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CIVIL DEFENSE IN THE REPUBLIC OF LEBANON:
AN EXPLORATORY STUDY

by
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AN ABSTRACT OF THE THESIS OF

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This thesis aims at exploring Lebanon's Civil Defense disaster preparedness through its structures and processes. The Civil Defense was chosen because this Agency's sole responsibility is to protect civilians against emergencies and disasters. This study answers three research questions: First, what is the background to the development of the Civil Defense in Lebanon? Second, what are the legal foundation and responsibilities of the Civil Defense in Lebanon? Third, to what extent are the current Civil Defense structures and processes appropriate and able to meet Lebanon's disaster management needs? To answer these questions, twenty-eight interviews were conducted among Civil Defense first-responders, heads of regional stations and employees at the Headquarters, in addition to, primary data, such as legal documents. Interviews were conducted in Arabic, translated, transcribed and coded using MAXQDA. This thesis relies on qualitative research. Therefore, data was analyzed using thematic-analysis. Based on the findings a SWOT Analysis is presented presenting the current status of the Lebanese Civil Defense Agency and its abilities to manage disasters. This thesis is not without its limitations, the main limitation is this study's sample size, which does not allow generalization to Lebanon's disaster management abilities. However, this thesis will fill a gap in Lebanon's literature on disaster management. Future research on other disaster-related agencies may result in a comprehensive gap-analysis of Lebanon's disaster management abilities.

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CHAPTER I

INTRODUCTION

This thesis explores and describes Lebanon's Civil Defense Agency in terms of its structures, functions, responsibilities and strategies. The motivation behind this research is to fill a gap that exists in the literature on disaster management (DM) in Lebanon, generally, and the agencies responsible for DM in Lebanon, specifically.

Lebanon is vulnerable to different types of disasters. For example, Lebanon is currently dealing with the consequences of the slow-onset, man-made disaster caused by the Syrian refugee crisis. Additionally, due to its political instability, Lebanon has experienced numerous bombings and assassinations. Like many countries, Lebanon is also vulnerable to man-made and technological disasters such as plane crashes and oil spills. Lebanon is also vulnerable to natural disasters, such as earthquakes and tsunamis due, to its geographical location, as well as storms and flooding.

Disasters are difficult to anticipate. When they occur, they create sources of ambiguity and uncertainty. To reduce ambiguity and uncertainty, policy makers abide by what is known as the disaster management cycle, which consists of four stages: preparedness, mitigation, response, and recovery. The disaster management cycle enables governments to plan and prepare for disasters and more importantly, to reduce the consequences of disasters. Accordingly, when disaster strikes, such organizations immediately react, take the necessary actions, and try to return a community to a state of normalcy. Lessons are learned during these phases about how to improve response and recovery measures, thereby leading to better preparedness and mitigation.

According to Damon P. Coppola (2011), disaster management concepts and structures are similar throughout the world. However, each country has different resources and capacities to carry out disaster management activities and interventions. Some countries are more capable at delivering appropriate disaster management strategies than others. This could be due to political, cultural or economic reasons. This thesis will focus on Lebanon's Civil Defense Agency and its responsibilities and capacities with respect to disaster management.

The Geneva Convention of 1949 defines Civil Defense, "according to the tasks carried out rather than the organizations that carry out those tasks" (ICRC 2001, 1). The tasks to be performed by the civil defense organizations are: "to protect the civilian population against the dangers arising from hostilities or other disasters; to help [the civilian populations] recover from the immediate effects of such events; and to provide the conditions necessary for survival" (ICRC 2001, 1). Additionally, Protocol I mentions that civil defense organizations carry out these tasks and responsibilities under the control of the state. Therefore, in Lebanon, the tasks and responsibilities are confined within the Lebanese Civil Defense Agency, which falls under the Ministry of Interior. Before we consider this agency in detail, a few words are needed on the history of the civil defense.

The roots of the civil defense can be traced back to World War I (Coppola 2011). During World War I, the Civil Defense's responsibilities were to coordinate resources for national defense and stimulate civilian morale at the state or community level. After World War I, Civil Defense Agencies were no longer considered necessary. As World War II began, the Civil Defense Agency was renewed with similar responsibilities as that of World War I, but at the federal level. After the end of World War II, the belief that

dangers of war have declined resulted in the elimination of a civil defense agency.

However, with the Cold War, a new dimension of warfare emerged: nuclear warfare. At that time, discussions regarding civilian defense were re-initiated, and some countries stuck to the idea of a civil defense agency to take preventive action and conduct mitigation plans (Coppola 2011). Other countries, such as the United States, eventually created Federal Emergency Management Agency (FEMA). Later, Disaster Management Agencies began to tackle different types of hazards, disasters and emergencies.

The literature indicates that the structure and functions of a Civil Defense Agency differ before, during, and after a disaster. Before a disaster occurs, the Civil Defense, at local and national levels, focuses on two phases of the disaster management cycle: mitigation and preparedness. During this phase, a Civil Defense Agency learns from previous emergencies and disasters, and works to improve preparedness and mitigation strategies. As for the structure, the Civil Defense maintains a small cadre of employees before a disaster due to its inability to support a large number of paid staff. According to William A. Anderson (1969, p. 36-38) there are several administrative functions and responsibilities that a Civil Defense occupies before a disaster: “(1) procure the resources that are needed by the technical units so that they continue to carry out their operational function, (2) to control the technical units by establishing operational priorities, and (3) [to make] organizational policy”. Preparation and mitigation activities and procedures are undertaken to build community and national capacities for resilience against disasters. During times of peace, the Civil Defense carries out its operational functions, establishes its operational priorities and makes policies based on the success and failures of its previous disaster experience.

The moment a disaster is anticipated or strikes, the focus shifts to response. During a disaster, the cadre of Civil Defense volunteers expands, due to the increase in their responsibilities. These responsibilities include: “(1) warning, (2) search and rescue, (3) caring for casualties, (4) protecting against continuing threat, (5) restoration of continuing community service, (6) caring for survivors, (7) maintaining community order, (8) maintaining community morale, (9) information gathering and dissemination, (10) emergency communication, and (11) control and coordination processes” (Anderson, 1969, p. 34). The expansion in activities and functions leads to change in structure and in authority relations. These changes will be further discussed in Chapter II.

Civil Defense Agencies operate within several limitations. Some of these limitations include: 1) uncertainty of when disasters could occur and uncertainty during a disaster, 2) unclear authority, as there are many emergency agencies that operate when disasters take place, 3) community perception of the Civil Defense as a separate emergency organization rather than the legitimate authority and responsibility of government response during emergencies, and 4) unwanted responsibilities and problematic tasks (Anderson 1969, 44). This research will study whether Lebanon’s Civil Defense Agency operates within similar limitations.

Building upon this introduction, this thesis explores the context in which the Lebanese Civil Defense operates. To this end, this thesis will answer three research questions. First, what is the background of the development of Lebanon’s Civil Defense Agency? Second, what is the legal foundation and responsibilities of Lebanon’s Civil Defense Agency? Third, to what extent is Lebanon’s Civil Defense Agency structures and processes appropriate and is able to meet Lebanon’s disaster management needs?

The remainder of this thesis is organized as follows. The second chapter of the thesis presents a literature review discussing contemporary trends in the disaster management and background information on the Civil Defense. This chapter begins with a brief introduction on the field of Disaster Management and its development, and continues to discuss the definition of a disaster and distinguish it from other related terms. A discussion on disaster management and risk reduction principles in relation to disaster management cycle follows. The literature review concludes with an overview of general civil defense structures, functions, responsibilities, and limitations.

Chapter three illustrates the methods used to answer the research questions. It begins with a discussion about the research questions and their purpose, before shifting to the research design, data collection method, and the ethical considerations addressed during data collection. Furthermore, this chapter presents the data coding procedures and data analysis using grounded theory techniques. Chapter three concludes with limitations of the study and its research design.

Chapter four will present the findings and discuss the general development of the Lebanese Civil Defense, the Agency's mission and general responsibilities, the pre, during, and post disaster functions and structure and the limitations, which the Civil Defense operates within. The chapter will conclude by presenting the results of the SWOT Analysis on the Lebanese Civil Defense.

The final chapter presents the overall conclusions of the thesis. The chapter will present an overview on the Civil Defense and the context in which it operates. The chapter will also provide recommendations for the Agency's development and outline three areas of future research.

CHAPTER II

LITERATURE REVIEW

Lebanon has a history of natural and man-made disasters. In 551 AD, an earthquake, followed by a tsunami, destroyed Beirut and Tripoli (Elias et al. 2007). Lebanon has also witnessed a series of forest fires (Salhani 2014; Kabbara 2007), flooding (Al Jazeera 2013; The Daily Star 2013), droughts (Mroueh 2014), bombing in different regions (Rowell 2014) in addition to attacks on the Lebanese Armed Forces (LAF) (Al Akhbar 2013). These incidents posed dangers to homes, schools, civilians, national security, and damaged agricultural land and biodiversity.

Lebanon remains vulnerable to disasters. In terms of natural disasters, researchers and scientists suggest that the Mount Lebanon Thrust Fold and the Yammouneh Faults can generate 7.5 magnitude earthquake-leading tsunamis (Harajli, Sadek, and Asbahan 2002). Lebanon's geographical location and its political system pose threats to its stability and security (Ryan 2014). In most of these cases, Lebanon's Civil Defense Agency is called upon to take action to protect its civilians. According to the Lebanese Decree Law #50 of 1967, civil defense is an element of Lebanon's national defense system. The remainder of this literature will review some background to the subject of disaster management and review the historical and contemporary role of the Civil Defense (CD).

A. Disaster Defined

Many disasters can be anticipated. Others occur suddenly. To understand the Civil Defense's structure, functions, and responsibilities, it is essential to first understand the

context in which civil defense organizations operate. Understanding disasters and defining its different types, provides the Civil Defense with a framework for dealing with different types of disaster events. Some focus on the quantitative aspects of disasters, for example, the number of fatalities and economic damages (Horlick-Jones 1995 and Bayram, Kysia, and Kirsch 2012). Attempting to define disaster from a quantitative perspective is limited, as a certain number of deaths and injuries could seem minimal in a large country, but substantial in a small country. However, all definitions agree that different types of hazards result in different types of disaster events.

Thus, we turn to non-quantitative definitions of disaster for guidance. According to, Charles Fritz (1961) a disaster is “an event concentrated in time and space, in which a society or one of its subdivisions undergoes physical harms and social disruption, such that all or some essential functions of the society or subdivision are impaired” (Fritz 1961, 355). However, not all disaster events are the same. Thus, it is important to identify the sources and nature of disasters, as this will help us to interpret how the Civil Defense approaches such events.

There are two types of disasters. The first are natural disasters. According to the World Health Organization (2008), natural disasters are caused by natural hazards. For Mileti, (1999, 22), “natural hazards are extreme, low probability meteorological or geological phenomena that have potential to cause disasters when they strike human collectives”. Examples of natural disasters include forest fires, floods, hurricanes, volcanic eruptions, and earthquakes.

In contrast, man-made disasters are caused by deliberate actions (or the lack of). Examples of man-made disasters range from nuclear radiation to chemical spills and

industrial pollution. They are the result of human intentional activities (or non-activities), dangerous procedures, infrastructure failures that lead to “death, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage” (UNISDR, 2007). According to the United Nations International Strategy for Disaster Reduction (UNISDR, 2007), natural disasters’ impacts could lead to the occurrence of a man-made disaster. For example, an earthquake could lead to disturbance in nuclear power stations that result the spread of nuclear radiation.

Disasters can also be distinguished according to how they emerge. There are slow-onset disasters and sudden-onset disasters. A slow onset disaster is one “that does not emerge from a single, distinct event but one that emerges gradually over time, often based on a confluence of different events”(OCHA 2011,). An example of a slow onset disaster is a drought. In contrast, rapid onset disasters are unpredictable and unexpected, leaving little time for preparation and quick response. Examples of rapid onset disasters are chemical spills or tornadoes (WHO 2008).

The term disaster is often used interchangeably with related terms such as crisis, emergency, disaster, and catastrophe (Penuel, Statler, and Hagen 2013b). Defining a disaster is complicated due to the wide range of events that can fall under the term and can be framed by their causes and their effects (Penuel, Statler, and Hagen 2013b). A great amount of literature can be found on disaster definitions. Some authors focus on quantitative taxonomies, whereas others focus on qualitative classifications that differentiate between crisis, emergency, disasters, and catastrophe, to determine what falls under the disaster category and what are the criteria that comprise a disaster (Oliver-Smith 1999; Perry and Quarantelli 2005). For the purpose of this thesis, elaborate

discussions will not be made regarding these classifications. Rather, general definitions for each term will be discussed in order to distinguish disasters from other related terms.

We will start with crisis, which is defined as “an unstable crucial time or state of affairs in which a decisive change is impending; especially: one with distinct possibility of a highly undesirable outcome” (Garayev 2013). The identifying factor of a crisis is its sudden unexpected disruption of a state of normalcy creating high levels of uncertainty. An example of a crisis would be the current financial crisis in the United States.

Emergencies differ from crises. There are two types of emergencies, everyday emergencies and severe or mass emergencies (Fischer 2003). Everyday emergencies include traffic accidents and building fires. Authorities are trained to tackle emergencies on a daily basis (Fischer 2003). Mass emergencies, on the other hand, are defined by “scale, severity, and functional changes in working practices”. Emergencies may include disasters and catastrophes. All disasters are emergencies but not all emergencies are disasters (Penuel, Statler, and Hagen 2013c; Fischer 2003).

Finally, there are catastrophes, which differ from disasters in scale, scope and recovery time (Fischer 2003). Catastrophes overwhelm local and regional capacities and resources and would require national or international response (Penuel, Statler, and Hagen 2013a). A catastrophe disrupts more than one community simultaneously. Examples of a catastrophe would be the September 11 attacks on the World Trade Towers and Pentagon and Earthquake Haiti.

C. Disaster Management and Risk Reduction

According to the United Nations International Strategy for Disaster Reduction (UNISDR 2009a.), disaster management is a set of measures and processes that are done to avoid or reduce impacts. The ultimate goal of disaster management is to develop strategies, policies, and coping capacities to deal with disasters through “administrative directive, organizations, and operational skills and capacities” (UNISDR 2009a.). Likewise, disaster risk reduction (DRR) aims to reduce the risks that stem from disasters. This is established when systematic efforts are made to analyze the causal factors and circumstances of disasters. In general terms, this includes, “reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events” (UNISDR 2009a.).

While disaster management is the blueprint for the means of implementation of coping with a disaster, which involves continuous monitoring and evaluation, risk reduction is the actual practice and implementation of the processes used to reduce the effects of a disaster on communities and being prepared for the actual incident; it involves prevention, mitigation and preparedness. The Hyogo Framework for Action mentions that efforts to manage and reduce disaster risk, should be found at the community and national levels (UNISDR 2005.). Whether at the national or community level, governments can use the disaster management cycle to take steps to mitigate, prevent, response to, and recover from, disasters.

According to Cappola (2011), disaster management concepts are similar throughout the world. However, different countries have different resources and capacities to carry out disaster management activities. Therefore, each has its different

strategies and abilities to perform during events. This could be due to several reasons, political, cultural or economic, etc. Hence, some countries and regions are more capable at addressing these problems than others (Coppola 2011). The contemporary literature on disaster management indicates that there are four phases of disaster management.

D. Disaster Management Cycle

The four phases of disaster management are (1) preparedness, (2) mitigation, (3) response, and (4) recovery. The United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) add two phases: rehabilitation and reconstruction. Yet, these two phases can fall under the recovery phase. The following section will discuss the different stages in the disaster management cycle.

Preparedness. According to UNISDR (2009, 21), preparedness is, “the knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions (UNISDR 2009b, 21). Preparedness also includes hazard detection and warning systems, identification of evacuation routes and shelters, maintenance of emergency supplies and communications systems, procedures for notifying and mobilizing key personnel, pre-established mutual aid agreements with neighboring communities, and other items. Training for response personnel, conducting exercises and drills of emergency plans, and informing citizens through education programs is critical to preparedness.

Mitigation. Mitigation is the “lessening or limitation of the adverse impacts of hazards and related disasters” (UNISDR 2009a, 19). According to Lori Peek and Dennis

Mileti (2002), this includes: the policies and activities that will reduce an area's vulnerability to damage from future disasters. Usually, these measures are in place before a disaster occurs. In general, mitigation activities can be characterized as structural, infrastructural, and nonstructural. Mitigation is critical, in the sense that it aims at limiting the effects of disasters by anticipating the consequences and preparing the infrastructure to withstand such events, for example building bridges is a form of infrastructural mitigation, constructing buildings that can withstand earthquake is a form of structural mitigation, and a form of non-structural mitigation is raising awareness among communities (Peek and Mileti 2002).

Response. Response is, “the provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, to ensure public safety and to meet the basic subsistence needs of the people affected” (UNISDR 2009c, 24). According to Peek and Mileti (2002, 514), this includes: “The action taken immediately, before, during, and after a disaster occurs to save lives, minimize damage to property, and enhance the effectiveness of recovery” Depending on the intensity and the type of disaster, other response activities can also take place. These may include, construction of temporary levees, closure of roads or bridges, provision of emergency water or power supplies, and attending to secondary hazards such as fire or the release of hazardous materials. The effectiveness, quality and timeliness of disaster response are the result of the planning and training during the pre-disaster preparedness phase (Freeman et al. 2003).

Recovery. Recovery is, “the restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including

efforts to reduce disaster risk factors” (UNISDR 2009c, 23) According to Peek and Mileti (2002, p. 514), recovery includes: “short-term activities to restore vital support systems and long-term activities to return life to normal” (Peek and Mileti 2002, 514). An initial step in recovery is a comprehensive damage assessment to help set priorities. Recovery encompasses repairing and reconstructing homes, commercial establishments, public buildings, lifelines, and infrastructure; organizing and dealing with volunteers and donated goods; delivering disaster relief; and restoring and coordinating activities among governments.

E. Overview of the Civil Defense

Before discussing the Civil Defense, it is important to mention that there is lack of recent literature that could be adapted or related to the Lebanese context. Most importantly, Civil Defense Agencies have been generally disappeared, therefore literature on the Civil Defense is outdated. There is no global formula for how the countries of the world developed their disaster management capacities. However, there is one particular period in recent history that witnessed the greatest overall move toward a centralized safeguarding of citizens-the Civil Defense era (Coppola, 2011, p. 4). Civil Defense can be traced back to World War I. This war introduced a new and different kind of combat through the use of airstrikes to minimize an enemy’s will to engage in war. At that time, many countries lacked organizations or programs that provide civilian assistance during such attacks. Therefore, it was individuals who were responsible for their own safety. Many countries lacked organizations or programs that could provide assistance to

civilians during conflict events. It soon became evident that civilian defense should be accounted for in government during warfare (Homeland Security, 2006, p.4).

During the Cold War, a new dimension of warfare began: nuclear warfare. Studies suggest that mass evacuation plans and shelters could mitigate effects of nuclear wars should be part of a civil defense program. In response to the threat posed by air raids and nuclear attack, many industrialized nations' began to form elaborate system of civil defense. It included early detection systems, early warning alarms, hardened shelters, search and rescue, and local and regional coordinators (Coppola, 2011, p.4). However, these activities received great criticism in terms of the cost and scope. Nation legislatures also introduced legal frameworks to laws, the creation of national-level civil defense organizations and the allocation of funding and personnel (Coppola, 2011, p.5).

According to the Geneva Convention of 1949, "civil defense is defined according to the tasks carried out rather than the organizations that carry out those tasks"(ICRC 2001, 1). Protocol I of Article 61 lists the tasks to be performed by the civil defense organizations, which are "to protect the civilian population against the dangers arising from hostilities or other disasters; to help it recover from the immediate effects of such events; and to provide the conditions necessary for its survival" (ICRC 2001, 1). This is achieved through the fifteen tasks listed in Protocol I as: " warning, evacuation, management of shelters, management of blackout measures, rescue, medical services- including first aid- and religious assistance, fire fighting, detection and marking of danger areas, decontamination and similar protective measures, provision of emergency accommodation and supplies, emergency assistance in the restoration and maintenance of order in distressed areas, emergency repair of indispensable public utilities, emergency

disposal of the dead, assistance in the preservation of objectives essential for survival, complementary activities needed to carry out any of the tasks mentioned above”(ICRC 2001, 1). Additionally, Protocol I mentions that civil defense organizations, that perform any of the above-mentioned tasks, carry out these tasks and responsibilities under the control of the State.

F. Civil Defense Structures and Functions

The structure and functions of the Civil Defense depend on the stage of a disaster. Before a disaster occurs, Civil Defense organizations, at the local and national levels, would be focusing on preparedness and mitigation measures of the disaster cycle. Civil Defense Agencies have to be prepared and should mitigate risks from any type of disaster before the disaster takes place. During and post-disaster the focus is on response and recovery, in addition to learning from what could be done better in order to enhance and improve preparedness for disasters. Each stage will be discussed in greater detail below.

Pre-Disaster Structure and Functions of the Civil Defense

Anderson (1969, p. 36-38) mentions that the administrative functions and responsibilities of Civil Defense before a disaster are: “(1) procure the resources that are needed by the technical units so that they continue to carry out their operational function, (2) to control the technical units by establishing operational priorities, and (3) making organizational policy.” As for the structure, the Civil Defense tends to maintain a small cadre of employees before disasters because it is unable to support a large number of paid staff. This is due to the communities perception of the Civil Defense, communities see the Civil Defense as one of many emergency organizations that respond to rare instances

when disaster strike, therefore they are not willing to provide the Civil Defense with the resources needed to support a large paid staff.

During and Post-Disaster Structure and Functions of the Civil Defense

The responsibilities and functions of the Civil Defense shift after a disaster occurs. These functions and activities determine whether the planning and mitigation strategies were effective in the means they implement these functions. Some of the functions that Anderson (1969, p. 38) discussed are: “(1) to mediate between with technical units and those who use the organization’s products, (2) the coordination of emergency relief response, (3) the CD usually try to seek out needed resources for the police, hospitals, public works and other operational units, and (4) determines what the public needs in terms of disaster services so that they can inform technical units”. Civil Defense Agencies also inform the public about what is being done on their behalf.

Civil Defense has specific responsibilities that are performed the moment a disaster is anticipated or strikes. These responsibilities are: “(1) warning, (2) search and rescue, (3) caring for casualties, (4) protecting against continuing threat, (5) restoration of continuing community service, (6) caring for survivors, (7) maintaining community order, (8) maintaining community morale, (9) information gathering and dissemination, (10) emergency communication, and (11) control and coordination processes” (Anderson, 1969, p. 34). During a disaster, CD offices expand their activities to include people such as non-regular or emergency volunteers and government appointees (Anderson 1969, p. 26-29). Those who join civil defense organizations as emergency volunteers during disasters usually have some special training or skills, which they can utilize. Emergency

volunteers are usually “walk-ins.” Some employees of local and national agencies are assigned responsibilities in addition to their regular duties. These are government appointees. Usually, the government appointees who become part of the organization will work alongside other CD personnel.

When structure changes, it becomes essential to discuss authority arrangements within CD, as the authority structures during a disaster will differ from the authority structures prior to a disaster. Certain persons assume authority that previously had only latent authority in the organization. Such persons would be regular volunteers and government officials with secondary CD responsibilities. Their latent authority changes once their roles activate with the “disaster mobilization and expansion of the CD” (Anderson, 1969, p. 31). Another characteristic of the CD during disasters, in terms of control patterns, as its cadre expands in terms of structure is the decentralization in decision-making (Anderson, 1969, p. 31).

G. Civil Defense Limitations

Although many countries have moved beyond civil defense as a means to respond to disaster events, literature from fifty years ago indicates that Civil Defense systems often had limitations. For example, their operations, responsibilities, and structures could be sensitive to uncertainties in the environment, community perception, and the unwanted responsibilities that can be assigned to them, in addition to their main responsibilities. Other limitations include unclear authority, community perception, and unwanted responsibility. These limitations will be discussed below.

Uncertainty

Civil Defense Agencies operate in an open system. Its environment offers several potential sources of uncertainty. Pre-disaster uncertainty is the basis for many of the dilemmas confronted by Civil Defense organizations during disasters (Mosher, 1958, p. 170). To the best of their ability, the Civil Defense plans for the future, which is highly ambiguous. Writing several decades ago, Fredrick Mosher (1958, p. 171) recognized this uncertainty when he wrote, “the means of warfare and the nature of the economy and the political system have become more and more complex, the lead-time- the time between decision and effects of decision-has been increasing”. Although Mosher was discussing the United States at the time, these ideas still hold today. The ambiguity of the future, in terms of disaster, the economy, and the political event affect the operations of Civil Defense Agencies. In highly unstable economy and political situations, decisions have become harder to implement directly.

Unclear Authority

According to Anderson (1969, p. 44), although it is expected that the Civil Defense to be involved in disaster management, it is unclear “what duties they should perform and what authority they possess relative to other public agencies and organizations.” This is clear during instantaneous disasters. On the other hand, the Civil Defense, during disasters, posses “coordinative authority” among the organizations that deal with disaster mitigation and response. However, when the Civil Defense tries to undertake coordinative authority over the overall disaster response, their legitimacy is challenged and sometimes not acknowledge by other groups and organizations. The reliance on volunteers poses concerns for the CD when it comes to exert authority and control over critical disaster activities. Civil Defense has a hard time exerting authority

because it relies on volunteers. What is even more critical is the perception of other disaster related agencies and groups seeing the CD “as not preserving the competence, abilities, and resources for leadership” (Anderson, 1969, p.48). This is primarily the result of the unspecified authority relations set prior to disasters (Anderson, 1969, p.12).

Community Perception

Governmental and non-governmental organizations tend to view the Civil Defense as a separate emergency organization, rather than the legitimate authority and responsibility of government response during emergencies. This results in the uncertain authority relations between the Civil Defense and other agencies, due to the lack of awareness of the nature of the Civil Defense. Additionally, the community and other disaster-related organizations view the Civil Defense as “weak” in terms of its material resources and in its ability “to provide manpower and/or leadership” (Anderson, 1969, p. 55-56). Another limitation is that Civil Defense Agencies are bounded by the community’s perception is that the Civil Defense is seen as a national agency. When a disaster occurs, there is relatively lack of support toward the CD with respect to the local police, hospital, that possess deep roots within the community (Anderson, 1969, p. 56).

Unwanted Responsibility / Problematic Tasks

These problematic tasks or unwanted responsibilities that the Civil Defense undertakes are not listed as the common or usual tasks that the Civil Defense is set out to perform during large scale disasters. These tasks include, “(1) information collection and dissemination, (2) search and rescue, and (3) control and coordination of emergency activities” (Anderson, 1969, p.59). At the recovery stage, when officials are required to

set out emergency plans and procedures, they require centralized information regarding the affected community.

After collecting this data and information, the Civil Defense Agency is then responsible to disseminate their findings to the public, “providing news for the media, requests for specific types of equipment, inquiries about victims and potential victims...the determination of the truth value of certain reports, etc” (Anderson 1970, p. 58). During instantaneous- diffused disasters, search and rescue operations by other organizations such as the fire and police departments occur haphazardly and are rarely consistent, assuming that there are other “major responsibilities”, thus the CD assumes the search and rescue activities, instead of focusing on their “coordinative authority”. This leads to the third problematic task, which is the control and coordination of emergency activities. During disasters, many organizations are involved with different objectives and operations, which cause problems of “coordination effort”. “The efforts at coordination which emerge in disasters are most likely to take on the form of a very complex brokerage system” where these various organizations interchange “information, goods, services, and credit”. The civil defense assumes the role and the task of providing facilities and settings where exchanges can take place. (Anderson, 1969, p. 59)

H. Conceptual Definition

This chapter reviewed the development of the Civil Defense and its responsibilities, functions and structures. Disaster management theories and activities were also provided. The following conceptual definition is based on the above literature and provides a definition to what the Civil Defense is, Civil Defense is the legitimate

authority and responsibility of government to intervene and take action when disasters occur. Based on this definition, these theses will assess whether the Civil Defense has been successful in intervening and taking action during disasters.

The chapter presented the context in which the Agency operates. Although the literature is Western and outdated, this thesis will explore the Civil Defense in Lebanon. The methods used for this study will be discussed in the next chapter.

CHAPTER III

METHODS

This study has three goals. First, to understand Lebanon's Civil Defense structures. Second, to describe Lebanon's Civil Defense responsibilities and activities. Third, to identify Lebanon's Civil Defense's strengths and weaknesses, in terms of its structure and operations. This section outlines the methods used to collect and analyze the data needed to meet the goals. The remainder of this chapter will be organized as follows. The first section identifies the research questions addressed by this study. The second section reviews the study's units of observation and analyses. After identifying the questions and units of analyses and observation, the next section discusses the research design used to collect and analyze the data used to answer the research questions. The final two sections review the ethical considerations and the limitations of the thesis.

A. Research Questions

Taking the Republic of Lebanon's Civil Defense Agency as a case study, this thesis addresses three research questions.

1. What is the background to the development of the Civil Defense in Lebanon?
2. What are the legal foundations and responsibilities of Lebanon's Civil Defense Agency?
3. To what extent is the current Civil Defense structures and processes appropriate and is able to meet Lebanon's disaster management needs?

B. Research Population and Sample

The unit of analysis is the most basic element of research. It is the subject and the focus of a study. The unit of observation is the item or unit that is observed, measured, or collected when trying to learn something about the unit of analysis (Blackstone 2012). The unit of analysis of this study is the Lebanese Civil Defense Agency. The unit of observation is the Civil Defense personnel and primary data such as legal documents.

C. Research Design

This study is exploratory. Qualitative methods were used to answer the above research questions, data was collected through semi-structured interviews, which were thematically analyzed. According to Braun and Clarke (2006), thematic analysis enables researchers to organize, describe, and interpret data collected for a research project. Thematic analysis helps researchers discover repeated patterns of meaning in qualitative texts (Braun and Clarke 2006). Therefore, thematic analysis fits the purpose of this thesis (to describe and explain the structure, functions, and responsibilities of the Civil Defense) and enables the researcher to answer the above mentioned research questions.

Data Collection

According to Heynik and Tymstra (1993), qualitative interviews or in-depth semi-structured interviews can be used for exploratory research where the participants have the opportunity to discuss subjects they believe are essential for the study (Heynik and Tymstra 1993). Additionally, open-ended questions can generate information that was unanticipated by the researcher and the responses are usually rich in nature.

The data used by this study was collected through a series of semi-structured interviews with 28 Civil Defense personnel from different levels in the hierarchy in regional stations and in the Head Quarters. Participants had been in the Civil Defense for over 5 years and at least have a high school degree. Participants were asked a set of pre-determined questions (Appendix I). There were two interview scripts, one for first-responders (volunteers) and one for managers. Interviews were conducted in Arabic, since all participants preferred to speak the native Arabic. Interviews were audio-recorded, translated and transcribed. Interviewees were asked to state their roles (first responders, heads of stations, head of regional stations, employees at the HQ), the mission of the CD, the specific and general strength, weaknesses, opportunities, and hindrances that they face, communication and coordination between stations and among other disaster management units (or organizations), and to describe the last time they were involved in the incidence of a disaster.

Data Coding

Thematic analysis does not have a preset coding strategy or manual. Coding begins after information is gathered. For this study, Braun and Clarke's (2006) six-step guide was used for coding of the data (Braun and Clarke 2006). In brief, these steps include: immersion into the data, looking for themes, and taking notes; generating codes; searching for themes: sorting different codes into potential themes and sub-themes; reviewing and refining themes; defining and naming themes and analyzing the data within them; and finally producing the report (analysis).

During the open coding process, the research questions and answers of the interviewees gave the researcher an idea of the relevant themes. The second step involved

a “line-by-line analysis” of the transcripts. The researcher interacted with the data by scripting memos regarding conceptual ideas (Walker and Myrick 2006). Codes and themes were then connected and categorized. Walker and Myrick (2006, 553) note that the connections should be based on three aspects, “the conditions or situations in which phenomenon occurs; the actions or interactions of the people in response to what is happening in the situations; and, the consequences or results of the action taken or inaction” (Walker and Myrick 2006, 553). After describing and interacting with the data, the focus was on identifying the commonalities between the coded themes.

Data Analysis

The first step in the analysis was to examine how participants defined the CD, its mission, their responsibilities, the strengths and weaknesses of the CD, and how they distinguished between the normative role and responsibility of the CD and the actual on the ground work during disasters. The data was analyzed by identifying the most prevalent themes contained within the interview transcripts. After data was analyzed, the findings were compared to primary and secondary data for additional insights.

D. Ethical Considerations

This thesis did not present any risks to the participants. The interview questions were semi-structured and did not cause any physical, emotional, or psychological disruption. The participants were informed why they were contributing in this study, that the interviews were recorded, that their participation was voluntary and anonymous, and that they had the right to discontinue at any stage. All subjects verbally consented to be interviewed. A copy of the consent form is attached in Appendix II.

E. Limitations

The limitations of this thesis include: (1) the issue of self-reporting, (2) its sample size, (3) its scope, and (4) the time available. The issue of self-reporting was problematic, as the Civil Defense personnel might want to give the impression that all their functions and responsibilities are carried out perfectly. Alternatively, they might exaggerate that the environment and context in which they operate in is highly problematic and complex which results in their inability to perform efficiently and effectively. The second limitation is that of sample size. Only 28 Civil Defense personnel were interviewed. This is a small sample and may not be representative of Lebanon's overall Civil Defense organization. However, I believe that this sample size is sufficient because the researcher reached saturation, meaning the same themes were discussed over and over. The third limitation is related to the scope of the thesis. For the purpose of this thesis, Disaster Management is looked into from the lens of the CD organization, which does not necessarily accurately describe Lebanon's ability (or lack of it) to deal with disasters.

CHAPTER IV

FINDINGS AND ANALYSIS

This chapter will answer the three research questions using the data collected from official documents and the semi-structured interviews with Civil Defense officials in Lebanon. The manner in which these questions are answered will provide insights to the current state of preparedness. This will be accomplished through a SWOT Analysis. The findings generated by this study will enable us to determine what, if anything might be done to bolster capacity of Lebanon's Civil Defense system.

A. Development of the Lebanese Civil Defense

According to Mansour (2006), the Lebanese Civil Defense was founded in 1945 during the Second World War as a department within the Lebanese Army. According to the interviews, the focus of the department was primarily focused on rescue and saving lives (Mansour 2006, np). At that time, the Civil Defense barely had equipment it needed to perform duties other than first-aid and transferring injuries and the deceased to hospitals. On May 15, 1959, Parliament passed a law that allowed the Civil Defense to become a separate entity, which operated under the Ministry of Defense. Its duties were confined to training personnel on rescue and relief. On June 12, 1959, Legislative Decree 159 was passed. This decree provided the Civil Defense with its own Directorate and set forth its specific duties. Its duties and mission expanded to encompass rescue, relief, and fire fighting activities. In the year 1967, Regulatory Decree 50, set the relationship between the Civil Defense and other agencies. The Civil Defense then became an independent Agency that operated under the Ministry of Interior in 1979 under Law

Number 3/7. In October 14, 2000, the Civil Defense had its own General Directorate under decree 4082. (Mansour 2006) (Respondent 3, 2015) (Respondent 15, 2015) (Respondent 20, 2015).

B. Responsibilities of the Lebanese Civil Defense

According to the Decree-Law Number 50, which governs the Lebanese Civil Defense, the organization is to “prepare guaranteed means to prevent losses in lives and properties and limit them during wars and natural disasters [and] ensure permanence of public life in a natural way during the aforementioned cases”(The Republic of Lebanon 1967, 1). According to this law, the authorities of the Civil Defense are confined to,:

- Impose costs and duties necessary for the requirement of civil defense with citizens.
- Evacuate citizens and provide them with shelter and food.
- Accomplish regular training for civilians on civil defense works and subject them to necessary trainings.
- Evacuate dangerous places or those exposed to danger.
- Demolish buildings exposed to collapse.
- Seize individuals and confiscate real estates, animals, equipment and vehicles.

According to Article 3, the responsibilities of the Civil Defense are determined according to two settings; during peace and during crisis. During peace, the responsibilities of the Civil Defense are “(1) to provide means necessary to accomplish its work, maintaining and using them, and (2) to inform, guide, and train inhabitants and accomplish necessary trainings”(The Republic of Lebanon 1967, 1–2). During crisis the Civil Defense should “take means stipulated in regulatory decrees and instructions of

implementations automatically in case of wars or threat of war occurrence, in case of emergency, in case of shelling or the exposure of Lebanese territories to nuclear weapons threat or beginning of natural disaster”. These duties are discussed in more detail in a non-circulated draft document on the roles of the Civil Defense during different types of emergencies and disasters (A translated version for the purpose of this thesis is attached in Appendix VII).

Responsibilities mentioned above were recognized among respondents especially among Heads of Regional Stations who were able to identify and differentiate between their responsibilities and duties during peace and crisis (Respondent 3, Respondent 4, Respondent 5, Respondent 7, 2015). However, the Civil Defense is unable to accomplish its responsibilities and duties to the fullest extent due to the lack in resources and capacities, which will be discussed later (Respondent 11, 2015) (Respondent 21, 2015). For example, many of the respondents confused their mission with their motto. When asked about the mission of the Civil Defense, some respondents simply stated their mission statement verbatim: “relief, rescue, fire fighting” (Respondent 1, Respondent 2, Respondent 3, Respondent 14, Respondent 16, Respondent 17, Respondent 18, Respondent 19, Respondent 20, 2015). However, the Civil Defense employees and volunteers are seen as first-responders rather than a disaster management agency.

C. Head of Regional Stations and Volunteers’ Responsibilities

The authorities and responsibilities of Heads of Regional Stations are highly administrative and lack decision-making capabilities. Heads of Regional Stations reported their duties as: the transfer of commands from the General Directorate to

stations, assuring that the commands are being implemented properly, the transfer of information and memorandums from stations that belong to the regional station to the HQ because stations cannot directly communicate with the HQ (Respondent 1, Respondent 6, Respondent 18, Respondent 20, 2015). During disasters (natural or man-made) the Heads of Regional Stations coordinate the work of their stations and nearby stations for back up along with the Army and the Police for back-up, scene management, and reporting body and/or corpses (Respondent 3, Respondent 6, Respondent 7, Respondent 17, Respondent 22, Respondent 27, Respondent 28, 2015).

As for the first-responder duties, these are: the transfer of injuries to hospitals, performing cooling operations, surveying the scene for injuries, potential fire eruptions, and corpses, coordinating with the Army and the Police on the ground for help in scene management, clearing locations, and reporting body and/or corpses, in addition to their usual responsibilities during emergencies as first-responders: rescue, relief, and fire fighting (Further elaboration and examples will be given regarding the Civil Defense during disasters and its responsibilities). In addition to, cleaning stations, training new volunteers based on their experience on first-aid, rescue, and relief, and reporting to duty during their free time.

D. Pre, During and Post-Disaster Civil Defense Structures and Functions

According to the literature, the structure and functions of the Civil Defense differ before, during and post a disaster (Anderson 1969). This is evident within the Lebanese Civil Defense. When disasters strike both functions and structure expand.

Pre-Disaster Structures and Functions

Pre-disaster functions focus on preparedness and mitigation. Respondents mentioned that the Civil Defense does not have a formal strategy for preparation and mitigation of disasters. However, preparation is focused on raising awareness in public and private schools, and private organization upon their request in addition to random training to volunteers that are completely voluntary. The literature indicates that preparedness entails training and raising awareness among the public and Civil Defense personnel on how to act and take the right measures to mitigate disaster consequences, in addition to building infrastructure and passing laws against construction in disaster prone areas. The Lebanese Civil Defense does not take any initiative in terms of preparedness and mitigation. Private and public schools and private organizations raise a request to the Headquarter for the Civil Defense to provide its students and/or employees with training and awareness. Respondents have also mentioned that trainings are rarely taken seriously and one main problem is that there is no follow-up to the training. Also, the Civil Defense has no systematic training to its first responders, Heads of Stations, and Heads of Regional Stations. If training does occur, it is voluntary and theoretical (Respondent 1, Respondent 7, Respondent 8, 2015).

Trainings are also administered from international organizations and other Civil Defense Agencies from the West. However, most of the volunteers mentioned that the trainings were highly theoretical and lacked practicality and are not tailored to the Lebanese context (Respondent 5, Respondent 10, Respondent 11, Respondent 17, Respondent 28, 2015). In some areas, internal trainings are done seasonally to refresh their volunteers/first-responders on emergencies or disasters that could take place during specific seasons (forest fires in the summer and avalanches or flooding in the winter)

(Respondent 6, Respondent 9, Respondent 10, 2015). Other respondents mentioned that they are not in need of training because of their experience and the number of years spent in the Civil Defense (Respondent 2, Respondent 6, Respondent 11, 2015), for example, one Head of Regional Station stated, “The volunteers sitting behind you have become doctors in their field, they do not require training” (Respondent 19, 2015). Another form of preparation that the Civil Defense takes during expected crisis or man-made disasters is initiated by the Ministry of Interior, which sends a memorandum to all disaster-related Agencies to prepare for a certain crisis/disaster instance (Respondent 5, Respondent 8, Respondent 9, Respondent 10, Respondent 15, Respondent 18, 2015). The Civil Defense prepares itself by calling on its personnel to report to duty, making sure that ambulances and fire-trucks are working properly, and that their equipment are functioning. However, before a disaster strikes, or during times of peace, the Civil Defense has a deficiency in the number of volunteers especially during the day, where volunteers either have to report to work or are university students and are not obliged to report to their stations.

It is important to mention that a discrepancy was found in interviews on the question of whether the Civil Defense has a preset disaster management strategy. The volunteers and some of the Heads of Regional Stations were unaware of a strategy or answered that there is no disaster management strategy. Knowing that there is no disaster management strategy, some Heads of Regional Stations mentioned that they have developed their own strategy for their region and trained their personnel (Respondent 8, Respondent 28, Respondent 20, 2015). Others indicated that there is a national disaster management office in Parliament, and a draft strategy is under development. This document however, has not yet been circulated. Therefore in conclusion, if there is a

disaster management strategy in the Civil Defense, its first-responders and Heads of Regional Stations are unaware of this strategy. Furthermore, when asked to provide an example of a disaster event and the strategy used, they mention that their strategies are developed from the bottom up.

During/Post-Disaster Structures and Functions

During disaster events, the Civil Defense has no preset strategy. Rather, its duties are developed on the ground. As soon as the disaster strikes, the Civil Defense is usually the first Agency to respond. It begins by extinguishing fires and conducting search and rescue missions. It also calls for back-up from neighboring stations and regional stations, and tries to clear the scene before the Army and Internal Security Forces (ISF) arrive. The Civil Defense then coordinates with the Army and ISF to deal with the dead and take care of injuries on the spot, or transport fatal injuries to hospitals. When fires are extinguished and search and rescue missions are completed, the Civil Defense remains to protect against continuing threat with an ambulance and a fire truck, until it is certain that there is no threat. During the July War, for example, when many personnel were displaced into public schools, the Civil Defense, in coordination with the Ministry of Health provided the homeless with food and medication.

The chain of command in the Civil Defense is clear during disasters. Once a disaster strikes, for example, an assassination, the closest station heads towards the location, informs the Head of Regional Station of the area, which in turn calls for back-up from neighboring stations and coordinates their work, while informing the Head Quarter and updates them in case the disaster escalates. During forest fires, the Head of Regional

Station can directly call for back up from the closest station and from the Army or contact the HQ to facilitate coordination between them and the officer in charge.

Anderson (1969) mentions that, after the disaster strikes, the cadre of volunteers increases to be able to perform the tasks on the ground, stating that the Civil Defense Agency is unable to provide a large amount of paid staff before the disaster takes place (this idea will be further discussed in the following section). According to the interviews, Lebanon's Civil Defense is highly dependent upon volunteers that comprise of all of the first-responders and some Heads of Stations. When a disaster strikes, all active volunteers are called on to report to the disaster area from their Heads of Station, thereby expanding the cadre of volunteers, specifically first-responders. As Anderson mentions, when the structure changes/expands, authority arrangements change. During emergencies, the Head of the Squad is usually responsible for the team on the ground; however, during disasters due to the expansion of the cadre of first-responders, certain volunteers would assume authority on the ground that previously had latent authority in the Agency.

D. Limitations of the Civil Defense

Similar to the literature, the Lebanese Civil Defense operates within limitations of unclear authority and uncertainty, community perception, and unwanted responsibility/problematic tasks.

Unclear authority and uncertainty. It was clear that Civil Defense personnel were aware of their first-responder duties, however, when asked about the strategy used during disasters and the chain of command during such events, responses were incoherent and vague. The involvement of numerous agencies, such as the Army, ISF, Red Cross, and

other Civil Society Organizations and the lack of one coordinative office or agency causes problems on the ground between disaster-related agencies and adds uncertainty for Civil Defense personnel. Moreover, the Civil Defense operates within an open environment, most disasters occurring in Lebanon cannot be anticipated, such as bombing and forest fires, and the lack of a strategy and adequate training increases the uncertainty factor. However, one of the Agency's major limitations is that there is no proper preparation or mitigation for unambiguity. As Mosher mentioned (1958, p. 171, "the means of warfare and the nature of the economy and the political system have become more and more complex, the lead-time- the time between decision and effects of decision-has been increasing". Although Frederick Mosher was discussing the United States at the time, these ideas still hold today, not only in the U.S. but also in Lebanon. The ambiguity of the future, in terms of disaster, the economy, and the political scene are affecting the operations of the Civil Defense. In highly unstable economy and political situations, decisions have become harder to implement directly.

Another limitation is that the legitimacy of the Civil Defense is challenged during disasters when the Army is on the ground. Many of the participants, especially volunteers, mentioned that, "when the Army is on the ground, they have the ultimate authority and the Chief of the Squad responds to their demands" (Respondent 2, 2015) such as, accessing and leaving disaster scenes, in addition to coordinative authority when public officials arrive to scene, which hinders the Civil Defense from doing their job effectively and efficiently. The overreliance of the Civil Defense on volunteers poses problematic concerns to exert control over critical disaster activities. Disaster related agencies perceive the CD as not preserving the competence, abilities, and resources for

leadership, which is true for the case of the Lebanese Civil Defense, the Civil Defense relies on the resources and capacities of the Army during forest fires, in terms of personnel, and the competence and resources of the Red Cross during rescue and first-aid missions (Respondent 6, Respondent 9, Respondent 10, Respondent 13, Respondent 14, Respondent 16, Respondent 20, Respondent 21, Respondent 23, Respondent 26, Respondent 27).

Community Perception. The community's perception of the Civil Defense is also viewed as a limitation to Agency's work. The community perceives the Civil Defense as incompetent, lacks the resources and competence. Whenever asked about the community's perception of the Agency, respondents would reply that everyone thinks that they are late during a disaster or emergency. People tend to mock the Civil Defense during disasters when they try to communicate with each other over "WhatsApp" when radio devices are not working (Respondent 8, Respondent 10, Respondent 11, 2015). Few have respect for the Agency, for example, people provide stations incorrect information or false information regarding emergencies, block the ambulance's and fire truck's road on the way towards an emergency/disaster location. Respondents mention that, "people are aware that we lack training and lack the resources to perform our functions, some feel sorry for us and some disrespect us" (Respondent 23, 2015). Anderson (1969) mentions that when a local disaster occurs, there is lack of support towards the CD. For example, in Saida, a gas reservoir fell and began leaking. The inhabitants of the area refused to leave their homes, until the Army arrived and asked them to leave their homes, to avoid a disaster.

Unwanted responsibilities/Problematic task. The Civil Defense does not have unwanted responsibilities previously mentioned in the literature. However, they do have problematic tasks. These tasks are: filling up public officials' water tanks and asking the Civil Defense volunteers to clean their villas in the summer (Respondent 1, Respondent 2, Respondent 5, Respondent 9, 2015). Other problematic tasks are the result of the negligence of other public agencies, such as clearing and opening roads during snow storms and clearing sewage channels during floods, which is the work and duty of the work of the Ministry of Works (Respondent 2, Respondent 3, Respondent 11, Respondent 12, Respondent 13, Respondent 14, 2015).

E. SWOT Analysis

The interviews provided insights into the context in which the Lebanese Civil Defense operates. The purpose of this thesis is to explore the Civil Defense's current processes and find out if they are appropriate to meet Lebanon's Disaster Management needs. To meet the purpose and answer the third research question of this thesis, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis was developed. A SWOT Analysis enables an overall evaluation of an agency's strengths, weakness, opportunities, and threats. A SWOT Analysis is a useful tool to organize thoughts to be able to have a comprehensive understanding of an organization's environment (Wang 2007, 1).

Figure 1: SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Active volunteers • Humanitarian • Dedication • Development of disaster management strategies at the community level • Volunteers’ sense of belonging to their community 	<ul style="list-style-type: none"> • Overreliance on volunteers • Lacks authority over volunteers • Response is ineffective and inefficient. • Low morale and frustration • Lack of equipment. (+Buildings and offices are not disaster resilient) • Trainings are highly theoretical • Competition within the Civil Defense and with disaster-related agencies
Opportunities	Threats
<ul style="list-style-type: none"> • New law • People’s appreciation 	<ul style="list-style-type: none"> • Political interference • Government negligence • Community’s ignorance • No preparation or mitigation

Strengths

Although the findings highlight major weaknesses and limitations within the Lebanese Civil Defense, this Agency has five major strengths that hold the Civil Defense together. The main strength is found within the Agency’s active volunteers. Other strengths include its humanitarian aspect, dedication, community level disaster strategies, and finally the sense of belonging among Civil Defense personnel to their community.

The first strength of the Civil Defense lies in its active personnel. During interviews, Head of Regional Stations showed appreciation towards their active

volunteers (Respondent 3, Respondent 7, Respondent 11, 2015). Active volunteers report to duty, leave their jobs to respond to disasters and emergencies when asked, train volunteers for better response, try raise ideas to the Head of Station for preparation and mitigation activities (Respondent 2, Respondent 4, Respondent 8, 2015). For example, one respondent mentioned, “I was able to convince the captain [the head of station], during the next AUB Outdoors, to be present and devise for the university proper exits and entrances, because if a disaster strikes, a catastrophe happens. We should have at least a fire truck and ambulance ready outside” (Respondent 1, 2015).

The second strength of the Civil Defense is that it is guided by humanitarian ideals. First, many active volunteers have joined the Civil Defense due to its humanitarian aspect and is not subject to political partisanship (Respondent 1, Respondent 2, Respondent 3, Respondent 4, Respondent 6, Respondent 8, Respondent 9, Respondent 26, Respondent 27, 2015). This humanitarian feature has built respect and appreciation among some of those who have been harmed from emergencies or disaster consequences. For example, one volunteer mentioned, “Some people do appreciate our work. They respect us, because we are risking our lives to save theirs, we are risking our lives to save their property. To them we are heroes. This is what makes our work beautiful” (Respondent 1, 2015).

The dedication and commitment of most respondents is also a vital strength that keeps the Civil Defense Agency in operation. First-responder volunteers and Heads of Regional Stations are dedicated to their job and willing to prepare their stations with equipment from their own pockets, such as material for their ambulances and radio devices for communication, to be able to perform their work effectively (Respondent 1,

Respondent 2, Respondent 3, Respondent 4, Respondent 5, Respondent 8, Respondent 11, Respondent 16, Respondent 28, 2015). Due to lack of equipment and government negligence towards the Agency (which will be discussed in the weaknesses), a constant statement stated by most interviewees in Arabic was, “we are trying our best with what we have” (Respondent 2, Respondent 3, Respondent 4, Respondent 7, Respondent 8, Respondent 10, Respondent 11, 2015).

In terms of disaster management, although there is no national strategy, some regions have developed their own strategy, which shows preparedness in some locations (Respondent 16, Respondent 27, 2015). Additionally, active volunteers and Heads of Regional Stations have shown commitment. For example, during disasters civilians would try to interfere, give first-responder commands, mock them, and would sometimes physically harm first-aiders if they arrive late towards an emergency. However, Civil Defense personnel try to comprehend their emotional and psychological status and finish their work: “We turn our left cheek to get the job done” (Respondent 1, Respondent 2, Respondent 4, Respondent 5, Respondent 6 2015).

An important strength of the Civil Defense is that personnel of each station belongs to the region they serve in, which gives personnel a sense of belonging to their station and eagerness to help their community (Respondent 6, Respondent 9, Respondent 11, Respondent 12, Respondent 20, Respondent 28, 2015). Although this means that Civil Defense personnel do not have a national belonging, yet, they are willing to sacrifice their lives for their community. One respondent mentioned, “If I were transferred to another region, I wouldn’t really care, I would barely report to duty. I care for my people, my region. I know the streets of this city, I know whose forests are

burning, everyone in my region is family. If I was ever forced to leave this station to another, I would quit the Civil Defense” (Respondent 11, 2015).

Weaknesses

Despite their various strengths, the Civil Defense also has many weaknesses. The main weaknesses are: overreliance on volunteers, lacking authority, ineffective and inefficient response, lack of equipment, low morale and frustration, theoretical voluntary trainings, and competition between Civil Defense stations and between the Civil Defense and other disaster related agencies, especially the Red Cross.

Interviews indicate that the major weakness of the Civil Defense is its overreliance on volunteers (Respondent 3, Respondent 5, Respondent 6, Respondent 7, Respondent 9, Respondent 16, Respondent 18, Respondent 19, Respondent 20, Respondent 21, Respondent 22, 2015). Sometimes stations only have two volunteers on duty or have no drivers to drive the fire truck or ambulance, which is unacceptable. Duty hours are completely voluntary, even during disasters (Respondent 3, Respondent 4, Respondent 5, Respondent 7, Respondent 11, Respondent 13, 2015). When a forest fire is unreachable and is in an inaccessible location, the Civil Defense asks the Army for aid to fly helicopters specifically made to help in putting out large fires.

Due to the over-reliance on volunteers, one of the major weaknesses of the Civil Defense is the very low turn-out among first-responder in stations during the day, where most emergencies and disasters occur, which causes delay and ineffective and inefficient response, especially during forest fires, where regional stations and stations of the region could not handle such a disaster on their own and ask for the aid of the Army, who are always willing to offer aid and help the Agency by holding the heavy hoses, during

cooling operations, or putting off fires using shovels. The Army is of aid to the Civil Defense to the high number of human resources (Respondent 5, Respondent 8, Respondent 9, Respondent 10, Respondent 11, Respondent 12, Respondent 13, Respondent 16, Respondent 20, 2015).

Another major weakness of the Civil Defense is the lack of equipment. The Lebanese Civil Defense is comprised of twenty-one regional stations, generally each region has one ambulance which is either unequipped, too old to function, and/or not usable, either because maintenance is too costly and has not be done or the vehicle is extremely old and cannot be driven to Beirut for maintenance (Respondent 5, Respondent 6, Respondent 7, Respondent 11, Respondent 13, Respondent 14, Respondent 16, Respondent 20, 2015).

Stations are also underequipped in terms of suits for first-responders. The Civil Defense, especially during the summer, suffers from a lack in the water outlets to fill up the tanks of their fire trucks, outlets are few and could be shared among two or three regions, where civilians sometimes ask the Civil Defense to fill up their own personal water tanks from these outlets. Radio devices are also outdated. In some stations volunteers have bought their own mobile radio devices in order to communicate with each other (Respondent 2, Respondent 6, Respondent 22, Respondent 28, 2015). In stations where radio devices do not work, the first responders either yell during a disaster or emergency to communicate with each other or they use their own personal mobile phones (Respondent 6, Respondent 8, 2015). Most importantly, in terms of technical equipment all respondents have mentioned that their technical equipment are photocopy and fax machines. If a station has a computer, it is either used to play games or does not

work. As for Heads of Regional Stations, they share among them four-digit code mobile phones to communicate with each other and coordinate. It was obvious during the visits to the different regions in Lebanon that the status and quality and quantity of the equipment further deteriorated the further one was from Greater Beirut. The offices and the buildings that the stations work in are old, some are located under bridges and are non-resistant to natural disasters such as Earthquakes, but rather could be the first affected by disasters such as floods and Earthquakes.

These weaknesses and limitations mentioned above have resulted in low morale among Civil Defense personnel. Nonetheless, Heads of Regional Stations are contractual employees who have no benefits; they get paid based on a daily basis and have been in the Civil Defense for over ten years. Only personnel in the Head Quarter have fixed salaries, retirement and insurance benefits. A common feeling among interviewees was feeling of frustration and despair, that personnel have been trying hard for the survival of the Agency, yet, they feel that their work is not being properly appreciated, leaving no room for development. This is also due to the community's perception of the Civil Defense and their lack of respect towards the Agency.

As for trainings in the Civil Defense they are not done regularly and are completely voluntary. When new first-responder volunteers, they are not trained, nor are they required passing technical or physical exams, and all volunteers are welcome, which is a limitation for the Civil Defense, encompassing incompetent personnel. Experienced first-aiders will theoretical train and explain to volunteers what the functions and duties are. Many volunteers have mentioned that trainings are highly theoretical and lack

practicality and that they have learned how to react and what actions to take from real life experience and from other first-responder volunteers.

The final weakness that the Civil Defense has is critical. Civil Defense stations compete between each other on the ground, especially during emergencies. “Volunteers from other stations try to teach us and tell us what we are supposed to do. During the flooding which blocked the highway, we fought with people from other stations, instead of focusing on the people. Some volunteers have an inferiority problem, they try force their authority by being arrogant” (Respondent 1, 2015). This idea was also mentioned throughout the interviews. Additionally, Civil Defense personnel, especially first-responder, tend to compete with the Red Cross. During an emergency, the Civil Defense speeds with the Red Cross for them to arrive first on the ground, they would also give them the wrong address. “But usually the officer responsible for you on the ground has an old mentality “don’t let the red cross pass” (explaining what the officer would say to the driver). Honestly, I did something I’m not proud of, a couple of, no last month, I was at work, there was an incident, near Shoppers, the Ras Beirut ambulance on their way and so was the Red Cross (Respondent 1, 2015).

Opportunities

Yet, the Civil Defense has an opportunity to develop itself and grow with the New Law, which will restructure the civil defense, employ technical volunteers, and have technical units. Exams and trainings will be administered for the vacant positions in the Agency and are conducted either through the military school or with the help of Internal Security. Additionally, employees have benefits similar to that of any public employee and will employ active volunteers who have been in the Civil Defense for a minimum of

two years. This will enhance the Civil Defense's response during disasters, in terms of response and preparedness of Civil Defense personnel. This law will also revitalize the Civil Defense's financial accounts by giving the Agency the authority to take action and fining any person who pledged to build a shelter and didn't or did not build the shelter according to the proper guidelines.

Interviewees have also discussed that an external strength of the Civil Defense is people's appreciation after they save lives and a job well done, in addition some have mentioned that God is with them and has been protecting them due to their lack of equipment and capabilities to perform their duties, that God has been giving them strength to be able to accomplish their work.

Threats

Yet, there are some external threats and pressures on the Civil Defense that hinder or obstruct this Agency from being able to perform its duties to the fullest. The main threat is political interference, which has been hindering the proposed law from being passed and implemented for years (Respondent 16, Respondent 17, Respondent 18, Respondent 19, 2015). The specifics of this political interference will not be discussed as it does not pertain to this study. Additionally, respondents requested that this information not to be published. Interviewees described this law as a "morphine shot" where politicians and public figures give volunteers hope once every year and attach them to Civil Defense in hope of getting employed and a development in the Agency (Respondent 11, Respondent 12, Respondent 20, Respondent 21, Respondent 28, 2015). Interviewees discuss political interference and corruption in regards to the budget,

however no evidence of such has been proven throughout the interviews (Respondent 1, Respondent 2, Respondent 21, 2015).

The government's negligence is also viewed as a threat. The Civil Defense has twenty-one stations and only one mechanic shop for the maintenance of all the vehicles found in Central Beirut, close to the HQ, in addition to red tape and bureaucratic procedures for urgent maintenance of vital equipment such as radio devices, ambulances, and fire trucks. Changing a wheel of a vehicle could take up to a month, were some stations have preferred to fix their vehicles from their own personal accounts (Respondent 1, Respondent 2, Respondent 3, Respondent 4, Respondent 5, Respondent 6, Respondent 8, Respondent 10, Respondent 11, Respondent 15, Respondent 16, Respondent 19, Respondent 20, Respondent 27, Respondent 28, 2015).

The Civil Defense also faces threats from the general population's ignorance towards their own safety and the safety of others, this was mentioned across all the interviews. The Civil Defense could be partially blamed for these threats, as awareness campaigns and trainings for the general population are not administered. The Civil Defense has no preparation or mitigation procedures that could build the knowledge of citizens and inhabitants to mitigate threats of emergencies and hazards during emergencies. Additionally, during community disasters, inhabitants of the region or area flood towards the scene, especially during bombing assassinations, where the threat is high, due to the possibility of having a second explosion, and the presence of hazardous material that could lead to another disaster. These people also hinder the work of the Civil Defense by flooding the scene. People who have no knowledge in first-aid and rescue might lead to the deaths of civilians.

This chapter provided insights into the development of the Lebanese Civil Defense, in addition to its general responsibilities according to law and practice. In addition to the structures and functions of the Civil Defense pre, during, and post disasters and functions and the challenges faced. The findings highlighted that the Civil Defense lacks the capacities and equipment to take on disaster activities as per the disaster management cycle, especially due to the lack of a disaster management strategy. The Civil Defense operates within an environment that poses many limitations on its ability to function effectively. These limitations include: unclear authority, community perception, and problematic tasks. The SWOT Analysis, however, shows that with the passed employment law, the Civil Defense has an opportunity to develop. The next chapter will answer the three research questions posed at the beginning of this thesis and come up with recommendations and future research.

CHAPTER V

CONCLUSION

This thesis reviewed the current status of Lebanon's Civil Defense agency in terms of its structure, chain of command, and readiness for disaster events. To address the research questions, this thesis used data collected from primary documents and semi-structured interviews with Civil Defense personnel and volunteers. This chapter will answer these research questions, provide some general policy recommendations, and outline an agenda for future research.

A. Conclusions

This thesis addressed three research questions. First, what is the background of Lebanon's Civil Defense system? Second, What are the legal foundations and responsibilities of Lebanon's Civil Defense System? Finally, to what extent is the current CD structure and processes appropriate and is able to meet Lebanon's disaster management needs? Each of these questions will now be discussed in sequence.

RQ1: What is the background of Lebanon's Civil Defense System?

Lebanon's Civil Defense system was founded during World War II. The system had a command and control approach, as it originated from the Lebanese Army. This approach continued until the system acquired its independence in the year 2000 through Decree 4082. The Civil Defense then transitioned from an agency whose sole focus was on rescue fighting, search and rescue and relief. During the civil war, the agency lacked proper equipment and focused on mobilizing community resources and

their own physical strength to save lives. Now, the Civil Defense is equipped, although inadequately, to perform most of its functions. Yet, Civil Defense personnel hope that new legislation, which will restructure the Civil Defense and provide it with additional resources, will help the agency to function better.

RQ2: What are the legal foundation and responsibilities of Lebanon’s Civil Defense?

The mission of the Lebanon’s Civil Defense Agency is to “prepare guaranteed means to prevent losses in lives and properties and limit them during wars and natural disasters [and] ensure permanence of public life in a natural way during the after mentioned cases” (The Republic of Lebanon 1967). According to Lebanese Law, the Civil Defense Agency operates during the times of peace and war, and war encompasses man-made and natural disasters (The Republic of Lebanon 1967). However, this law does not explicitly identify the Civil Defense Agency’s responsibilities. Moreover, documents that discuss the Agency’s functions and responsibilities during emergencies, disasters, wars, and forms of coordination that should occur between Agencies are not circulated among the volunteers or Heads of Regional Stations. Rather, these documents are considered to be confidential. This confidentiality undermines harmony across and within the Civil Defense, where decisions and actions are taken based on what looks to be appropriate on a case-by-case basis.

Nevertheless, the interview subjects provided insights into the activities that they undertake, which are generally firefighting, rescue, and relief. However, most mention that their responsibility is to respond to any citizen’s need and their protection for harm. For example, one subject mentioned: “our job is to protect people and help them. We

sometimes receive a call from someone who needs us to transfer them to the hospital because they are obese and unable to get out of their beds. Others would call us to change their locks because they cannot afford to call the locksmith to change their locks. We try to help people with whatever they need” (Respondent 2, 2015). We can say that Lebanon’s Civil Defense Agency is responsible for providing humanitarian aid through three activities: fire-fighting, rescue, and relief and protect people lives from all kinds of emergencies and disasters.

RQ3: To what extent are Lebanon’s Civil Defense structures and processes appropriate for Lebanon’s disaster management needs?

According to the findings, the Lebanese Civil Defense System is unable to meet its full potential when intervening and taking action during disasters. The structure and processes of Lebanon’s Civil Defense System are a mix between rigid and flexible. For example, the Heads of Regional Stations are given the authority to take on decisions when disasters take place in their region without direct oversight from the Headquarters. The Heads of Regions also coordinate the efforts of their stations and ask for back up from other nearby regions, if necessary, while updating the HQ of the work being done directly through over the phone and/or after the disaster ends with a memorandum. HQ would also indicate the type of disaster, the location, the stations and first-responders who reported to duty, the stations that interfered, losses, and whether Civil Defense personnel were injured.

Due to the lack of personnel within the Civil Defense and the overreliance on volunteers, the Civil Defense does not have authoritative power over its volunteers, which leads to some volunteers to fail to report to duty or to work professionally. Indeed,

the Heads of many Regional Stations understand the commitments being made by their volunteers. They say, “these people are risking their lives for others and get no return what so ever, they are university students or fathers, some have other jobs and duties, I cannot force them to report to duty or to help during disaster instances. Sometimes, I have to beg them to come and help us” (Responder 3, 2015). Perhaps, a similar structure or authority should be administered toward Civil Defense first-responder volunteers as that of the Red Cross where their volunteers who are also university students, or parents, or have jobs and other duties, have discipline and respect for their duty hours and their officers.

With respect to process, the processes of preparation and mitigation are also considered rigid. This is due to considerable factors discussed in the SWOT Analysis. Civil Defense stations are underequipped, have outdated vehicles and equipment, and if vehicles need maintenance or wheels needs to be changed, this can take longer than a month or is left without maintenance until it no longer can be used. This is due to red tape from the vehicle within the HQ and the centralization of equipment, which leads to volunteers and Heads of Stations buying some equipment from their own pockets to be able to perform their work, especially equipment for their ambulances and radio devices. The lack of preparation poses a threat to first responders, especially during unexpected disasters, where there is little time to make sure equipment is available and for vehicles to break down during disasters. Decisions for answering the requests of schools and private organizations for the provision of trainings and awareness during emergencies and disasters come from the HQ and give the regional station the okay to give the trainings and raise awareness.

Additionally, the Civil Defense lacks a preset disaster strategy. The formations and functions are often set on the ground. This is seen as ineffective and inefficient, and leaves room for confusion and lack of proper coordination between the Civil Defense personnel and other agencies. Problems also arise between the Civil Defense first-responders and other agencies, because agencies are unaware of other agencies' duties, not only during disasters, but also during emergencies. This was evident during the interviews, where volunteers expressed their displeasure towards the Red Cross.

B. Recommendations

This thesis found that the Civil Defense is lacking the capacities to function effectively on a daily basis and the ability to meet Lebanon's disaster management needs. The main limitations that hinder the Civil Defense from operating effectively are: lack of equipment, over-reliance on volunteers, lack of training and drills for its first-responders, and the lack of operational strategy for the Civil Defense, which outlines their functions and responsibilities, and other disaster-related agencies. Based on the findings and the SWOT Analysis, the following section will outline recommendations for the development of the Civil Defense.

First, the government should increase the funding allocated to the Civil Defense. The Lebanese Civil Defense is in need of restructuring. This Agency has an over-reliance on volunteers. This creates obstacles during emergencies and disasters, where heads of stations and heads of regional stations have no authority over their volunteers, either to work in a certain way or to report to duty during such events. Restructuring and employing new personnel requires funding. The employment of personnel, conducting

drills with other disaster management agencies, setting technical units for each of the Civil Defense's functions: rescue, relief, fire-fighting, informing personnel and first-responders of their functions, duties, and responsibilities during "times of peace and war", educating and training Civil Defense personnel on the operational strategies during disasters, educating, training, and testing personnel on the disaster management strategies, will provide the Lebanese Civil Defense with the capacities necessary for operating effectively. Although, all the above is costly, if personnel build the necessary capacities and obtained the skills and know-how but have no equipment to use, the skills and knowledge cannot be put into practice. Therefore, government should allocate a budget line for Civil Defense equipment. If the government would like to reserve the Civil Defense Agency, increased funding is necessary.

Second, to decrease the Civil Defense's financial burden on governments, instead of buying medical equipment, providing maintenance for ambulances, and hiring first-respondents and technical units for medical and first-aid emergencies, the Civil Defense could focus its mission and activities at what it does best: firefighting and rescue. Many stations, especially outside Greater Beirut, have mentioned their reliance on the Red Cross during medical and first-aid emergencies and injuries during different types of emergencies, in addition to the wide scope of their functions, which their equipment and their personnel are not sufficient and adequate to accomplish these duties and functions. When the Civil Defense is focused on what it does best, firefighting and rescue, this will alleviate burden from government and Civil Defense personnel, especially volunteers who no longer have to pay for medical equipment from their own pockets. This means, instead of having a Civil Defense Agency, government would have a national fire

brigade. Municipalities that have their own fire brigade would merge these to the national fire brigade agency.

Third, give the Disaster Management Office's (DMO) coordinative authority, for the Civil Defense to be able to fulfill its responsibilities at the fullest during disasters and prevent competition between Civil Defense stations and other disaster-related agencies and complications on the ground. The DMO belongs to the Parliament, and since the Civil Defense is unable to have coordinative authority among all Disaster Management Agencies, it is best that the DMO takes on this authority, and coordinates between the Civil Defense, Red Cross, Army, and the Internal Security Forces.

The final recommendation for this thesis is the implementation of the new employment law. This law amends the law on shelters to be qualified and fit Civil Defense guidelines by fining any person who pledged to build a shelter and didn't or did not build the shelter according to the proper guidelines. It also allows the Civil Defense Agency to higher active volunteers who have been in the Civil Defense for at least more than two years and administer exams for vacancies in the Civil Defense either through military school or with the help of the Internal Security. Employees will have benefits similar to that of any public employee. Physical exams and tests will be administered for prospect employees to be accepted in the Civil Defense.

C. Future Research

This thesis describes the current state of the Civil Defense. Potential future research on the Civil Defense could be a comparative study between the Civil Defense

before the new law and after, whether this law led to any development and was a success, met the basic needs of the Civil Defense and the disaster management needs of Lebanon.

The second potential research would consist of studying other disaster related agencies such as Red Cross or the Internal Security Forces and conduct an overall SWOT analysis to assess the gaps existing in such agencies. This gap analysis will allow us to get a clearer picture about the challenges of Lebanon's disaster related agencies.

Knowing the problems in such agencies will serve as a first step to find some solutions.

The third area of future research consists of conducting a comparative study between the Lebanese Civil Defense agency and other examples of Civil Defense. This will allow us to learn from the experiences of developed countries in terms of how to operate during man-made and natural disasters.

APPENDIX I

ADMINISTRATIVE INTERVIEW QUESTIONS

(ENGLISH)

ADMINISTRATIVE (VOLUNTEERS AND HEAD OF CD STATIONS)-English

Background Questions

1. What is your educational background?
2. How many years have you spent in the civil defense?
3. What are your specific civil defense responsibilities?
4. Why did you decide to participate in the civil defense?

Substantive Questions:

1. Can you describe the mission and purpose of civil defense?
2. Can you describe the types of events that civil defense responds to?
3. Based on your experience and knowledge, can you describe the roles and responsibilities you undertake?
 - a. Before a disaster (raising awareness for example)
 - b. During a disaster
 - c. After a disaster
4. What are the criteria and the procedures that the Civil Defense takes into consideration when recruiting volunteers and personnel who work on the ground?
5. Based on your experience and knowledge can you describe how you prepare for disaster events at your station?
6. Are you aware of the Civil Defense Disaster Management strategies (man-made and natural)?

7. How often do you train/get trained? What kind of drills do you perform?

8. To what extent does your station have sufficient financial support to operate on a daily basis?

9. To what extent does your station have sufficient non-financial resources based on the number of emergencies you receive?
 - a. Transportation Equipment (vehicles, etc.)
 - b. Information Technology (computers, etc.)
 - c. Communication Technology (radios, cell phones, sat phones, etc.).
 - d. Supplies and Equipment (medicine, axes, boots, etc.)
 - e. Physical Facilities (buildings and offices, etc.)

10. In what ways collaborate with other organizations?
 - a. Local
 - b. National
 - c. International

11. Please recall the last time you participated in civil defense activities after a major disaster event? With respect to this event, can you:
 - a. Describe the nature of this event.
 - b. Describe the decision-making processes.
 - c. Describe the communication and information exchange processes.
 - d. Describe how civil defense collaborated with other organizations.
 - e. Describe how the processes used to coordinate organizations.
 - f. Describe how the national and local governments provided support.
 - g. Describe how the lessons learned were used to improve civil defense.

Concluding Questions

12. Is there anything else about civil defense that you think is important, but that I have forgotten to ask you about?

Generic Follow-up Questions:

- Can you provide an example or elaborate?
- Can you provide an example of where this worked / failed?
- Which actors are involved in the process?

- How often does this occur?
- Is what was done provided adequate?

APPENDIX II

ADMINISTRATIVE INTERVIEW QUESTIONS

(ARABIC)

أسئلة متعلقة بالخلفية:

1. ما هي خلفيتك التعليمية؟
2. كم سنة أمضيت في الدفاع المدني؟
3. ما هي المسؤوليات المحددة الموكلة اليك في الدفاع المدني؟
4. لماذا قررت المشاركة في الدفاع المدني؟

أسئلة موسّعة:

1. هل يمكنك وصف مهمة الدفاع المدني وهدفه؟
2. هل يمكنك وصف أنواع الأحداث التي يستجيب لها الدفاع المدني؟
3. هل يمكنك وصف أدوار الدفاع المدني والمسؤوليات الموكلة إليه؟
 - أ. قبل وقوع الكارثة
 - ب. خلال الكارثة
 - ت. بعد وقوع الكارثة
4. هل يمكنك وصف تنظيم الدفاع المدني؟
 - أ. على المستوى الوطني؟
 - ب. على مستوى المحافظات؟
 - ت. على المستوى المحلي؟
5. هل يمكنك وصف كيفية تحضير الدفاع المدني للكوارث؟
 - أ. فيما يتعلق بالتخفيف والوقاية؟
 - ب. فيما يتعلق بالاستجابة والإصلاح؟
6. ما هي المعايير والإجراءات التي يأخذها الدفاع المدني بعين الاعتبار لدى توظيف متطوعين وموظفين للعمل على الأرض؟
7. كيف تغيّر المصادقة على مسودة القانون الجديدة في بنية الدفاع المدني؟
8. إلى أي مدى يؤمن الدفاع المدني التدريب والتعليم؟ متى يؤمن ذلك؟ ما هي أنواع هذا التدريب والتعليم؟ من هم المعنيون بها؟ (متطوعون، موظفون، مواطنون)
9. كيف تحددون إذا كان هذا التدريب ناجحاً؟ هل لديكم مراقبون داخل الدفاع المدني وخارجه؟
10. متى تتم مراجعة استراتيجيات إدارة الكارثة؟
11. إلى أي مدى يتمتع الدفاع المدني بدعم مالي كاف؟
 - أ. مصادر حكومية؟
 - ب. مصادر دولية؟

12. إلى أي مدى يتمتع الدفاع المدني بموارد غير مالية كافية؟

- أ. معدات النقل (آليات، الخ...)
- ب. تكنولوجيا المعلومات (حواسيب، الخ...)
- ت. تكنولوجيا التواصل (أجهزة راديو، هواتف محمولة، هواتف الأقمار الاصطناعية، الخ...)
- ث. موارد ومعدات (دواء، أحذية، الخ...)
- ج. مرافق (أبنية ومكاتب، الخ...)

13. كيف يتعاون الدفاع المدني مع منظمات أخرى؟

- أ. محلية
- ب. وطنية
- ت. دولية

14. يرجى تذكر آخر مرة شاركت في نشاطات الدفاع المدني بعد وقوع كارثة كبرى. في هذا السياق هل يمكنك:

- أ. وصف طبيعة هذه الحادثة
 - ب. وصف إجراءات اتخاذ القرار
 - ت. وصف إجراءات تبادل المعلومات والتواصل
 - ث. وصف كيف تعاون الدفاع المدني مع المنظمات الأخرى
 - ج. وصف الإجراءات المتبعة للتنسيق مع المنظمات
 - ح. وصف كيف قدمت الأجهزة الحكومية الدعم
 - خ. وصف كيف تم استخدام الدروس المستفادة في تحسين الدفاع المدني
15. هل يمكنك تحديد ماذا يمكن فعله برأيك لتعزيز قدرة لبنان على تقليص نتائج الكوارث الطبيعية؟

أسئلة الختام

16. هل يوجد مسائل أخرى متعلقة بالدفاع المدني تعتبرها مهمة برأيك وغفلت عن ذكرها؟

أسئلة متابعة:

- هل يمكنك إعطاء مثل أو التوسع؟
- هل يمكنك إعطاء مثل على نجاح / فشل ذلك؟
- من هم المعنيون بهذه العملية؟
- متى يحدث ذلك؟
- هل كان ما تم انجازه كافياً؟

APPENDIX III

MANAGEMENT INTERVIEW QUESTIONS

(ENGLISH)

Background Questions:

1. What is your educational background?
2. How many years have you spent in the civil defense?
3. What are your specific civil defense responsibilities?
4. Why did you decide to participate in the civil defense?

Substantive Questions:

1. Can you describe the mission and purpose of civil defense?
2. Can you describe the types of events that civil defense responds to?
3. Can you describe the roles and responsibilities of civil defense?
 - a. Before a disaster
 - b. During a disaster
 - c. After a disaster
4. Can you describe how the civil defense system is organized?
 - a. At the national level?
 - b. At the provincial level?
 - c. At the local level?
5. Can you describe how civil defense prepares for disaster events?
 - a. In terms of mitigation and prevention?
 - b. In terms of response and recovery?
6. What are the criteria and the procedures that the Civil Defense takes into consideration when recruiting volunteers and personnel who work on the ground?
7. How would passing of the new draft law change the CD structure?
8. To what extent does the civil defense provide training and drills? How often? What kind of trainings and drills? To whom? (Volunteers, employees, citizen)

9. How do you identify whether these trainings or drills are successful? Do you have internal and external auditors?
10. How often is the Disaster Management strategy revised?
11. To what extent does civil defense have sufficient financial support?
 - a. Governmental sources?
 - b. International sources?
12. To what extent does civil defense have sufficient non-financial resources?
 - a. Transportation Equipment (vehicles, etc.)
 - b. Information Technology (computers, etc.)
 - c. Communication Technology (radios, cell phones, sat phones, etc.).
 - d. Supplies and Equipment (medicine, axes, boots, etc.)
 - e. Physical Facilities (buildings and offices, etc.)
13. In what ways does civil defense collaborate with other organizations?
 - a. Local
 - b. National
 - c. International
14. Please recall the last time you participated in civil defense activities after a major disaster event? With respect to this event, can you:
 - a. Describe the nature of this event.
 - b. Describe the decision-making processes.
 - c. Describe the communication and information exchange processes.
 - d. Describe how civil defense collaborated with other organizations.
 - e. Describe how the processes used to coordinate organizations.
 - f. Describe how the national and local governments provided support.
 - g. Describe how the lessons learned were used to improve civil defense.
15. Can you identify what you believe can be done to strengthen Lebanon's capacity to reduce the consequences of natural disasters?

Concluding Questions

1. Is there anything else about civil defense that you think is important, but that I have forgotten to ask you about?

Generic Follow-up Questions:

- Can you provide an example or elaborate?
- Can you provide an example of where this worked / failed?
- Which actors are involved in the process?
- How often does this occur?
- Is what was done provided adequate?

APPENDIX IV

MANAGEMENT INTERVIEW QUESTIONS

(ARABIC)

أسئلة المقابلة – إدارة

أسئلة المقابلة – إدارية (متطوعون ورؤساء أقسام الدفاع المدني)

أسئلة متعلقة بالخلفية:

1. ما هي خلفيتك التعليمية؟
2. كم سنة أمضيت في الدفاع المدني؟
3. ما هي المسؤوليات المحددة الموكلة اليك في الدفاع المدني؟
4. لماذا قررت المشاركة في الدفاع المدني؟

أسئلة موسّعة:

1. هل يمكنك وصف مهمة الدفاع المدني وهدفه؟
2. هل يمكنك وصف أنواع الأحداث التي يستجيب لها الدفاع المدني؟
3. بناء على خبرتك ومعلوماتك، هل يمكنك وصف الأدوار والمسؤوليات الموكلة إليك؟
أ. قبل وقوع الكارثة (زيادة الوعي مثلاً)
ب. خلال الكارثة
ج. بعد وقوع الكارثة
4. ما هي المعايير والإجراءات التي يأخذها الدفاع المدني بعين الاعتبار لدى توظيف متطوعين وموظفين للعمل على الأرض؟
5. بناء على خبرتك ومعلوماتك، هل يمكنك وصف كيفية تحضيرك للكارثة في مركزك؟
6. هل تعلم عن استراتيجيات الدفاع المدني لإدارة الكارثة (التي يتسبب بها الإنسان والطبيعة)؟
7. متى تخضع للتدريب/ تقوم بالتدريب؟ ما هي أنواع التعليم التي تقوم بها؟
8. إلى أي مدى يتمتع مركزك بالدعم المالي الكافي للعمل اليومي؟
9. إلى أي مدى يتمتع مركزك بموارد غير مالية كافية استناداً إلى عدد حالات الطوارئ التي تتلقونها؟
أ. معدات النقل (أليات، الخ...)
ب. تكنولوجيا المعلومات (حواسيب، الخ...)
ج. تكنولوجيا التواصل (أجهزة راديو، هواتف محمولة، هواتف الأقمار الاصطناعية، الخ...)
د. موارد ومعدات (دواء، أحذية، الخ...)
ذ. مرافق (أبنية ومكاتب، الخ...)

10. كيف تم التعاون مع المنظمات الأخرى؟

- أ. المحلية
- ب. الوطنية
- ت. الدولية

11. يرجى تذكر آخر مرة شاركت في نشاطات الدفاع المدني بعد وقوع كارثة كبرى. في هذا السياق هل يمكنك:

- أ. وصف طبيعة هذه الحادثة
- ب. وصف إجراءات اتخاذ القرار
- ت. وصف إجراءات تبادل المعلومات والتواصل
- ث. وصف كيف تعاون الدفاع المدني مع المنظمات الأخرى
- ج. وصف الإجراءات المتبعة للتنسيق مع المنظمات
- ح. وصف كيف قدمت الأجهزة الحكومية الدعم
- خ. وصف كيف تم استخدام الدروس المستفادة في تحسين الدفاع المدني

أسئلة الختام

12. هل يوجد مسائل أخرى متعلقة بالدفاع المدني تعتبرها مهمة برأيك وغفلت عن ذكرها؟

أسئلة متابعة:

- هل يمكنك إعطاء مثل أو التوسع؟
- هل يمكنك إعطاء مثل على نجاح / فشل ذلك؟
- من هم المعنيون بهذه العملية؟
- متى يحدث ذلك؟
- هل كان ما تم انجازه كافياً؟

APPENDIX V

CONSENT FORM

Understanding the Civil Defense Organization in Lebanon

Principal Investigator: Dr. Thomas W. Haase

Student Investigator: Hoda K. Mansour

We are asking you to participate in a research study. You have been chosen to participate in this research because you belong to the Civil Defense of Lebanon. This research is under the supervision of the Primary Investigator Dr. Thomas Haase, who can be reached at th30@aub.edu.lb For further inquiries you can contact the Institutional Review Board of the University at irb@aub.edu.lb and 01-350000 ext. 5445. Please read the information below and ask any questions that you may have.

This research is about describing and interpreting the Civil Defense structure, functions, and responsibilities in Lebanon and understanding the limitations in which they operate. You are invited to give information that will be a valuable contribution to this research.

A. BASIC INFORMATION

1. In this study, you will answer generic interview questions, based on your experience, about the civil defense readiness and ability to perform its functions and responsibilities during disasters.
2. Based on the acceptance of the General Director of the Civil Defense of this study and its interview questions, you have been randomly selected to take part on this study.
3. This interview will take place in the Civil Defense station that you serve in.

4. The estimated time to complete the interview is approximately 60 minutes.
5. The research is being conducted with the goal of receiving thesis credits towards graduation.
6. The data will also be used to write peer-reviewed journal articles and conference presentations.
7. The data collected by this study will be used to understand and describe the Civil Defense organization in Lebanon within the disaster management context and to build knowledge on how such organizations are able to abide by the international standards for disaster management and risk reduction. This information will be used to fulfill the partial requirements of the Master Thesis in Public Administration and to be used in conferences and publications.

B. BENEFITS AND RISKS

The benefit, expected to follow from this study, is to be able to determine how the Civil Defense organization operates in Lebanon with regards to disasters in addition to identifying the operations it undertakes with respect to preparedness, mitigation, response, and recovery.

Your participation in this study does not involve any physical risk or emotional risk.

Your decision to withdraw will not involve any penalty. You have the right to withdraw your consent or discontinue participation at any time for any reason.

C. CONFIDENTIALITY

To secure the confidentiality and anonymity of your responses, your name and other identifying information will not be attached to your answers. Interviews will be recording using a password-protected mobile phone, yet, your name will be not be recorded during the interview process. Additionally, all codes and data will be kept in a

password-protected computer that is can only be accessed by the Principal Investigator and the researcher working directly on this project. All collection instruments will be destroyed responsibly after the required retention period (usually three years). The anonymity of your answers and your confidentiality will be reserved in all published and written data that result from this study and will not be used in reports or published papers.

D. CONTACT INFORMATION

1. If you have any questions or concerns about the research you may contact me at 70-775752, or hkm06@mail.aub.edu
2. If you have any questions, concerns or complaints about your rights as a participant in this research, you can contact the following office at AUB: Social & Behavioral Sciences Institutional Review Board 01-374374 ext: 5445 or irb@aub.edu.lb.

E. PARTICIPANT RIGHTS

Your participation in this study is voluntary. You are free to leave the interview process at any time for no reason. If desired, the researcher agrees to provide you with a copy of the final research report. Refusal to participate will involve no penalty or loss of benefits or your relationship to AUB.

By signing below, in the allocated space, you consent to participate in this study.

SIGNATURE

DATE

By signing below, in the allocated space, you consent to audio-recording the interview.

SIGNATURE

DATE

APPENDIX VI

CONSENT FORMS-ARABIC

نموذج الموافقة

فهم منظمة الدفاع المدني في لبنان

الباحث الأساسي: د. توماس و. هاس

الطالب الباحث: هدى خ. منصور

نطلب منك المشاركة في دراسة البحث. تم اختيارك للمشاركة في هذا البحث لأنك فرد في الدفاع

المدني في لبنان.

يتم إجراء هذا البحث تحت إشراف الباحث الأساسي د. توماس هاس الذي يمكن التواصل معه عبر

البريد الإلكتروني th30@aub.edu.lb أو على الرقم 01-350000 مقسم 4344؛ مكتبه كائن في مبنى

الجامعة الأميركية في بيروت Jessup-204D. للاستفسار يمكن التواصل مع مجلس المراجعة التأسيسي

في الجامعة عبر البريد الإلكتروني irb@aub.edu.lb وعلى الرقم 01-350000 مقسم 5445.

يرجى قراءة المعلومات الواردة أدناه ولا تتردد في طرح أي سؤال يراودك.

يتمحور هذا البحث حول وصف وتفسير بنية الدفاع المدني، وظائفه ومسؤولياته في لبنان بالإضافة

إلى فهم الحدود التي يعمل ضمن إطارها. أنت مدعو لإعطاء معلومات ذات مساهمة قيّمة في هذا البحث.

أ. المعلومات الأساسية

1. في هذه الدراسة، ستجاوبون على أسئلة خلال مقابلة ذلك بناء على خبرتك عن استعداد الدفاع المدني وقدرته على القيام بمهامه ومسؤولياته خلال الكوارث.
2. استناداً لموافقة المدير العام للدفاع المدني على هذه الدراسة وأسئلة المقابلة، قد تم اختيارك عشوائياً للمشاركة.
3. ستتم المقابلة في محطة الدفاع المدني التي تخدم فيها.
4. الوقت المقدر لإنهاء المقابلة هو 60 دقيقة تقريباً.
5. تم إجراء هذا البحث بهدف الحصول على أرصدة الأطروحة للتخرج.
6. ستستخدم البيانات كذلك لكتابة مقالات صحفية ومحاضرات.
7. ستستخدم البيانات التي تم جمعها في هذه الدراسة لفهم ووصف الدفاع المدني في لبنان ضمن إطار إدارة الكارثة ولبناء معرفة قدرة هكذا منظمات على التقيّد بالمعايير الدولية لإدارة الكارثة وتقليل الخطر.

ب. الفوائد والمخاطر

إن الفائدة المتوقعة الحصول عليها من هذه الدراسة هو القدرة على معرفة كيفية عمل الدفاع المدني

في لبنان فيما يتعلق بالكوارث بالإضافة إلى تحديد العمليات التي يقوم بها المرتبطة بالاستعداد، التخفيف،

الاستجابة والإصلاح.

لا تتضمن مشاركتك في هذا البحث التعرّض لأي خطر جسدي أو نفسي يتعدى مخاطر الحياة اليومية. إن قرارك بالانسحاب لا يربّب عليك أية غرامة؛ يحقّ لك الانسحاب في أي وقت لأي سبب كان.

ت. السرية

من أجل ضمان سرية أجوبتك، لن يتم إرفاق اسمك أو أية معلومات تعريفية معها. سيتم تسجيل المقابلات باستخدام هاتف خلوي محميّ بكلمة سر ومع ذلك لن يتم تسجيل اسمك خلال إجراء المقابلة. بالإضافة إلى ذلك، تحفظ جميع الشيفرات والبيانات في حاسوب محميّ بكلمة سر يمكن فقط للباحث الأساسي والباحثين العاملين مباشرة على هذا المشروع الدخول إليها. يتم تلف جميع أدوات جمع المعلومات بعد انقضاء المدة المطلوبة (تكون عادة ثلاث سنوات). يتم المحافظة على عدم التسمية في أجوبتك وسريتها في جميع البيانات المنشورة والمكتوبة الصادرة عن هذه الدراسة ولن تستخدم في تقارير أو وثائق منشورة.

ث. التواصل

- 1- للاستفسار عن البحث يرجى التواصل معي على الرقم 775752-70 أو عبر البريد الإلكتروني hkm06@aub.edu.lb.
- 2- إذا كان لديك أي سؤال أو شكوى حول حقوقك كمشارك في هذا البحث يمكن التواصل مع مكتب الجامعة الأميركية في بيروت، مجلس المراجعة التأسيسي للعلوم الإجتماعية والسلوك على الرقم 01-374374 مقسم 5445 أو عبر البريد الإلكتروني irb@aub.edu.lb.

ج. حقوق المشاركة

المشاركة في هذا البحث اختيارية. يمكنك الانسحاب من هذه الدراسة في أي وقت من دون تقديم

سبب؛ إذا أردت يوافق الباحثون على إرسال نسخة لك عن التقرير النهائي للبحث. رفض المشاركة لن

يؤدي الى أي عقوبة أو فقدان فوائد و لن يؤثر على علاقتك بالجامعة الأميركية في بيروت.

لدى إمضائك في الخانة المحددة أدناه تكون قد وافقت على المشاركة في هذه

الدراسة.

التاريخ

التوقيع

لدى إمضائك في الخانة المحددة أدناه تكون قد وافقت على الموافقة على

تسجيل هذه المقابلة.

التاريخ

التوقيع

APPENDIX VII

ROLE OF THE GENERAL DIRECTORATE OF CIVIL DEFENSE DURING DISASTER

b.	Incident		Role of Civil Defense	Observations
	Explosion	Religious center	<ol style="list-style-type: none"> 1- Fire fighting 2- Carry injured to hospitals 3- Deliver bodies to their relatives after recognizing them 4- Rubble removal 5- Isolate damaged area 6- Inspect cracked buildings and decide to demolish, repair or share them up 7- Carry out a cleaning campaign for impacts removal 	
School				
Theatre				
Nightclub or amusement center				
Cinema				
Restaurant				

		Hotel		
		Hospital		
		Airport		
		Port		
		Playfield		
		Residential area		
		Government premises		
		Embassy		
		Factory		
		Shopping center		
		Power generation or distribution center		

		Fuel and gas tanks		
	Cyclone		<p>If observed by meteorological instrument, the following actions are taken:</p> <ol style="list-style-type: none"> 1- Inform citizens how to behave 2- Contribute in rescue operations 3- Issue regular notices about prospective weather conditions. 	
	Collapses	Residential building (private or government)	<ol style="list-style-type: none"> 1- Save besieged persons under rubbles and offer medical and alimentary aids. 2- Open roads closed by collapses 3- Shelter those who had their homes collapsed and bury deceased with citizens help 4- Start rubble removal to search for survivors and carry injured to hospitals and aid posts. 5- Surround some buildings with special signs until inspected, determine their worthiness and later decide if they will be used, overhauled, demolished or shored up. demolish or shore or repair them 6- Totally isolate rubbles and clean 	
		Government building		
		Entertainment building (nightclub- cinema- club- theatre)		
		Stadium, school, religious center, hotel, hospital, factory, bridge, snow, sand pits)		

		Rocks and soils (on main and side streets)	<p>roads from all obstacles.</p> <p>7- Fire fighting and herbicides sprinkling to protect from bacteria and diseases.</p> <p>8- Issue informative notifications through media</p>	
	<p>Spre ad of epidemics, bacteria and contagious diseases</p> <p>Spre ad of locusts, insects and rats.</p>	Water	<p>1- Evacuating inhabitants when necessary</p> <p>2- Deliver bodies to their relatives to recognize them</p> <p>3- Carry injured to hospitals</p> <p>4- Water disinfection</p> <p>5- Isolate damaged area</p> <p>6- Train and guide citizens</p> <p>7- Provide water for charitable institution, hospitals and gathering places.</p>	
		Food		
		Residential and public places		

	Fire	Hotel	<ol style="list-style-type: none"> 1- Fire fighting 2- Evacuating inhabitants when necessary 3- Try to save precious properties 4- Start to pull rubbles to search for survivors and carry injured to hospitals and aid posts 5- Surround some buildings with special signs until inspected, determine their worthiness and later decide if they will be used, overhauled, demolished or shored up. 6- Fire fighting and sprinkle herbicides to protect from bacteria and diseases 7- Issue notifications through media 	
		Nightclub		
		Embassy		
		Playfield		
		Residential area		
		Hospital		
		Touristic center		
		Cinema		
		Government building		

		Factory		
		School		
		Airport		
		Port		
		Religious center		
		Power generating or transforming station		
		Bank		
		Forest		
	Ship disasters	Sink	1- Rescue the crew and passengers 2- Extinguish fire according to available means	
		Fire		
		Explosion		

		Kidnapping			
	Toxic wastes	Hospitals	<ol style="list-style-type: none"> 1- Execute isolation 2- Issue informative notifications for citizens 3- Sprinkle herbicides to protect from bacteria and diseases 4- Pull bodies and bury them after being recognized by their relatives and the mayor 5- Water disinfection 6- Isolate damaged area 7- Train and guide citizens 		
		Sanitation			
		Industrial wastes			
	Car accidents	Buses	<ol style="list-style-type: none"> 1- Carry injured to hospitals and aid posts after being pulled by hydraulic tools 2- Complete isolation of rubbles and clean roads of all obstacles 3- Extinguish fires when occurred 		
		Fuel, gas and chemical materials trucks			
		Trucks carrying explosive and inflammatory materials			
	Earth	Earthquakes causing building cracks and inhabitants	<ol style="list-style-type: none"> 1- Start rubble removal to search for survivors 2- Shelter those who had their homes demolished, bury of the bodies and 		

	hquake	evacuation	<p>help inhabitants</p> <ol style="list-style-type: none"> 3- Complete isolation of rubbles and clean roads of all obstacles 4- Extinguish fires and sprinkle herbicides to protect from bacteria and diseases 5- Issue informative notifications through media 6- Demolish some cracked buildings 7- Alert inhabitants from huge waves where their velocity reaches 840km/h exceeding 10 m of altitude 	
		Earthquakes causing immediate demolish of buildings, deceased and injured		
0	Airp lanes disasters	Airplane fall on residential building	<ol style="list-style-type: none"> 1- Start rubble removal to search for survivors and carry injured into hospitals and aid centers 2- Complete isolation of rubbles and clean roads of obstacles 3- Extinguish fires and sprinkle herbicides to protect from bacteria and diseases 4- Issue informative notifications through media 5- Demolish some cracked buildings 6- Pull bodies and bury them after being recognized by their relatives and the mayor 7- Surround some buildings with special signs until inspected, determine their worthiness and later 	
		Airplane fall on a residential compound		
		Airplane fall in a uninhabited place		
		Airplane fire on the runway (without passengers on		

		board)	decide if they will be used, overhauled, demolished or shored up	
		Airplane fire preparing to take off (with passengers on board)		
		Airplane kidnap		
1	ds	Floods	<ul style="list-style-type: none"> 1- Movements prohibition 2- Alerts inhabitants living beside rivers and oblige them to evacuate the place 3- Try to build obstacles on the river sides and in some sensitive locations to prevent damages aggravation 	
		Dam		
		River		
		Sea		
		Lake		
2	Military attacks	Destruction	<ul style="list-style-type: none"> 1- Destruction during wars: <ul style="list-style-type: none"> 1- Carry injured to hospitals (when bombardment stops) 2- Fire fighting 3- Search for survivors among rubbles 4- Rubbles isolation, pull bodies and delivered them to their 	
		Displacement		
		Etc..		

			<p>relatives</p> <p>5- Handle the issue of unrecognized bodies</p> <p>6- Complete isolation of rubbles and sprinkle herbicides</p> <p>7- Surround some buildings with special signs until inspected, determine their worthiness and later decide if they will be used, overhauled, demolished or shored up.</p> <p>2- Displacement and emigration:</p> <p>1- Dedicate displaced and emigrants with safe camps and government buildings (schools)</p> <p>2- Organize and supervise their sojourn</p> <p>3- Provide potable water</p> <p>4- Provide medicaments, blankets and food</p> <p>5- Establish field dispensary in every compound</p> <p>6- Separate ill and old men and provide their regular carrying into hospitals and their return back.</p>	
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