate effective recovery from hazards and associated events. Again, the literature failed to make the connection between preparedness and recovery.

Furthermore, this review of the literature indicates that little connection has been made in the body of research about individual and household preparedness as well as certain contextual factors (passive and active components) that matter to the overall level of individual and household preparedness. For example, the fact that someone lives in a city, community or jurisdiction that is proactive with disaster preparedness is a passive factor which makes those individuals or households prepared even though they are not actively engaged in preparedness activities (Jensen, 2014). In consistently failing to capture this contextual component, the authors missed the fact that much of how prepared people are is based on factors that are beyond their control. This limitation prevents individuals and households from developing a coherent picture about what being prepared really means.

This absence of a clear, articulated definition for the concept as well as a connection between preparedness activities and, response and recovery is not only responsible for the lack of articulation about why the recommended preparedness activities are important to the state of being prepared, but also for the way the concept has been measured and operationalized in the literature. In addition, the use of different theoretical variables; operationalization of these variables; as well as the focus of most research on a specific hazard, makes generalizing the findings from these studies problematic.

Although researchers have largely conceptualized individual and household preparedness in terms of activities, it is unclear if the concept is solely about completing activities, or if it is

about completing one or two activities. The manner in which researchers have operationalized the concept makes it difficult to determine the actual level of preparedness for this unit of analysis. For example, under the knowledge component, several measures emerge about learning, such as learning to turn off gas (Andrews, 2001; Burby, Steinberg & Basolo, 2003; Heller et al., 2005; Nguyen et al., 2006), learning first aid (Edwards, 1993; Nguyen et al., 2006; Sutton & Tierney, 2006), and learning where to get information about terrorism (Bourque et al., 2012) just to name a few. While learning may be important, the literature has not established the relevance of this variable to preparedness or the state of being prepared. Particularly, the connection between, for example, learning one thing (shutting off gas) and not another (first aid), and an individual's level of preparedness has not been made in the literature. Because researchers are asking about similar issues in varying ways and not establishing how these concerns are relevant to what people are preparing for (response and recovery), it is difficult to determine if these measures are actually significant for individual and household preparedness.

In addition to the issues discussed to this point, there are concerns with the data-collection methodology. While the social sciences offer a wide variety of rich data-collection methodology, such as participant observation or in-depth interviews (see, for example, Rubin & Rubin, 2012; Taylor & Bogdan, 1998), the vast majority of this body of literature is based on self-report surveys (Andrews, 2001; Basolo et al., 2009; Boscarino et al., 2006; Bourque et al., 2012; Dooley et al., 1992; Eisenman et al., 2009; Nguyen et al., 2006). Self-report surveys are a valuable way of collecting data (Dillman, Smyth & Christian, 2009). Yet, the problem with self-report surveys is that there is the potential for the resulting data to be erroneous, biased, not verifiable, and not objective (Podsakoff & Organ, 1986). Also, the fact that these studies examined peoples' intent and perception, as well as used different tests to explain the

relationships between variables, makes it difficult to corroborate the findings with preparedness as a state.

Although the reviewed literature may be lacking with regard to the conceptualization of individual and household preparedness, the discussions and findings offered some relevant contributions to a broader understanding of the concept. In particular, this body of literature (Andrews, 2001; Basolo et al., 2009; Boscarino et al., 2006; Bourque et al., 2012; Dooley et al., 1992; Eisenman et al., 2009; Miceli, Sotgiu & Setanni, 2008; Mishra & Suar, 2005; Mishra, Suar, & Paton, 2009; Mulilis, Duval, & Lippa, 1990; Nguyen et al., 2006) offers relevant insights not only regarding the preparedness activities that this unit of analysis take, but also for the factors that positively affects individuals and households level of preparedness.

Conclusion

This chapter demonstrated that in the disaster literature there is a lack of consensus around the definition of individual and household preparedness. This chapter also revealed similarities between U.S.- and international-centric literature regarding gaps in conceptualizing the concept. A review about how the concept has been operationalized in the existing literature revealed that the majority of scholars have used varying measures to operationalize the concept without conceptualizing it. In general, both U.S.- and international-centric literature has not done a good job of conceptualizing individual and household preparedness, nor have scholars clearly explained what it means for individuals and households to be prepared even though the concept is being consistently measured. Thus, before scholars continue measuring this concept, they need to first take a look at what individual and household preparedness means; what the dimensions of preparedness are; and articulate if those dimensions are part of the term's meaning wherever the

concept is used. At that point, it would seem that the concept can be operationalized differently based on a shared understanding of meanings and dimensions.

Thus, this study stands to make important contributions to the discipline and the profession of emergency management by exploring the meaning of individual and household preparedness from Fako Division Cameroonian context with the following key things in mind: towards what purpose is preparedness directed (response or recovery), and is preparedness a state or a process or both. This research seeks to answer these questions from the perspective of people who experience disasters, and Fako Division in the Southwest Region of Cameroon is chosen because it is a location that experiences many hazards and because the individuals who reside there have a lot of hazard experience. By doing so, this research begins to fill gaps identified in the literature as well as inform the discipline and practice of emergency management. Next, Chapter 3 describes the Research Methods proposed for this study.

CHAPTER 3. RESEARCH METHODS

Chapter 3 is organized into five sections. The first section describes the study's methodological approach. The second section discusses the Population and Sampling process. The third section details the Data Collection procedures used. The fourth section explains the Data Analysis utilized for this research. And, the fifth section discusses this study's Limitations.

Methodological Approach

This study is a qualitative study of how Fako Division residents in Cameroon's Southwest Region conceptualize individual and household preparedness. Qualitative methods can be employed to “unpack issues, to see what they are about or what lies inside, and to explore how they are understood by those connected with them” (Ritchie & Lewis, 2003, p. 27). In addition, qualitative methods can “be used to explore substantive areas about which little is known” (Straus & Corbin 1998, p. 19). Qualitative methods enable researchers to collect rich, detailed data from the sample and this method is also suitable for conducting exploratory analysis. Exploratory studies are well-suited for studying new phenomena and for yielding new insights about an existing social phenomenon (Babbie, 2001). Qualitative methods are appropriate for addressing this study's research question because of the issues with the existing literature outlined in Chapter 2 and the absence of research about this topic in a Cameroonian setting.

The study's qualitative approach was informed by a phenomenological, or interpretivist, perspective. A phenomenologist or interpretivist is “committed to understanding social phenomena from the actor's own perspective” (Taylor & Bogdan, 1998, p. 3) in order to “understand people from their own frames of reference and experiencing reality as they experience it” (Taylor & Bogdan, 1998, p.7). This perspective assumes that social reality is built

around people's experiences or their interpretation of reality (Babbie, 2001; Frankfort-Nachmias & Nachmias, 1992; Richie & Lewis, 2003; Rubin & Rubin, 2012; Taylor & Bogdan, 1998), and is a perspective that is suitable for this study, particularly coupled with qualitative methods, for understanding what it means for Cameroon's individuals and households to be prepared for disasters.

Population and Sampling

The population for this research study included all Fako Division Cameroonians. The estimated population of Fako Division is about 470,000 (GeoHive, 2014). However, it was difficult to know who resides where in the region or to develop a systematic random sampling for this population due to the lack of street signs/addresses in most places. There is also a lack of record keeping, and phonebooks are non-existent. While this lack of access to the population presented a sampling problem, sampling a general population with qualitative methods is not as significant as the data's quality: the depth, the richness, and the extent to which participants are reflecting their views about the world and the research topic (Charmaz, 2006; Ritchie, Lewis, & Elam, 2003; Taylor & Bogdan, 1998; Worthen & McNeill, 2002).

Purposive Sampling

In order to gather rich data, this study initially employed a purposive sampling technique. With purposive sampling, units are selected intentionally because they have experience or knowledge relevant to the research question (Babbie, 2001; Bachman & Schutt, 2013; Burgess, 1984; Frankfort-Nachmias & Nachmias, 1992; Mason, 2002; Maxwell, 2005; Patton, 2002; Ritchie & Lewis, 2003; Robson, 2002).

Initially, 91 local chiefs in Fako Division of Cameroon's Southwest Region were purposively sampled for this study. In Cameroon, local chiefs and sub-chiefs are traditional

leaders within their communities, and these individuals are perceived to be responsible for protecting and ensuring the socioeconomic and cultural well-being of their constituents (Geschiere, 1993; Goheen, 1992; Jua, 1995; van Nieuwaal & Van Dijk, 1999). In addition, traditional chiefs are also required by law under the auspices of the Ministry of Territorial Administration and Decentralization (MINATD), to assist with the implementation of the nation's disaster management, however, MINATD does not explicitly say how the chiefs are to assist (Bang, 2014; Gaston et al., 2012). Despite their administrative roles, and fundamental to this study, is the fact that the local chiefs are also citizens who live in Fako Division and could be sampled. As citizens, these chiefs are exposed to the hazards that threaten the area and may have even experienced one or more disasters. For these reasons, the chiefs are in a position to speak, not only about how they conceptualize preparedness personally, but also about their perspective of the meaning of the concept more widely in their community. Their dual perspective makes them ideal participants for this study.

The participants for this research were engaged in the following manner. First, the researcher traveled to Fako Division. The researcher then traveled to different towns within these regions. The researcher used some contacts in Cameroon (family and friends) to identify the local chief's names and where they reside. Upon arrival at these communities, the researcher asked the locals for the location of and directions to the chief's residence. The researcher then went to the local chiefs house and explained his interest for conducting research about how Fako Division Cameroonians conceptualize disaster preparedness. During this contact, the researcher provided the chiefs with a formal letter of invitation and an information sheet about this study (Appendixes C and D).

The Researcher as a Participant

From personal experience, the researcher knew that face-to-face contact was the best approach to make contact with the research participants. The researcher was a native of Cameroon, grew up in the Southwest Region, and had intimate knowledge about Cameroonian culture. The researcher's experience with Cameroon allowed him to assume the role of an insider and an outsider for this study (Dwyer & Buckle, 2009) or active participant as observer (Merriam, 2002).

The role of the researcher as a participant can have some positive and negative effects on the study (Acker, 2000; Asselin, 2003; Mullings, 1999; Bogdan & Taylor, 1975; Serrant-Green, 2002). This dual role had some positive impacts such as knowledge based on the researcher's familiarity with the language, the setting, and the norms of the study population. Indeed, 73% of the interviews (N=24) were conducted in the English language while 27% of the interviews (N=9) were conducted in West African Pidgin English (also referred to as Guinea Coast Creole English) which is the *lingua franca*, or language of commerce, spoken along the west and part of central African coast.

The researcher's knowledge as a native helped him interpret the participants' objectives, perspectives, and narratives enabling him to collect rich, in-depth data. It also had some negative implications for this qualitative study because the researcher faced the challenge of bringing his personal biases to the study (Taylor & Bogdan, 1998) and going "native" (Mays & Pope, 1995; Punch, 1994) that is, failing to detach his personal behaviors and experiences in his description and interpretation of the data (Mays & Pope, 1995). For this study, the researcher was cognizant of these issues and worked consciously through questioning and probing while gathering the

data: there was also rigorous application of data-analysis techniques, keeping with social-science standards, to make sure that the issues did not negatively impact the study.

Snowball Sampling

During the study period, the researcher found that some chiefs were unwilling to participate in an interview study. Upon inquiry, the researcher was told by the locals that some chiefs were hesitant to be interviewed because the chiefs thought the researcher was part of the national government and had some political agenda that could be detrimental to their positions as chiefs. Taking the concerns of these chiefs into consideration, the researcher then employed the snowball sampling technique. With this technique, additional participants are selected based on referrals from other pre-selected participants (Babbie, 2001; Bachman & Schutt, 2013). Thus, at the end of each interview, the researcher asked the chiefs for referrals, in order to gain contact with more chiefs. The justification for engaging in snowball sampling at this point in the study was that the chiefs who had already participated in the interviews not only had strong social ties with other chiefs in Fako Division, but also, understood the purpose of this study therefore, those chiefs facilitated the recruitment of other chiefs.

Sample Characteristics

The sample characteristics of the participants were collected during the interview process for the purpose of understanding the participants, their views, and their geographical areas. This information had significance for the study because the chiefs' understanding of individual and household preparedness is framed by and situated within this context.

A total of 33 chiefs in Fako Division (N=33) were interviewed for this study. As shown in the Figure 1, there are four subdivisions in Fako Division: Buea, Limbe, Muyuka, and Tiko. The participants in this study resided in different regions in Fako Division. Of all the participants

in this study, 55% of the chiefs (N=18) were from the Limbe Subdivision, 42% (N=14) from Buea Subdivision, and 3% (N=1) from the Muyuka Subdivision.

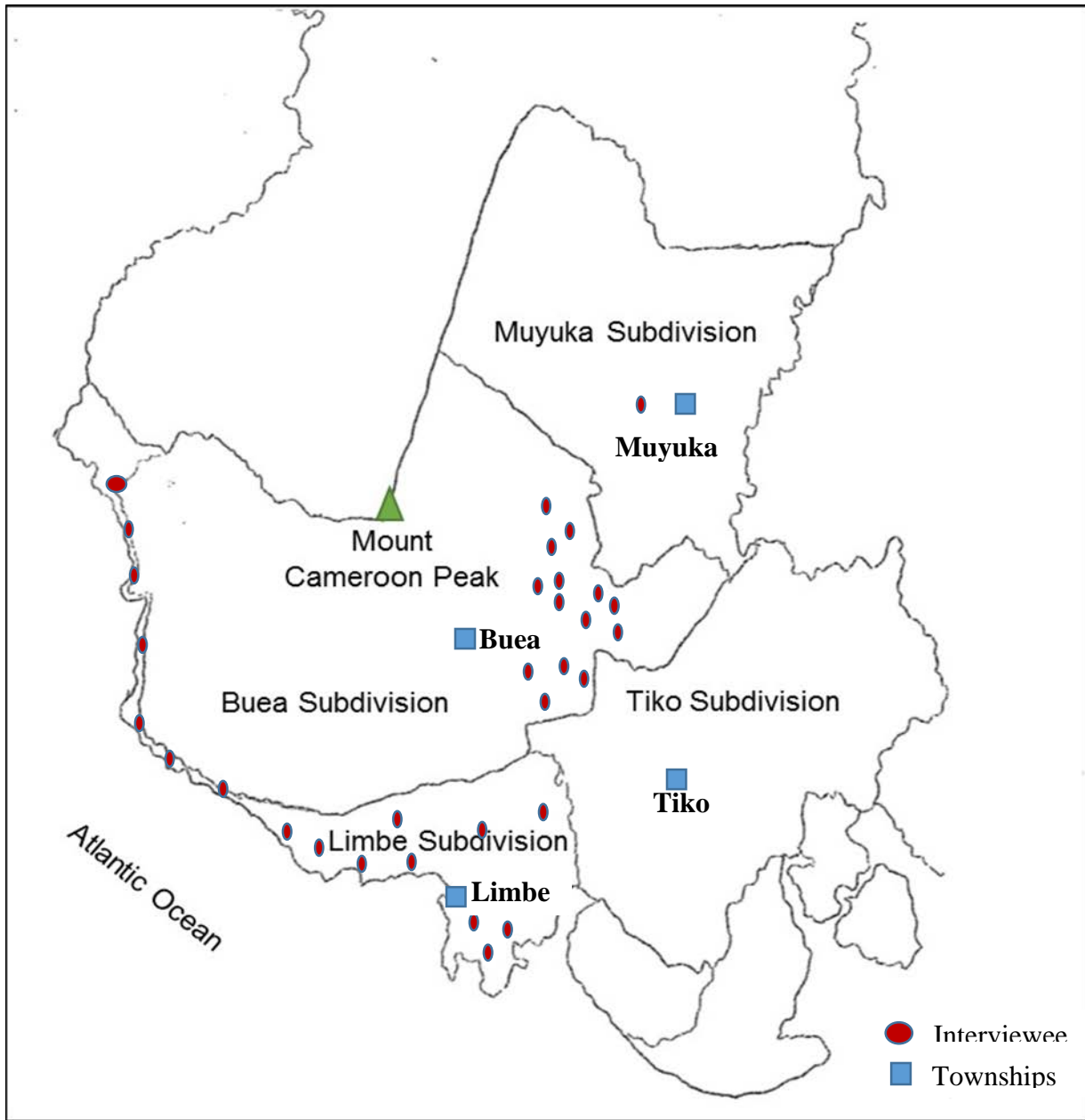


Figure 1. Map of Fako Division.

The vast majority of the chiefs and sub-chiefs (N=30) had been in their position for at least 5 years, and all of them had been residents of their respective areas for more than 10 years.

In addition to their full-time positions as chiefs, all of the participants (N=33) had other jobs. Some of the individuals' job titles included managers, professor, business owner, and civil service; at the same time, all participants also considered themselves as either farmers or fishermen. The majority of the chiefs (N=24) who participated in this study, self-identified themselves and the people in their areas as subsistence farmers. Of these participants, 58% (N=14) resided in the Buea Subdivision, 38% (N=9) in the Limbe Subdivision, and 4% (N=1) in the Muyuka Subdivision. The rest of the participants (N=9) indicated that they and their people were mostly fishermen, and resided in the Limbe Subdivision.

The participants also came from different statuses in society. That is, some of the participants were of higher status than others. Although the researcher did not ask the interviewees questions to determine their status, the researcher observed the participants' residence (size and quality of construction) and visible assets (furniture, cars, etc.) to understand how representative the chiefs were of the population they served.

In general, a vast majority of the people in Fako Division did not own personal vehicles nor did most people own their own homes. Even when all the houses were constructed of the same material (wood or bricks), there was a disparity in the conditions of each structure. Relative to the homes and visible assets in the area, the researcher believed that about 40% (N=13) of the chiefs appeared to be of higher status than the individuals whom they served (they owned cars, had bigger houses, and had newer and high-quality assets) while the remaining 60% (N=20) were of similar status with the majority of their constituents (they owned their own homes, had modest-looking homes, may own a car or motor bike or not, yet they seem better off than the individuals whom they served). In addition, given the fact that some of the interviews were conducted in English and others in Pidgin English, it appeared to the researcher that the chiefs

seem to be of different educational status. As aforementioned, 73% of the interviews (N=24) were conducted in English language, while 23% of the interviews (N=9) were conducted in West African Pidgin English (Guinea Coast Creole English) which is the *lingua franca*, or language of commerce, spoken along the west and part of central African coast.

Finally, all the chiefs and sub-chiefs interviewed in this study were between 25-80 years old. It should be noted that, although some females had positions in society with administrative authority, with regard to chiefs in general, Cameroon was a highly paternalistic society. Indeed all the study participants were male.

Theoretical Saturation

Although the researcher estimated that approximately 40 interviews would be conducted to collect data for this study, only 33 interviews were actually completed (26 through purposive sampling and 7 through snowball sampling). From the study's outset, the researcher was not so much interested in achieving 40 interviews, a rather arbitrary number, but instead in reaching a theoretical saturation. According to Strauss and Corbin (1998), theoretical saturation is achieved when

no new or relevant data seem to emerge regarding a category; the category development is dense, insofar as all of the paradigm elements are accounted for, along with variation and process; and the relationships between categories are well established and validated (p. 188).

Theoretical saturation thus requires continually bringing new participants into a study to the point where redundancy is found with the collected data. In other words, theoretical saturation is achieved when the researcher collects data to the point where nothing new is being added by continuing data the collection. After conducting the 33rd interview and reviewing notes after each interview was completed, the researcher came to the conclusion that the 28th interview rendered as much useful information as the 33rd interview and that no new themes emerged

between interviews 28 and 33. Thus, the researcher concluded that theoretical saturation had been reached and ended the interview process.

Finally, it should be noted that, because this study seeks to understand how Cameroonians living in Fako Division conceptualize individual and household preparedness, the researcher sought to recruit participants from the entire Fako Division. Although most of the participants ended up coming from the Buea and Limbe Subdivisions, the researcher attempted to contact 7 chiefs in the Muyuka and 6 in the Tiko Subdivision but due to scheduling conflicts, he succeeded in making contact and interviewing only 1 chief in the Muyuka Subdivision and none in the Tiko Subdivision.

Data Collection

Institutional Review Board (IRB) approval was sought prior to data collection. Once IRB approval was received, the researcher traveled from the United States to Cameroon. In Cameroon, the researcher recruited family and friends to help establish contact with local chiefs in Fako Division. Once contact had been established with participants, this study followed Rubin and Rubin's (2012) Responsive Interview Model both for data collection and data analysis. Responsive interviewing is a data-collection technique where the "researcher's role is to gather narratives, descriptions, and interpretations from an array of conversational partners and put them together in a reasoned way that re-creates a culture . . . in a way that participants would recognize as real" (Rubin & Rubin, 2012, p.,7). This model is based on the assumption that because people perceive their experiences to be real, researchers can immerse themselves into participants' worlds and collect rich data by allowing the respondents to share their experiences (Rubin & Rubin, 2012). Specifically, face-to-face, in-depth, semi-structured interviews were used to collect the data for this study. Semi-structured interviewing is a qualitative technique

where “the researcher has a specific topic to learn about, prepares a limited number of questions in advance and plans to ask follow up questions” (Rubin & Rubin, 2012, p. 31). Thus, an interview guide consisting of open-ended questions was used to initiate interview discussions with the goal of understanding how local chiefs in Cameroon’s Fako Division conceptualized individual and household preparedness. The main interview questions included:

- Let’s get started by you telling me about hazards in your area.
- Tell me about some of the disasters that have resulted from these hazards.
- What does preparedness mean for you?
- Is there anything else about hazards, disasters, or preparedness that you want to share with me at this time?

See Appendix E for the sample interview guide.

Interviews are a good qualitative research method for collecting data because they entail close interaction with participants, enabling the researcher to collect rich data about how people conceptualize their reality (Taylor & Bogdan, 1998). Given the fact that this study was exploratory in nature, the research question benefited from the rich details and explanations that interviews facilitate. The interviews allowed participants to express, in their own words, what preparedness meant for individuals and households in Cameroon.

The interviews were recorded using a digital recorder; the respondents were informed that their names and towns/villages would be collected for tracking purposes only and would not be used in any reports about the study’s findings. The researcher connected the names of the chiefs to their locations for tracking purposes only. The recorded interviews were uploaded to the researcher’s private computer and then to a secure cloud database. Only the researcher, dissertation adviser, and the IRB-protocol stipulated and certified transcribers had access to the

interviews. After the interviews had been transcribed, the recordings were destroyed. The transcriptions and identifiers were destroyed when data analysis was complete.

Interview Questions Pretest

Before engaging in this interview and data-collection process, the researcher conducted three interviews by phone with the researcher's mother, a neighbor and a chief who all reside in Fako Division of Cameroon's Southwest Region. These interviews were conducted to determine the practicality and extent to which the intended interview questions generated rich data that were relevant to this study. The researcher found that these broad questions were highly effective at generating data related to the research question. However, the researcher learned that opportunities for probes and follow-ups were missed. Reflecting on these missed opportunities, the researcher made some alterations to the questions. Upon further consideration about the type of data the researcher wished to gather from each interview question, the researcher created a list of considerations for data analysis (see Appendix F for a list of considerations for data analysis).

Data Analysis

The data were analyzed using Rubin and Rubin's (2012) Responsive Interview Model. Using the model, the data were analyzed in two phases (Rubin & Rubin, 2012). First, the collected data were transcribed from the audio recorder to text and then coded. Second, the coded data were analyzed.

During the first phase of the Responsive Interview Model, a "transcript that contains a full and accurate word-for-word written rendition of the questions and answers" (Rubin & Rubin, 2012, p. 190) was prepared from each interview. After transcribing the interviews, the content of each interview, including the main points that addressed the research question, names or pseudonyms of the interviewees, time and location of the interview, and the reason why the

interviewee was included with the study, was written (Rubin & Rubin, 2012, p. 192). During transcription, memos containing the researcher's thoughts and references to potential emerging themes and concepts were written (Rubin & Rubin, 2012).

The first stage of analysis revealed that a number of activities that the participants discussed could be, generally, classified under certain specific theoretical labels. Thus, the interviews were coded in a systemic manner, using codes such as lack of clarity, meaning of preparedness, loss minimization, knowledge, responsibility, integration, finance, mobility, and subsistence, by placing a code next to each data segment that represent the theme's concept.

The coded data were then analyzed for broader implications (Rubin & Rubin, 2012). Using diagramming charts and figures to integrate both of these phases in the data-analysis process illustrated possible relationships among categories and provided an in-depth understanding about the relationship of the data to the study's research question. The coded data were analyzed, looking for sets of related themes and concepts that answer the research question while providing detailed descriptions and explanations about the findings. While this process of combining themes highlighted causes and consequences, it can also lead to the generation of a theory (Rubin & Rubin, 2012). The researcher did not develop a theory based on his analysis, but was nevertheless able to analyze the findings' implications to emergency management policy, practice, and education.

Limitations

The following limits apply to this study. The sample size was small and non-random, thus the results were not generalizable to Cameroonians in Fako Division. Additionally, the focus on a single nation excluded the perspective of additional nations in other regions of the world. Nevertheless, the conducted interviews and accompanying theoretical saturation, yielded an

initial picture about how Cameroonian participants in Fako Division conceptualized the concept of preparedness.

The data collected could also reflect the social-desirability bias. Social-desirability bias occurs when sample units tell the researcher what they think the researcher wants to hear or when they respond to questions in a manner that makes them look good (Babbie, 2001; Fisher, 1993; Grimm, 2010; King & Bruner, 2000). Given the fact that the chief is a leader of his community, respondents may, due to their community affiliations, have responded in a manner that they believed would make them or their community look good.

Finally, all the participants in this study were male. While the researcher did not intend to select only male participants, in Fako Division chiefs are generally male. In Cameroon, some females have positions of authority and women in general are an integral part of the day-to-day operations of households. The fact that the sample did not include women makes the results not generalizable to Cameroonians in Fako Division. However, as leaders within communities, the chiefs represented their constituents and discussed the concept of preparedness within the experiences of both males and females citizens.

Conclusion

This chapter reviewed the qualitative research methods that were used for this study. Following Rubin and Rubin's (2012) Responsive Interview Model, a pre-developed interview guide was used to conduct interviews with approximately 33 local chiefs in Fako Division of Cameroon. This chapter also examined the sampling techniques adopted in this study, including a discussion about the researcher's role as a participant and the researcher's rationale for ending the interview process. The Data Collection, Data Analysis, and possible Limitations for the study were also addressed. The next chapter examines the Geographical and Environment Context

within which these data were collected and how that context is critical for understanding how individual and household preparedness is conceptualized.

CHAPTER 4. GEOGRAPHICAL AND ENVIRONMENTAL CONTEXT

This study was conducted with the goal of exploring the meaning of individual and household preparedness from the perspective of the people who reside in the most disaster-prone areas within Fako Division, South West Region of Cameroon. Questions were posed to the local chiefs in Fako Division in order to understand the context in which individual and household preparedness is being conceptualized, and the results are reported here in three sections. The first section discusses The Area's Hazard Context and the hazard experiences of the interviewees; the second section addresses the participants' hazard experiences. The third sections examines how that context is critical to understanding their conceptualization, or lack thereof, about what individual and household preparedness means. The quotations presented in each of these sections and subsections are from different participants.

The Area's Hazard Context

Key to understanding how Cameroonians in Fako Division conceptualize individual and household preparedness is first knowing the context within which these conceptualizations are being made. This section describes the hazard context and the experiences of those who reside in this region.

Traveling to each of the 33 interviews, the researcher saw Fako Division as a mix-cosmopolitan setting and a constellation of villages. For example, within Fako Division as a whole, 43% of the participants (N=14) had jurisdiction over areas with an estimated population of 100-1,000 inhabitants; 33% (N=11) over areas with an estimated population of 1,000-2,000 inhabitants; 15% (N=5) over areas with an estimated population of 2,000-5,000 inhabitants; and 9% (N=3) over areas with an estimated population greater than 5,000 people. While the majority of these participants (N=23) resided in village or rural areas, others (N=10) resided in urban

areas of the Buea and Limbe townships (with estimated populations of 64,000 and 72,000, respectively). Yet, all of these villages are in close proximity to Buea and Limbe townships, making the individuals who reside in this region vulnerable, to a varying extent, to all the hazards common to this region.

Based on the researcher's observations and an analysis of the participants' descriptions, Fako Division is characterized by a wide range of geographical features, such as an active volcanic mountain, mammoth hills, rivers, ravines, and the sea. Figure 2 shows some of the major hazards that are common to the villages and townships in Fako Division. Figure 2 also shows the proximity of these villages and townships to the mountain and sea, which are the predominant sources of the hazards to which the people are vulnerable.

As indicated in Chapter 1, the interactions between residents and these geographical features can and have resulted in some hazard events in the past. When traveling through Fako Division, you can see that all the villages and towns in this area are situated either at the foot of the mountain or in very close proximity to the sea. Some participants explained that the reason why their communities are located close to the mountain is that the combination of the rich volcanic soil and the climatic condition makes this area very conducive to farming. As you drive through the villages and townships in Fako Division and talk to the residents of this region, you come to the realization that the reason why Fako Division Cameroonians are so vulnerable to a wide range of hazards, such as earth tremors, volcanic eruptions, volcanic-ash pollution, and ravine flooding, is due to the fact that these communities were developed very close to an active volcanic mountain and/or near the sea.

The different chiefdoms visited in this study were located at the foot of the mountain, stretching out to the sea. Almost all of the participants' (N=28) jurisdictions were mainly

residential areas. Looking around the villages, you see small mom-and-pop stores and bars. Walking through the villages, you see footpaths leading from the main road.

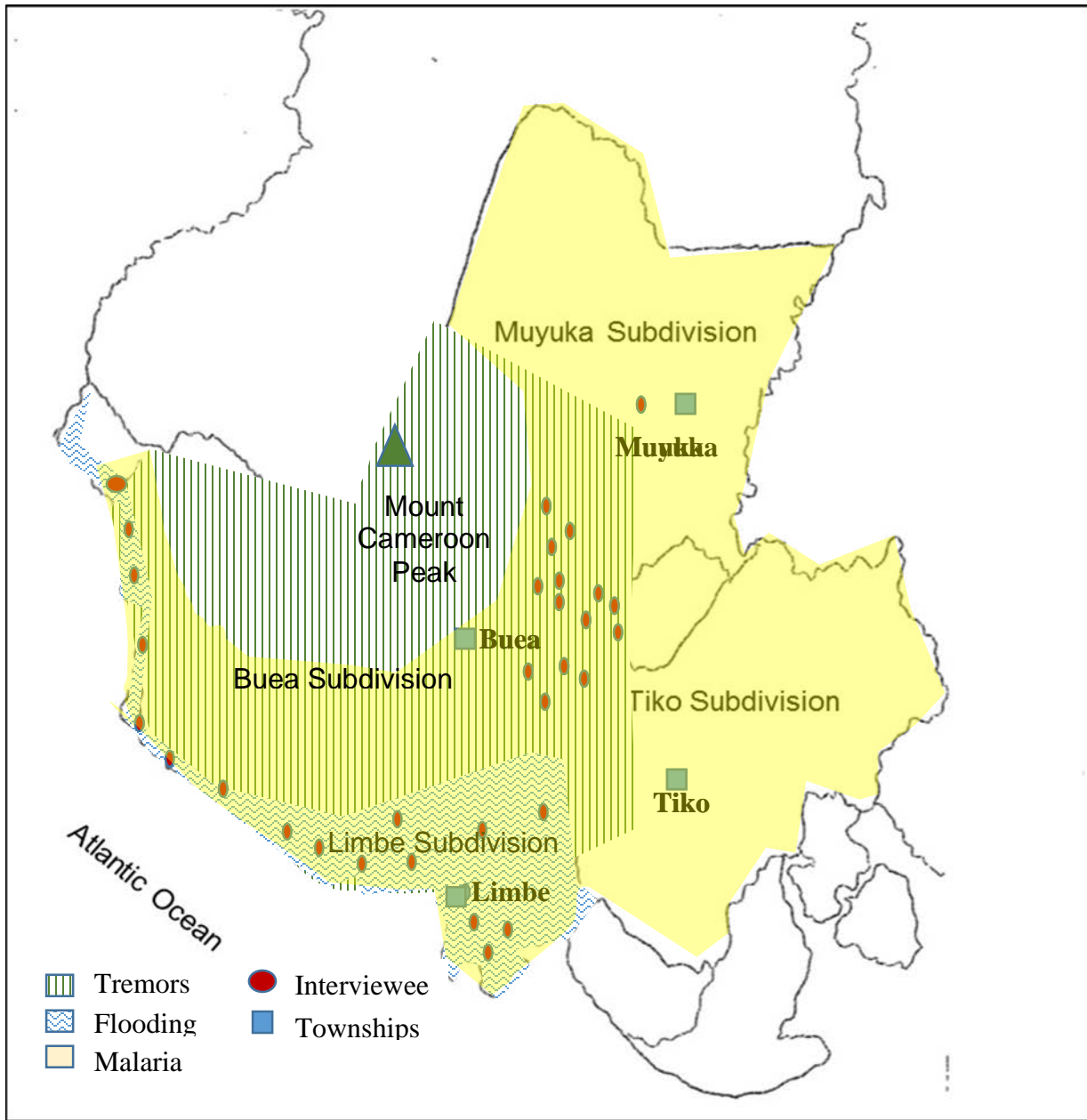


Figure 2. Map of the Major Hazards Common to the Villages and Townships in Fako Division and the Proximity of these Communities to the Mountain and Sea.

You can also see graves in the front yard of most houses. (This is how most Bakweri people—the indigenes of the area—bury their dead.) While one can see the people’s culture by the

way the houses are constructed and by how the people bury their dead, one can also see how vulnerable that culture is to hazards, such as a volcanic eruption, given the location of these communities.

As shown in Figure 3, the houses in all the villages are mostly old, single-family wooden houses with some well-constructed, cement, brick-mason houses, some of which have multiple floors. The chiefs in this region explained that the villagers construct their homes with wood (which is lighter in weight compared to concrete brick) to limit the possibility of these structures collapsing during earth tremors. However, constructing these wooden houses at the foot of Mount Cameroon makes them vulnerable to lava flows from mountain eruption.



Figure 3. Wooden houses in a village in Fako Division.

While the villages were characterized by mostly old, wooden houses, in the townships, one can see the emergence of a modern city. In Buea and Limbe, for example, you can see some public, private, and mission schools. There are also government regional offices, and the businesses in the area vary from small mom-and-pop stores to pharmacies, building and construction stores, banks, large shops, restaurants, and bars. There are lots of single-family homes and some apartments, and like most cities, the buildings are built close to each other. Given the population density, the commercial and administrative activities in these areas, and the proximity of these townships to the mountain and the sea, when standing anywhere in these towns, one can see how both the residences and economies of these townships are vulnerable to hazards such as volcanic-ash pollution, earth tremors, and lava flows. With regard to lava flows from volcanic eruptions, the interviewees explained that every time that the mountain had erupted in the past, the lava flowed in multiple directions. While all the participants indicated that no fatality has, to the best of their knowledge, occurred as a result of lava flow, the individuals, households, and businesses in the entire Fako Division remained vulnerable to the hazards common to this area because these residential and commercial districts are located close to this active volcanic mountain.

Walking around the villages and townships, particularly in the Buea Subdivision, you will see that some of the developments are close to ravines, making the people vulnerable to ravine flooding. The Buea terrain is characterized by solid, volcanic rocks. Standing in the front yard of one chief in the Buea subdivision and looking out, you realize that you are higher up the mountain. While the weather on that day looked cloudy and cool (which in this area it always does), you could see far down the hill where most houses at the bottom looked like dots in a field

of green vegetation. From that vantage point, one could also see how the settlement at the bottom was vulnerable to ravine flooding and landslides.

Traveling up to Buea from Limbe or Tiko, one could see evidence of previous landslides. The most conspicuous of these are the major landslides along Mutengene where the hill had cut off the main highway, and the Mabeta New layout area in Limbe where there is still evidence of the major (in terms of fatalities and destruction) 2001 landslide. The level of deforestation is quite apparent, and there are several examples of minor landslides. Standing on the veranda of the participant's residence in Mabeta and Limbe, and looking at the neighborhood, one gets the feeling that the homes in this area were quite vulnerable, and should another landslide occur, there would be tremendous impact both in terms of human and property loss. Figure 4 shows brick-masonry houses constructed at the foot of a hill and close to a commercial district.



Figure 4. Modern structures in a city in Fako Division.

The close proximity of the residential and commercial districts to the hill makes the individuals and households who reside and/or work in this area vulnerable to landslides. The mountain and the sea are not the only sources of hazards in this region.

In addition to these villages and townships being vulnerable due to their close proximity to the mountain and sea, the people of Fako Division also experience rainfall-related hazards. According to one participant, Fako Division, like the rest of Cameroon, has two climatic seasons: a rainy one and a dry one. Unlike the rest of Cameroon, Fako Division seems to experience longer periods of rainfall. In addition, this participant explained that the longer period of rainfall is due to the fact that most of the townships and villages are closer to the sea and on the windward side of Mount Cameroon. This participant further explained that there is actually a town in Fako Division, Debunsha that some people say is the sixth wettest place in the world because it rains throughout the year. Based on this participant's explanations, one can see why the people of this area are vulnerable to a wide range of natural and health hazards.

Standing anywhere in Fako Division, you can see evidence about the amount of rainfall in this area. For example, there is a botanical garden located in Limbe; the Cameroon Development Corporation (CDC) has banana and palm plantations throughout Fako Division; and almost all the residents in this region engage in some form of subsistence farming. The palm trees and very rich, deep-green vegetation give the feeling that almost anything that is planted in this area would grow and that the people in this area are mostly farmers. While these climatic factors make the area conducive for farming, it also makes the people of this region vulnerable to natural hazards, such as landslides, flash flooding, river-bank flooding, and tropical storms. Besides making these communities vulnerable to landslides and flooding, the heavy and sometimes prolonged rainfalls also create conditions that make the region's people vulnerable to

epidemics such as malaria and cholera. One participant in the Limbe subdivision indicated that heavy rains and poor drainage systems allow spotted areas of standing water—which are breeding grounds for anopheles mosquitoes—to develop. This insect is the main malaria-parasite transmitting vector. In addition, the combination of contaminated waters (due to flooding) and poor environmental hygiene conditions makes the people susceptible to cholera.

In addition to heavy and prolonged rainfall, the size and poor conditions of the roads in Fako Division also make the people vulnerable to hazards and associated events. While the major streets and highways are paved, the majority of the small streets and roads for most of the villages are unpaved and quite dusty. Figure 5 shows some of the roads that the researcher accessed to get to some villages in the Buea subdivision.



Figure 5. Some poor roads conditions in Fako Division.

As depicted in the figure, some of the roads are unpaved and are only big enough to allow a single car to pass through at a time. Somehow, people squeeze two cars side by side without hitting each other. These poor road conditions and the size of the roads make the people of this

region vulnerable, particularly in terms of disaster response. It seems to the researcher that these problems could not only prevent response personnel from getting to these area in a timely manner, but they could also hinder disaster-response activities, such as evacuation prior to or during a hazard event.

Furthermore, walking around the streets in the villages and townships, one can see that the volcanic rock makes it difficult to drive on some of the streets. Therefore, some streets are only accessible by foot or motor bikes (popularly called Okada). Even where some roads are paved, the roads are small, making it seem as if there were only one road into the villages. Driving through these roads, and on several occasions narrowly missing head-on collisions, highlighted the degree to which these conditions could impair disaster-response and recovery efforts. These poor road conditions also make Fako Division Cameroonians vulnerable by increasing the possibility of fatalities due to an inadequate response or limited accessibility to the aid needed for recovery.

Flooding is also a prevalent hazard in Fako Division's coastal villages and townships. All the participants in this area of Fako Division mentioned flooding as a problem that they face annually. Going through these villages and the city of Limbe, one can see how the residents in this area are vulnerable to flooding because some of the houses around the Clarks Quarter area are built with a 2- or 3-foot wall in front of the homes. Figure 6 shows the flood-prevention walls constructed by Clarks Quarters' residents to deal with Limbe's flood problems. As one participant explained, residents in these areas build walls, such as the one shown in the pictures of Figure 6, to prevent water from entering their homes. Furthermore, most of the villages and townships in the Limbe Subdivision are close to the sea, and as one gets close to the beach in these areas, you see mostly wooden houses.



Figure 6. Flood-prevention walls in Clarks Quarters Limbe

Given the fact that some areas are susceptible to annual flooding, some houses are elevated on wooden platforms. As one participant explained, “The people in these areas are mostly fishermen, and they suspend their homes to prevent water from entering and destroying or carry away their property.”

All the participants in this study agreed that the Limbe subdivision is more vulnerable to flooding than all other areas in Fako Division. Participants in the Limbe Subdivision were in unanimous agreement that the primary reason for this vulnerability was a lack of or poor drainage systems. The participants explained that inadequate or clogged gutters make it impossible for water from the heavy rains to be channeled away from residential and commercial properties, causing flash flooding. Walking around, one can also observe some blocked drains. Figure 7 shows the assistant of a participant in a village near Limbe; he is pointing out some blocked gutters and explaining how the blockage makes his entire area susceptible to flooding.



Figure 7. Blocked gutters in a village near Limbe

As one participant stated, “The way they build the roads, we don’t have drainages, so the water doesn’t have any outlets. That’s the main thing; the drainage system is poor. That is why we have many floods.” Another person explained:

The people expect that the Limbe urban council should come up with substantial engineering surveys to make sure that gutters are created to deal with flood and drainage problems. In some parts of the town, the city council has dug cannels, dipping streams, and placed stone walls on the banks of the rivers to improve the filtration in some parts of the town. But the problem remains that there has been no systematic or scientific study to deal with the drainage problem even though, every year, we have flooding, and sometimes, people die.

In addition to blocked drainages, the flooding in Limbe is also due to the Jengele River overflowing its banks. As one participant explained, “Flooding is a big problem in the Limbe area, especially due to lack of dredging of the Jengele River.” He then proceeded to take the researcher to the river. It looked shallow, but as the participant explained, when it rains, the river collects most of the city’s runoff and expands in size, overflowing its banks and flooding the area, making the people vulnerable to this hazard. All the participants in this area of Fako Division agree that their people were vulnerable to flooding, especially since it occurs annually.

Fako Division Cameroonians are vulnerable to a wide variety of hazards. The interaction between residents and these hazards usually results in hazard events with a wide range of impacts. All in all, this group of participants has had some experience with almost all of these hazards, but they and those around them have had relatively little direct impact, yet some have had more experience than others. While hazards are common for the entire division, some areas are more vulnerable to certain hazards than others. Although this disparity in vulnerability leads to some participants having had more experience than others, all the participants have an understanding about the effects of the hazards either from personal experience or from discussions through social networks.

Hazard Experience of Participants

As indicated in the earlier section, Fako Division Cameroonians are vulnerable to a variety of hazards. While this is so, most participants did not have any direct experience or did not have any recent experiences with the aforementioned hazards. As members within their communities and in their capacity as leaders, all the participants indirectly, either through kinship or by performing their duties as chiefs, are aware or know of someone who had experienced the hazards common to their community. This section describes the experiences of Fako Division Cameroonians as presented by the participants.

As indicated in the previous section, Mount Cameroon stretches across almost the entire Fako Division. Given the volcanic nature of the mountain and associated activities, most people in that area, at some point in time, had felt some earth tremors, had witnessed lava flows, or knew of someone who had experienced these events. While everyone in the entire division felt the earth tremors, the effects were more concentrated in the Buea subdivision area which is situated closer to the mountain. People who experienced earth tremors, eruptions, or volcanic-ash

pollution in recent years did not experience much impact. For instance, when earthquakes did occur, people were scared, but most of the impact involved items falling from cupboards and off walls. A few houses collapsed, but the number was very small relative to the number of homes in the area. After one interview, a participant pointed out the cracks in his house's walls and explained that the cracks were a result of an earth tremor. Another participant described the impacts of an event that occurred in 2000:

Like sometimes when I think that was in 2000. The tremor in 2000 in Bokwangoh caused some of the houses to give way, but they were not completely destroyed. However, there were serious cracks, and some of the walls of the houses separated. But we have not experienced any human loss.

Another participant explained:

When there is an earth tremor, people are usually scared. Most people do not even go to their farms. Those who climb palms to tap wine stop doing that, so during that time, we experience quit a few financial losses because people abandon their sources of income. Yes, during this time, people live in fear mainly because they don't know what may come next.

This region is also prone to ravine flooding. While the people are vulnerable to this hazard, none the participants in this area indicated that they or their immediate family had been directly impacted by this hazard. According to the chiefs in these areas, ravine flooding usually occurs after heavy rains. As the rain water flows down the mountain, it builds up speed, collecting rocks and sometimes pulling down trees. The flow results in both human and material loss. When ravine flooding happened recently, some people's properties were carried away, and some houses were damaged; the impact was limited to people who construct close to these ravines. As one participant stated, "There was, I think it was 2 or 3 years ago, there was a heavy rain that brought on floods and had to break down some houses which were built along those ravines." Another participant said, "Yes, as I explained, the water that came down the mountain destroyed part of the hospital . . ." Explaining in detail, one participant stated:

If I take you around the village to where they call it Koke, where there are very huge ravines, where in those days the flood will come down and even some animals will come down with the flood. A goat will be crossing, and the flood will even bring the goat right down.

Given the volcanic nature of Mount Cameroon, there has, over the years, been various events where lava from the erupting mountain flowed towards some villages. As one participant explained, “Around 1960, there was an eruption where the lava came down towards this side of the mountain towards Ekona.” Another person stated, “The lava from one of them passed between Bova and Bonakanda.” Discussing the most recent eruption, one participant explained, “Around 1999, there was another eruption where the lava went towards the other side of the mountain towards Bakingili.” When the mountain did erupt in the past, people were scared. Some people self-evacuated, and others were evacuated. There was not been any direct loss of human lives nor had the lava ever destroyed any villages. As one participant explained:

Like the mountain when it is erupting and lava starts flowing, people are very frightened, especially those of us on the lava routes. Since the lava routes are identified, some stubborn people go and occupy the lava routes, so when the lava comes, it devours their crops. An example is the last eruption which occurred here in 1999. It devoured one man’s farm here on the road to Seme. . . . we have not witnessed any death from eruptions that are noted.

Another participant stated:

The last time it happened, the impacts from the tremor were severe in the area particular, the destruction of houses; the lava went all the way down almost to the sea. People were scared, and the government, fearing the loss of lives, evacuated the people from the path of the lava.

As indicated in the previous section, the residents in the coastal villages and townships annually experience at least one of the following: flash flooding, riverbank flooding, and tropical storms. The most severe flooding in recent history occurred in 2001, resulting in mass evacuation, a loss of human lives, and the destruction of property. As one participant explained:

There was heavy rainfall; in fact, we had had rain with more intensity than the one that we experienced that year, but surprisingly, the destruction from this rain was quite baffling in that the streams overflowed their banks and, in some cases, the flood waters carried large trees, causing destruction in the community. Even when the waters had gone down, there were quite a few large trees left behind by the flood waters.

Another participant stated:

There was a bit of rainfall before that, but the volume of water was multiplied by 30 times. So the soil got cut from the hill and cascaded down the hill, and entered houses and killed people. And then the flood waters also destroyed houses, carried people away, and killed people, destroyed property.

While most of the interviewees had no direct experience with flooding, others had been directly impacted by the flooding events. In those situations where the participants had firsthand experience of the hazard, they suffered the loss of personal property and damages to their belongings, just like their constituents. One participant explained:

As for the flood disaster, I have experienced it myself because some of our farmland has been affected. I was building a small house in the bush which I wanted to use to cook forfor (moonshine); the water came and swept the whole thing, and even when I took the disaster management committee there, they could not believe that there had been a house there.

Given the fact that most of the participants also live within these communities, the participants experienced the flooding *vis-a-vis* their constituents, either watching the flood waters carry away their or their neighbors' belongings, or waiting for the water to come into the houses. As one participant stated, "At times when the flood is coming, when the flood comes, you see buckets, pans, plates flowing and going into the sea." Another participant added, "At times like this, I would sit and see animals going down, people's boxes passing, cupboards passing, so it has not been easy." One participant described a particular experience:

Like in other rooms, you can see that beds are raised up so that water should not disturb. In fact, during one period, I did not know that it was flooding. I heard my chair make noise, and I thought it was a thief. I prepared myself. I stayed quiet and said let me go and take my cutlass [machete]. I prepared myself. I put my legs down and found myself in

water. I turned to my wife. She, too, was confused. We were all confused on what to do, so it was not thieves. It was water that was stealing our place instead.

Some areas also experience flooding from wave surge. Similar to the effects of flash flooding and riverbank flooding, when these events occur, people are usually worried about the safety of their families, animals, and belongings. One participant explained:

The waves, you know some of us, as we are fisher people, our house face the seashore, so maybe when you are not around and your children are in the veranda and they may be playing, sudden waves will just rise like that and strike the house, and if care is not taken, those children can be harmed because these waves carry wood, stones, and sand.

The majority of the participants also indicated that landslides were common events in the Limbe subdivision. The most severe landslide occurred in 2001. While only 2 of the 18 participants in Limbe subdivision lived in areas prone to landslides, all of them knew a friend or family member who had experienced a landslide, flooding, and earth tremors. Figure 8 is a recent picture, taken by the researcher, showing the Mabeta Hill and the construction of residential houses on the hill. As one participant explained, “A few years ago, there was a landslide, and some people were buried in their houses, and they died. Another landslide happened in the Mabeta New Layout area still in Limbe.” Another participant stated:

Finally, it was in 2001, we had a massive landslide in Mabeta New Layout, and about 35 people were killed. We had a landslide from the hill which is behind Sekar Baptist College, and the soil entered houses and killed people. A few survived, but many died.



Figure 8. Mabeta New Layout hill

In addition to all the aforementioned natural hazards, participants also indicated that they and their people experienced epidemics such as malaria and cholera. It became apparent from discussions with these participants that almost every Fako Division resident had, at some point in their lives, directly experienced malaria. It also became apparent that almost every resident of Fako Division knew of someone who had passed away as a result of malaria. One participant explained:

We currently have malaria, which kills even more than AIDs, and most of us are sick with malaria. We sat in a council meeting and discussed what we will do. We are sick every day, and how will we reduce malaria apart from getting mosquito nets? So we felt that the environment had a problem. When each time we clear the village, we spray. So those are the few things that we do.

Furthermore, the people of Fako Division had, in recent years, experienced, either directly or vicariously, cases of cholera. The participants explained that cases of cholera were primarily due to some sanitation problems, such as keeping their environments clean or drinking contaminated water. One participant explained:

The first hazard in my area is cholera, which people experienced in parts of Buea and Limbe in 2003, 2004. When we realized that there was a cholera outbreak in Limbe and part of Buea, we, I sensitize my community not to drink water without boiling it. That is the first part of dealing with it. The second one was keep our toilets and our surroundings clean. When eating, wash your hands with soap. Nobody was affected in our community until 2004 elapsed. The second hazard for now is the AIDs epidemic, which the health ministry has set up a commissioner to go around and sensitize people and to get tested free of charge, so I tell the people in the community to take care of that.

The fact that all the participants had either some personal or indirect experience with all the hazards in the area allowed the participants to holistically discuss the hazards common to Fako Division.

The Role of Context in Conceptualizing Preparedness

As described previously, Fako Division in the Southwest Region of Cameroon is host to a significant number of hazards. While none of the participants had direct personal experience with these hazards, they could address the question about what preparedness means given their indirect experiences as members of these communities and in their role as leaders. This section addresses why the hazard context and hazard experiences of the participants described in the previous section are critical to understanding the participants' conceptualization about individual and household preparedness or the lack thereof.

Clarity of Meaning

Given the above description for the region's hazards and the participants' experiences, one would expect the participants to offer a clear articulation about the concept of individual and household disaster preparedness. Yet, this is not the case because there appeared to be some lack of clarity about the meaning for the concept of disaster preparedness. It appeared that the chiefs were familiar with the term "preparedness" but had not holistically thought of the concept as it relates to preparing to deal with hazards and their effects. In view of the fact that the chiefs had not holistically thought about what it means to be prepared for a disaster, they often had

difficulty envisioning how to begin a discussion about disaster preparedness. For instance, when asked what preparedness meant, a number of the chiefs (N=17) paused and then haltingly responded to the question.

Preparedness means that, you know, at times like that we had NGOs. We used to have meetings, well you know in this area, because, last time when we had disaster here, we had to move everybody, and they called this place a risky zone.

When you say someone is prepared, because now it is 2015, let me say for someone who has not built a house, you have to say that you have to build a house where you can settle take care of the family and send your children to school because there are some people maybe in the past years in which they may have had difficulties; maybe this year, they are trying to say that the difficulties and the hard times they should struggle hard so that this year will be a good year for them because when most people say that this year, 2015, will be a good year for me because I am hoping that this year, 2015, will be a good year for me.

That is one of the things which was emphasized in Limbe here, particularly around the Mabeta Hill, to assure that the hill was stabilized. There has to be reforestation because that hill use to contain very large trees, such as mahogany, iroko, small leaves, and more, but for the last 50 years, people have been cutting down the trees until all the tree species and almost now gone. The only trees that are left, there are a few mangos and palm trees which do not have the root structure to hold the soil, so the Limbe city council along with the Limbe Bonadikombo community went there and was engaged in the reforestation program. But even then, during the dry season, we would still see people burning the bush to plant food, and it is certain that some of those species which were planted will also become destroyed, so for that hill in Limbe, the best thing would be to totally ban agriculture so that, over a period of 20 or 30 years, the ecosystem can recover, and the timber in the hills grows back.

In other situations, when asked to express what preparedness meant to them, some of the participants offered brief answers, despite the fact that researcher asked the question in a different way.

Researcher: So, Chief, what does it mean for individuals and households to be prepared for a disaster?

Chief: For me, as an individual to prepare for a disaster, it means you are aware of it. If you are aware of it, you must prepare.

Researcher: So does preparedness only mean awareness?

Chief: It is just awareness to know that something like this will come, so you prevent it. So since I know that the flood will be coming, I try to see how I can prevent it from entering the house.

Even when asked repeatedly what preparedness means or how they would define preparedness, the majority of the participants (N=25) did not offer a direct answer to the question. These quotations are some of the responses offered by these participants:

Preparedness is like, but you have to think, you have to think. Like say what you may want to do tomorrow or what may happen tomorrow. I should think of it. Not really put it into action, but you have to sleep and think that, if tomorrow is like that, then this is what I have to do. Like what we earlier said, I may not go out. I think that is a part of preparedness.

For me, it means that, if there is a disaster like say in Buea, which we know that there are eruptions, all of us should gather around and see what we can do as villages, perhaps the council and even the government. Like here in Limbe, the flooding people should gather around and know that, at this time of the year, something gets wrong with the road with the water exploding. Let us get together, put our heads together, and see what we can do, see how much money we can muster or repair the area where the disaster is coming from and try to rectify it.

Well if I say someone is prepared, it is one who knows exactly what his own environment is going to look like. What he has been observing in the past, like to me here, what I have been observing in the past, I know that what I have done so far if it is not as worse as it is, I may not face a lot of flood at this time. Like water entering the house, it may be outside but it will not come right into the house. That is how I feel I am preparing for this period.

Preparedness is, you know when you say preparedness. Like everybody prepared, like maybe I wasn't going to church for the past last year. I decided that, this year, I will go to church. Then, my son is not going to school, and I say no; this year, my son will go to school. You prepare things; you look at, you see how, because the preparedness is many because, at times like now, you have family problems; maybe you were enemy with your brother or sister, so you say maybe this year, we will have peace.

There should be some education sensitization programs for the population because, if you go all over and you ask anybody how prepared they are in the event of such a situation, nobody will tell you that they have an idea. As I said, we are really left at the mercy of God because nobody expects death, but death is at the corner, but if you asked how prepared are you to face death, they would be scared. We know that, one day, it will have to come, but nobody is ready to die. It is the same situation like the disaster issue. We know it could occur, but nobody is truly wants to think about it. We only say, well it

should not happen. The only way is to see how you can escape. That same situation even applies to an outbreak of war. Nobody can really prepare even though we say we have a military. Even yesterday, I was watching the news, and Boko Haram invaded a military base, so those are military people who have been trained who are supposed to be alert who were also surprised. So we as a people are not prepared to handle disastrous situations. If it were to happen today, it is a matter of survival of the fittest because you might even escape and abandon your children behind because we are not ready. I think it's a policy. Thank God some of you are taking some of this challenges. There should be a real policy to handle disaster, not only in Cameroon, even in Africa. Disasters are not considered. They know they are there, but there is no real policy of tackling such situations. We are even fortunate. We had disaster in the sea around the coast line, thanks to the fact that we have the marine base there, but they only come to rescue the corpses. By the time they get there, they can only pick up the corpses, and the council is called upon to bury the corpses—there is virtually no real—they should position even some boats or whatever on the high seas to observe and monitor movements.

Preparedness seemed to mean various things to different participants. Analysis of the data showed that the participants, in their attempt to conceptualize the concept, offered varying descriptions about what preparedness entails, usually within the context of a specific hazard. From the explanations of the participants, it seemed that the concept can be applied in many ways and that the hazard towards which it is applied will dictate its meaning. For instance, in areas that experienced or had had a cholera scare, the interviewees focused their explanation about the concept within the context of this hazard.

We do or are aware and prepare ourselves on diseases like the cholera which usually come in a very heavy manner, so like preparedness or be ready, or in other words, avoid one will know you have to keep your environment clean, especially the water that we drink, so we are committed since we have to, but the local water that we manage by ourselves, we are committed to make sure that always the premises where we catch the water is always clean.

For cholera, we must stick to our hygiene conditions. We have to keep our environment clean. Our water sources should be put in place and well treated so that we should not be victims. We should have good toilets and so on.

The cholera ended in mile 4 and part of Bokuango. They said it was coming through the west coast, and the west coast is Limbe. So I mean since we know that we started to prepare ourselves by not drinking dirty water or cold water or eating with dirty hands.

Another participant discussed preparedness in the context of earth tremors:

Earth tremors for us, traditionally, we believe that there is a god in the mountain. Call it Epasamoto. We offer a yearly sacrifice. This December, there are people that will go there to offer sacrifice. To plead with him that the mountain should not erupt, but is a natural phenomenon that comes after 10 years. Maybe if Epasamoto is not there or is there, and the mountain erupts, we just know that the mountain is a problem with us. If you find your way, you cannot go there and prevent that the mountain should not erupt. We just have to prepare ourselves. As soon as it starts shaking, you know that it has to erupt because the scientists; they said somewhere inside the mountains when it overheats, it has to erupt. So we have to, as I have said, the risky zone is the west-coast side. People of Bokwango know that this other area to mile 16 is safe zone. So if it happens that lava is coming to Bokuango, people will escape and come to this side. Or if it happens that this place is divided into two, this one will be one city and the other another city.

Within the context of flooding, one participant explained:

Then, for the river, in fact, Limbe needs a serious plan to put an end to flooding. They can do small things like digging the Jengele River; it might help to reduce flooding, but the problem is so severe that we need serious studies flooding studies to be done by engineers to determine what can be done to evacuate all this water which settles in the middle of the town when there is heavy rains.

Although the participants focused their explanations for the concept within the context of a particular hazard and cited a wide variety of activities to describe what the concept entails, it remains unclear what preparedness holistically means.

Analyzing interviews revealed that the participants felt that they knew what preparedness entailed, yet they had never given serious thought to what the concept meant or holistically thought about the concept of preparedness. As one participant commented, “I have never gotten someone asking me questions of this nature.” This comment seemed to be a shared opinion.

Another participant explained, “Perhaps when young people like you come up and start probing, we might start thinking about it.” Another person stated, “I am very happy because you are making me think of things that I have never thought about before, and the more I think about it, the better I can advise people.”

Conclusion

This chapter described the sample characteristics for this study. A description about context as related to the hazards in the area and the hazards experienced by the interviewees was provided. The chapter then concluded with a discussion about context as it related to the views of the local chiefs and how that context was critical for understanding their views, or lack thereof, regarding the meaning of individual and household preparedness. The next chapter discusses themes that emerged from the data analysis related to what individual and household disaster preparedness means to chiefs. The next chapter also offers findings that explain why the concept is conceptualized in this way.

CHAPTER 5. CONCEPTUALIZATION

As discussed in the previous section, the majority of the participants (N=25) did not offer a direct answer or could not clearly articulate what it meant for individuals and households to be prepared for a disaster. Interviewing participants in Cameroon's Fako Division revealed that there was no singular definition for the concept among these chiefs. Rather, there are many themes that, together, represent how the participants conceptualize the concept. The synthesis of the data collected for this study revealed themes that transcend the hazards common to Fako Division. For this reason, the quotations are evidence of the themes and not the hazards. The following major themes were related to the concept: knowing things, social and technological integration, and taking actions emerged during the data analysis. The data analysis also revealed some minor themes, including subsistence and mobility. Further analysis also revealed themes—responsibility and finance—that may explain how participants understood preparedness.

The previous chapter examined the context for understanding the geographic and environmental hazard profile of Fako Division. This chapter focuses on how Cameroonians conceptualize individual and household preparedness. Specifically, this chapter presents the themes related to the meaning of individual and household preparedness that emerged during the data analysis. First, the Major Themes are presented, followed by the Minor Themes. Lastly, the conceptualized explanatory themes are presented. It should be noted that the quotations presented in this chapter's sections and subsections are from different participants.

Major Themes

An analysis of the data revealed the following themes related to what preparedness meant to the study's participants, including knowing things, taking actions, and integration. A total of 33 interviews were conducted for this study. These themes were classified as major ones because

they were identified either directly or indirectly in discussions with over 70% of the study's participants (N=24). It should be noted that the reference to a percentage of participants is merely to indicate the proportionality of participants who discussed a particular theme.

Preparedness Means Knowing Things

Participants most frequently conceptualized preparedness as “knowing things.” To this group of participant's, “knowing things” went beyond the knowledge of hazards in their respective areas and, thus, required the broader label of knowledge. This theme about knowledge emerged in these discussions in two ways: (a) awareness and (b) experience.

Awareness. The majority of participants interviewed for this study indicated that awareness about hazards was an important element of knowledge. Without being prompted, the participants noted that being aware of the risks associated with their areas enhanced their hazard-related knowledge. This awareness was sometimes by virtue of the fact that some areas have been identified, by the national administration, as risky zones. As 2 participants stated:

It is really just awareness because, if you are prepared, you are already aware. Like me, I have said, if you reside in a risky zone, you have to be prepared for people to transfer. They are aware of it.

Some areas have been identified as risky zones, and if you are going to construct there or do farming there, it is at your own risk. It is just like in the bush; the elephant routes are identified. When elephants come back to their routes, once in 10 years, it is the same thing like the lava. Although we have not had an exact time to estimate that it will come back at this time, it comes at the identified routes.

These participants indicated that hazard awareness was fundamental knowledge to them and to helping their communities understand the risk associated with their areas. Without being prompted, these participants were saying that it was not only important for them to know about the hazards which placed their communities at risk, but it was also important that the residents of

their communities were aware of the hazards in their areas. This awareness included knowledge about the frequency or recurrence of the specific hazard events. These participants explained:

This awareness, as I earlier explained, means that people know what is going on, and they can now take action to protect themselves or their property. For example, some people will run away from the area if they hear that an eruption may happen, but some of us decide to stay. But we are aware that they have said that the eruption may happen on such and such a day, and the lava may come toward one direction or another.

As far as flooding is concerned, people are aware that there are many parts of Limbe which have been flooded from time to time. Because the people know that this occurs regularly, they have always taken measures to make sure that flood doesn't cause too much destruction to their property.

If you don't know about something, you cannot talk of preparing for it. For example, we did not know about AIDS, but when we knew about it, we began taking action to prepare for it. We did not know of Ebola, but when we heard about it, all of us we joined the head of state and take actions to prepare to ensure that, that thing will not come.

In general, I cannot say people are not prepared. They are aware of the dangers we have been facing here in the Clarks Quarters, Down Beach, and as such, they are preparing their homes like the households should know that the water should not damage their property by lifting them up by taking some blocks. You can look at my cupboard; you can see that there is something under. We take block to suspend them up.

Participants noted that, in order for the community members to prepare for disasters, they must first understand what hazards they are at risk of experiencing. Their understanding for these hazards comes, in large part, from living within these communities as well as their direct and/or indirect hazard experiences and provides more detailed knowledge.

Experience. Experience is the second facet of the knowledge dimension that was prevalent in the interviews. Participants expressed that their residents' hazard knowledge was formed through their personal or indirect experiences with different types of hazard events. Personal experience with a hazard included the individuals and households directly experiencing a specific type of hazard. Indirect experience with a hazard included participants vicariously

experiencing a hazard event through kin or social groups. It was within this experience context that participant's conceptualized preparedness. As these participants noted:

That is how preparedness works. I mean it is not like you just get up out of the blue somewhere and start doing things hoping that there will be a disaster. No, the preparedness that you do is based on the things that you have seen happen either to you or your neighbor.

Though they are fisherman, it is easier for them to build closer to where they are fishing. But they know from experience that the sea can get angry at any time, and the waves can become high and touch the beach, and the sea does not respect buildings. When it gets to the house, it will destroy it. So we have seen that before, and so we take precaution by going further from the shore to build.

As these hazards that I earlier mentioned, as these hazards are occurring, we the people of my area are learning from them. As we learn and understand these hazards, we also begin to understand the preparatory action that we can take to minimize the effects of each particular hazard.

The participants indicated that, despite the prevalence of these hazards within these communities, they have had little personal experience with these situations. Rather, they have experienced hazards vicariously through other community members. Whether they had had direct or indirect experience, the participants learned about the hazards common to their communities and region.

As these participants shared:

People who live in the flood-plain areas have experienced this hazard and have to take measures. If you go to these areas, you see that people have platforms to hang chairs, furniture, refrigerators during the peak of the flood. You see the concrete walls that they built around their houses to keep away the water, and as I have said, some people migrate from the area. People who are beside the streams who do not want to migrate can make sure that they build with stone foundations.

Yes, I am saying that, for those hazards that happen during a particular time and you know when it happens, for example during the rainy season, you know your home is close to a stream that usually overflow its banks during the heavy rain period, like say July, they would reinforce their homes, their roofs to prevent damages to their home.

Because we have heard that some people have suffered from diseases like cholera, which they say usually come in a very heavy manner, we prepare ourselves. So like preparedness or be ready, or in other words, avoid one will know you have to keep your environment clean, especially the water that we drink, so we are committed since we

have to, but the local water that we manage by ourselves, we are committed to make sure that always the premises where we catch the water is always clean.

Overall, these participants suggested that experience is the best teacher. Without this experience, they and their people would not know about the prevalent hazards in their area. However, participants suggested that the extent to which an individual or his/her social network has experienced a specific hazard varies. Because, within this context, hazard experiences vary, so, too, does the hazard-related knowledge of individuals and households throughout Fako Division. As 2 participants stated:

I think that those that have experienced it are better prepared because they have experienced it. The other people that don't know and have never experienced it will be doubting. But if they have experienced such an issue, at least people in that area you cannot go and tell a Boteva man to go and stay where the lava came down he will never go there. Because it might take years but it might happen again.

In my opinion, preparedness depends on experience. If I experience something here, I would know that this is a dangerous area, and I should not live in this type of place. Those who experienced a disaster will be afraid for their family and so on. But if you have had the experience and tell someone who has never even heard of this hazard that they should do this or that, he will never take that advice from you because he has never had that experience and does not know what consequences that type of hazard can bring.

Within this discussion of knowledge, the participants explained that the experience of encountering hazards enhanced their knowledge about the hazards and risky nature of their communities. The participants explained that a hazard experience is the foundational way that individuals and households gain hazard-related knowledge. Given the fact that the majority of the participants in this study indicated that they had little direct experience with these hazards, it would suggest that knowledge transcends simply having experience. It is not just having knowledge but knowing how to use that hazard-related knowledge in order to take actions to deal with hazards and associated events.

Preparedness Means Taking Actions

Across the interviews, participants predominantly conceptualized individual and household preparedness in terms of taking actions. For these participants, individual and household preparedness meant taking actions to minimize the effects of hazards and associated events. When discussing individual and household preparedness, some participants conceptualized the concept as a continuous process of taking actions. Other participants explained the concept as taking actions to get to a state of readiness. Whether a continuous process or a state, to these participants, individual and household preparedness fundamentally meant taking actions.

Continuous Process versus. State. A majority of the participants explained preparedness as a continuous process. For these participants, preparedness meant that people continuously engage in a variety of hazard-related activities that would enable them to minimize the impacts, and to respond to and/or recover from hazards events. Without being prompted, participants explained that there is no point in time when people can say that they have taken enough actions to deal with the risk and threats in their areas, and as such, they are done. Given the dynamic nature of the hazards that individuals and households face in Fako Division communities, people have to continuously take actions to deal with these hazards and associated events. As these participants stated:

Preparedness is an ongoing thing. It is just like learning. It is a continuous thing, and no two disasters are the same in terms of intensity, in terms of damages, so you can't say I have done all this preparedness, and now I can relax. That is the complacency that nature does not like. Even if you are prepared, you keep on preparing because nature can surprise anyone at any time. They just told me now that they just had the worst storm in New York. The people in New York had been preparing for it, but when it came, it was worse than what they prepared for. But at least they had done some preparation, like stocking food, but when the storm came, it was actually more than they had prepared for.

But because they prepared, the impact was lessened. So there is no way and no one day that you can ever say you are 100% prepared.

You cannot do one thing and say you are finished. Building a house is a continuous process; as you build, you keep on finding new things that needs to be fixed. That is the same as preparedness; it is a continuous process; you keep on doing things as different things happens.

Preparedness has no limits; you dwell on it constantly because you don't know the day that a disaster will happen, so you just have to keep on preparing. It is just like the scripture. The believers don't know when Christ will come, but they are preparing for His coming. So for you also to be ready, you just have to be prepared around the clock. It's a continuous process.

So our state of preparedness has always been continuous; we always prepare. Like I told you, during the rainy season, even before the rainy season, you do not see people running to the market to get pullovers, blankets because the climate has changed.

These participants suggested that this continuous process is fundamental to individual and household preparedness. Other participants expressed the opinion that people take actions to get to a state of readiness. These participants indicated that people can complete certain hazard-related action to be ready to prevent, respond to, and or recover from hazard events. These actions may be to deal with a specific risk or threat, or hazards generally. As these participants explained:

When you know the hazards, then you can take preparatory actions to be ready to minimize their impacts. Let's say you know that a wild elephant is charging towards you or your home. You will get ready to run if it comes close to your home. If you don't know that this is happening, you may end up only finding that the elephant has charged into your home and destroyed everything. This is just an example.

I don't think. If it is the one of cholera, you cannot prevent it. If it comes, you must just do as you will be advised by a doctor because you don't know when cholera will come. Just have to keep yourself ready for it. And to prevent it is to just ensure cleanliness. That is how I can respond to it.

When we talk of hazards, I will say, since I became chief, we have not encountered any. But we do or are aware and prepare ourselves on diseases like cholera which usually come in a very heavy manner. So to be prepared or be ready or, in other words avoid, one will know you have to keep your environment clean, especially the water that we drink. So we are committed since we have to, but the local water that we manage by ourselves,

we are committed to make sure that the premises where we catch the water is always clean. And the water is being treated. That is, what I can say is one way of being prepared for a hazard or disease or whatsoever, even the malaria, too, I think if your environment is clean, you may avoid such disasters.

In my opinion, preparedness just means to prepare against something that you feel may come tomorrow when you are not ready. It means you make yourself ready for it to come. Because if you are not expecting something, you will not prepare. So in this wise preparedness, in my opinion, preparedness will mean that we are – we look at that situation whereby if the rains are too strong, where do we turn to. So we prepare our minds first to deal with the situation; then, we go forward.

Despite these varying conceptualizations, there appeared to be consensus among all the participants that the actions that individuals and households in Fako Division take prior to a hazard event to minimize loss, as well as to respond to and recover from hazards and associated events, are actions that can be accomplished primarily by themselves.

Taking Action with Hands. Participants in Cameroon's Fako Division repeatedly suggested that preparedness means taking actions with hands. The participants suggested that the hazard-related actions that individuals and households primarily engage in to deal with prevalent hazards in their communities are based on their knowledge of the hazards as well as their technological and social integration within these communities. These hazard-related actions that they take for preparedness were things that they can do by themselves. As these participants shared:

For example, the way people are building the house is too low; for example, if you look during the rainy season, we have low tide; you can raise your house. When building your house, maybe you can put a staircase inside your house to move things up, and that is another way people can prepare. So the way they build their houses, they can use brick to block their house so that, when water comes, water cannot get inside your house. That is another way people can prepare from there. Another way is to avoid blocking the drainage because people build when there is a drainage because, when they are looking for land, they block it.

That is one of the things which was emphasized in Limbe, here particularly around the Mabeta Hill, to assure that the hill was stabilized. There has to be reforestation because that hill use to contain very large trees, such as mahogany, iroko, small leaves, and more.

A few years back, there was a volcano in this area, and some of the houses in my area were damaged as a result of its effects. Most of the houses that were impacted were concrete-brick houses while the wooden houses had little or no impact on them. These wooden houses did not experience serious damages because they are made of wood, and when the mountain tremors, they don't crack easily unlike brick houses that, if you do not build them well or solid, they crack from the tremors.

Because earth tremors happened in our area, we learned from that experience, and people now know that they have to make sure that they have a solid foundation when building their houses and that the overall building is solid.

Within the context of individuals and households doing things, the majority of things that these chiefs talked about were quite simple. Without prompting, these chiefs suggested that, to prevent and/or minimize the effects of the vast majority of hazards common to Fako Division, the residents took actions such as washing hands, cooking with clean water and clean hands, covering their nose with a cloth, and securing or suspending furniture. However, these participants were saying that the hazard-related actions that they take are things that they can do easily and with little effort. As these participants noted:

The first protection, the first thing to do is to keep your environment clean and your hands while eating and not to drink running water. If you get water from the tap, you must boil it before you drink.

For things like cholera you must prepare not to eat with dirt, you must keep your surrounding clean, your dresses, your water you drink, I mean anything. Let's say the mountain erupts, if you are going to the lava, you have to put a cloth on your nose because the dust that comes out is very poisonous.

But we do or are aware and prepare ourselves on diseases like the cholera which usually come in a very heavy manner, so like preparedness or be ready or, in other words, avoid, one will know you have to keep your environment clean, especially the water that we drink, so we are committed since we have to, but the local water that we manage by ourselves. We are committed to make sure that always the premises where we catch the water is always clean.

With regard to earth tremors, people make sure that the hangings on the wall are secured.

People do not make wall shelves to hold their plates and glasses; instead, everything is placed in cupboards and secured so that, should the plates or glasses fall, they can break in the cupboard and not fall on someone's head.

For these participants, people can take these actions not only because they are simple things to do, but also because these things can be done with common sense.

In addition to the actions being simple, participants also explained that there are hazard-related actions that can be taken by individuals and households to minimize loss, as well as to respond to and/or recover from losses, because people can afford to take these actions.

Participants spoke of actions such as suspending household items, digging ditches, and sandbagging. These actions did not require dispensing cash for supplies or labor because people can do these things by themselves. Without being prompted, these participants were saying that the concept of preparedness did not mean buying things. Rather, in Cameroon's Fako Division, individual and household preparedness meant taking actions because the cost of the labor associated with taking these actions was cheap and free. As these participants explained:

We have rainy season and dry season. So normally, when that season comes or before that season comes, people always elevate their things; people always make sure that their furniture is put in place. They put their furniture and their beds up, so it will not be destroyed.

As I have said, most people, if you go to their houses, they carry their things up; they have blocks where they can put their chairs, their tables, cupboards, and other things that they can carry up. So even if the water comes, it will not reach that level.

I will say, according to my understanding for like flood, during flood, we used to make it as a personal duty to go and dig those ditches that water from the mountain will flow to the sea. So that is how we prepare.

No, the last time I was there, when I go there, what they are doing now that they don't have high tide is they are blocking their houses with sandbags. They take the 50-kg bags and fill the inside with sand and placing around their compound to block water during high tide.

The participants in this study also suggested that taking actions is fundamental for preventing the prevalent hazards in their communities. The participants naturally spoke of actions that could or should be done by individuals and households because it was within the realm of things that they can do with little technological expertise. Participants spoke of taking actions, such as getting mosquito nets, building a platform, planting trees, and making embankments. In this context, these participants explained individual and household preparedness to mean people taking actions to minimize the effects of the hazards because they can do these things by themselves because these actions are technologically easy to accomplish. As these participants shared:

People who live in the flood-plain areas have to take measures. If you go to these areas, you will see that people have platforms to hang chairs, furniture, refrigerators to protect these things during the peak of the flood. You see the concrete walls that they built around their houses to keep away the water.

That is one of the things which was emphasized in Limbe, here particularly around the Mabeta Hill and Motopo Quarter, to assure that the hill was stabilized. There has to be reforestation because that hill use to contain very large trees, such as mahogany, iroko, small leaves, and more.

Yeah the way we prepare. This area that we are living is not far from the sea; then for us to prepare against the sea, we already know that July, August, and September are the moments that the sea claims territories. So since we cannot dislocate ourselves in a twinkle of an eye, so what we have to do at times is make an embankment. We put on boards that, when the waves come, will spank on them.

Generally, these participants suggested that people have knowledge about what needs to be done to prevent the effects of hazards. These participants explained that this knowledge about what action to take was based on their understanding about the potential impacts of these hazards for them and their community members. However, these participants repeatedly indicated that they can only take those actions that can be accomplished personally or with their knowledge of the hazards. In addition, they can only do these things because actions require little effort and technological expertise, and can be done with minimal financial cost. Without being socially and

technologically integrated into their communities, people would not know what they know about hazards and about the appropriate actions to deal with these hazards.

Preparedness Means Integration

Participants in Cameroon's Fako Division also conceptualized individual and household preparedness as integration. Data analysis indicated that, for this group of participants, integration meant that people within their jurisdictions are socially and technologically connected to communicate and to receive hazard-related information. In addition, the data suggested that this communication of hazard-related information was facilitated by a social process. Some participants saw integration as people being socially connected with kinship, social networks, and organizations within their communities while others saw this theme as people being technologically connected.

Social Process. All the participants interviewed for this research (N=33) indicated, directly or indirectly, that a social process facilitated by individuals and households communicating with each other to the extent that they are socially integrated in their communities is foundational to people's ability to know things and to take hazard-related actions. These participants indicated that the degree to which people are informed or to which hazard-related information is communicated was significantly dependent on a social process. For this social process to work, people have to be integrated with kin (relatives and friends), social organizations (churches and local meeting groups), and the community as a whole.

To participants, social integration means that people are talking to each other through a social process. This process involves people telling people and/or people advising each other about the risk and threats that are prevalent in their communities. Direct and indirect hazard-related experiences are transferred from one individual to another. Based on the data analysis, it

appears that, to these participants, this communication of hazard-related information from person to person and from community to community is facilitated by the social process. As these participants explained

Most of our fishermen have traveled. You cannot be a successful fisherman here if you do not go to Douala, Idenau, and the coast, even Nigeria, because it is one sea that takes you there. Sometimes, you will take the boat, and it crosses waters, so something that can happen in Kalaba, and you were there; you can say, oh, I know about this, and you bring this knowledge back to your village. Traveling is a lot of experience. Even those who are traveling say, oh I have been to Ghana; I have been to Olori. I have been to this area, and when this happens, this is what they do. For example, in Down Beach, 90% of the people there are from Benin and Nigeria, so they come and interact with us. They bring their own knowledge of the sea, and that makes us aware of what happens in their own case, and when it happens to us, we know how to tackle it.

Well, when, I think, you are telling someone to be prepared, you have to highlight some of these disasters or these epidemics that we may imagine that it may occur one day. That is when you will tell the person how to prepare. What you know it can happen, maybe during discussion, you may say if this kind of a thing happen, I think you have to prepare. Like the common one we know as I keep on going back to it is keep your environment clear.

Immediately, we heard that other areas had cholera. We immediately assigned people to go out and inform people and make sure that people took care of their toilets, cleaned their environment, disposed their garbage, and people are still following these rules.

No we should prepare for things that we don't know are coming because this whole idea of climate change increasing the potential for disasters to happen, and now, all of us are sick because of this whole situation. So as of late, we have been telling people to use, to keep themselves warm and so on and so forth. When we heard about climate change, we thought it was a White man's thing, but it has come here. So those are the things we have not been anticipating. We hear about wind killing people, and we laugh. But it will come here. So when we see those types of things, we should be talking about those kinds of things here, in case it comes here, so that we know what to do.

Participants also viewed this social process as individuals and members of households communicating within their immediate family units (parents and children). This social process involves parents advising their children or husbands advising their spouses about the risk and

threats to which they are vulnerable. Through this social process, hazard-related information is passed from generation to generation. As these participants stated:

The knowledge makes me prepare, like when, let me say when my father was alive, he was showing me things, and I will never forget them what my father has taught me. That is what knowledge is. I remember what my father was telling me about earthquake, so I have used those things that my father was telling me that when those things happen like this, do like this. So that is what I see like knowledge.

I tell my children how to prepare because there are diseases that disturb people, AIDs, they must be aware of it, and you have to prepare; that is the first part. I tell them that by using condoms that is the only thing you can do. Because if you are affected, to go and be taking those drugs – well it can keep you for a while, but that is not preparedness. You must prepare before you have sex; you use condom because nobody is perfect, and me, I know very well.

So what we do is advise the women to keep the children out of their own private house. Maybe houses that are around and some of the expensive materials, we keep them out. We must be very, very vigilant at this time, even by night. So we know that not to sleep so deep; flooding can happen in the night, and we live in correspondence with each other so that, if it happens, maybe you are a bit asleep; I can alert you that it is coming. That is what we do.

For these participants, this social process is fundamental to the interaction between individuals/households and other stakeholders within the community. In addition, this social process is foundational to people being socially integrated within their communities so that they can receive and communicate hazard-related information.

Social Integration. It became apparent from the data analysis that, to participants, individual and household preparedness meant people are socially integrated. These participants saw integration as people interacting through a social process with kin to the extent that these relationships facilitated their ability to deal with hazards in their communities. Repeatedly, these participants indicated that having relatives and friends on whom they can rely prior to, during, and after a hazard event provided them with the necessary support to deal with hazard events. As one participant explained, “At times, people will go, even exile themselves, when they know the

flood is coming, let's say 3 months. Some will go to Mbende and stay with their relations. After the flood, then they come back." As 2 other participants noted:

Should the water level rise to a point where it looks like things could get bad, you start taking actions to evacuate, like running away from that area. Most people went to stay with relatives and friends who live in areas that were not affected by the disaster. Some people seek shelter at my residence. Some stayed on my veranda.

In fact, I stayed here; it was just, I didn't know what to do. My wife had given birth, so I was at home with the children. I took my table and put it outside. Carried this other one, put it on top. Carried my children and put them on top. So as I was busy doing one or two things, I only heard my children "Daddy, we don go [Daddy, we are gone]." Somebody because water entered the whole of this place until a certain level somebody who came from somewhere and carried my children away in a canoe to an upstairs house. Until this day, I don't know the person that came and saved my children.

The participants also explained integration as people being socially connected to other community social organizations. Repeatedly, participants spoke of receiving assistance from churches and other social groups within their communities. These interactions, established prior to a hazard event, enabled people to access these organizations for assistance in response to and recovery from the hazards common to their communities. As these participants explained:

Well, I'm sure psychologically it will help you to know that you have people you can turn to, yes; but other than that, you know we have a general spirit of helping ourselves, so if there is something—I mean—I have always—I mean a lot of churches help a lot; that is something that I think I should have mentioned—a lot of churches help.

If you have a problem, like in my village the Baptist churches, Presbyterian churches, these sort of league of churches is a big factor, and now of course, we have a lot of Pentecostal churches. So those they also help in their little ways to perhaps, if there is a situation, they can help, but they will concentrate more on the people of their denomination. If it is not their denomination, I'm sure they can stretch out a bit more.

Then, we have fresh-fish buyers that buy from us, and during that period when flooding occurs, they can support us by bringing little things like kerosene and some other food items. They will support us and know this is our idle period, and when the season begins, we balance up.

In addition, participants saw integration as people being connected to their community at large.

These participants spoke of being connected to their communities to the extent that their

problems became the community's problem, and/or they receive hazard-related assistance by virtue of being part of the community. Without being prompted, these participants said that people become aware, gain hazard-related experience, and/or receive aid from the community at large because they are socially integrated. As 2 participants stated:

Awareness takes different dimensions because, when there is a problem or when there is about to be a problem, you call a meeting, and we discuss that, should something happen, this is what we should do; this is what we should not do. That is what we usually do, and then, it is not just the meeting; it is follow up. For example, we were talking about cholera and so on; we move around to control toilets and see how clean they are. Some of those who don't have toilets defecate in the water. We have a measure to punish them and forcefully ask them to build pit toilets so that it doesn't cause more problems in the community.

If I have to summarize disaster preparedness, it is all about, of course, finance and love because, if we don't love each other, I will not be there when it happens to you. . . . yeah, because, if you do not love me, you will not come to my trouble. And my problem will not look at you. You will just say that that is the problem of Mr. X; let him sort it out. So with that love, you will say that this thing that is happening, we need to work hand in hand. Somebody who is touched liked that will now go and look for a boat and come and help and, at the same, will look for a technician to come and disconnect the electricity that is in the house.

Generally, these participants suggested that social integration has many dimensions. Repeatedly, they explained that, for individuals and households in Cameroon's Fako Division being integrated through a social process is fundamental to their conceptualization of preparedness. To these participants in Fako Division, the degree to which people are integrated socially was vital to the effectiveness of this social process; without this integration with kin, social organizations, and the community at large, people's hazard-related experiences and/or awareness would not be shared nor gained. This social process was effective because it is something that the people can do with minimal effort and technology.

Technological Integration. In addition to the social process, participants also explained preparedness as people being technologically integrated so that they are able to receive warnings and other hazard-related information. As one participant said, “That is why we have the radio. We have a community radio here, and we have the official radio station, Cameroon Radio and Television Company (CRTV), to inform us about dangers and what to do”.

All the participants in this study indicated that they have a town crier, someone who walks around the village ringing a bell and making announcements. Participants explained that, in these areas, a town crier is an effective means of transmitting warnings and other hazard-related information. Through the use of town criers, individuals and households in these communities were technologically integrated to receive hazard-related communications. As these participants explained:

Normally, we have a town crier, like my area here, I have my own council, a small traditional council that I have, people are in charge, and I have my own town crier. He can go around; I can tell him to go around and pass on information to people that this is what is happening or is going to happen.

Yeah, as the chief of the village, we have a council which is organized, so when something is going to happen, I send a messenger or a town crier to inform the people that this is what is going on, so when they hear a drum—because, normally, we have these local drums which signal any call within the palace or within the chieftdom for people to know that there is something that has happened—so that people will know that, at this time, they should be prepared to take actions. So, in fact, people are sensitized through the town crier and then churches and markets.

We normally make the announcement through a town crier. The town crier goes out and makes announcements. We also use the town crier to pass information from the government or the administration to the people. For example, the government is now offering polio vaccine to children, so the town crier goes out and informs the people to participate in this process. In addition to the town criers, we also use churches to pass out some preparedness information, hoping that the information would spread through word of mouth.

We have a town crier. If it is something very urgent, he passes the information to the community immediately. For example, something is about to happen tomorrow, for those

who are around, like the polio vaccines and so on. He goes and announces immediately, but if it is something that we are anticipating, we call a meeting, a village meeting, so he goes around and invites the people, and at a particular time, they all come here, and then, we discuss it.

In addition to having a town crier, participants also indicated that they make use of some traditional instruments. Figure 9 shows a talking drum in one of the villages in Fako Division. Participants explained that, through the use of instruments such as drums and horns, the people are technologically integrated within these communities.



Figure 9: Talking drum in a village in Fako Division.

In addition, participants also indicated that these instruments are used in these areas to transmit information to the constituents, especially in situations where the use of a town crier may not be adequate. As one participant explained, “Most people are farmers, and while they are working in their farms, they may not be able to hear the town crier.”

While both advanced and simpler technologies are available to these chiefs and their constituents, the latter is heavily favored in these communities because they can do these things by themselves. As these participants stated:

In the past, the Bakweri people used to transmit these types of information by the use of drums. If there was a problem, say death or a hazard was eminent, there were special

people that would play the drums, and the different tunes would indicate the type of problem that was going to happen or was happening.

In my village, I have somebody, and we have something that we usually blow; they call it “Ezsewa” in my dialect. So when there is a problem, I give an announcement for that person to blow it. So everybody will come out to find out why they have blown it. Then, I will tell them that the earth is shaking. So maybe it is an earthquake, and everybody should go out of the house. It is something like a horn. I took it from my forefathers. When it is blown, everybody in the village will hear. And we have another one called “Njibi” that we knock. Have you ever seen that one? Have you ever seen our traditional wrestling? We usually use those to knock to inform the village.

I have town criers. I have people who run around and blow their local horns, or play drums, and so on to sensitize them. At the very best, we can send a vehicle with a horn to go around all my villages because the whole village can be accessible through a vehicle, to tell them that something was happening. So those local means of transmitting messages, we have them.

Yeah, as the chief of the village, we have a council which is organized, so when something is going to happen, I send a messenger or a town crier to inform the people that this is what is going on, so when they hear a drum because, normally, we have these local drums which signal any call within the palace or within the chiefdom for people to know that there is something that has happened so that people will know that, at this time, they should be prepared to take actions.

In addition to these less-complex technologies, participants also indicated the use of some modern technologies. Participants explained that individuals and households were technologically integrated with their communities through modern communications such as radios, televisions, and tremor/earthquake monitoring devices. These devices were used to transmit hazard-related information to individuals and households as well as the community at large. As these participants explained:

Me, I become aware if it is earthquake or cholera through media. I become aware through administration. Me, too, I make my people aware through my town crier and the quarter heads. I will not need to go to the media and make them informed. As I am being informed through the media, I inform them; as I am being informed through the administration, I inform them through my town crier.

Yeah from what we get from the radio and TV, that helps us prepare. From the instructions that the doctors give on radio and TV, we will prepare ourselves. So when buying foods on the street, we have to be careful. You come back, and you tell your

family, too, because, if you don't do that, you may become a victim, too. That's the way I look at it.

You should be prepared since we have, since we use radio and television—because the government can say—because of climatic changes in the world now, the government can say tomorrow people should not open their windows because of that that that. Since you have been informed, you should be prepared to stay in and wait. We should not only be prepared when there is an eruption, or tremor or lava flow. We should be prepared at all times.

The preparedness is as I earlier told you that the researchers from Ekona that they have planted the machine to see if the lava is coming and so on and so forth. So people should know and not be afraid. They have planted the machine to detect activities in the mountain; then, they inform us so that we can be prepared.

To these participants, being technologically integrated was fundamental to people being informed prior to, during, and after a hazard event. Repeatedly, these participants indicated that people can do these things by themselves because doing it requires minimal effort and cost. However, the interviewees seemed to be saying that, without this integration, they and their people would not know what they know, and they would not know what actions to take.

Minor Themes

In addition to the Major Themes addressed in the previous section, some Minor Themes also emerged during the data-analysis process. A synthesis of the data revealed the following minor themes: subsistence and mobility. As indicated in the previous section, a total of 33 interviews were conducted for the study. These themes were classified as minor ones because they were identified either directly or indirectly in discussions with about 30% (N=9) of the study participants. It should be noted that the reference to a percentage of participants is merely to indicate the proportionality of participants who discussed a particular theme.

Preparedness Means Subsistence

With the data analysis, it became apparent that the study's participants conceptualized individual and household preparedness to mean subsistence. Participants explained subsistence

as people collecting and keeping some household items to survive for a short period of time during a hazard event.

Researcher: You mentioned that some people came and stayed at your place for a short while due to the disaster. Having had this experience, is there anything you can do to prepare if this were to happen again?

Participant: Well not much. Maybe stockpile food so that I can feed my family and the people that may come, or keep some extra mattresses so that people may have a place to sleep.

Another participant stated:

We have been experiencing serious heat, and our struggles to get pullovers during the rainy season due to cold is no longer there. Before, with the coming of rainy season, we will try to get some blankets and pullovers to prevent children and people from getting sick, but with the coming of heat, we don't have to worry about that very much anymore because there is so much heat now that blankets are becoming useless.

Analysis of the data revealed that participants across Fako Division did not generally address this theme. Where this theme emerged in the data, these participants expressed subsistence as stockpiling a combination of household supplies, such as food and fuel, to cook food to survive at home during prolonged periods of rain. Predominantly, within this dimension of the concept, these participants explained subsistence as stockpiling food to shelter in place for a short period of time. As these participants explained:

In June, July, August, I will prepare by storing some food in the house that will help me and some firewood, kerosene, or gas, so at least in this period that it will not be easy to go out, I should have something for myself.

Well the survival during these periods depends on the preparedness that the individual had taken prior to the hazard happening. Let's say, if you know that you might not have the opportunity to find food for some time, you have to collect and store food to sustain you and your family for some time.

Say, in the villages in August during the peak of the rainy season, people know what to do. The state of preparedness for that period is to amass food, firewood and keep in the houses. So that when that bad period comes, they don't go out, but they have food to eat.

The participants spoke about subsistence as important to their general preparedness. Participants suggested that the items that they collect, such as food, are simple things that they can produce by themselves given the fact that most of them engage in sustenance farming. The participants also indicated that other items, such as firewood, are things that they collect by themselves. Repeatedly, these participants in Cameroon's Fako Division were saying that the things that they do in this category are things that they can do by themselves.

Preparedness Means Mobility

The participants in this study indicated that individual and household preparedness means mobility. Among these participants, mobility meant having access to roads, and people being physically fit to run. Within this context, these participants were saying that mobility is an integral element of their ability to deal with imminent danger. They indicated that mobility means people are physically fit to engage in activities, such as running or trekking from imminent hazards. As these participants stated:

Yes, it has a lot if you have old people in your community and there is a problem, and they say people should leave; those old people cannot. The young people can help carry them. That's why I talked of the youthful age. Those young people will always help to carry people who are not able to move or walk. They can also facilitate their movement by putting them in vehicles like if there is a disaster where people have to evacuate. Like what happened in Mile 16, I think some 3 weeks ago, there was a fire outbreak. So when people came to that house they break the house they met some old people, and they carried some of them, but one finally died because he was deep asleep, and they didn't know that he was sleeping, so he burned into ashes. So I'm saying that young people can help if there is a disaster; they can help to do things which elderly people cannot or are not able to do.

Should the water level rise to a point where it looks like things could get bad, those who can run start taking actions to evacuate, like running from the area. It is difficult for the older people, but the younger people can help carry them. Actually, there was an old man who was blind and lived alone. When the disaster happened, the man got buried in his home.

It is not organized yet. Even in 1999, it was not organized; people who could run just started running themselves because, when the lava was going down to Bakindili, it was still on fire. And there was earthquake, so people were afraid that the earth will sink, so people were escaping individually.

Still other participants conceptualized mobility as having the financial capability to afford transportation, such as a car, taxi, or bus, to evacuate one's family. As 2 participants explained:

I can better evacuate my family if it comes. I will be prepared so that I can evacuate my family from here and go to any destination far from it. But when I am financially handicapped I cannot, I can only trek from here and go to Bokwai to Munya. I cannot go further.

No, those who could afford it took transport. Some left Tole and took a taxi to Ekona. When they got to Ekona, they realized that there was still earthquake, so some left and went to Kumba and stayed there. Some went to Bamenda; some went to Douala and even beyond.

Regardless of whether roads were available or if people were physically fit or had the financial capability to evacuate, the common denominator was that mobility is fundamental to their ability to deal with hazards and associated events. For this reason, these participants conceptualized individual and household preparedness as such.

Conceptualization Explanatory Themes

The previous section highlighted some major and minor themes that emerged from the data collected in this study. During the same data-analysis process, themes emerged from within the data and explained why chiefs in Cameroon's Fako Division conceptualized individual and household preparedness within the context of the major and minor themes discussed in the previous section. Participants in Fako Division indicated that preparedness meant knowing things, integration, taking actions, subsistence, and mobility. During the data synthesis, themes, such as responsibility and finance, were found to explain why individual and household preparedness was conceptualized within the context of these major and minor themes.

Preparedness Explained as Individual Responsibility

The majority of the chiefs who participated in this study indicated that preparedness is an individual responsibility. These participants indicated that the actions that they take prior to a hazard event in order to minimize the impact of said events is first and foremost their personal responsibility. The data indicated that participants viewed preparedness in this way because, to them, they can accomplish these things by themselves by being wise because it is in the interest of their personal safety to do so and because they are aware and/or have personal or vicarious hazard-related experience.

During the data analysis, it became apparent that, to participants, engaging in preparedness is being wise. To these participants, people can have this awareness and this direct or indirect experience, but what makes the difference was being wise to know what to do with this awareness as well as the direct and indirect experiences. Being wise included thinking in terms of hazards, having common sense, and being proactive. The study participants suggested that this wisdom or ability to think critically about hazard threats was not something that everyone can naturally do. As one participant explained, “When you have that thinking in you—not everybody has that thinking—but if you are wise and if you have the spirit of God in you and God gives you that spirit, you will start to say, ‘no, let me also start to prepare.’” To these participants preparedness meant thinking about the prevalent hazards and how the hazards could impact the community. However, there was more to being wise than just thinking about hazards and their potential impacts. One participant used the following analogy to illustrate this wisdom:

You know the parable of the ant and the grasshopper; when the ant knows that because, like now, the ant is working very much so that when rainy season comes, it is comfortable, but the grasshopper now is just moving, just enjoying himself.

Individual and household preparedness was being expressed in this analogy to not only mean being wise enough to know of the imminent hazard, but also as having the common sense and being proactive given this knowledge. Repeatedly, these participants were explaining preparedness within this context. As these participants explained:

To say one is prepared for a disaster, you must have taken sufficient precautions. You must have the knowledge to say that, if there is a disaster, have I done enough to be prepared? Or if you know that a disaster is about to happen, what do I need to do to be prepared? So preparedness, to me, means you have the understanding of what to do before whatever is going to happen happens.

You know, I told you it is something that happens and just lasts a few hours. We have some people that are wise, so their houses are suspended. So during the time of June and July, they beg for help, their food, their children because they know the days.

Ok, so the chief has his entourage, and he may have a hunch, and sometimes, they are very wise because they look at the weather and the stars; they know tomorrow there will be wind; tomorrow, the weather will be nice; they don't have a weather man who is scientific, but they know from the way they look at the weather that, as the sun is setting, that tomorrow will be a very bad day or tomorrow will be a very good fishing day. As you fish on the east or the west, those are just natural instincts, natural talents, and they go, and they succeed. They succeed because they have studied the weather for long with sea migration, fish migration, and the weather pattern in October, the sea is hotter, and fish from this current are coming down during rainy season; the debris from the mountain is coming down.

Like I said, prevention is better than cure. Just as I have said, that I have built my house the way I feel that, even if it rains, it should not be flooded as it would have if I did not do what I have done. That is what I mean by preparedness.

These participants seem to suggest that being wise is fundamental to preparedness.

Without wisdom, people would, generally, know the things that they know about the threat within their communities, yet not use this awareness and/or the direct and indirect experiences to engage in preparedness activities. Not everyone has this wisdom to think critically about hazards and disasters. Some people will be wise because that is how they are or because they have learned from previous experience. It would seem that, to these chiefs, this ability to be wise enough to engage in activities that would enable them deal with hazards and associated events is

primarily individuals' and households' personal responsibility because it is their lives and health that could be impacted by the hazards and because they cannot rely on someone else, such as the council or national government, to do these things for them. As these participants stated:

For example, you have a bad toilet. You are the one who uses that toilet, not the council. So when you put your toilet clean or good, it is for your health, not the council or the government.

The one of cholera, you must prepare because, when there is cholera, that's dirtiness. You must prepare not to eat with dirt, keep surroundings clean, your dresses, your water that you drink, I mean anything. You must be prepared for those such things. Don't just wait until it comes before you start preparing.

Yeah, like epidemic, something like cholera, you can make your first aid before rushing to the hospital; you will not wait for the government to come. You have to do some first aid; you have to help yourself and not wait for the government.

I will not say I have an answer to this. I will put it at the level of the individual, individual preparedness. The government cannot prepare for you. You should take personal responsibility for your safety. As a chief, I take personal responsibility for my village. Now the government is big and overwhelmed. Where will you start from Kribi to Limbe to Douala? I don't even have a road to my village, so if there is a fire disaster, where will you even find a fire truck? Limbe doesn't even have a fire truck. Since we burn fish, we make sure that each house is some 20 meters from the next house, so if there is fire here, it doesn't get to the other houses. So you take your personal precaution. If you depend on the government, the government can come as good as it can. It can only come for rescue. It can come late, and it has already occurred, and people died. But what can the government do? The government will not come to you when the wind is blowing at that time and say move this way. We do not have an alarm system that can warn you that, if you move here in two days' time there, will be heavy rains in Bimbia, so all of you should leave. We don't have such high-tech equipment. What do we do? We only see the rain, and the chief will rely on his own wisdom to rescue his people. So we request for individual precaution. If you have training in disaster, this is what you would do. If you wait for the government or an NGO to come and protect you, it will be too late.

People just do it by themselves; the council has engineers; those engineers are there to do bigger jobs, not to come and do your small job in the quarter; they are there to do bigger jobs like building of culverts and drainages and things like that.

We don't have NGOs like you do abroad. We don't have a well-defined structure which indicate that, when something happens, this is what should be done and so on. We don't have, so it is really up to you as an individual to help yourself because you will see a lot of people from the village who are suffering.

Some will say that the government will come and fix my house. If you cannot fix your house, why should the government come and fix your house? You don't want to live

well; you want the government to come and fix your house. The government has other things that they have to think of.

Within this context, participants explained that people are personally responsible for dealing with hazards and associated events because they know things about the hazards. This knowledge is either based on awareness or experience. Participants spoke of being personally responsible for preparedness because they are aware of their environment's risky nature and because they have direct or indirect experiences with the hazards in their communities. As these participants explained:

Actually, look at that guy who built his house on the side of that hill. Tell me that, if something happened, could he escape? The house looks solid, but the way the house [the participant laughs], he is just bearing risk. The hill that the house is built on makes it so that, if something happens, the house can easily collapse. This makes the guys not very prepared.

If you are a man, you have to, during the dry season, go to your farm; buy a machete; and start working on the farm. You can even call on your neighbors and friends to help you cultivate your crops. If you do not do this, when the rainy season comes, you will starve. This is also applicable to preparedness for disasters such as flooding. If you know that a particular area usually floods or that a piece of land is on the water's path, you should not build your home in that place. If you still decide to build in that area, you should look for a good contractor to build your home in such a way that it would not be destroyed by the flooding. That is the only way. If you just construct a ramshackle structure, when it floods, your home will be destroyed.

They have seen other people suffering, so they have to. If you see your friend suffered yesterday, won't you think that this thing can come to me tomorrow, so let me try? You have to; you cannot sleep like a baby and think that manna will come from heaven. You have to try; heaven serves those who help themselves.

As chief, I tell them that, although you people have come to stay in Bokwei, if at all such a thing were to happen tomorrow, you should be prepared to leave the area and evacuate the area. There are those who will abide to that, and there are those who will not listen, but at least you have passed on the information.

Participants indicated that individuals and households are responsible for preparedness. The participants suggested that people are personally responsible for preparedness because they are aware of the hazards in their area, and they have direct and indirect experiences with the hazards.

However, participants indicated that they are responsible for preparedness only insofar as they can do these things by themselves and with the knowledge they already have, with little or no cash outlay.

Preparedness Explained as Finance

Another factor revealed in the data analysis that explains how participants in Fako Division conceptualized preparedness is finance. Participants in this study indicated that preparedness means knowing things, social and technological integration, taking actions, subsistence, and mobility. The data analysis indicated that individual and household preparedness was conceptualized within the context of these themes because, to these participants, they can afford to do these things. As these participants explained:

But at least people can always try to do things to prevent the hazards that they know from causing disasters. Prevention is the key. People should not wait for something bad to happen before they do something. If you have the means to prevent it, you should.

Those who do not have money, what I can say is that all of us are praying that bad things should not come because all hands are not the same. Some people are poor; some are rich, but for the poor ones, when this disaster comes, they cannot do anything.

You see we still have this situation in Cameroon like we have in the rest of Africa where one person who works takes care of so many people in the family. But even if you would like to take some preparedness actions because of your commitments, overall family commitments, you cannot do it.

In my own opinion, the meaning of preparedness is really money. Because we have people that are devoted to work, but they don't have the means. For example, in our country today, you have good ideas to prepare to plot to stop that disaster, but you do not have the money, so what I have learned, in my own opinion, is that we really need money to stop that disaster.

The data indicated that, to participants, preparedness is more than how they spoke about it. Based on the data, it seemed that the minor themes (subsistence and mobility) are actually major themes when taken together with this issue of finance. Because participants cannot afford a wide range of things, to live, to buy, so they focused on what they could do by themselves in their narrative.

Reporting the results to this point should not be taken to mean that the participants were not aware of those key parts of preparedness. As these participants stated:

It is only those who are rich and have the means to build a house that is probably suspended so that water can pass below it without destroying the property, or building an embankment to prevent water from coming into the house.

Someone may know that it usually floods in the month of July, but if he does not have money, all he can do is sit and wait for the flood waters to come because he does not have the means to take preventative actions.

If you have the money and the government shows an area because this area is risky, you can move there; I think you can go and build a house and make a home. But if the money is not there, how are you going to build a house; how are you going to do any other thing there?

Yes, as I explained, the water that came down the mountain and destroyed part of the hospital also passes through gutters in that area. That is why the government said that Fakoship [a company] should move from that area since they had declared the area a disaster zone. But he said he will know how to build the place to prevent future disasters from happening. That's why I mentioned that, if he wasn't someone who had standings and wealth, they would have moved him for the place because it is a risky zone.

If you come here and say that, Bokwei people, there is going to be tremor and we have to move because this is a risky area, because if you have to move, you have to have money to go and start building and so on and so forth. But if you don't have the money, I don't know what will happen if that type of thing happened.

Some people have money but neglect to do something, and when there is a water disaster; some people say that, if I had known, I would have built a better house on a different site. And some really do not have money. Because there is one man who is almost 90 years old and has 2 sons who are not able to produce money, I asked him to build another house, and the man said he has no money, and really, the man didn't have money. The man is an old man, and till now, the man is staying there. And I am sure by this rainy season that is coming in July, I don't know what will happen. I am just begging God. I don't know what will happen. Surely there will be something that will happen there. Because what that man is doing now is looking for planks to block water, and I don't know that you can block water. So I know that what the man is doing will not work.

In addition to taking loss-minimization actions, participants also expressed the opinion that having finances allows individuals and households to engage in activities that would allow them to effectively respond to hazards and associated events. Within this context, participants

spoke of being able to afford to respond to health-related hazards, to access transportation for evacuation, and to afford temporary accommodations. As these participants explained:

For the unforeseen illness in the whole area, I only see that I have noticed keen interest that all hope is in the farm. When a Bamboko man is sick, he knows that he turns to his farm and looks for someone to take the farm or lease and go to the hospital.

But if we do, where are the resources that we muster for that kind of thing? Villages and villagers don't have that kind of money. In my village, Great Suppo, we try to use some money from taxation, like land taxes, to do a few things like building bridges and for some emergencies in the village and for doing any little thing that we can. That is all; it is not for things like this.

If I had finance, I can better evacuate my family if a disaster comes. I will be prepared so that I can evacuate my family from here and go to any destination far from it. But when I am financially handicapped, I cannot. I can only trek from here and go to Bokwai to Munya. I cannot go further.

When the person is prepared, it is the finances. If he has the finances, he is not afraid of anything. But if he is handicapped, you hear him talk; how am I going to do? Where am I going to go? Then, you know that he is not prepared.

Let's say, for example, if you have a car; let's say the car is for transportation; and let's say the vehicle has an accident; that alone can make you fall down because, if you have a business, let's say as I was saying, as a fisherman, I have my engine boat, and maybe things are moving fine, but I am trying and at that particular moment, I have a breakdown. Let's say my engine is not good, or there is something wrong with my canoe. That one alone will break me down. I will sit down and see how I can. Maybe I will borrow money to start up again because it is down.

No, I can prepare and move. When I have my finance, I can prepare a small house; I can move there while this place remains here because you cannot abandon the business; you have to stay by the shore, and when it happens like that, I can transfer my children and things up there for safety.

Other participants indicated that having finances allows individuals and households to engage in activities that would allow them to effectively recover from hazards and associated events.

Participants indicated that the availability of money is important for them to do those things that are not cheap or free and that can be accomplished by themselves. These participants spoke of having finances to subsist post disaster and to purchase stuff for reconstruction. As these participants stated:

Preparedness relates to finances; when we have money around it, prepares us because, when the material and food and when the stuff is there, we know that, in case of any eventuality, we will sell and have finances to take care of our family.

You cannot just give up because the situation is getting worse. In addition, some of us have other sources of income from our professional jobs. During these periods when we are facing problems with fishing, we do not base our survival too much on fishing. Some of us may also focus on farming to provide for our family. So we have these things as a backup plan.

Finances, too, would help us prepare. I would be able to buy a bag of cement. I would be able to buy food. I would be able to buy many things to keep and to store for those rainy days.

I would suspect, because the council, they are the people who housed those people who were displaced that time, perhaps they will have some policy for that. But you know the way we operate; the council cannot afford to store food in people's houses.

Repeatedly, these participants said that those simple things that are effective, those things that they could do for themselves by using their hands, their mind, and their knowledge, those things are part of their preparedness. These participants suggested that, given the fact that most of the people in their community are not financially viable, their ability to know things, to integrate socially and technologically, to take actions, to sustain themselves, and to be mobile, should be a shared responsibility among all the community's stakeholders.

Preparedness Explained as Shared Responsibility

In addition to finance, a shared responsibility was another theme that explains why preparedness is conceptualized within the context of the major and minor themes. Participants indicated that knowing things, being integrated socially and technologically, taking actions, being subsistent, and being mobile required participation from all the community's stakeholders. These participants suggested that there are aspects of their preparedness that they cannot accomplish by themselves, and as such, this responsibility should be shared by the council/government. In regard to this shared aspect, participants spoke of the government being

responsible for creating a national strategy for preparedness, crafting policies to deal with epidemics, and providing aid. As these participants explained:

As an individual, I think I have made my points clear; preparedness cannot only be left at the local communities. There should be a national policy that government can actually get itself implicated into this situation.

I think it is the individual. The government comes in after they have prepared their mind or aids. What is going to happen is that, as Africans, we have lots of family. Most of us have children about 6, 7, and 8; how are we going to do? The government comes in when you are prepared, too, and provides some aids because disasters create a lot of problems, especially schools; children have been going to school, and now, they have been displaced.

It is personal responsibility because the effect will bounce on you the individual. There are certain periods or certain problems that, sometimes, we go to the government to help us in preparedness, and most of the time, they do not show up. So preparedness is, firstly, a personal responsibility.

The degree to which people are prepared depends on the action and the support available to complete the action. For example, a community may go to the government and explain that they are vulnerable to hazard. People may be taking individual actions to deal with the hazard, but if the government, with its resources, steps in, the outcome could be lasting enough. Most of the people are not wealthy and do not have the resources that the government has, so they can only do so much. But if the aid from the government is there and studies or research are being conducted, too, on the best outcomes, I believe preparedness actions can be taken that will last a long time, and people do not have to worry about it every time.

And even the government introduced a policy of treating those with malaria of children 0 to 5 years. In fact, the government takes care 100% of treatment of such cases. The treatment is affordable. But I would also advise the population in the local communities is that to ensure the environment is kept clean, standing water, there are bushes all around that should, as much as possible, be eliminated to help eradicate the killer disease.

In addition to the local and national government's role in creating policies and the provision of aid, participants also indicated that this shared responsibility was fundamental to ensuring that people know what they know, that they are integrated, and that they take the required actions to deal with hazard and associated events. Participants suggested that preparedness goes beyond things that they could do by themselves by being aware, by having direct or indirect experience, or by being integrated. Participants spoke of things such as

regulations, and enforcing regulations was the responsibility of the council/government yet the doing of these things by the government impacts individuals and households overall

preparedness. As these participants stated:

Apart from the things that I just mentioned, like planting trees, nothing is really being done. I have not seen an improvement in, say, the technology that people are using to build houses to prevent this from happening again. Even the city council is not making any effort to encourage the people to improve on their building practices.

Remember the guy that I told you built his house on the hill? If someone like you who has an idea about preparedness goes and sees his house, you will say why has this guy wasted money? The council did not even come and look at the place. I, myself, went to the place and looked at the house. It looked nice, but even I think that that guy is not prepared because it looked like the house could just come sliding down.

It is the city's responsibility, but they have tried, but you, too, as an individual have to be responsible when we do community work and things like that, but you, too, have to be responsible for yourself although it is the city, but you have to be responsible, too, do community labor and community work.

The people cannot really do much to prepare. The only thing is that the government must see to that or prohibit people from constructing in risky zones because, when people build in these areas, the water comes and destroys their property. Secondly, the government has to build drainages that would channel the water when it comes so that it does not get into people's homes. Look at Douala around Aqua Place. When the rain is falling in say August, it gets into people's homes up to the level of their beds, yet nothing has been done. The only thing the people can do is move their belongings to a higher place, like their tables, to prevent damages to these things. See the people, too, are very heady. They know that this area floods regularly, yet they go and construct houses in that area. When the water comes and destroys their properties, they begin to complain. The problem is most of these people like building in areas where there is little or no control or building regulations preventing them from building. When the people build in these areas, they don't consider the fact that the area floods annually; then, it floods, and they complain. That one is the fault of the people. The government is also at fault because they allow the people to build in these areas.

Furthermore, participants also spoke of things such as constructing roads. The data suggested that, to these participants, while they can take actions to be physically fit to run away from an imminent hazard event, only the government has the capacity to construct roads which would facilitate evacuation when it is the recommended action. As one chief explained, "There should be access roads as well. Because if you are evacuating people and there are no roads, that

becomes another problem, so there should be good roads to facilitate mobility.” These participants indicated that the constructing the major roads is beyond what they are capable of doing by themselves. As these participants explained:

In the 60s when they had the eruption in Ekona, some of the people had to escape, but by then, we did not have this road, but now, the road is okay; if there is any problem like that, they just come and evacuate people out of here because we are not sure where the lava might be coming this time.

We have the road now from Bokwei to Munya through Buea Town. Then, we have the other road though Small Soppo to Mile Four so that, in case of anything, we will be able to evacuate any people and run to at least after Muyuka where you might be safe.

Lately, too, we have been struggling to make sure that those who want to build like in the Mabeta New Layout, and up here, we are trying to create streets. There is nothing as good during a disaster as streets so that people can easily run out and evacuate.

Yeah, the first thing which form what the government has put in place is the improvement of our roads so that, in case of any evacuation, there will be no problem. That’s why the government made that road from Buea Town, through Bova, Bonakanda, so that people from that area can be moved freely without any problem.

Participants suggested that roads are important for people to be mobile. These participants explained that their ability to engage in preparedness was limited, making someone else (the government) responsible for other aspects of their preparedness. They suggested that the government was responsible for things such as evacuation, the construction of drainages and roads, the installation of sophisticated warning technologies, and the creation of building-code regulations, which individuals and households do not have the capacity to accomplish by themselves. As 3 participants stated:

The government—when they discover that—for example, this is a village, and the village needs something, like for example, if let’s say like drainage like in, for example, in town in Limbe around the Clarks Quarters, the government is seeing what the rain is doing during the raining season, so the government will say, during the raining season, to prevent the population from suffering, they can do drainage.

I feel that, if the government can step in and maybe NGOs and cooperative societies, and reach out to the entire community and people group up themselves, they can carry out a

project, and then, the government can say, okay, the people will feel fine to meet up with all those disasters.

If it were me, they should be engaging in preparedness now. Because all the buildings that they are constructing is risky like the pastor's house that collapsed in Nigeria. Something like that will very likely happen in Molyko, so if it was me, the government should take measures and make sure that the houses that are being constructed should be solid. They should also go around and check the ravines to make sure that they are clear and water can flow freely. Because, when a disaster happens, it is the government that has to mobilize and come to save the people.

Repeatedly, these participants suggested that preparedness is a shared responsibility because certain actions are beyond the scope of things that they can do by themselves. These participants suggested that, as individuals and households within their communities, they do not have the means to engage in some aspect of disaster preparedness. Rather, for those things that are beyond their ability to do by themselves, the government has both the financial power and authority to better ensure that they know what they know, are integrated, take actions, sustain themselves, and are mobile in order to minimize loss as well as to respond to and recover from hazards and associated events.

Conclusion

This chapter examined themes related to the meaning of individual and household preparedness that emerged during the data analysis. First, Major Themes that emerged from the data were presented. Minor Themes were then discussed. Last, themes that explain why individual and household preparedness was conceptualized in this way were presented. The next chapter discusses the themes presented in this chapter, examining how these themes explained participants' conceptualization of individual and household preparedness.

CHAPTER 6. DISCUSSION AND CONCLUSION

This chapter has four sections. The initial section reviews how the disaster literature has conceptualized preparedness. The second section reviews the themes that emerged in Western-centric literature. The third section discusses the findings *vis-a-vis* the literature. Section four presents the researchers views about why the individual and household preparedness is conceptualized the way it is by the participants. The fifth section presents a conclusion that discusses these findings' implications for the study of emergency management and the opportunities for future research.

Review of the Disaster Literature's Conceptualization of Preparedness

This study sought to capture how Cameroonians from Fako Division conceptualized individual and household preparedness. There was consensus among scholars (Andrews, 2001; Basolo et al., 2009; Boscarino et al., 2006) as well as practitioners at the nation-state level (Emergency Management Authority of Turkey, 2014; FEMA, 2011; Ministry of Territorial Administration and Decentralization, 2014), the regional level (Caribbean Disaster Emergency Management Agency, 2001), and the international level (International Federation of Red Cross and Red Crescent Societies, 2000; United States Agency for International Development, 2013) that individual and household preparedness is fundamental to dealing with hazards and associated events. Very little consensus existed among all of these entities regarding the conceptualization of preparedness.

This lack of consensus for the conceptualization of individual and household preparedness means that disaster scholars have operationalized the concept differently from each other and find that people are generally not prepared, without actually indicating what preparedness actually looks like for individuals and members of households. Even where a

conceptualization is offered in U.S.-centric literature (Basolo et al., 2009; Bourque, 2013; Edwards, 1993) and international literature (Benson et al., 2007; Buckle, 2012; Kirschenbaum, 2002), there is no consensus among these definitions, and very few scholars have used the same conceptualization for their empirical research about preparedness.

In addition, the bulk of the reviewed Western-centric (U.S. and international) literature, generally, has not made a connection between what individuals and members of households are being asked to do and the relevance of what they are being asked to do to their overall readiness to deal with hazard events (Andrews, 2001; Basolo et al., 2009; Boon, 2013; Cretikos et al., 2008). Disaster scholars measure some preparedness activities as a state. In other cases, they are measuring a process and measuring the activities as a state. Some of these measured activities seem to have intuitive value. For example, it would be important for individuals and households to have a flashlight with batteries if the lights go out (Heller et al., 2005; Kelley, 2011; Pampel, 2012), to have a fire extinguisher if there is a fire (Andrews, 2001; Heller et al., 2005; Spittal et al., 2008), or to have a supply of drinkable water (Andrews, 2001; Boscarino et al., 2006). However, these scholars have not made a theoretical defense for why these items are being measured and others are not. Furthermore, the review of literature found no evidence that scholars have tested the difference that having these items or not having them made in individuals' and households' response or recovery experience. For these reasons, the completeness of the measures that individuals and households are doing and, in turn, the theoretical value of these measures has not been made clear in the existing literature. It would seem that this lack of clarity is a result of the fact that scholars have measured how prepared people are without saying what preparedness means.

Not having found a satisfactory meaning for the concept in the U.S.-centric and international literature, this researcher went away from this literature to Cameroon's Fako Division to find out what preparedness means to the people who reside in the most hazard-prone area of Cameroon.

Western-Centric Themes

It became apparent, through the literature review, that the vast number of activities that have been used by western scholars to represent preparedness could be logically classified into certain categories. *Plans* are one component of preparedness, meaning that the activities seem related to individuals and households not only having an emergency or a disaster plan, but also having repeatedly run drills based on the plan (Andrews, 2001; Basolo et al., 2009; Phillips et al., 2005). *Subsistence* is another component, meaning that individuals and households are engaging in activities related to surviving or sustaining themselves for a period of time immediately before and after impact (Andrews, 2001; Farley et al., 1993; Spittal et al., 2008). *Loss minimization* is another component, meaning that individuals and households engage in activities related to eliminating or reducing the impact of hazards and/or reducing the recovery time associated with addressing disaster-related impacts (Andrews, 2001; Nguyen et al., 2006; Spittal et al., 2008).

Furthermore, *knowledge* is another component, meaning that individuals and households have information, such as knowing what to do during a response and what is needed to recover from hazard events (Bourque et al., 2012; Eisenman et al., 2009; Farley et al., 1993). *Integration* is another component of preparedness, and it is comprised of two dimensions: technological and social integration. Technological integration considers whether individuals and households are technologically connected through multiple forms and forums to receive warning and/or preparedness-related information. Social integration means being connected to family, neighbors,

colleagues, and other social groups (Kim & Kang, 2010; Phillips et al., 2005). *Mobility* is the final component, describing the extent to which individuals and households engage in activities related to capacity building in order to access transportation for response and recovery (Phillips et al., 2005; Siegel et al., 2003). Combined, these themes might represent a holistic conceptualization of preparedness.

However, this review of the literature, however, revealed that while scholars (Basolo et al., 2009; Bourque et al., 2012; Edwards, 1993; Kano et al., 2011; Kim & Kang, 2010; Lindell & Prater, 2000) are measuring individual and household preparedness, they have never holistically articulated the concept nor have they expressed preparedness in these theoretical terms. For example, scholars have never addressed planning, subsistence, loss minimization, knowledge, integration, and mobility as components of preparedness that have theoretical value in terms of what preparedness is and what emergency-management scholars and professionals want to see on the part of individuals and households. While the researcher found these themes implied in the literature by assessing what these U.S. and international scholars were measuring, these scholars have never actually stated it, nor have they indicated that these pieces make a whole [individual and household preparedness]. Additionally, whether lay people in the United States or abroad understand preparedness similarly has never been explored. Thus, the topic of preparedness and what it means was greatly in need of this research which sought to understand how individuals and households in an area yet unexplored by the existing literature—Fako Division, Cameroon—conceptualized preparedness.

Fako Division, Cameroon: Conceptualization vis-à-vis the Literature

Similar to the U.S.-centric and international literature discussed in Chapter 2, participants in Cameroon's Fako Division could not offer a clear articulation for the meaning of

preparedness. However, in Chapter 5, it became apparent, through data analysis, that the following themes– integration, knowing things/knowledge, and taking actions (i.e., loss minimization, prevention, subsistence, mobility) were implied by what the participants said with each theme representing the definition of individual and household preparedness. It also became apparent that in Fako Division, central to people knowing things, taking actions, and integrating, is a social process. Please see Appendix G for a conceptual map of individual and household preparedness.

In Fako Division, participants viewed individual and household preparedness as a social process. Particularly, the data suggested that this social process was fundamental to individuals and households knowing things, knowing what hazard related actions to take, and integrating in their communities. This social process functioned by residents giving new people environmental information (e.g., don't build your house there; leave the tree; do not build with bricks, rather build with wood; it floods every year around this period; you better put a gutter around your house; you are in a risky zone; the government is not going to come here; somebody built a house there, so the water is going to come back).

In the Cameroonian context, hazard-related information is primarily communicated through a social process. In this context, it is about having a town crier who goes around the local communities making announcements; it is about using technology that people can be linked to by being in range of hearing; it is about being able to hear warning and hazard-related communications; it is about individual and household closeness, their proximity to the person who is delivering the message as this person goes through the community. This social process of acquiring knowledge is based on people proactively telling someone about the hazards that exist based on their experience with them or their knowledge of them, or a town crier going through a

community making announcements. However, without integration, this social process would not function; people's awareness and experiences (personal and vicarious) would not be shared; and people would not know what they know about hazards nor what to do to minimize the effects.

Integration one of the major theme revealed from the data analysis. There are two aspects of this integration: social and technological. While social integration refers to people being connected to kin and other social groups, technological integration refers to people being connected through technology in order to communicate and receive hazard-related information. While there exists some contrast in the way individual and household preparedness has been operationalized in the western-centric literature and how Fako Division Cameroonians conceptualize preparedness, there are significant similarities between U.S.-centric literature and the Cameroon context regarding the significance of being connected through social and technological networks.

The western-centric literature discussed integration with a focus on how hazard-related information is communicated to individuals and households. The literature talked about the importance of the channels (that is, television, pamphlets, and social media) through which people are receiving hazard-related messages (Boscarino et al., 2006; Kim & Kang, 2010; Kirshenbaum, 2006; Lindell & Whitney, 2000; Nguyen et al., 2006). In addition, the literature focused on and measured how individuals and households received these messages with an emphasis on how many forms and formats of communication people were signed up to or linked to, when/if individuals and households received this knowledge, and how this information prepared them.

Similarly to western-centric literature, in Fako Division, individuals and households receive hazard/preparedness-related information. Unlike the western world, in Cameroon, there

are more sources of this information, including community leaders, government representatives, neighbors, family, and friends. In a Cameroonian context, insofar as the participants are defining it, individual and household preparedness is predominantly informal, people-focused, and happening through a knowledge-building social process.

Preparedness through social networks, such as kin, neighbors, social groups, NGOs, and faith-based organizations, is a very important element of preparedness (Diekman, Kearney, O'neil, & Mack, 2007; Heller et al., 2005; Kirshenbaum, 2006; Levac et al., 2012). The bulk of western-centric literature rarely approaches preparedness from this perspective. However, the data analysis revealed that, in Fako Division, people's awareness of and experiences with hazards, as well as the knowledge about what to do to prevent and/or minimize the effects of these hazards, are primarily communicated through a social process. Without being socially integrated with kin and other social groups, this social process of knowledge-building could not happen. Based on the data, social integration is important to the concept of preparedness in a Cameroonian context because, without that integration, the social processes could not happen.

This social integration is, perhaps, facilitated by the Cameroonian culture which is comparatively informal. Based on the researcher's experience of living in Cameroon and the United States, it seems that, contrary to the western world, the concept of a nuclear family is almost nonexistent in Cameroon. In the United States a nuclear family refers to a couple and the immediate, dependent children; those people are regarded as a basic social unit. In Cameroon's Fako Division, families are a complex network of relatives and extended relations, including neighbors and friends, all interacting at a very close and personal social level. This social integration facilitates the social process for acquiring and transferring knowledge regarding the

hazards within communities and the preparedness measures that are required to minimize, prevent, or mitigate the effects of the hazards.

Furthermore, the notion that the degree to which individuals and households are connected through the social and technological networks enables them to build capacity that could be accessed within their communities was often implied by participants. It seemed that, in Fako Division, the degree to which individuals and households were integrated in communities influenced their overall ability to deal with hazards and associated events. For example, in Fako Division, people usually stayed with friends, relatives, and neighbors during hazard events such as flooding or mountain eruptions. During one interview, the participant indicated that he had to host (that is, feed and provide shelter for) a group of people who were displaced due to a landslide. It seemed that, in Fako Division, the availability of relatives or relations with whom people can stay makes people prepared because it offers options for shelter in situations where evacuation is the recommended action. In addition, the availability of a social network on which people can rely also offered a source of aid that is greatly needed during the hazard event itself and post event. It also seemed that, in this region, the fact that people belong to social organizations, such as churches or local meeting groups, and/or are members of a village community is fundamental to them receiving warning messages and other preparedness-related information, making them better aware and able to deal with hazards and associated events.

To participants in Fako Division, individual and household preparedness means knowing things. This conceptualization of preparedness, within these participants' knowledge framework, has similarities to activities discussed in western-centric literature, which could be best classified under the same heading. Although this study's participants could not clearly articulate the meaning of preparedness, the data suggest that the concept means having knowledge about the

prevalent hazards in the communities and that there different dimensions to the theme – knowing things.

Awareness is one dimension of knowing things that emerged through the data-analysis process, but has not been addressed in the western-centric literature. This awareness has two features: merely living in an area and watching others. To Fako Division Cameroonians, people become aware simply by living in an area and dealing with the hazards prevalent to that area or by virtue of the fact that some areas have been identified by the national government and classified as risky zones. Through a social process, this awareness is communicated to individuals and households, and people now know their area and the risk associated with their area.

The second feature of this awareness dimension is watching others. To the participants, people become aware by watching others do things or experience things. In Fako Division, as people watch others experience things and through a social process, communicate this knowledge, the awareness of the hazards becomes common knowledge. The data suggest that awareness is fundamental to knowing things. Without a social process through which this awareness is communicated, individuals and households would not know what they know about their communities' risks, threats, and vulnerabilities. For these reasons, the participants conceptualize preparedness with an emphasis on its social dimensions.

In addition to awareness, the participants also explained knowing things or knowledge within the context of experience. Similar to Fako Division Cameroonians, western scholars have operationalized individual and household preparedness within this context. While there are variations in how scholars have measured experience within the western-centric literature, they have focused on experience in terms of direct or recent experience as it relates to preparedness

(Bourque et al., 2012; Burby et al., 2003; Kirshenbaum, 2006; Lindell & Whitney, 2000; Russel et al., 1995; Tierney et al., 2001), and very little focus has been on this notion of vicarious experience through others.

In the data collected for this research, on the other hand, the experiences of individuals and households seemed to include a social process. Some participants had some limited experiences, but where they did not, they still had vicarious knowledge through the experiences of individuals in their social networks, and this awareness and vicarious experience sharing happened through this social process. These respondents strongly believed that experience is the best teacher. Given this belief, their experiences with the risks and hazards were foundational to them knowing what they did about preventing, responding to, or reducing the impacts of these hazards. This experience was occasionally gained through personal contact with hazards but mostly occurred from watching others experience it or from living in an area for a period of time. Because hazard-related knowledge is not common knowledge, it seemed that, to these participants, without experience, either personal or vicarious, and this social process, people would not know what they did about hazards and hazards events. To Fako Division Cameroonians, experience was an anchor to the concept of disaster preparedness, and without this experience and a social process to facilitate the communication of this knowledge, the hazard-related knowledge that people have may be inadequate for their efforts to prevent, minimize the impact, respond to, and recover from hazard events.

Contrary to western-centric literature, the Cameroon data suggest that this dimension of doing things has to be within the realm of activities that people can do by themselves with limited effort and cost. From the data analysis and the review of literature, there is a consensus that the impacts of hazards to residents of Fako Division and the western world can either be

avoided or the effects minimized when people take actions or do things to prepare. Unlike the western world's concept of doing things which focused on buying materials or doing things that require an outlay of money, such as stockpiling supplies (Boscarino et al., 2006; Bourque et al., 2012) or having a battery-operated radio (Andrews, 2001; Edwards, 1993; Eisenman et al., 2009, in Cameroon's Fako Division, the actions that people take to minimize loss, respond to, and recover from hazards and associated events involve doing things that are easy, inexpensive or free, and technologically simple.

Participants clearly acknowledged that there are hazard-related activities that can be completed by individuals and households. There were two aspects of what individuals and households in Fako Division were doing to deal with hazards and associated events: minimizing and preventing the hazards' impacts. Loss-minimization actions focused on reducing the impacts for the hazards. Prevention actions, on the other hand, were geared towards eliminating the threat. With regard to loss minimization or minimizing the effects of natural hazards, such as flooding, residents took various actions, such as suspending household items and moving things to higher levels. The participants strongly believed that these preparedness actions were fundamental to preventing the losses associated with these natural hazards and could or should be done by people because these actions were within the realm of things that they can do.

This idea that to, for example, minimize loss to people and property, individuals and households can only take those hazard-related actions that require few skills or little effort and can be done at minimal financial cost, resonated across participants. In Fako Division, people have a knowledge about what actions to take to avoid these hazards. For example, in Fako Division, flooding and tremors were prominent hazards. Looking across all the interviews, participants indicated varying loss-minimization actions that they take as an act of preparing.

While flooding actions involved suspending things or moving things to a higher level, tremor actions involved fastening items to walls or floors. These actions were based on people's experience—personal or vicarious—with the hazards or understanding that, without these preparedness actions, flood waters, for example, will carry away or destroy their property, or in tremor situations, people will suffer secondary impacts from things falling on them and hurting them. Participants' descriptions for actions and the consistent use of the phrase “we always” or “they always” indicated familiarity with the hazards and a feeling that these actions allowed them to minimize loss, to respond to, and to recover from these hazard events. The loss-minimization preparedness actions presented by the participants were temporary or preemptive in nature, but the data suggested that these actions could be accomplished with minimal skills and cost. Even when they were talking about planting trees to prevent landslides, the participants were implying that the steps they take were an affordable way to get ready.

In addition to loss minimization, participants also discussed action geared towards prevention or avoidance. Even when discussing prevention or avoidance, the data implied that people could take these actions themselves. In fact, minimizing and/or preventing the effects of the hazards to themselves and their property was the first and, often only, thing that participants thought of across the interviews, and they offered for different hazards different examples of loss-minimization actions. For example, seaside community participants talked about taking actions such as making gutters around their houses, checking gutters to see if they were blocked, digging ditches to allow water to flow freely, and building brick walls to prevent water from entering the home. In communities where there were landslides, participants talked about replanting the trees and preventing people from building in those areas. Mountainous communities' participants talked about building houses with wood instead of brick. In Fako

Division, preparedness meant taking action, specifically actions that they could do by themselves and that required little or no expertise/expense.

Through the data analysis, it also became apparent that, in Fako Division, preparedness means taking actions to be subsistent. Compared to the other themes (knowledge, integration, and taking actions), subsistence was a minor one discussed by some, but not the majority, of the participants. Similar to the western-centric literature discourse on activities that are best labeled subsistence (Dooley et al., 1992; Farley et al., 1993; Nguyen et al., 2006), to these participants, the theme meant doing things to survive for a short period of time. Unlike in the western world where subsistence means buying things, in Cameroon's Fako Division, participants implied that the subsistence actions that they take can be done without assistance and at minimal cost. In addition, while the western-centric literature was heavily weighted towards taking actions to be subsistent, in Fako Division, only a few participants addressed this theme. While subsistence is important to Fako Division Cameroonians, the majority of the participants did not address this theme because it required an outlay of cash which most Cameroonians cannot afford.

However, from the analysis of the quotations, it seemed that, in Fako Division, where participants discussed subsistence, they primarily focused on storing food or things to prepare food. Given the fact that most people in this region engage in sustenance farming or fishing, it was understandable that they discussed subsistence in terms of things that they can do by themselves.

From the interviews, it seemed that, to these participants, it was important for people to have some supply of food on hand for subsistence. These quotations showed that having a supply of food allows individuals and households to survive for a period of time just before, during, and after a hazard event. This preparedness activity was severely limited by the fact that the majority

of the population cannot afford to feed themselves, let alone to create a stockpile of nonperishable food. As long as they can do it by themselves with their hands and at minimal or no cost, they can take actions to be subsistent.

In addition to subsistence, mobility is another minor theme that was revealed through the data analysis. From the analysis of the quotations, the ability to respond to imminent danger appears to be an integral element for individuals' and households' overall state of preparedness. This view is also shared in western-centric literature (Phillips et al., 2005; Siegel et al., 2003). This mobility seems to mean that people are taking actions that would enable them either to be physically fit to run or to have the capability to be mobile. Unlike the western-centric literature where mobility is viewed more in terms of taking action to build the capacity to access transportations than being physically fit to run, in Cameroon's Fako Division, the reverse is true.

In Cameroon's Fako Division, mobility primarily means that people are taking actions to be physically fit to run or trek away from hazards. The preparedness actions expressed in this context are geared towards mobility prior to or during a hazard event. Given the fact that most Cameroonians do not own vehicles or do not have the means to afford them, the participants are conceptualizing mobility in terms of steps that they can take by themselves. However, it would seem that there is more to mobility than only being physically fit to run or trek.

Although these participants conceptualized individual and household preparedness as taking actions that enable people to be mobile or to evacuate, there was a lack of clarity about how people should evacuate. As one participant explained, "It is not organized yet; even in 1999, it was not organized; people just started running by themselves because, when the lava was going down to Bakindili, it was still on fire." Again preparedness was being conceptualized within the context of things that they can do by themselves because they could afford to purchase them.

This communication of hazard-related knowledge through a social process would not be possible without individuals and households in Fako Division being socially and technologically integrated with their communities.

Why Preparedness is Conceptualized the Way it is by These Participants

Fako Division Cameroonians conceptualized preparedness to mean knowledge, integration, taking actions, subsistence, and mobility. These themes were found to have some commonalities with the themes in western literature. During the data-analysis process, some themes, such as responsibility and finance, explained why these participants conceptualized preparedness within the context of these themes.

Context

Analyzing across the interviews, it became apparent that the participants had some understanding that there were hazards in their areas and that preparedness involved people doing things and knowing things. Despite this understanding, it appeared that there was limited discussion about disaster preparedness at all levels in the community (that is, individual and household, village, township, divisions, and national) and that not everyone was taking actions given the available knowledge. Based on the discussions with participants, this failure to engage in preparedness-related activities and/or to clearly articulate the concept was dependent on people being wise, a general attitude problem, a lack of a national discourse, finances, and individual and shared responsibility.

Looking through the data for this study and based on the discussions with the participants, indicated that having a proactive attitude towards disaster preparedness was dependent on people being wise. For the participants, being wise meant thinking critically about hazards and taking actions to deal with those hazards. Given the hazardous nature of this area

and the presence of a social process through which hazard-related knowledge was communicated, one would expect disaster preparedness to be at the front of people's minds. Based on the data, to participants, people who are wise proactively seek to attain hazard-related knowledge and then use this knowledge to take actions or to engage in activities that would enable them to effectively deal with the hazard.

Furthermore, the data revealed that this lack of or limited discussion about preparedness at the individual and household level was influenced by some of the area's cultural beliefs. Despite the fact that people were aware of the hazards and had either directly or vicariously experienced these hazards, some people were neither taking the necessary actions to deal with the hazards and associated events, nor engaging in preparedness discussions. Some participants believed that the region's people were not actively engaging in preparedness discussions because they were afraid to be labeled as prophets of doom. Explaining his thoughts, one of the participants offered this example:

Okay, for example, if you are covering an umbrella in the sunshine, they say you are calling rain. It means there is no rain, but because you have an umbrella, and if the rain sees the umbrella, it will now say, my friend, I am coming. So you are the one that made rain to come when there was no rain. So when you are talking about disaster when the place is calm, people would ask what your problem is.

It seemed that, in Fako Division, preparedness, or a lack thereof, was influenced by people's cultural beliefs. Given this mentality and with preparedness not at the forefront of their minds, it was almost impossible to discuss the concept, let alone to define it.

During the interviews, it often seemed that the reason why the participants could not offer a clear articulation about the concept was due to an absence of a national discourse on disaster preparedness. When asked what individual and household preparedness meant to him, one participant thought for a while and then explained:

I know that you are a proactive individual who says, hey, I don't want this to happen, but it could happen, and if it happens, what do you do? Because you are starting to make some of us think, and that is the better part. So at least now, once you leave, I will have the opportunity to say this man came and talked about this, but how prepared are we?

The majority of the participants did not know about the existence of a disaster-management agency in Cameroon nor did they indicate that they had had discussions related to disaster preparedness with emergency-management professionals. This lack of a national discourse on preparedness set the stage for the varying views about the concept or the lack thereof.

Analysis of the data revealed that, despite the fact that the participants were perceived by the people and sometimes required by the national government to execute some emergency-management role within their communities, none of the participants had received disaster-preparedness training from Cameroon's emergency-management organizations. Only one participant indicated that he had emergency-management experience or training. Even in this rare exception, the participant explained that he had not received training from any institution within Cameroon. Rather, he had received training while working in China.

Furthermore, none of the participants mentioned having had a conversation with any Cameroonian emergency-management professionals at any point. This lack of a national discourse went beyond national emergency-management professionals; no officials were engaging in disaster-preparedness discussions with people who reside in the hazard-prone areas. The fact that the data did not indicate that these participants had heard from the emergency-management national office was problematic, but perhaps, the bigger problem was that the data analysis indicated that nobody—NGOs or official organizations—had talked to them. This absence of a national focus on disaster preparedness seemed to not just be a problem about a lack of national discourse, but also an issue with a lack of a national, regional, and local discourse, within official channels, whether these organizations are government led or not. Nobody really

seemed to be talking about disaster preparedness at these levels in Fako Division, at least in a way seen in the data, despite the fact that discussion about other individual and household issues were being helped by the national government, NGOs, and other official organizations (International Fund for Agricultural Development [IFAD], 2014; International Monetary Fund [IMF], 2006; Project Hope, 2011; World Bank, 2013).

As discussed in Chapter 1, Cameroon is a developing country located on the west-central coast of Africa. Given the nation's status as a developing country, generally, the capacity and responsibility for capacity building is treated as being beyond the country's borders. For these reasons, international and interregional organizations, such as the IMF, the United Nations, and the World Bank, are generally involved in the country's day-to-day activities to try to help and build up Cameroon in the areas of transportation, agriculture, economic diversification, public health concerns, banking, and other socioeconomic aspects. With these things, capacity building is seen to be a distributed function. (The duties are done by different groups, local and international organizations, nations, and other).

However, in the Cameroonian context, with regard to emergency or disaster-preparedness issues, there appears to be an absence of that diffusion of responsibility, where different organizations and different levels of government are playing various roles. Not only is this individual and household preparedness discourse not happening within the country through routine western channels of official sources of government and networks of professional organizations, it does not seem to be happening anywhere, which is especially troubling in a country where local, national, regional, and international discourse happens in other topics. Unlike the western world where there are organizations and systems in place to deal with disasters, in Cameroon's Fako Division, individuals and households are primarily responsible for

knowing about the prevalent hazards and actions to minimize their effects, integrating socially and technologically within their communities, taking actions, and being subsistent and mobile, particularly as related to things that they can do by themselves.

In Cameroon's Fako Division, individuals and households viewed preparedness as their personal responsibility. Primarily, they believed that the occurrence of disasters is generally people's fault. This belief that people are responsible for disasters was based on the assumption that people created these problems through their interactions with hazards, such as constructing on an active volcanic mountain, building house on hills, allowing trash to clog gutters and drains, building their houses too close to the sea, and not keeping their environment clean, just to name a few. In addition, based on the data, the people viewed preparedness as their responsibility because they did not trust that the national government would show up or know when the government would show up if there were a hazard event. In Fako Division, people adopted the mantra that they create the problems, so they are responsible for taking actions to fix the problems.

Given this belief that people are responsible for the creation of disasters, the participants acknowledged the fact that individuals and members of households are also responsible for all hazards and their own preparedness, but only as long as it falls within those things that they can do by themselves. It would seem that the people knew what the appropriate actions were to deal with hazards given the fact that they were either aware of the hazards, had direct or indirect experiences with these hazards and associated events, or had been informed through a social process about these risks. Repeatedly, the participants said that they were only responsible for taking those actions or knowing those things that they can do by themselves and with their knowledge. Also, based on the data, it appeared that, to these participants, there was more to

what preparedness means than just being personally responsible. The participants suggested that, even though they know what to do, they may not act because it is either beyond the realm of things that they can do by themselves or because they do not have the finances to act.

Although the researcher was not interested in assessing the participants' status, it became apparent that wealth and financial position had implications with how the participants assigned responsibility for preparedness as well as their views on individual- and household-preparedness activities. Based on the data analysis, finance was a variable that was related to individual and household preparedness. The participants expressed the feeling that those simple things that are effective, those things that they could do for themselves with their mind and their knowledge, are the elements of preparedness. Anything else, in terms of subsistence, technology, or any other things that might be more emphasized in a western context and required an outlay of money, represented the domain of the rich. The participants believed that taking actions was for everyone but, particularly for the poor, only to the extent that they can take the actions themselves with the knowledge they possess or that they can afford to take action. Those things that they can build, they can see, and they can do represented preparedness. Everything else was a luxury for the rich and/or not accomplished without money. Given the fact that the participants could not afford to engage in these activities, everything else beyond what these people can do was something that the city council or the government could address, and varied from person to person.

Wealth was seen as a means to an end. Based on the data, financial wealth was a means to acquire materials, such as a bag of cement to build a flood-prevention wall, food for subsistence, and all other things needed to deal with hazards. To the participants, money offered a means for them to engage in the necessary hazard-related activities. It was implied that

preparedness was a thing for the rich and an impossibility for the poor because the poor cannot afford to engage in individual-preparedness activities. While the participants probably knew what preparedness meant, they found it difficult to clearly articulate its meaning because the activities of preparedness were not in their world; preparedness was not within their control because it was not something they could do. This problem with clearly defining the concept could be why, although the participants were repeatedly asked to articulate the meaning of preparedness for individuals and members of households, the participants choose to focus on the things that they could do, bringing up, although not linking it directly, the importance of having finance or the lack of it, or expressing preparedness as a shared responsibility.

Participants believed that individual and household preparedness was their personal responsibility, and they conceptualized it as such. Participants also acknowledged that there were certain components of their capacity to deal with hazard events that were beyond their personal ability. Based on the data, it seemed that, to participants, there were certain components of individual and household preparedness that people cannot do because they do not have the time, the money, labor force, and technological skills. Because the local/national government had both the capacity and finances, these things were their responsibilities, making individual and household preparedness a shared responsibility. It appeared that, when shared by the individuals and the government, individual and household preparedness can be fully realized. The local and national government's inability to provide the preparedness measures that people needed could be indicative of the fact that these institutions were also severely lacking in terms of capabilities. This limitation in governments' capacity to deal with disasters seemed to always be true because, if we care about people and their problems, then we have to develop networks such as the ones

we see in banking, agriculture healthcare, and other sectors (IFAD, 2014; IMF, 2006; Project Hope, 2011; World Bank, 2013).

Given the participants recognition that there are certain aspects of individual and household preparedness that are beyond peoples capacity to deal with them on their own, it seemed that the emergence of themes such as subsistence and mobility—although minor—was based on this idea of preparedness being a shared responsibility. Based on the data, in Cameroon, subsistence was a part of individual and household preparedness even though it was not what participants focused on when giving answers. Mobility, although a minor theme, was a part of the concept in every sense of the word, not just in the context of “running” away even though that was the word that participants used. In fact, these themes appeared from the data, and the reason why they appeared there was because of this context. Although preparedness was an individual responsibility, individuals and households could not fulfill their individual responsibility and were unlikely to into the future, making preparedness a community-level and a government concern. Unfortunately, the government could not take adequate preparedness action because it also lacked the capacity.

Despite the city council’s and/or government’s limited capacity in some areas, it seemed that, in the Cameroonian context, the activities of preparedness that were done by the city council or the government impacted the individuals’ and households’ overall preparedness. For example, in addition to being physical fit to run or trek, people also needed access to roads to be effectively mobile. While participants highlighted evacuation or being able to evacuate as part of their preparedness, they acknowledged the fact that factors such as having a road that is accessible and having the capacity to move mass amounts of people were fundamental to being mobile. The fact that the majority of the population did not have or could not afford personal

vehicles, and did not have the finances to evacuate themselves, was reflected in the participants' frustration regarding what to do in situations where evacuation was the recommended action.

Furthermore, there are hazard-related activities, such as dredging, that are relevant to individual and household preparedness, but these things are best done by the village community, city council, or national government because they are beyond the capacity of individuals and households. Other activities, such as the development, implementation, and monitoring of policies and regulations, are better done by the council/government because these institutions have the power to prevent people from interacting with hazards. It would seem that, in Cameroon, the effects of hazards on individuals and households could be minimized by institutions or those local, national and international organizations who have the means/resources and power. That is, people are prepared because the government has the capacity and means to effectuate response and assist with recovery.

Despite the importance of the government's role and responsibility as it relates to individual and household preparedness, the data suggest that participants really see responsibility for preparedness as being split between individuals and the government. Fundamentally, the participants believe that individuals and households are responsible for their own preparedness. Because not all, or, rather, so few, individuals and households are able to provide for significant parts of their own preparedness, people see the government as being responsible for making up the difference. Of course, the government is also severely lacking in its capability, so seeing preparedness as a shared responsibility suggests that individuals and households in Cameroon, by their own understanding, will never be wholly prepared.

Conclusion

This section is presented in two parts. First, the implications for the study's findings are discussed. Recommendations for future research are then presented.

Theoretical Implications

As discussed in Chapters 2 and 5, analyzing the disaster literature and the data for this research revealed themes that, together, begin to offer a holistic conceptualization about preparedness. Comparing the themes from the literature and Fako Division Cameroonians showed that the ideas are very similar. Table 2 shows the themes revealed in the literature and by Fako Division Cameroonians. This similarity has theoretical implications as it begins to address the issue of conceptual clarity about preparedness that has needed the attention of scholars for a long time.

Except for the theme plan, this research considered the activities that western-centric scholars have used to operationalize preparedness and the explanations of what preparedness means to Fako Division Cameroonians and found similarities both in terms of themes and in terms of the meaning of these themes. Table 2 shows the themes that were revealed in the literature and Fako Division Cameroonians' themes. Based on these similarities, we can thematically come close to a common conceptualization. What is very different is how the themes manifested in the various settings. In the research setting, the themes emerge from what scholars are measuring as individual and household preparedness, but in the Cameroonian setting, the themes emerge from how the people understand individual and household preparedness. The fact that the concept was operationalized in 2 ways and similar themes emerged, has important implications because it is possible that we could have, if future research

has similar findings, a universal or a more holistic conceptualization of preparedness than we currently have.

Table 2. Comparison between themes from the literature and Fako Division Cameroonians themes.

Themes from the Literature	Fako Division Cameroonians' Themes
Knowledge (major) <ul style="list-style-type: none"> - Having information. - Knowing what to do. 	Knowing things (major) <ul style="list-style-type: none"> - Having hazard-related information. - Knowing what to do.
Loss minimization (major) <ul style="list-style-type: none"> - Engaging in activities to eliminate or reduce the impacts of hazards. 	Taking action (major) <ul style="list-style-type: none"> - Doing things to minimize or prevent the impacts of hazards.
Integration Social (minor) <ul style="list-style-type: none"> - Being connected to kinship and social groups. Technological (minor) <ul style="list-style-type: none"> - Being technologically connected through multiple forms and formats to receive and communicate hazard-related information. 	Integration Social (major) <ul style="list-style-type: none"> - Being connected to kinship and social groups through a social process. Technological (minor) <ul style="list-style-type: none"> - Being connected through technology to receive and communicate hazard-related information.
Subsistence (major) <ul style="list-style-type: none"> - Engaging in activities related to surviving or sustaining oneself. 	Subsistence (minor) <ul style="list-style-type: none"> - Doing things to survive or sustain oneself.
Mobility (minor) <ul style="list-style-type: none"> - Engaging in activities related to capacity building in order to access transportation during a response 	Mobility (minor) <ul style="list-style-type: none"> - Doing things to be physically fit to run or trek.
Plan (major) <ul style="list-style-type: none"> - Having and running drills on a plan 	_____

Considering that these theoretical components of what constitutes a wholly prepared individual or household could be identified, scholars could operationalize how they study the components differently in various contexts. This research, thus, lays the foundation for coming to a universal definition of preparedness because it looked at two widely different contexts but found that similar themes emerged in spite of different manifestations.

As discussed in Chapters 2 and 5, analyzing the disaster literature and the data for this research, respectively, revealed themes that, together, begin to offer a holistic conceptualization of preparedness. For example, based on the themes revealed in the western-centric literature's operationalization of the concept discussed in this research study, individual and household preparedness could be defined as:

A dynamic state of readiness that is dependent on context and the process of completing the activities required to effectively take immediate action to save lives, property, and/or the environment; and to effectively restore, reshape, and rebuild the parts of life impacted by disasters.

Similarly, based on the analysis of the data about what individual and household preparedness meant to Fako Division Cameroonians, individual and households preparedness could be defined as follows:

A dynamic state of readiness that is dependent on context, a social process, and a process of completing the activities to save lives and minimize the effects of disasters.

Considering these two proposed conceptualizations, it is evident that there are similarities between the western-centric operationalization and Fako Division Cameroon explanation about what individual and household preparedness means. These similarities include the fact that preparedness is a process and that it involves taking actions to save lives and/or property. These actions are based on knowledge, or what people know about hazards, and is usually facilitated by the degree to which people are socially and technologically integrated.

Despite the similarities, there are some differences between the two conceptualizations. One of these variations is the emphasis on a social process in the Cameroonian context. As discussed earlier in this chapter, a social process that involves people talking or advising each

other is fundamental to communicate preparedness information in Cameroon's Fako Division. This is opposite to the western-centric operationalization which mostly focuses on the number of formal formats and channels of communication.

Another difference between the two conceptualizations is the notion and distinction of response and recovery. The data for this research do not seem to point the analysis towards this second dimension. Despite these differences, the similarities mean that emergency management professionals could be offering a common definition and conceptualization within research. This research suggests that these are different contexts, but there is still so much similarity; because despite the lay and the research, the researcher still arrived at similar themes. This finding gives hope for formalizing this body of work and building a solid theoretical foundation approach to offer a holistic conceptualization of individual and household preparedness.

Finally, the similarities between the western-centric and Cameroonian themes has significant theoretical implications because it creates a foundation for the future operationalization of individual and household preparedness. Based on the similarities for the themes, scholars and researchers can begin to operationalize individual and household preparedness differently based on a shared idea about what preparedness is. As such, scholars and researchers can begin to amass a body of knowledge that identifies which components of individual and household preparedness people are engaging in most. For example, the analysis of western-centric literature reveals subsistence as a major theme, yet in the Cameroon context, subsistence is a minor theme. In this regard, scholars and researchers can look at variables that determine why people are using these components the most, or not, leading to a holistic understanding of what people are being asked to do in order to deal with hazards and the associated events as well as why people are being asked to do these things.

Implication for Practice

First and foremost, in Cameroon's Fako Division, knowledge about hazards and actions to deal with these hazards are primarily communicated through a social process. This finding has implications for the development of preparedness-sensitization programs because the using a social process that is typically underused in western societies seems to be fundamental for preparedness in Cameroon. Given this finding, preparedness service announcements or preparedness messages should be designed to target the social networks which are the framework for this social process to function. In Cameroon, preparedness information that is aimed at individuals and households should target churches or local meeting groups, or should communicate through a town crier because this social process of people talking to people and neighbors advising neighbors is based on integration.

In addition to this social process, in Cameroon's Fako Division, individuals are, first and foremost, concerned with minimizing loss or taking actions. While it is hard for emergency management professionals and institutions to accomplish that goal in most western societies, in Cameroon with very rural communities included, when discussing preparedness, loss minimization seems to be at the front of their minds. Given this focus on loss minimization, it would seem that, in this context, the Cameroonian people of Fako Division are engaging in activities that would either prevent the impacts of these hazards or facilitate recovery. This finding has significant implications for the performance of disaster response because it would imply that, to the people of Fako Division, someone else and, in most cases, the government has to prepare for individual and household responses.

Understanding this finding, emergency management professionals in Cameroon should expect to be heavily involved with disaster responses. Participants consistently expressed the

need or the heavy reliance on the government for their mobility needs during evacuation situations. Given this understanding of how the individuals and households view mobility, the government should not only be prepared to be fully engaged in disaster response, but should also provide or make available transportation for the response if evacuation is to be effectively implemented. In addition to being involved with response and recovery, the government should also be prepared to network with the outside community members who are going to come in and will always come in because there would always—unless things change—be a lack of capacity; people would always need international aid in specific ways.

However, while Fako Division Cameroonians may not undertake important subsistence or loss-minimization activities and the government may lack capacity, this does not mean that Cameroonians are wholly unprepared. They are quite prepared as far as social processes and integration. Based on the researcher's experience living in the United States and Cameroon, the researcher would argue that, compared to the United States or juxtaposing Fako Division community with the U.S. community, there are some important differences. For example, most people in the United States are going to have food and water to be subsistent for a period of time, but they are not going to know their neighbors and their colleagues, which is the opposite of the situation in Fako Division, Cameroon. While emergency management practitioners need to recognize the strengths of Fako Division Cameroonians, they also need to be prepared for the inevitable deficiencies for the two dimensions of response and recovery and need to be ready to meet them. While the Cameroonian government cannot necessarily meet these deficiencies itself, it can be ready to network as well as to accept and be organized to deal with the influx of international aid. The government can also welcome and encourage an international NGO presence, particularly one that would help address preparedness issues, prior to disasters.

Finally, finances are another theme that emerged through the study's data analysis; this theme has implications for implementing preparedness strategies and policies in the following ways. First, it highlights the fact that, in Cameroon, individual and household preparedness is dependent on the people's mentality. That is, if the people cannot see beyond the fact that they cannot afford some activities, they are bound to resist accepting preparedness messages and policies. Second, it would seem that, for preparedness policies and strategies to be effective in this context, the policies have to focus on those things that people can do with their hands, their minds, or their knowledge.

Recommendation for Future Research

Generally, disaster scholars have operationalized individual and household preparedness without clearly articulating what the concept means. This lack of clarity about the meaning of the concept influences the way preparedness is measured because the way that we determine if people are really prepared is profoundly dependent on its conceptualization. This study used qualitative methods to explore the concept's meaning in a setting far from where the extant research has been conducted: Cameroon.

Analysis of the data revealed themes—knowing things, taking actions, integration, subsistence, and mobility—which, when put together, begin to offer a holistic conceptualization of preparedness. Data analysis also indicated that, in the Cameroonian context, a social process is fundamental to individual and household preparedness. Comparing Fako Division Cameroonians' themes and the themes revealed in the analysis of activities measured in western-centric literature shows that the themes are, indeed, similar despite the method by which they were measured.

Given the lack of conceptual clarity about the meaning of individual and household preparedness, even though scholars have frequently operationalized the concept, this study makes an important contribution to the study of disaster preparedness at the individual and household level. At the same time, this study is only a small step towards increasing the knowledge about the relevance of the things that people are being asked to do for preparedness and/or what scholars are measuring to determine how prepared people are. There are many ways that future research can expand on the findings of this research, but only a few are presented.

This study sets the foundation for investigating a universal conceptualization of individual and household preparedness. This study focuses on a small region of Cameroon. Future studies will benefit from this initial work and should expand to include other regions of the world and a national-level exploration of what individual and household preparedness means to people in hazard-prone areas, if we are to truly understand how prepared people really are.

Scholars have posited that theoretical work is fundamental to the development of any academic discipline (Drabek, 2004; Jensen, 2010; Klenow, 2009; McEntire, 2004). Jensen (2010) has argued, and is supported by Jensen et al. (2013), that the development of conceptual frameworks is essential to develop emergency management theory or theories relevant to the emerging academic discipline. Future empirical research that examines individual and household preparedness based themes such as the ones found in this study is needed to develop preparedness theory or theories relevant to emergency management.

Furthermore, analyzing the western-centric literature revealed a link between what people are being asked to do in preparedness to the phases of response and recovery. While the data analysis for this research did not point towards these major concepts, it is worth considering response and recovery for future research. That is, researchers could look at this relationship in

similar or different contexts to determine the relevance of preparedness actions that individuals and households take to deal with hazards and associated events, to effective response and recovery from said events.

As indicated earlier, in Cameroon, a social process was fundamental to communicate hazard-related knowledge and warning messages. As recognized previously in this chapter, the idea about the importance of a social process was discussed by a few scholars (Diekman et al., 2007; Heller et al., 2005; Kirshenbaum, 2006). Future research should investigate the effectiveness of a social process in different cultures and various nations because similar findings (like the one revealed in this study regarding the fundamentality of a social process to individual and household preparedness) could profoundly influence how preparedness knowledge is communicated. In addition, as indicated earlier in limitations in Chapter 3, all the participants in the study were male and as recognized in the same section, females in Cameroon for example, are an important to the effective management of households. For this reason, future research should investigate this topic with a more diverse sample that is representative of all genders in order to generate a more holistic understanding of individual and household preparedness.

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APPENDIX A. CONCEPTUALIZATIONS OF PREPAREDNESS IN U.S.

DISASTER CONTEXT

No definition	Citation
Did not offer a definition of the concept	Andrews, 2001; Baker, & Cormier, 2013; Basolo et al., 2009;; Bethel et al., 2011; Boscarino et al., 2006; Bourque et al., 2012; Burke, Bethel & Britt, 2012; Dooley et al., 1992; Eisenman et al., 2006, 2009; Farley et al., 1993; Heller et al., 2005; Kelley, 2011; Moore et al., 2004; Phillips et al., 2005; Ram et al., 2007; Siegel et al., 2003; Spittal et al., 2008; Wood et al., 2009
Definition	Citation
“a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action in an effort to ensure effective coordination during incident response”	FEMA.gov
“preparedness and mitigation actions”	Basolo et al., 2009, p. 340
“activities that have the potential to save lives, lessen property damage and increase individuals and community control over the subsequent disaster response”	Edwards, 1993, p. 294
“any preventative action taken by individual households before and during a hurricane disaster, including seeking, processing and sharing hurricane-related information and paying monetary, temporal and psychological costs to minimize possible harm.”	Kim & Kang, 2010, p. 472
“a series of activities which directly or indirectly should mitigate loss of life and property in a disaster”	Faupel et al., 1992, p. 6

“Preparedness refers to a set of self-protective activities in an impending hazardous event that helps in lessening the impact of the event”	Mishra & Suar, 2007, p. 143
“being ready to help your family, friends, and neighbors when a disaster or an emergency strikes”	Kapucu, 2008, p. 526
“ready for ‘all hazards,’ from low probability events like terrorism to cyclical and periodic events like natural disasters and prolonged power Failures”	Redlener & Berman 2006, pp. 90-91
It involves planning and readiness to respond early and quickly to natural, technological, or terrorist hazard	Pampel, 2012, p. 61

APPENDIX B. PREPAREDNESS MEASURES

Category & Measures	Citation(s)
<i>Plans</i>	
Emergency contact person	Andrews, 2001; Heller et al., 2005
Have a block plan	Andrews, 2001
Neighborhood plans	Nguyen et al., 2006
Have an evacuation plan	Andrews, 2001; Horney, Snider, Malone, Gammons, & Ramsey, 2008; Terpstra & Gutteling, 2008.
Having a family plan	Basolo et al., 2009; Edwards, 1993; Nguyen et al., 2006; Phillips et al., 2005
Having a family plan that all family members know about	Redlener & Berman, 2006
Family communication plan	Eisenman et al., 2009
Developing emergency plans	Bourque et al., 2012
Establishing communication plans	Boscarino et al., 2006
Familiarity with community plans	Spittal et al., 2008
Familiarity with natural-disaster community-evacuation plan	Redlener & Berman, 2006
Familiarity with terrorism community-evacuation plan	Redlener & Berman, 2006
Arrange a place to meet	Spittal et al., 2008
<i>Supplies</i>	
Store water	Andrews, 2001; Boscarino et al., 2006; Dooley et al., 1992; Eisenman et al., 2009; Edwards, 1993; Farley et al., 1993; Heller et al., 2005; Horney et al., 2008; Nguyen et al., 2006; Spittal et al., 2008

Store food	Andrews, 2001; Boscarino et al., 2006; Dooley et al., 1992; Edwards, 1993; Eisenman et al., 2009; Farley et al., 1993; Heller et al., 2005; Horney et al., 2008; Nguyen et al., 2006; Spittal et al., 2008
Have a fire extinguisher	Andrews, 2001; Heller et al., 2005; Spittal et al., 2008
Battery-operated radio	Andrews, 2001; Edwards, 1993; Eisenman et al., 2009; Heller et al., 2005; Nguyen et al., 2006; Spittal et al., 2008
Have first-aid kit	Andrews, 2001; Edwards, 1993; Eisenman et al., 2009; Heller et al., 2005; Nguyen et al., 2006; Spittal et al., 2008
Have a working flashlight	Andrews, 2001; Edwards, 1993; Eisenman et al., 2009; Heller et al., 2005; Nguyen et al., 2006; Spittal et al., 2008
Have an earthquake kit at home	Andrews, 2001
Have an earthquake kit at work	Andrews, 2001
Have an earthquake kit in car	Andrews, 2001
Emergency preparedness kit	Phillips et al., 2005; Terpstra & Gutteling, 2008.
Full set of recommended supplies	Basolo et al., 2009
Battery	Eisenman et al., 2009
Extra batteries	Eisenman et al., 2009
Prescriptions	Eisenman et al., 2009; Spittal et al., 2008
Pet food	Eisenman et al., 2009
Cash	Eisenman et al., 2009; Siegel, Shoaf, Afifi, & Bourque, 2003
Learn first aid	Edwards, 1993; Nguyen et al., 2006
Blankets	Eisenman et al., 2009
Rain gear	Eisenman et al., 2009

Purchasing things to be safer	Bourque et al., 2012
Accumulation of enough tools to make minor repairs to home following major earthquake	Spittal et al., 2008
Spare plastic bags and toilet paper	Spittal et al., 2008
Alternative cooking source	Spittal et al., 2008
Access to alternative cooking source	Spittal et al., 2008
Stockpiling supplies	Boscarino et al., 2006; Bourque et al., 2012
Shopped for emergency foods or materials	Kim & Kang, 2010
<i>Loss Minimization</i>	
Structural support of home	Andrews, 2001; Edwards, 1993; Eisenman et al., 2009; Heller et al., 2005;
Rearrange breakable items in cupboard/storage cabinets	Andrews, 2001; Edwards, 1993; Farley et al., 1993; Heller et al., 2005; Nguyen et al., 2006; Spittal et al., 2008
Latches on cupboard/storage cabinets	Andrews, 2001; Farley et al., 1993; Heller et al., 2005; Nguyen et al., 2006; Spittal et al., 2008
Secure furniture	Andrews, 2001; Farley et al., 1993; Heller et al., 2005
Securely fasten heavy objects	Andrews, 2001; Farley et al., 1993; Heller et al., 2005; Spittal et al., 2008
Storing heavy objects on the floor	Spittal et al., 2008
Rearrange furniture/heavy objects	Andrews, 2001; Heller et al., 2005
Secured movable objects	Spittal et al., 2008
Storing objects which contain water in places other than on top of electrical equipment	Spittal et al., 2008
Automatic gas shut-off valve/wrench to operate gas valve	Andrews, 2001; Farley et al., 1993; Heller et al., 2005

Secure hot-water heater	Andrews, 2001; Edwards, 1993; Farley et al., 1993; Heller et al., 2005; Nguyen et al., 2006; Spittal et al., 2008
Clean out gutters	Siegel et al., 2003
Clear vegetation around house	Siegel et al., 2003
Make repairs to roof	Siegel et al., 2003
Get sandbags	Siegel et al., 2003
Have engineer assessment	Edwards, 1993
Buy earthquake insurance	Andrews, 2001; Edwards, 1993; Farley et al., 1993; Heller et al., 2005; Nguyen et al., 2006
Strengthened chimney or satisfied myself that it will probably not fall down in an earthquake	Spittal et al., 2008
Strengthened house or satisfied myself that it will probably not fall down in a major earthquake	Spittal et al., 2008
Prepared the house	Kim & Kang, 2010
<i>Knowledge</i>	
Learn how to turn off gas	Andrews, 2001; Farley et al., 1993; Heller et al., 2005
Attend workshop on earthquake preparedness	Andrews, 2001
Read pamphlets/watch TV on earthquake preparedness	Andrews, 2001
Teach others about earthquake preparedness	Andrews, 2001
Ask about insurance	Edwards, 1993
Learning where to get more information about terrorism	Bourque et al., 2012
Duplicating important documents	Bourque et al., 2012; Eisenman et al., 2009
Know how to shut off utilities	Bourque et al., 2012; Nguyen et al., 2006
Ability to hear warning siren from home	Phillips et al., 2005

Contact officials for information	Nguyen et al., 2006
Participated preparedness at work	Nguyen et al., 2006
Considered risk of major earthquake in decision to live in current home	Spittal et al., 2008
<i>Social Integration</i>	
Talked in person with other people about hurricane (pre-disaster)	Kim & Kang, 2010
Called others to talk about hurricane (pre-disaster)	Kim & Kang, 2010
Browsed websites to get information about the hurricane (pre-disaster)	Kim & Kang, 2010
Emailed others to talk about the hurricane (pre-disaster)	Kim & Kang, 2010
Called others to see if they were ok (during disaster)	Kim & Kang, 2010
Browsed websites to know what's going on (during disaster)	Kim & Kang, 2010
Sent emails to let other people know I'm ok (during disaster)	Kim & Kang, 2010
Stayed with other neighbors or friends (during disaster)	Kim & Kang, 2010
Sent emails to other people in Tuscaloosa to let them know I'm OK	Kim & Kang, 2010
Sent emails to other people in Tuscaloosa to check if they are OK	Kim & Kang, 2010
Availability of child care	Phillips et al., 2005
<i>Mobility</i>	
Full tank of gasoline in car	Siegel et al., 2003
Transportation: availability of car	Phillips et al., 2005
Transportation: neighbor willingness to provide transportation	Phillips et al., 2005

APPENDIX C. INTERVIEW INVITATION

NOTE: THIS INVITATION WILL BE PRESENTED IN PERSON. IT WILL LOOK AS FOLLOWS:

From: North Dakota State University
Center for Disaster Studies and Emergency Management
Dept. 2351
P.O. Box 6050
Fargo, ND 58108-6050
United States
(001) 701- 231-5595

Dear [*Potential Participant Name*],

I am inviting you to participate in an exploratory study on how individuals and household define the meaning of disaster preparedness.

I am exploring this issue because there is no consensus as to the meaning of preparedness even though researchers operationalize the concept frequently

I am eager to hear about recent disasters in your community and your thoughts about preparedness for future events. If you would be willing to participate in this project, please let me know and we will schedule a convenient time between December 20, 2014 and February 8, 2015 for a face-to-face interview. The interview should take approximately one hour depending on your availability and what you would like to share.

Please take a look at the attached document with information about the project. Afterwards, should you have any questions, feel free to inform me now or contact me by phone at (*potential phone number*) also contact Dr. Jessica Jensen, who is assisting with this project, by phone at (001) 701- 219-4293 or by email at ja.jensen@ndsu.edu.

I thank you in advance for your participation in this research project and look forward to speaking with you about your experiences.

Sincerely,

Emmanuel Nojang

APPENDIX D. INFORMATION SHEET

NDSU

North Dakota State University
Department of Emergency Management
*Center for Disaster Studies and
Emergency Management*
Department 2351
P.O. Box 6050
Fargo, ND 58108-6050
(001) 701- 231-5595

“Conceptualizing Individual and Household Preparedness: The case of Cameroon”

INFORMATION SHEET

Research Study:

You are being invited to participate in an interview for a research project entitled “Conceptualization of Individual and Household Preparedness: The Case of Cameroon” This study is being conducted by Emmanuel Nojang from North Dakota State University, Department of Emergency Management.

Purpose of Study:

The purpose of this research is to explore how the people of Fako Division, Cameroon conceptualize individual and household preparedness.

Basis for Participant Selection:

You are being invited to participate in this research project because of your role as a tribal chief and leader within your community and as an individual and a member of a household in a hazardous area Cameroon.

Explanation of Procedures:

Should you choose to participate, we will arrange a time of your choice between December 20, 2014 and February 8, 2015 for an interview. The interview will take approximately one hour depending on your availability and what you would like to share.

The interviews will be conducted face-to-face and will be recorded using a digital recorder to assure that I accurately use the information you provide.

Potential Risks and Discomforts:

There should be no potential discomfort or physical, social, psychological, legal, or economic risk to you due to your participation in this study.

Potential Benefits:

There is a lack of conceptual clarity as to what individual and household disaster preparedness means even though the researchers operationalize the concept frequently. The hazardousness of Fako Division and the frequency of hazard events, makes it worthwhile looking at in the Cameroon context. As such this study will improve our understanding of what it means for individuals and households in the West African nation Cameroon to be prepared to respond to and recover from disasters.

Your participation in this project will contribute to the broader emergency management higher education body of knowledge and the practice of emergency management particularly as relates to individual and household preparedness.

Assurance of Confidentiality:

There are several important considerations that will be given to those who participate. First, anything you share in an interview will not be shared with any other interview participants.

Second, the interviews will be digitally recorded. Digitally recorded interviews will be uploaded on to the interviewer's personal computer. The sound file will then be transcribed and codes assigned for identifying personal and geographic characteristics. Only the researcher, dissertation adviser, and the IRB certified transcribers will have access to the interviews, paper listing the codes, and their link to participant information. In addition to a digital recorder, the researcher may take some notes during the face-to-face interviews. The notes will be transcribed immediately after each interview, stored on the researcher's personal computer and the hard copy destroyed. Once the recordings, researcher's notes, transcriptions, and codes are no longer relevant to this research, they will be destroyed.

The interviews will be recorded using a digital recorder, the respondent will be informed that their names and towns/ or villages will be collected for tracking purposes only and will not be used in any reports of the study findings. The researcher will connect the names of the chiefs to their locations for tracking purposes only. The researcher does not perceive any risk to participants by adopting this approach.

Voluntary Participation and Withdrawal from the Study:

Your participation is voluntary and you may quit at any time. Your decision whether or not to participate will not affect your present or future relationship with North Dakota State University or any other benefits to which you are otherwise entitled. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time.

Offer to Answer Questions:

You should feel free to ask questions now or at any time. If you have any questions, you can contact me, Emmanuel Nojang, at emmanuel.nojang@ndsu.edu or my dissertation advisor, Dr. Jessica Jensen, at (001) 701- 231-5762 or ja.jensen@ndsu.edu. If you have any questions about the rights of human research participants, or wish to report a research-related problem or injury, contact the NDSU Institutional Research Board (IRB) Office at 1(855) 800-6717 or ndsu.irb@ndsu.edu.

APPENDIX E. INTERVIEW GUIDE

- 1) Let's get started by you telling me about hazards in your area
- 2) Tell me about some of the disasters that have resulted from these hazards
- 3) What does preparedness mean for you?
- 4) Is there anything else about hazards disasters or preparedness that you want to share with me at this time?

Chief:	Interview Date:	
Area Represented:	Time Started:	Time Finished:

APPENDIX F. CONSIDERATIONS FOR DATA ANALYSIS

- 1) Let's get started by you telling me about hazards in your area
 - Types and characteristics (forewarning, predictability, speed of onset, range of duration, range of magnitude)
 - Diversity in types
 - Types of impacts associated with these hazards generally

- 2) Tell me about some of the disasters that have resulted from these hazards.
 - The researcher wants information about frequency
 - How often events happening
 - Dominant kind of hazard
 - Most recent example: focus on Impact
 - Number of people
 - Geographic range
 - Duration
 - Kinds of damage and severity of damage
 - Range of entities impacted
 - How long impacted
 - Just for response or for recovery too
 - Human
 - Groups impacted more than others and why
 - Types of impacts (e.g., social networks, belongings, homes, mental, injury or death)
 - widespread all of these types
 - more than others
 - Personally experience
 - Businesses
 - Infrastructure
 - Utilities
 - Government services
 - Environmental impacts
 - Cultural and historical resource impact
 - Response needs associated with the event
 - Personal experience the event
 - What did you or members of your family do while it was happening?
 - why
 - Recovery needs associated with the event

- 3) What does preparedness mean for you?
- Process
 - State
 - In reality what does that look like?
 - Who is responsible for preparedness?
 - In an ideal world what would people do?
 - Why would they do that?
 - Can some do it better than others?
 - In an ideal world what would they have?
 - Why would they have that?
 - How does that relate to preparedness?
 - In an ideal world what would people need?
 - What does that help with?
 - How does that relate to preparedness?
 - How does this relate to response
 - How does this relate to recovery
- 4) Is there anything else about hazards disasters or preparedness that you want to share with me at this time?

How could people have gotten ready for these events? Refer to the list of dimensions related to

- Subsistence
- Loss minimizations
- Integration
- Knowledge
- Mobility

watch for key words

APPENDIX G. INDIVIDUAL AND HOUSEHOLD PREPAREDNESS

CONCEPTUAL MAP

Please see page 180 for Appendix G.

