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Factors Inhibiting Implementation of a Comprehensive Disaster Management Framework in Trinidad and Tobago

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Walden University

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Julie Samaru

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Walden University
2021

Abstract

Factors Inhibiting Implementation of a Comprehensive Disaster Management Framework

in Trinidad and Tobago

by

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MSc, Walden University, 2014

MSc, Leicester University, London, 2012

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

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Abstract

Identifying and exploring the factors inhibiting implementation of a comprehensive disaster management framework to guide the operations of disaster management is a public policy imperative for the Republic of Trinidad and Tobago. Despite the increased frequency and severity of natural and human-made disasters during the past decade, challenges continue with ensuring effective levels of preparedness for responding agencies in Trinidad and Tobago. The current study explored the lived experiences of first responding agencies that operate without a comprehensive disaster management framework. Two theoretical frameworks served as the foundation for this study: the advocacy coalition framework and the multiple streams framework, which focused on organizational behavior as it relates to the policy process. Using semi structured interviews; data were collected from 15 participants: five emergency managers, five first responders, and five policymakers from different regions in Trinidad and Tobago who have experience in disaster management. The data were analyzed using a modified van Kaam method with member checking and active processes for ensuring trustworthiness of the data. The themes that emerged were systemic failure; issues of collaboration; issues of policy formation; lack of modern legislation; barriers that inhibit disaster management and education and training. The results indicated that for effective disaster management, there must be enhanced interagency collaboration among all first responders. The results of this study may promote positive social change by providing information necessary for enhancing effective interagency collaboration across agencies to improve the overall approach to disaster management in Trinidad and Tobago.

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Dedication

I dedicate this dissertation to all my students who I had the pleasure of teaching emergency management. They were my source of inspiration that instilled in me the desire to make a difference. They will be cherished in my memories.

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I am thankful to Almighty God for giving me the health, strength, and perseverance to complete this journey. My husband Keith who motivated and encouraged me to pursue my education, leading me to becoming a lifelong learner. My former teacher John Sylvester, who was my mentor and stimulated my interest in emergency management and recognized my potential to contribute to this field by becoming an educator.

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Chapter 1: Introduction to the Study

Historically, disaster management in the Caribbean has been generally reactive and focused on response and recovery, during which formal responders and support function agencies operated according to the mandates of their respective legal requirements. At present, there is no legislation that mandates the collaboration of all first-responding agencies in disaster management and little attention is paid to preparedness and mitigation (Petak, 1985, p. 6). Trinidad and Tobago, as well as other small island developing states in the Caribbean community region (CARICOM), suffers significant losses from disasters, resulting in loss of life; destruction of homes, livelihoods, and the environment; and damage to critical infrastructure and the economic base of the country (Collymore, 2011).

Flooding is a significant concern in Trinidad and Tobago, primarily caused by a combination of natural and human factors. The areas prone to flooding are generally located near major rivers and lands initially used for agriculture. The annual rainy season begins in June and ends officially in November. During this period, poor drainage, improper disposal of waste, lack of a proper land use planning and building codes, and flooding have become standard features for the country's people.

This study highlighted the need for further enhancement of preparedness, response and mitigation capabilities, and the necessity for updated legislation in keeping with the current mandate of disaster management in the region. Countries that have introduced new disaster legislation have reported a positive impact on broader interagency cooperation where such legislation was adopted (Collymore, 2011, p. 14).

Equally important in emergency management is the ability for critical responders and decision makers to communicate with each other and recognize disaster management as a national concern.

A need for change exists not only in public policy and practice but in the quality of disaster response and recovery, creating opportunities to redesign, revise, or rebuild the environment damaged by the event (Comfort et al., 1988). While throughout the last decade there has been significant investments in institutional infrastructure, fundamental gaps exist in disaster management (Collymore, 2008). The Comprehensive Disaster Management Strategy Framework, developed in 2001 and revised in 2007, supported by the United Nations Development Program (UNDP) represented the first step in this direction. Comprehensive disaster management is a concept that incorporates management of all hazards during all phases of the disaster cycle. Comprehensive disaster management involves all segments of civil society, including the public and private sectors.

Background

Trinidad and Tobago is the most southerly of the Caribbean islands and lies just outside the hurricane belt. By virtue of its location, the country has been spared direct impact of hurricanes but has suffered significantly from the effects of heavy rainfall, resulting in severe flooding that causes damage, destruction, and economic losses every year. Nevertheless, disaster management has not been a high priority on the political agenda, and complacency toward disaster preparedness and mitigation permeates society. In the Preliminary Vulnerability Assessment of Trinidad and Tobago prepared by the

Office of Disaster Preparedness and Management (ODPM), these sentiments were articulated. Because of the low frequency of severe hazards, disaster management has not been considered a priority on the national agenda and citizens consider themselves and the country at large immune from disasters. This false sense of immunity negatively impacts the way citizens respond to the threat of natural and anthropogenic hazards. Additionally, the behavior trivializes the severity of the situation, resulting in citizens' inability to appropriately interpret and respond to risk messages and hazard warnings. (ODPM, 2014)

Additionally, the policies and legislation required to fulfill the mandates of international agencies remain outstanding. In 2000, Trinidad and Tobago adopted the concepts of the United Nations Office for Disaster Risk Reduction (UNISDR, 2015), which highlighted the need for governments to focus on mitigation and disaster risk reduction and the concepts of the Sendai framework for a change to disaster risk reduction as opposed to disaster management.

In 2008, the country became a participating state of the Caribbean Disaster Management Agency (CDEMA), which is responsible for the coordination of CARICOM's enhanced comprehensive disaster management strategy (2007–2012). The Comprehensive Disaster Management program for Trinidad and Tobago was guided by the Hyogo framework for action and the objectives of CDEMA. The intention of this policy framework was to support the national effort in building a culture of safety and resilience through disaster risk reduction and preparedness. The Hyogo framework emphasizes that an effective preparedness plan requires a clear legislative and policy

framework that clarifies and mandates responsibilities, protocols, linkages, and coordination structures among different actors both horizontally and vertically (ODPM, 2014). The Sendai framework was another strategy for disaster risk reduction adopted by Trinidad and Tobago after 2015. This framework functions as a management tool and helps countries develop disaster risk reduction strategies, in addition to assisting in making risk-informed policy decisions and the allocation of resources to prevent new disaster risks.

The twin island republic of Trinidad and Tobago is plagued annually by the devastating impact of flooding that result in significant destruction to property and economic loss, particularly in the agricultural sector. Of major concern is the inability of the responding agencies to effectively respond to these events, as such issues relating to disaster management and the lack of policies and current legislation established a baseline for this research. In disaster management, lack of updated legislation impacts the operational effectiveness and the interagency collaboration in response to disasters.

The national response framework details the guiding principles and the roles and responsibilities of first responders and support agencies to prepare for and provide a unified national response to disasters and emergencies. However, the cohesiveness of these agencies has not been fully demonstrated as the country has not experienced a major disaster. This is further compounded by a lack of necessary resources to manage the impact of disasters. The lack of collaboration among agencies and the impact of a disjointed approach to the management of these events highlights the impact that poor

coordination has on proactive emergency planning at all levels of government (Caruson & MacManus, 2008). To effect changes to the current approach, disaster management must become an integral part of the political agenda.

Problem Statement

A comprehensive disaster management framework (CDMF) has not been implemented in Trinidad and Tobago, and little is known regarding disaster managers' perceptions of the consequences of this lack of implementation for disaster response and how such a plan could be implemented. During the past decade, emergency management became a focusing event highlighting existing problems and providing an opportunity for change (Birkland, 2016; Birkland & Warnement 2013a). In the past 5 years, Trinidad and Tobago has suffered significant economic and financial losses due to severe flooding, and no major improvements are planned for the current disaster management policies (ODPM, 2013). In addition, the primary legislation, the Disaster Measures Act (Act 47 of 1978), has been identified as one of the major inhibiting factors (ODPM, 2013) preventing the implementation of the CDMF. According to the National Progress Report 2011–2013, the current legislative framework has not provided an effective platform for the coordination of disaster management function, particularly the organizations monitoring and regulatory roles which need improvement (ODPM, 2013).

While there are at least 40 subsidiary legislations scattered throughout various agencies that deal with disasters, they govern specific aspects of disaster management. Some of these include the Police Service Act Chap 15:01, which outlined the general duties of police officers. The Fire Service Act 35:50 identified the fire service as the first-

responding agency in the event of any type of disaster or emergency. Other laws include the Defense Act Chap 14:01, which established the authority of the Trinidad and Tobago Defense Force. The Municipal Corporations Act Chap 25:04 administered the operations of the municipal corporation, the local governing body for the 14 regional corporations and the Tobago House of Assembly Act 1996, the local authority responsible for a broad range of public services in the island of Tobago.

At present, the existing framework of laws does not meet the standards for comprehensiveness and effectiveness in disaster management as required in the CDMF (ODPM T&T Country Document, 2014, p. 35). Nonetheless, the country adopted a comprehensive all-hazards approach that addresses all aspects of disaster management. The framework documented by the ODPM (2013) has not become formal policy and was still in draft as of March 2020. There is a need for a comprehensive national policy on disaster management in Trinidad and Tobago as the country has been continually subjected to severe economic and severe losses from floods. Birkmann et al., (2010) and Kirton (2013) highlighted that disasters present some empirical but largely anecdotal evidence that can lead to changes in public policy. However, even with evidence, there has been no explanation given as to what is preventing the implementation of these policies and procedures.

Purpose of the Study

The purpose of this qualitative study was to explore the perceptions of disaster managers to understand why a CDMF has not been implemented in Trinidad and Tobago, the consequences of this lack of implementation for disaster response, and what such a

framework would look like in practice. The research methodology incorporate two approaches: (a) in-depth interviews to obtain a personal and professional description of the lived experience of disaster managers who execute disaster operations without formal policies and (b) those involved in the development of policies to capture the oral discourse and transform into texts (Patton, 2014, p. 432). While documents detailing the CDMF were available, there is a need to understand what is inhibiting the implementation of this policy.

The CDMF includes all types of natural and human-made disasters affecting all sectors of society and all stages of disaster management, preparedness, prevention, mitigation, response, and recovery. In this study, I describe the need for increased understanding about the inhibiting factors as identified by the ODPM (2013), such as the lack of updated primary legislation and policies that guide the collaborative operations of responding agencies.

In Trinidad and Tobago, different government policy documents reference a comprehensive and integrated approach to disaster management, particularly the collaboration of the Fire Service Act-10 of 1997 Chap35:50 and Water and Sewerage Act 54:40, Part IV in dealing with disasters that result from fires. While the comprehensive disaster management system refers to the collaboration of all agencies in disaster, this has not been incorporated into the current legislation, the Disasters Measures Act. According to Khan & Rahaman (2007), this is attributed to the culture of a partnership process in disaster management that was on paper, rather than a reality. While several documents have been used informally, the management of disasters is not a collaborative effort due

to the lack of necessary, formalized policies that guide the operations of all responding agencies. Each agency operates according to their standard operating procedures.

Research Question

What are the consequences of lack of a CDMF, how might a CDMF be implemented, and what factors do disaster managers in Trinidad and Tobago perceive as contributing factors to lack of implementation of a CDMF?

Theoretical Framework

Two theoretical frameworks served as the foundation for this study: the advocacy coalition framework and the multiple streams framework. The advocacy coalition framework aimed to simplify the complexity of public policy (Weible & Sabatier, 2017, p. 136). The framework as later revised is one of the most utilized frameworks of the policy process (Weible & Sabatier, 2017, p. 137). The advocacy coalition framework defined coalition “as consisting of members who share core policy beliefs and engage in a nontrivial degree of coordination” (Weible & Sabatier, 2017, p. 141). This framework assumes that policy participants hold strong opinions and are motivated to translate those beliefs into actual policy (Kingdon, 1984). Coordination involves some degree of working together to achieve similar policy objectives and the advocacy coalition framework identifies the significant stakeholders that must work together. These stakeholders include representatives of the legal authorities responsible for making policy decisions, the supportive public who help sway the decisions of the elected officials, and experienced leaders who create a vision for the coalition.

The multiple streams framework developed by Kingdon (1984) was based on the garbage can model of organizational behavior. The framework details the policy process as comprising of three streams of actors and processes: problem stream, a policy, and a political stream. Each stream normally operates independently of each other, except when a window of opportunity arises (Birkmann et al., 2010; Knaggård, 2015; Weible & Sabatier, 2017, p. 20). The effectiveness of a policy is defined by identifying the policy problems to be put on the agenda, the policy formulation, the decision-making process, the implementation, and the evaluation stage (Coletti, 2015; Weible & Schlager, 2016).

Generally, policy changes result from a problem for which government intervention is required to resolve. However, not all problems receive political attention (Weible & Sabatier, 2017, p. 21). Until these problems, like natural disasters, became focusing events (Lindholm, 2017) and capture the attention of the politicians, no significant changes are made. Focusing events, both internal and external, that attract public attention provide the potential for significant policy change. These events have the potential to tip the balance of power among policy participants, thus enabling the potential for substantial policy change. While this framework supports the research, the public support tends to become lackluster if prompt actions are not taken and this weakens the effect of this framework. The condition or problem needs to be politically relevant and strongly related to electoral relevance to receive attention. Therefore, for agenda change to materialize, the three streams must come together at a specific point in time to create a window of opportunity (Birkmann et al., 2010; Weible & Sabatier, 2017,

p.20). This framework incorporates the collaboration of the core stakeholders needed to effect changes to both the legislation and current policies.

Nature of the Study

I used a phenomenological approach for the study to investigate the research question, lived experiences, and develop an understanding of the strategies for addressing this issue. I collected data from interviews conducted either face to face or via social media platforms. The findings of this study may offer recommendations to improve disaster management through the enhancement of legislation across all levels and among all agencies responsible for disaster management in Trinidad and Tobago.

Definition of Terms

All-hazards approach: An integrated approach to emergency preparedness planning that focuses on capacities and capabilities critical to preparedness for all types of emergencies or disasters. (FEMA, 2017)

Building resiliency: The ability to adapt well to adversity, trauma, tragedy, threats, or severe disasters or emergencies. (UNISDR, 2005).

Comprehensive disaster management: A concept that incorporates management of all hazards, during all phases of the disaster cycle. (CDEMA)

Coordination: A process of working together to achieve similar policy objectives. (Merriam-Webster Dictionary).

Disaster: A sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses

that exceed the community's or society's ability to cope using its own resources..(IFRC, 2018).

Disaster mitigation: Measures taken that eliminate or reduce the impacts and risks of hazards through proactive measures taken before an emergency of disaster occurs. (ODPM, 2014).

Emergency managers: A person who prepares plans and procedures for responding to natural disasters and other emergencies. They also help lead the response during and after emergencies in collaboration with government agencies. (.<https://fema.gov>)

Emergency preparedness: Steps taken to be ready to respond to and survive during an emergency. (IFRC, 2000)

First responders: A person whose job entails being the first on the scene of an emergency, such as a firefighter, police officer, or emergency medical personnel. (Wiley Online Library).

Focusing event: Key events like natural disasters that cause members of the public and key decision makers to become aware of a potential policy failure and create an opportunity for change (Birkmann, 2016).

Implementation: The process of turning formal plans—which are often very detailed conceptual plans that will affect many—into reality. . (Cambridge Dictionary).

Interagency collaboration: The process of first-responding agencies joining together for the purpose of interdependent problem solving that focuses on improving disaster response. (Waugh & Streib 2006).

Interoperability: The ability of systems to work together to communicate and exchange information when necessary. This main priority is needed in the event of a national disaster or emergency that requires state, regional and local coordination. (<https://www.study.com>).

Legislation: Law that has been promulgated or enacted by a legislature or other governing body that determines the rights and responsibilities of individuals and authorities to whom the legislation applies. (Oxford Dictionary)

Policy: A streamlined set of guidelines for decision making and achieving rational outcomes. (<https://www.odpm.gov.tt>)

Political agenda: A list of issues or problems to which government officials and individuals outside the government are paying serious attention at any given time. ([sciencedirect.com](https://www.sciencedirect.com))

Vulnerability: The inability to resist a hazard or to respond when a disaster has occurred. (<https://www.unisdr.org>).

Whole-community approach: A means by which residents, emergency management practitioners, organizational and community leaders, and government officials can collectively understand and assess the needs of the respective communities and determine the best ways to organize and strengthen their assets (Federal Emergency Management Agency [FEMA], 2012).

Window of opportunity: A period during which some action can be taken that will achieve a desired outcome. (Lindholm, 2017)

Assumptions

According to Creswell and Poth (2017), qualitative research includes several assumptions and the explanation of these assumptions adds to the seriousness of every study. There were several assumptions in this study. The initial assumption was that selected participants, practitioners in the field of disaster management, would be available and accessible for interviews, and they would answer the questions truthfully and honestly. Participants' answers would enhance my knowledge about issues contributing to a lack of sufficient defined policies and procedures for disaster management.

The second assumption related to the availability of documentation to help understand the disaster management decision-making process. For example, there was an abundance of documents and records that included policy decisions relevant to disaster management in Trinidad and Tobago. Access to these documents would contribute to informing my understanding of the role of policy guidance in disaster management. The final assumption was that qualitative research methodology selected for this study would produce the type of data needed to enhance understanding of the approach to disaster management and the collaborative role played by formal responders.

Scope and Delimitations

Researchers must pay attention to perimeters that define each study (Creswell, 2014). Therefore, three delimitations are noted: the location of the study, population, and research method. While references to small island developing states (SIDS) were identified throughout the study, emergency management personnel from other

CARICOM countries and persons affected by severe flooding in Trinidad and Tobago were not part of this study. Rather, the focus was on exploring the perceptions of disaster managers to understand why a CDMF has not been implemented in Trinidad and Tobago, the consequences of this lack of implementation for disaster response, and what such a framework would look like in practice.

One of the potential delimiting factors was the selection of subject matter experts with homogenous backgrounds. The study participants included members from first-responding agencies, police service, fire service, and emergency medical services; the ODPM in Trinidad and Tobago; Tobago Emergency Management Agency; and the ministry of local government. While all have key roles in disaster management, a major challenge was the lack of documentation.

Limitations

The limitations associated with qualitative research relate to validity and reliability; as qualitative research generally occurs in a natural setting, replicating a study can be challenging. Additionally, due to the limited sample size, the findings may not accurately represent the opinions of the population, and generalizability will not be possible. While purposeful sampling enables the recruitment of individuals based on the study objectives, this limits the ability to produce findings that represent the population but could define the phenomenon under study.

Due to the lack of prior research and data, evidence to support the conclusions is insufficient. Therefore, self-reported data is difficult to verify as the information the respondents gave, especially data that were sensitive, may result in respondents not

answering questions truthfully. To achieve credibility in qualitative research requires adequate researcher engagement, active observation methods, and open auditing processes. As such, the building of rapport and trust with participants, to ensure detailed and genuine responses during data collection, was vital. Therefore, to guard against this likely limitation, I developed a transparent audit stream showing all the steps taken in collecting data to ensure its quality, using controlled measures like committee member checking and peer review.

Significance

This research was conducted to fill gaps in the literature on the importance of policies and legislation to support a CDMF in the SIDS in CARICOM, more specifically, Trinidad and Tobago. According to the ODPM, (2013) the importance of policy and legislation is often overlooked in Trinidad and Tobago. The findings of this research may be used by policymakers, responding agencies, emergency management coordinators, legislators, and politicians to enhance their understanding of the importance of policies and supporting laws regarding disaster management.

According to a local disaster management agency, a policy can only guide the decision-making process; legislation can serve many additional purposes and provide reinforced support to effectively and authoritatively achieve objectives deemed important (ODPM, 2013). One of the potential factors explored was the current legal framework that governs emergency management, which has not been updated to support the CDMF. The previous disaster management agency, the National Emergency Management

Agency (NEMA), developed legislation that if enacted would have been the Disaster and Preparedness Act 1988; however, this legislation was never passed (ODPM, 2013).

There is an urgent need to review and integrate all existing related legislation and fill critical gaps in the regulatory framework. The current primary disaster legislation is outdated and should be revised or eliminated because it does not mandate all relevant authorities to ensure public awareness and resilience (ODPM, 2013; National Progress Report, 2011–2013). Additionally, with the current political climate in the country, issues relating to disaster management, relief, and rehabilitation programs have become a political instrument: “Legislations are among prominent instruments that can highlight the tensions as well as challenges encountered towards this change in focus” (Manyena, et al, 2013) p. 1786). The primary piece of legislation governing disaster management in Trinidad and Tobago is the Disasters Measures Act Chapter 16:50 (Act 47 of 1978), which does not consider the global changes and new concepts in disaster management that, have arisen since its inception.

According to Sylves (2015), “modern emergency management is based on contemporary principles of organization theory and administration” (p. 37). At present, disaster mitigation activities remain inconsistent and have not been incorporated into the standard project planning guidelines and operational procedures. Khan and Rahaman (2007) posited that obstacles to the realization of comprehensive disaster management are the lack of genuine political will, particularly at higher levels of government.

Significance to Practice

Several researchers have explored the causes and effects of lack of interagency collaboration and legislation and the impact this has on effective disaster management. For example, Kirton (2013) maintained that collaboration, especially among CARICOM, is a starting point for building the region's disaster capacity and this is a necessary component in disaster management. While this strategy is focused on the collaborative effort of the CARICOM countries, these and other strategies need to be applied to prevent continuous destruction by flooding in Trinidad and Tobago. As natural disasters continue to wreak havoc in the country, there is a need to have greater focus on the development of new risk reduction strategies to mitigation against the impact of flooding and disasters in general.

Current disaster management research has been focused on risk reduction strategies, including community involvement and the collaboration of responding agencies. The lack of defined policies and supportive legislation in Trinidad and Tobago has provided learning opportunities for concerned agencies to take part in the available knowledge offered by this study. This research contributes to advancing the scope of interagency collaboration, legislation, risk reduction strategies, and improved development of defined roles and responsibilities for engagement by the concerned responding agencies. In effect, the significance of this study to practice is in participating and providing all the necessary tools required for enhancing cooperation and collaboration among responding agencies and a better understanding of their roles and responsibilities in disaster management.

Significance to Theory

Notwithstanding the impact of flooding on communities, individuals, the economy, and the image of the country, disaster management in Trinidad and Tobago is still a major topic of discussion. This study was the first to explore the implementation of policies using the advocacy coalition and the multiple streams framework. The advocacy coalition framework simplifies the complexity of public policy and assumes policy participants hold strong opinions and are motivated to translate those beliefs into actual policy. The framework further emphasizes that in the development of policies, the significant stakeholders must collaborate and work together (Weible & Sabatier, 2017).

The multiple streams framework highlights the relationships among organizations and the resources they need to operate. The framework details the policy process comprising three streams coming together to effect change. In Trinidad and Tobago, the government plays a significant role in changes to any policy; however, the policy problem must first be put on the political agenda. Disasters serve as the window of opportunity for engaging political attention. Therefore, for the CDMF to become policy, all streams must collaborate. This study, therefore, is significant to theory, as its relevance is highlighting the importance of interagency collaboration and legislation and empowerment through enhanced mitigation measures, education, and training in the management of disasters.

Significance to Social Change

Disasters have a negative effect on those responsible for management and response, as well as those affected by the disaster. The most affected by flooding

disasters are those who live in vulnerable communities susceptible to flooding, such as areas with inadequate drainage, poor citizens and people who occupy primarily state land illegally and construct unauthorized housing, and the agriculture sector. Persons living in these areas are impacted annually, and due to lack of education on disaster management and knowledge of mitigation measures used to lessen the impact of the flooding, they have become reliant on government assistance. To mitigate the impact of severe flooding and to be able to improve disaster management, all stakeholders must work together. This can be accomplished by educating and enhancing knowledge, creating a more informed society. Trinidad and Tobago has poverty, illiteracy, and social inequalities resulting in communities being disadvantaged and unable to help themselves in times of disaster. Developing strategies to ensure citizens can regain their position to enjoy these basic benefits would help in creating positive social change. Enabling disadvantaged citizens to gain some form of economic empowerment and education ensures that society improves. The awareness of the impact of disasters and the mitigation measures implemented decreases the chances of regular devastation, preventing them from enjoying social benefits because of the destruction or physical damage to their communities.

The research outcomes revealed the necessity of having defined policies and supporting legislation and the importance of interagency collaboration and cooperation in dealing with disasters. This ensures that the management of disasters, particularly flooding, and advocating for disaster risk management strategies reduces citizens' dependence on government resources. Citizens' involvement in mitigation contributes to

the lessening of the impact of disasters and creates social change in and around their communities.

Summary and Transition

In this study, I explored factors inhibiting the implementation of CDMF in Trinidad and Tobago. The intention of this study was to understand how first-responding agencies function without required policies and updated legislation and how this impacts the collaboration of responding agencies in disaster management. Lapses of stakeholders in ensuring that Trinidad and Tobago disaster management system was in keeping with the requirements of the Hyogo and Sendai frameworks were identified in the study. Responding agencies should be provided with the required policies and supporting legislation to ensure effective disaster risk management to lessen the burden placed on citizens, the environment, and the economy. In turn, this provides social benefits to citizens, who endure significant disruption of their lives annually.

The findings help define the specific role of stakeholders in the enhancement of disaster policies and development of updated legislation for the implementation of the CDMF. The findings in this study include the needs and challenges faced within and by response agencies and recommendations for further development of disaster management strategies and operations aimed at improving interagency collaboration in disaster management, bringing about positive social change in Trinidad and Tobago.

In the second chapter, I present a review of the literature, highlight the relevance and justification for the use of the advocacy coalition framework and the multiple streams framework, and give details of the role of all stakeholders in the development and

implementation of the CDMF. In the second chapter, I establish the importance of using the strategies highlighted in the Hyogo and Sendai frameworks in managing disaster risk reduction. I emphasize the problems that have hindered Trinidad and Tobago from effectively tackling the problem of interagency collaboration in disaster management. I explain why the impact of disaster seems to be increasing both in frequency and destruction to property and economic loss during the past 10 years.

Several errors due to lack of collaboration and coordination in handling of issues is also noted as a significant problem that has kept the management of flooding a major concern in Trinidad and Tobago. I review the lack of empirical research available on the importance of disaster legislation and policies necessary for effective interagency collaboration in disaster management and how the lack of policies and updated legislation impacts the management of disasters in Trinidad and Tobago. The chapter ends with a summary of the role of all stakeholders in managing disasters through the provision of the necessary policies and legislation.

Chapter 2: Literature Review

The CDMF has not been implemented in Trinidad and Tobago and the consequences of this lack of implementation for disaster response and how such strategies might be applied remains unclear. During the past decade, emergency management has become a “focusing event,” highlighting existing problems, which has provided an opportunity for change (Sökefeld, 2011, p. 27). Trinidad and Tobago has suffered significant economic and financial losses due to severe flooding (ODPM, 2013). However, there have been no significant amendments planned for the implementation of the CDMF. Additionally, the primary legislation, the Disaster Measures Act (Act 47 of 1978) has been identified as a major inhibiting factor (ODPM, 2013). Subsidiary legislations has passed to govern specific aspects of disaster management, but the existing framework of laws does not meet the standard for comprehensiveness and effectiveness in disaster management as required in the CDMF (ODPM, 2014, p. 35) despite the adoption of a comprehensive all-hazards approach. The purpose of this qualitative study was to explore the perceptions of disaster managers and first responders regarding what is inhibiting the implementation of the CDMF in Trinidad and Tobago, the consequences of this lack of enforcement for disaster response, and what such a framework would look like in practice.

Literature Search Strategy

Qualitative research requires multiple sources to facilitate triangulation to ensure the validity and reliability of the findings (Creswell & Poth 2017). In the current study, I used interviews and field notes, supported by multiple documents and archival reports,

news articles, and reports of relevant government agencies related to emergency management mainly associated with flood disasters.

Materials were sourced from academic and peer-reviewed articles obtained from multiple databases through the Walden University Library. The databases consulted included Academic Search Premier/Complete, Google Scholar, Political Science Complete, ProQuest Dissertations and Theses, ProQuest Central, SAGE Premiers, Thoreau: Search Multiple Databases, and Political Sciences Collection. Over 30 searches were conducted, using keywords and phrases such as *first responders*, *interagency collaboration*, *emergency managers*, *disaster mitigation*, and *emergency preparedness*, *whole community approach*, *disaster as a focusing event*, *political agenda*, *flood disaster management*, *disaster management in the Caribbean*, *disaster management policy and legislation*, *disaster management in SIDS belonging to CARICOM during the last 5-10 years*, *comprehensive disaster management framework*, and *changes in disaster policies*.

Literature on disaster management in Trinidad and Tobago is sparse but for articles published by the CDEMA. However, when I expanded the search to the global level, phrases such as *disaster management in SIDS* turned up a significant amount of information. The experiences of nationals in several other countries around the world illustrated similarities useful in discussing disaster management. Peer-reviewed articles, books, and conference reports on disaster management policies and legislation came up during the search. I analyzed and synthesized these documents to build a narrative to shed some light on disaster and emergency management in Trinidad and Tobago.

The literature reviewed in this chapter is separated into three parts. The first part is focused on a brief overview of historical and geographic contexts relating to disaster and disaster management in Trinidad and Tobago. The second part is focused on other disaster management experiences in the CARICOM islands, and the third part is focused on disaster management and SIDS global initiatives.

The sourcing of materials used in this literature review was completed in two stages. In the first stage, the aim was getting a sense of the current knowledge on the CDMF in general to identify discernible gaps in the literature. The second stage was focused on the observed difference of interest—in this case, the role political affiliations played in the formation and sustenance of collaboration in emergencies and formulation of policy management. In addition to reviewing the content of each article, dissertation, and journal, I further reviewed the references sections to identify additional resources. I examined relevant organizational websites, such as those of the CDEMA, the ODPM, and FEMA.

Additional, four books provided the foundation for this research study. The first book was *Introduction to Emergency Management* (3rd ed., 2008) which was one of the foundational publications for case study research edited by Haddock, Bullock, and Copolla, and gave a historical background of disaster management to the present. The second book was *Introduction to Emergency Management* (5th ed.) by Haddock et al. (2013), which focused on the domestic system of emergency management in the United States and the role of FEMA; this book also included a new dimension of the management of emergencies at an international level. The third book was *Disaster Policy*

and Politics edited by Sylves (2014); the focus of which was the overlapping of politics and policy formation and how this influences public perception and opinions. The fourth book was *Learning from Disasters* (3rd ed.) by Toft and Reynold (2016), in which the authors argued that people can learn from disasters, which can ultimately help prevent them from happening again.

I reviewed, analyzed, compared, contrasted, and synthesized the information in these books and extracted information regarding the CDMF. Due to a lack of scholarly publications focused on Trinidad and Tobago, I broadened my search to include disaster management in SIDS, especially its use by professionals in the field of emergency management. The search for articles on disaster management, in general, produced abundant literature. There were several studies on the subject across many fields, and *disaster management* was often used interchangeably with *emergency management*. Finding articles on political affiliations and interagency collaboration was more challenging as this topic remains vague in literature. To obtain historical background on disaster management, I searched for information from 2010–2018. Some seminal sources were used to address past work done in the field of study.

Theoretical Framework

The theoretical framework applicable to this study was the multiple streams framework (Weible & Sabatier, 2017), which has made significant contributions to policy theory and to the empirical literature (Cairney & Jones, 2016, p. 3). While Kingdon initially focused on one country, after a period it was noted to be flexible enough to be applied to nearly any country, time, or policy (Cairney & Jones, 2016, p. 7).

Multiple Streams Framework

The multiple streams framework was developed by Kingdon (1984) and based on the “garbage can” model of organizational behavior (Weible & Sabatier, 2017, p. 19).

The framework details the policy process as comprising of three streams of actors and processes: a problem stream, a policy, and a political stream (Zahariadis, 2007; Zohlnöfer et al., 2015). Each stream normally operates independently of the others, except when a “window of opportunity” arises (Birkmann et al., 2010; Weible & Sabatier, 2017, p. 20).

Generally, policy changes result from a problem that government intervention must resolve; however, not all problems receive political attention (Weible & Sabatier, 2017, p. 21). According to Howlett et al., (2015), based on Kingdon’s view, these streams flow largely independent of each other until circumstances lead to a confluence of the three streams (p. 421). Until problems, like natural disasters, become focusing events (Lindholm, 2017) and capture the attention of the politicians, they do not lead to any significant changes. The condition or problem must be politically relevant and strongly related to electoral relevance to receive attention. For agenda change to materialize, the three streams must come together at a specific point in time if a window of opportunity arises (Birkmann et al., 2010; Weible & Sabatier, 2017, p. 20).

The theory of the multiple streams framework guided this study on the relationship between political affiliation and the development of policies and legislation. This theory illustrates the role collaboration plays in the formulation of policies. The multiple streams framework was suited for the research because it incorporates the partnership of the core stakeholders needed to effect changes both to the legislation and

current policies. In Kingdon's view, according to Howlett et al. (2015), the problem stream, the policy stream, and the political stream are independent of each other until situations arise that result in them coming together. Focusing events, such as disasters, are situations that become the impetus of such bonding. However, Cairney (2013) argued that a way forward for the different features of the policy breakdown was to combine them under suitable conditions rather than seeing them as mutually exclusive.

The research question in this study was focused on exploring the factors inhibiting the implementation of the CDMF in Trinidad and Tobago. The multiple streams framework plays a pivotal role in motivating political action leading to the development of policymaking after a crisis (Weible & Sabatier, 2017, p. 21). The implementation of the CDMF hinges on the political intervention needed to enact the required legislation for a policy to become part of a disaster management operating framework. However, for this to materialize there must be collaboration and cooperation among all stakeholders who have the power to influence changes to the current system.

Literature Review

In this section, I examine the related concepts of coordination, cooperation, and collaboration. Next, I explore emergency management and the nature of collaboration in emergency management. Reference is made to the practice of emergency management in Trinidad and Tobago. To further facilitate the analysis and synthesis the literature is separated into several different components: collaboration, interagency collaboration, cooperation, coordination, politics and disaster, disaster management in the Caribbean, legislation, CDMF, policy process, a window of opportunity, and all-hazards approach.

Disaster Management in Small Island Developing States

SIDS encompass a wide array of countries and include more than 52 islands worldwide, 24 of which are from the Caribbean region (Cohen et al., 2016; Robinson & Gilfillan, 2017; VCA Report T&T, 2019). These SIDS experience disproportionate challenges for sustainable development related to geography, small size, and physical isolation (Robinson & Gilfillan, 2017). SIDS differs in their geographies, economies, cultures, and political systems; they range from the tiny Pacific islands like Tuvalu to the dispersed archipelagos of Micronesia, large countries such as Papua New Guinea, and Caribbean islands such as Trinidad and Tobago (Barnett & Waters, 2016). There are several developmental challenges specific to SIDS due to location, land mass, population, geographical and characteristics, resource profiles, economic characteristics, and susceptibility to extreme events. Many SIDS face unique disadvantages associated with small size, insularity, remoteness, and dependency on international assistance, which makes them particularly vulnerable (Nath et al., 2011).

As a SIDS, Trinidad and Tobago is particularly vulnerable to global-scale threats due to its size, geography, and open economy. Due to weak institutional capacity, high cost of infrastructure, and unique sociopolitical milieu, SIDS are constrained in the adoption of cutting-edge responses. Without an appropriate, functioning policy or enabling environment at the national level, there are limits to the support that regional organizations provide (Robinson & Gilfillan, 2017).

SIDS are vulnerable to several types of disasters that manifest in numerous forms, including natural and human-made incidents that exceed the capability of a community to

respond adequately (Barnett & Waters, 2016). Natural disasters include, but are not limited to, earthquakes, floods, hurricanes, tornadoes, and landslides. The impact of natural hazards on human well-being has in recent years been unprecedented, resulting in severe consequences for millions of people worldwide and threatens the very survival and existence of some small islands (Slstedt & Povitkina, 2017). These issues of exposure and sensitivity to hazards make these areas more vulnerable to economic, political, or environmental shocks (Barnett & Waters, 2016; Nath et al., 2011).

The evolution of disaster management over the past decade now includes the impact of climate change. The frequency and intensity of weather-related hazards like floods increased, changing the definition of disasters (Hunter et al., 2013; Woodruff et al., 2013). The impact of these disasters exceeds the ability of the affected community or country to cope using its resources, resulting in severe disruption in the functioning of a community or a society, causing significant human, material, economic or environmental losses. (IPCC, 2012; Mayner, 2015; Perry & Quarantelli, 1998; UNISDR 2009) all share similar views, which include references to issues relating to the environment. This view defines disasters as severe alterations in the normal functioning of a community due to hazardous, physical events interacting with vulnerable social conditions, resulting in widespread adverse human, material, economic, or environmental destruction. For the small island states, it is not just the incidence and frequency of natural hazards, but the impact of each event relative to the economies and population of the country (Barnett & Waters, 2016).

Disaster Management in the Caribbean

CDEMA is the regional coordinating unit for CARICOM, based in Barbados and supports a network comprising of disaster management organizations of 18 independent small island developing states. The geography of these islands predisposes them to natural hazards (Thompson, 2015). The small islands of the Caribbean are vulnerable to a variety of hazards as most of the countries are within the hurricane belt. One single event can destroy a large part of the country's entire economic base and directly impact the population. Within the past two decades, the region experienced repeated losses from hurricanes and associated wind, rain and storm surge damage.

Flooding, is one of the most serious emergencies in Trinidad and Tobago, crippling the country's transportation network, causing extensive damage and resulting in a significant amount of people being stranded in their own communities and not having access to basic items (International Federation of Red Cross and Red Crescent Societies [IFRC], 2018). In 2017 the aftereffects of hurricane Bret resulted in severe flooding in the agriculture sector amounting to over \$13 million TT dollars in compensation. In October 2018, the country experienced the worst flooding over the past 5 years. Trinidad alone received a full month's worth of rain over 2 days, which impacted 100,000 to 150,000 people. Official reports from the ODPM and CDEMA indicated that 800 people sought shelter in collective centers and to date this event is credited as being the country's most expensive disaster. The damage cost for just 4 of the municipalities that were affected amounted to \$111,622,000 TT dollars. While there were no deaths attributed to this local disaster, the floods affected several communities and resulted in significant economic losses and destruction to several communities.

The frequent disasters that the region endured in recent years reflect its vulnerability. Based on information gathered from these events, the most critical issues of disaster management highlighted are efficient and effective cooperation between stakeholders and prompt response to unpredictable events (Zdravkovic, 2015). An examination of disaster management in the Caribbean with a specific interest in disaster policies and legislation over the last two and a half decades, determined both areas need to be enhanced. Additionally, it was highlighted that more importance must be paid to mitigation and preparedness (Collymore, 2011). However, Manyena et al., (2013) offered a different perspective, shifting disaster research from the hazards to vulnerability and building resiliency. Shifting focus from the hazard and refocusing on building resiliency, mitigation and preparedness resulting in more effective management of disasters.

Establishing the Disaster Management Agency in Trinidad and Tobago

Emergency management in Trinidad and Tobago focuses primarily on the response and recovery phases, but since 2010 incorporated the all-hazards approach to managing both human-made and natural disasters. Climate change significantly impacts weather patterns that affects temperature and rainfall, as well as flooding, tropical storms and other climatic events, hence the need to be prepared for all types of disasters (Senevirantne et al., 2010; Weekes et al., 2017). The tremendous problems caused by emergencies and disasters, require plans and procedures to mitigate hazards, reduce vulnerability, and cope with the impact of emergencies; deploying resources and coordinating personnel are challenging in an emergency (Henstra, 2010). At the heart of an effective response is the emergency operations center, a prearranged location from

which local officials coordinate and communicate with responders, other levels of government, and the public.

The ODPM, established in 1979, is the agency responsible for the coordination of response efforts in dealing with disasters that occur in the twin island republic. In disasters, communities become overwhelmed, impacting the ability of both state and local resources to respond effectively to these events. However, by taking concrete measures, authorities can significantly improve the effectiveness of their emergency response (Hallegatte et al., 2018; Jenkins et al., 2011). Several interacting and counteracting forces, due to its geographical location within the Hurricane belt, shape Trinidad and Tobago's overall climate, which was a predominant factor. The country is located within the zones of influence of the Inter-Tropical Convergence Zone, the North Atlantic Sub-Tropical high-pressure cell and the Tropical Atlantic Cyclone, collectively contributing to the temperature, rainfall, and wind regimes experienced on the twin island republic.

During the last 5 years, severe flooding in Trinidad and Tobago resulted in an increased loss of property, agriculture, and significant economic losses. The losses are attributed in some instances to the failure of the country to correctly prepare and anticipate the level of danger that the disaster could cause. During the period October 19 to October 22, 2018 flooding impacted around 80% of the country and affected 150,000 people, over 500 persons were evacuated and accommodated in shelters and approximately 5000 homes were damaged (IFRC,2018). This was attributed to the inadequate early warning system, especially in the island of Trinidad. While efforts were

made to utilize the services of the two major mobile operators and the Trinidad and Tobago meteorological service (MET) to disperse information about possible hydro-meteorological hazards, the information did not convey the severity of the anticipated event. However, in April 2018 the Trinidad and Tobago MET service discontinued issuing bulletins and instead, implemented a color-coded early warning system for weather related events. Public warning messages contained indicators for the urgency, (time available to prepare), certainty (probability of occurrence) and severity (intensity of impact). With this system the population receives more detailed information about the event and instructions on what actions should be taken, thus making the population more prepared (TTMS,2018).

Collaboration and Coordination

In dealing with disasters, it is necessary to develop a culture of collaboration as this significantly influences the efficiency and effectiveness of disaster management. In Trinidad and Tobago, the institutions responsible for disaster management often face substantial challenges such as legislation being spread across many different agencies, as each agency had its own primary legislation detailing their general roles and responsibilities. For example, the fire service the primary response agency in all disasters and emergencies has its own set of policies and procedures supported by the First Service Act, similarly the police service responsible for security and wellbeing of all citizens also have their policies and procedures and supporting legislation. However, their specific responsibilities in disaster management are not clearly defined, resulting in general institutional weaknesses because of resource limitation, lack of communication and

coordination between agencies, coupled with the low priority given to disaster management. According to Ostrom (1998, 1990), a successful collaborative process depends on three core factors: reciprocity, trust, and reputation. This topic remains a popular concept of interest to researchers across several disciplines and particularly so in public administration (Chang, 2012, 2018; Robinson & Gaddis, 2012).

There are several definitions of collaboration in the literature, Bingham and O’Leary (2006) for example, described collaboration as “the process of facilitating and operating in multi-organizational arrangements to solve problems that cannot be solved or easily solved by single organizations” (p. 250). Collaboration in disasters is important to solve problems. However, as resources are scattered, responsibility is dispersed and it is impossible for any single organization to manage the situation (Martin et al., 2016). Thompson et al., 2007) defined collaboration as a “process in which independent and self-directed persons interact through formal and informal negotiation, creating rules and guidelines which govern their relationships and determines how they should act” (p. 3). It is a process involving shared norms and mutually beneficial interactions. To achieve coordination there must be a continuous ‘attempt to construct and maintain a shared conception of a problem.

According to Cha et al. (2015), Jing and Besharov (2014), collaboration is a significant predictor of organizational effectiveness in operational contexts as collaboration among teams in disaster management is critical for the effective management of operation. Whereas Waugh and Streib (2006), and Zdrakovic et al.,

(2015) expressed the view that collaborative capacity is a fundamental component of any emergency response.

In reviewing the literature on the federal responses to disasters in Florida during the period 1992, Hughes et al. (2014) noted that in this event the lack of collaboration among agencies in disaster response was most evident. Alternatively, Caruson and MacManus (2011), Kapucu (2008), and Kirton (2013) examined the impact that poor coordination had on proactive emergency planning at all levels of government. Ambler (2016) surmised that collaboration is a process and has instrumental value as a means to an end; it represents a broader acceptance of a policy or decision.

It was apparent that for any progress to be made in the formulation of policies that it is necessary to have cooperation and collaboration among all agencies. In all research articles, the authors' definitions were similar and clearly described the intent, while a different view expressed highlighted that the lack of collaboration resulted in an adverse outcome.

Interagency Collaboration

Effective disaster management is dependent on the collaboration among the various responding agencies. Responders who are not aware of each other's roles and responsibilities precipitate problems in the inter-agency cooperation. According to Holgersson (2016), "intra- and inter-agency cooperation and coordination is necessary for efficient management in disasters" (p. 38). However, such collaboration became complicated because of having many teams who are required to work together, each having their own goals, its organizational terminology, and its supervision. Therefore, the

nature and level of interdependency among the network of the organization and its leaders influence the interagency collaborative approach. This approach is of importance when emergency management requires organization commitment for the use of resources, personnel, and information to accomplish the mission (Chang, 2018; Kapucu & Garayev, 2012).

Inter-agency planning and coordination is imperative between police, rescue service, emergency medical services and require predetermined universal principles for incident management. A commonly reported problem during responses to disasters is the lack of command, coordination, and integration between the emergency organizations (Holgersson, 2016). In emergencies, collaborative networking is considered one of the most efficient tools, using resources, personnel, and information to establish a framework of collaborative approach (Kapucu & Garayev, 2012).

Thus, it is the view that network relationships among agencies responsible for emergency management, which include mitigation, preparedness, response, and recovery phases, must be continuously increased and enhanced, completed through sustained contact and interaction for harmonization of information, capacity, and expectations (Kapucu & Garayev, 2012, p. 14). Emergency management networks generally develop in times of relatively severe disasters because they are not governed by a formal agreement, but rather by improvised informal arrangements of relationships, created to tackle common complex problems. However, the use of networks is a crucial factor that affects their ultimate performance (Trotter et al., 2008). More specifically, networking in emergency management is more effective, if maintained and sustained, namely, when

network relationships are stable over time (Kapucu & Garayev, 2013; Milward & Provan, 2003).

Communication

Organizational interoperability is an essential aspect of disaster management (Zradkovic et al., 2015). In dealing with disasters, interoperability is needed at all levels for making decisions and managing operations (Islam et al., 2018). Culture influences inter-agency collaborative factors such as a unique language of terms, codes, and acronyms that facilitate communication within the specific agency. However, since interaction is agency specific, it is difficult for different agencies to communicate together because they each have their own style of language (Axner, 2015).

Working together requires excellent communication skills and people must learn the art of becoming skillful and disciplined communicators. This requirement is necessary to carry out the complex and delicate exchanges that takes place to accomplish goals. One of the most critical issues during times of disasters is interoperability among agencies, needed for rescue personnel to communicate, as they must agree to a uniform standard. Interoperability is defined as “the ability of two or more systems or components to exchange information and to use the information that has been exchanged” (Islam et al., 2018).

Challenges to interoperability are due to a lack of standard practices, outstanding experience, different classification, and incompatibility of applied systems (Jasmontaite et al., 2015). Lack of interoperability in crisis and disasters influence the performance of agencies concerned with managing disasters on strategic, tactical and operative levels.

During disaster radios are one of the primary means of communication, however, the radio codes used to transmit a request for assistance, is not always compatible and this adversely impacts on the interface and response between different agencies.

Influence of Organizational Culture on Interagency Collaboration

The culture of any organization has an overwhelming influence on the behavior of members and therefore is an essential precursor of organizational effectiveness (Cohen, 2018; Denhardt & Catlaw 2014; O'Reilly et al., 2014, O'Reilly et al., 1991, Weare et al., 2014) Further studies conducted by Glomseth et al. (2007) and Paoline (2003) on the culture of law enforcement officers revealed that their cultural behavior was similar, and this attributed to the fact that their professional experiences were comparable. Within recent years a general lack of attention paid to local culture by disaster related agencies is now an issue receiving much greater emphasis (Browne, 2015; Krüger et al., 2015). Conversely, the culture of disaster response organizations severely hampers the process of recovery, as well as impedes preparedness for future disasters (Dietrich, 2016).

Challenges of Agencies Working Together

Building Trust

Working together in groups is beneficial but is not always easy and is more likely to occur when people share a standard set of general principals and norms. An important foundation for trust is competence and that is based on general education and technical training (Kapucu & Van Wart, 2006). Trust is the glue that holds organizations together and is the key to productivity. An organization does not always have a vision of the benefits that can be derived from working together as it is difficult to think about the

long- term goals (Dirks et al., 2001). As it is not customary for agencies to work together, there is apprehension and lack of trust as they are not too sure persons from other agencies have their best interest at heart. This is due primarily to the differences in culture and operational policies (Zdravkovic et al., 2015). Establishing confidence takes time to ensure that everyone acts honestly and responsibly toward each other as preexisting trust is vital for effective coordination in an emergency (Kapucu & Van Wart, 2006).

It takes time to develop the kind of trust that results in each group being mindful of each other's interests. Building trust cannot be rushed, as the natural process takes time (Zand, 1972). Only when trust is strong can it bear the weight of bigger and riskier projects. Therefore, encouraging everyone to be a part of the process is essential, just as it is essential for each one to contribute their views and opinions to help them overcome that sense of powerlessness (Axner, 2015).

The development of institutional trust starts with the formation of multidisciplinary teams between the responding agencies, police, fire, and emergency medical services. These agencies work in disasters and perform various roles, and it was only over time, these multi-disciplinary teams became familiar with one another and develop a type of trust that leads to collaboration. However, developing and maintaining trust between culturally different organizations is a daunting challenge (Curnin et al., 2015). Conversely, without trust, teams focus on task demands, not teamwork, resulting in the reduction of their effectiveness to meet the evolving needs during a disaster (Pollock et al., 2003). Researchers have long pointed out the importance of trust in

relationships in society, in business, and across all manner of individual and organizational networks. However, in the aftermath of a disaster, trust becomes more significant and is of a different nature (Nahmod, 2010).

Policies and Disaster

Howlett et al. (2015) hypothesized that “public policy as a discipline, gains much momentum from two eminent metaphors with strong analytical appeal stages/cycles and multiple streams” (p. 13). The policy processes is complex and characterized by numerous actors using their powers in attempts to support, reconfigure or even block entire flows. Conversely, Béland et al. (2018) posited that policymaking comprises of the actions of a group of diverse individuals and their interactions during different stages and activities of policymaking. Beginning from the agenda-setting to policy evaluation, providing a more definite sense of what drives policymaking forward and determines its speed as well as its content. Analysts have long observed that emergency management was a low-salience political issue, which generally attracts little public attention. Under normal conditions, citizens and politicians do not regard emergencies as a pressing problem which requires sustained government intervention (Henstra, (n.d.)).

Interorganizational and intergovernmental policymaking is useful especially in the field of emergency management. This is particularly noticeable where tackling emergency incidents, which are almost impossible without the involvement of nonprofit and for-profit sectors, communities, and individuals (Kapucu & Garayev, 2012).

The purpose of adopting a national standard for disaster management is to ensure that everyone is on the same level and using the same language, which decreases

response times and increases the capacity to deal with disasters (Chandra et al., 2013). NIMS is such an example, a national standard developed in the United States by the Department of Homeland Security after the 2001 terrorist attacks. This policy was operative at all levels of governments for standardizing disasters (Chang, 2018; Sylves, 2014). The procedures of NIMS emphasizes the improvement of interoperability amongst all types of responders, including those in the private and nonprofit sectors and are another form of vertical collaboration (Chang, 2018; McEntire & Dawson, 2007). While NIMS was incorporated into the draft disaster policy in Trinidad and Tobago it is yet to become part of the standard operating procedure.

Disaster Management in Trinidad & Tobago

In Trinidad and Tobago, the importance of policy and legislation is not sufficiently emphasized even though the objectives are similar. They both are used to establish a formal basis for achieving the goals of any governmental or nongovernmental organization, which elect to adopt and enforce them. The achievement of policy and legislation is accomplished through two different approaches, often developed concurrently, and complements each other (ODPM, 2013). Trinidad and Tobago operate under the Westminster system of governance, which classifies primary legislation as Acts of Parliament. However, before the Acts become law, they exist as bills and once debated in Parliament, are passed into law (ODPM, 2013).

Policy guides the decision-making process, whereas legislation serves many additional purposes (Weible et al., 2012). These include regulation, authorization, prohibition, provision, sanction, declaration, or restriction. Therefore, the law provides

additional reinforced support to effectively and authoritatively achieve objectives that are deemed critical. Many disciplines utilize policy and legislation, and in disaster risk management, it was no different (ODPM 2013). The national policies, laws, and plans most of which are still in draft (EMA, 2018) and aimed at disaster risk reduction and emergency response includes, but were not limited to the:

- Comprehensive Disaster Management Policy Framework
- Critical Infrastructure Policy Framework
- National Climate Change Policy
- Hazard Mitigation Policy
- National Relief Policy
- Shelter Management Policy
- Volunteer Policy

The legislation provides a set of decision rules; management and politics provides and shapes decision-making arrangements. The legal framework under which disaster risk management is authorized assumes their mandates are reformed to encourage situations where responsibility sharing and allocation become more flexible and adaptable. National legislation frameworks should integrate risk reduction into development policies and planning at all levels of government (Amsler, 2016; ISDR 2007). Disaster impact, response, and resilience are focused at local government levels where planning decisions has the most significant effect upon risk reduction, but it is at this level the governance is most constrained (ISDR, 2011, p. 28). Without any legal obligation, mandate, or enforcement, such efforts are not sustainable.

The Disasters Measures Act Chapter 16:50 (Act 47 of 1978) is the primary legislation governing disaster management in Trinidad and Tobago. The date of this legislation is an indication of how old the laws are and how unrelated to the changes in disaster management globally. As identified by the ODPM (2013), the legislation only covers the following:

- Compensation to those who received damages or loss related to activities carried out under the Act
- Liability of persons acting by the Act
- The authority and powers were given to those responsible or appointed to serve in response to a disaster
- The Presidential proclamation of a disaster area

However, efforts made in 2008 to revive the development of legislation, by reviewing updated legislation from other SIDS, and align the ODPM's policy and legal framework with international and regional best practices, did not materialize. To garner information on the disaster legislation from other countries that can offer guidance models the following were selected for review: the St. Lucia's Disaster Management Act 2006; South Africa's Disaster Management Act 2002 and National Disaster Management Policy; and Queensland Australia's Disaster Management Act 2003 and Strategic Policy. In addition, several other policies assessed and analyzed provided guidelines and different approaches suitable and applicable to the current situation in Trinidad and Tobago. However, according to Kapucu et al. (2010) for successful policy solutions and implementations, there is a need for multi-organizational interaction.

The major natural hazard that causes the greatest losses in Trinidad and Tobago is flooding. On October 20, 2018, persistent rainfall caused flooding in approximately 80% of the country, primarily in the north, east and central parts of the island Trinidad. According to the ODPM and CDEMA's situation report the flooding impacted 100,000 to 150,000 people. According to the president of the Agricultural Society of Trinidad and Tobago, approximately 75% of local farmers were severely affected with the loss of crops and livestock.

However, despite the impact of the severe flooding, there were no significant changes made to the legislation or policies. IPCC (2012) and ODPM (2014) postulated that the effects of climate change was expected to amplify the frequency and intensity of disasters in the region. In this event the responses to the floods reflected the lack of polycentric governance. An examination of the polycentric governance systems considered the capability and strength of formal institutions, the organizational capacity of individual policy makers, and the level of centralized authority vested in governmental agencies (Berardo & Lubell, 2016; Marks & Lebel, 2016). Depending on the problems created by the ecological systems and communication, collaboration, and bonding of the responding agencies in the management of disaster determines the outcome.

Politics and Bureaucracy

Politicians and private sector drive legislative change with planners acting primarily as respondents and facilitators. It shows that a country's political leaders need to be educated in the basics of emergency management, to be in line to help resources in

various communities deal with recovery after disasters. Effective emergency management must come from the bottom up, and state and local governments must take responsibility.

The government must reconfigure itself to meet the needs of the 21st Century (Kamarck, 2004; Kapucu, 2009) and work collaboratively to develop less hierarchical and process-oriented systems. Instead, they need to become more partnership-based, results-oriented, integrated and externally focused. Extreme incidents caused disruptions to decision making, as the need for effective decisions increase because of the magnitude of the event which causes different threats and unusual demands. Recent research shows that while natural hazards had devastating effects on political development, causing increased instability and turmoil; natural hazards also have the potential to constitute an impetus for positive political changes. Waugh and Liu, (2014) posited that “disasters also provide opportunities to review and evaluate the resilience of different development patterns and policy interventions” (p. 15).

Governance

The term disaster governance refers to the set of interrelated regulatory frameworks and norms, organizations, institutions, and practices within the disaster cycle. Organized at multiple social and geographical levels to prepare, cope with, resist and recover from the impact of a natural or human-made hazard (Gall et al., 2014; Tierney, 2012). Disaster governance has a significant influence on the production and prevention of the growth of vulnerability. However, in some instances, the destruction experienced cannot always be attributed to natural disasters but can be because of bad governance (Sandoval & Voss, 2016).

Generally, disasters are events which disrupt day-to-day governance, and involve a broad range of different actors, which includes governmental and non-governmental agencies, all required to react (Cooks, 2015). Formal disaster governance has been, historically and legally, the prerogative of state government. While state levels of government often maintain primary legislative authority, allocation of responsibility is also delegated to other levels of government, as well as to the non-governmental and private sectors (Melo Zurita et al., 2018).

Melo Zurita et al. (2018) suggested that some form of command and control is necessary. But because of the insufficient dimension of disaster governance, it became necessary to reconsider how this traditional approach complemented new forms of disaster governance in the context of catastrophic events. Chile learned very early the importance of having management due to the history of disasters which impacted the country over decades (Kapucu & Sadiq, 2016; Sandoval & Voss, 2016).

Internal Governance

Disaster management in Trinidad and Tobago is the responsibility of the ODPM, which was officially established by Cabinet in 2005; it is a division of the Ministry of National Security and reports directly to the Minister of National Security. While the organization does not have a legislative basis, the Disaster Measures Act of 1978 which focuses solely on post-disaster response, provides a normative framework which governs the national response to disasters. However, it did not make provisions for recovery (Weekes & Bello, 2019). The role is to coordinate and manage crises and emergencies in the country, mobilized key players and resources to utilize the best approach to reducing

loss of life and damage to property. To date the country has not experienced any disaster on such a massive scale as seen in numerous parts of the world resulting in the public perception that Trinidad and Tobago is unlikely to be impacted by a major hazard and that hazards are strictly a seasonal phenomenon (ODPM, 2013).

In the island of Tobago, disaster management is the responsibility of the Tobago Emergency Management Agency (TEMA), which falls under the remit of the Tobago House of Assembly (THA). This agency performs a similar role to the local government authority in Trinidad. TEMA coordinates a network of agencies and individuals within the island of Tobago in order to direct their efforts to ensure the maximum preservation of life and the protection of property in times of disaster. In carrying out its mandate, TEMA collaborates with the ODPM, therefore, should TEMA become overwhelmed in an emergency, the ODPM will provide its full support to Tobago. While at the operational level the relationship between the ODPM and TEMA works well, there remains greater potential for improvement at the strategic level.

Local Government: Municipal Corporations

Local communities and local authorities have an important role in the preparation and response to disasters, as those living in the specific communities are the first to respond in the event of disasters. They are the ones who know best about their conditions, capabilities, and resources (Weekes & Bello, 2019). Based on the Municipal Corporations Act of 1990, there are 14 municipal corporations in Trinidad in which there is a disaster management unit (DMU), responsible for the coordination of emergency operations

before, during and after a localized Level 1 emergency. Similarly, TEMA is the sole body responsible for disaster risk management on the island of Tobago.

The National Response Framework (NRF, 2010) is the guiding document which outlines the overall goal, objectives and principles that enable all response partners in Trinidad and Tobago to prepare for and provide a unified and integrated national response to disasters and emergencies. The principal actors within the NRF are the central government, the local government represented by the municipal corporations, the ODPM, various ministries and agencies, nongovernmental organizations, and the private sector. These are the key organizations that implement the NRF's concept of operations. The concept of operations provided response agencies with a guide to approach a hazard incident. In this regard, a three-levelled system of response is used depending on the severity of the emergency (Weekes & Bello, 2019).

There are three levels:

Level 1 - emergency is a localized incident. The incident is within the capacity of the local government authorities and other first responder agencies within a municipality, or in the case of Tobago, TEMA.

Level 2 - the emergency or disaster event usually affects two or more municipal regions/Tobago, or while confined to one municipality, can be of a very serious nature and have the potential for significant loss of life or damage to property, the environment, or the economy. In such instances, the response is managed by using municipal and national resources. At this level the ODPM's National Emergency Operations Centre (NEOC) is notified and becomes partially activated.

Level 3- should the national resources become overwhelmed; the president will declare a national emergency. In such a scenario, the ODPM, through the ministries of national security, foreign affairs, and finance, coordinates the acquisition of regional and international aid.

External Governance and Global Initiatives

In 2008, Trinidad and Tobago became a participating state of the CDEMA an inter-governmental organization which focuses on regional comprehensive disaster management among CARICOM members and associate members. It is one of the specialized agencies of CARICOM that functions through a mutual aid arrangement in which countries pool resources to respond when any member experiences a disaster (Thompson, 2015). The goal is to strengthen regional, national and community level capacity for mitigation, management, and coordinate response to natural and technological hazards, and the effects of climate change (ODPM, 2014).

Trinidad and Tobago, as one of the small island developing states, is part of the international community involved in mainstreaming disaster risk reduction into a series of international agreements, such as the Hyogo Framework for Action (HFA) 2005-2015 endorsed by CARICOM member states and committed all countries to make efforts to reduce risk by 2015 highlighted by five priority action items.

The strategic framework was a platform from which disaster risk reduction interventions are being structured, cooperative programming initiated, and partnership management elaborated (Collymore, 2011). The HFA is a layered model for disaster risk reduction, ranging from macro level interventions, such as creating legislative

frameworks to mitigating natural hazard risk, to micro level actions, aimed at encouraging individual preparedness. Additionally, the HFA identified that in all action areas, vulnerable groups should be considered when planning for disaster risk reduction.

The five key areas identified were:

- Ensuring disaster risk reduction is a national and local priority
- Identify, assess, and monitor disaster risks and enhance early warning
- Use knowledge, innovation, and education to build a culture of safety and resilience at all levels
- Reduce the underlying risk factors
- Strengthen disaster preparedness for effective recovery and response at all levels

(UNISDR, 2005).

The Sendai framework (SFDRR, 2015-2030), calls for government organizations to increase coordination of disaster risk reduction. This includes support for the policy/science interface for decision-making (ODPM, 2014, UNISDR, 2015). The SFDRR hypothesized that because of climate change “the intensity and severity of disasters in Small Island developing states were increasing, which significantly impedes their progress towards sustainable development” (UNISDR 2015, p.4).

In 2010, the ODPM produced a draft CDMPF and recognized the office as the legislative authority in matters related to disaster risk management (Weekes & Bello, 2019). The new focus of the conceptual framework was geared towards reducing community vulnerability while building capabilities in disaster response. DRM was a comprehensive strategy whose goal was to minimize the effects and economic and social

impacts of disasters. Each government decided how global targets were incorporated into national planning processes, policies, and strategies (Weekes & Bello, 2019).

According to the updated status report on the HFA submitted by Trinidad and Tobago in 2014, the current legislative framework must be improved; it further stated that the legislation did not provide an effective platform for the coordination of disaster management functions especially as it related to the regulatory and monitoring role of the ODPM. The report further highlighted that based on the mandate and requirements of the CDMF greater alignment was needed between the national disaster agency with national initiatives for coordination, planning, and interagency collaboration. As such, there must be improvement at all levels of institutional commitment to DRR initiatives as there is a significant amount of work to be completed (ODPM, 2014).

The country is still developing policies and strategies to comply with the HFA. The Sendai framework, while building on the Hyogo framework for action, shifted the emphasis to managing the underlying drivers of disaster risk. This was completed through enhanced understanding of disaster risk, governance for disaster risk reduction, investment, and measures to strengthen resilience, and preparing for recovery, rehabilitation, and reconstruction (UNISDR, 2015). The Sendai framework is still to be ratified by the Government, which means in keeping with the system of governance it must be debated in Parliament.

Shifting Disaster Management Practices

Comprehensive Disaster Management Framework

A fundamental principle of the comprehensive emergency management framework involves a partnership with different levels of government and private agencies for dealing with the full range of hazards that a community may face (Hughey & Tobin, 2006) and the CDMF embraced unequivocally the new internationally favored approach. Trinidad and Tobago adopted a comprehensive strategy which addresses all aspects of disaster management, with a focus on risk management, through response, recovery, and rehabilitation (Weekes & Bello, 2019).

Based on studies conducted by CDERA (2001), the central agency responsible for the management of emergency in the Caribbean, it was highlighted the length of time taken before the CDMF became a focus of attention. It is apparent that disaster is not a national concern in the small island states as it took a long time for the Caribbean islands to learn lessons from previous events to implement changes to disaster management. However, studies conducted identified that there is a positive impact on interagency collaboration in the countries who initiated new legislation. The research also revealed that there is a need for greater involvement of governments in preparedness and mitigation. Before implementing a comprehensive emergency management framework, an actual plan for dealing with emergencies and disasters must be developed.

The CEMF specified the purpose, organization, responsibilities, and facilities of agencies and officials of the political subdivision in the mitigation of, preparation for, response to, and recovery from emergencies and disasters (Hughey & Tobin, 2006). The plan also established a concept of operations for direction and control; defined responsibilities for elected and local government officials; and explained roles and

functions of not only government agencies, but private industries, volunteers, and civic organizations. The CEMF model was not a theoretical framework for this research; however, it was the process that served as the guidelines for carrying out of all emergency functions necessary to mitigate, prepare for, respond to, and recover from emergencies and disasters.

Comprehensive emergency management comprised of organized emergency management functions grouped into useful but perhaps, overly simplified, disaster phases and was the traditional theory of emergency management (McEntire, 2004). For years authorities considered CEM a sub-discipline of public administration and public safety, however, emergency management took on an identity of its own.

The goal of the Comprehensive Disaster Management Strategy contributed to sustainable development in the Caribbean (Bisek et al., 2001 p. 12). Defined as incorporating the management of all hazards, through all phases of the disaster management cycle—prevention and mitigation, preparedness, response, recovery, the framework involved risk reduction and integration of vulnerability assessment into the development planning process.

Leaders in the region recognized the need for having a comprehensive disaster management strategy, which incorporated disaster risk assessment and mitigation into the development process. Deliberations on the changes took several years and eventually the development of the policy approached finally developed through multiple consultations with a wide variety of stakeholders throughout the region (Bisek et al., 2001, p. 5).

All-Hazards Approach

Disaster risk management decision-making evolved significantly over the past two decades. It resulted in a re-focus from a primarily top down approach, which generally involved the government organization using a command and control style of management. The new focus is people centered approach which involves the participation of the local community which seeks to transfer a great deal of risk management responsibility from the government to the citizens, demanding that the latter take precautionary actions that are appropriate for their unique situations. However, the shifting of responsibilities involves a lengthy process, which must be supported by adequate resources, in addition to the political will, legislative frameworks, knowledge, and willingness to collaborate in new and different ways (Oxley, 2013; Scolobig et al., 2015; UNISDR, 2015).

An all-hazards emergency management approach consists of mitigation, preparedness, response, and recovery. Furthermore, the all-hazards process takes measures to prevent disasters or lessen the effects of the ones that were likely to occur. It rates the overall level of risk for each identified hazard, based on the likelihood of occurrence and severity of consequences. Emergencies come in different sizes, and the names generally given to the smallest emergencies are hazards, incidents, or emergencies and the expectation is that the response will be handled entirely at the local level. The all-hazards approach fundamentally seeks to change attitudes and behavior in the event adversity strikes or a disaster is pending, citizens, communities and infrastructures will be prepared (Martin et al., 2011).

Whole Community Approach

Building collaborative capacity and coordinating community resources in response to incidents is a significant problem for public leaders, trying to ensure there are adequate public responses to repeated threats (Drabek, 2003; FEMA, 2011; Kapucu, 2008; Waugh, 2006). The whole community approach fundamentally means taking advantage of regular, non-disaster, decision processes and relationships (Waugh & Liu, 2014, p. 14). By engaging in a new whole community approach, a community becomes more prepared for disasters while increasing the ability to reduce vulnerability and increase resiliency (FEMA, 2012). The goal is to change the way of thinking for people that live in natural hazard areas, such as seismic, coastal, and watershed locations; and focus on improving the design and building of these locations. Communities affected by emergencies are prepared to expect a lag time of at least 72 hours before emergency personnel reach some of them, as such, communities and individuals are going to be on their own for three days before the arrival of assistance. (Eiser et al., 2012; Scolobig et al., 2015).

When communities partnered with volunteers trained to respond to emergencies and disasters, everyone is better prepared to handle emergencies and disasters (Drabczyk, 2007; Ready, 2012). The community plays a vital role in disaster preparedness and mitigation initiatives and is essential to the survival of communities in the immediate aftermath of a disaster (Carr & Jensen, 2015; Norris et al., 2008).

Volunteers, first responders and people who responded to disasters and emergencies, play vital roles in the overall planning, preparation, response, and recovery as well as mitigation efforts associated with all-hazards disaster mitigation. New groups

become aware of the different phases related to comprehensive emergency management to execute specific actions. (Rodriguez-Espindola et al., 2018).

Another entity included in the discussion about volunteers is community emergency response teams. An appreciative inquiry study by (Drabczyk, 2007) investigated the Community Emergency Response Team (CERT) values, and themes that emerged from the various stories provided by citizen responders to emergencies and disasters which indicated that this voluntary group had incredible potential. The importance of CERT and its involvement in disaster management significantly increased after the events of September 11, 2001, in the United States. Highlighted were the wide varieties of roles they performed which contributed to a sense of community, a perception of safety and well-being of the community, and foster a spirit of response to community issues that went beyond disaster preparedness (Brennan & Flint, 2007; Flint & Stevenson, 2010; Simpson, 2001).

The purpose of the CERT program is to train people to be better prepared to respond to emergencies in their communities (Ready, 2012). The training incorporated six basic training modules: (1) disaster preparedness, (2) disaster fire suppression, (3) disaster medical, (4) light search and rescue, (5) disaster psychology, and (6) a disaster simulation exercise (FEMA, 2012). The objective of the training is to integrate CERT's within their local emergency management system as their involvement in basic tasks freed first responders to do the response tasks commensurate with their training (Fernandez et al. 2006a; Lowe & Fothergill, 2003). Further literature reviewed suggested that the teams that integrate within the surrounding formal local emergency management

system pre-disaster, is most helpful. However, to be wholly integrated, into the official response organizations, CERT must be regularly functioning and consistently resourced (Carr & Jensen, 2015; Flint & Stevenson, 2010). In Trinidad and Tobago, while some of the regional /local governing bodies conduct training in this discipline in their communities, it was not part of the national response framework, and this issue needed further examination.

Leadership in Disaster

Leadership in times of crisis is an arduous task (Boin et al., 2017; Demiroz & Kapucu, 2012) and the tendency to arrive at quick and shallow judgments on leadership performance during and after crisis remains. At the onset of a disaster, crisis leaders and their teams must “arrive at a collective understanding of the nature, characteristics, consequences and potential scope and effects of an evolving threat” (Boin et al., 2013, p. 82). Without influential leaders to navigate the challenging process of working together, organizational relationships flounder. To be most effective, crisis teams must process information in a rapid, systematic, and preferably rehearsed manner. Organizations need leaders with vision, commitment, and the ability to influence others to become part of the program.

Leaders must also be able to weather the mistrust, setbacks, attacks, and other problems that arise in these relationships as political leaders in both systems manipulate disaster recovery to enhance their popular legitimacy (Axner, 2015). Disasters opened political systems to scrutiny; in this way, events become symbolically important for

politically marginalized groups and catalyzed political organizing and dissent (Pelling & Dill, 2010).

Despite the adverse effects that are present in times of crisis, it is essential to acknowledge that crises generated a window of opportunity in which a leader has the chance to reform institutional structures and long-standing policies. Kapucu and Van Wart (2006) underscored that leadership during crises and emergencies had political and administrative aspects. When disasters occur citizens look to their leaders for safety and direction, however, crisis planning is taken seriously only by leaders with prior crisis experience or within communities that had an emergency subculture born of previous disasters (Boin & Hart, 2003).

The importance of leadership in emergency management is widely acknowledged, as the lack of necessary leadership traits and skills exacerbate the impact of crises and eventually results in undesirable consequences (Demiroz & Kapucu, 2012; Kapucu & Van Wart, 2008; Rubin, 2012; Streib & Waugh, 2006). Having effective leadership is a critical aspect of managing emergencies and crises successfully and requires different leadership competencies and traits before, during, and after the crises. Essential leadership traits include being able to cooperate with other stakeholders, flexible in decision-making and operations, adaptability to disaster conditions, and effective communication with other stakeholders and the public (Demiroz & Kapucu, 2012). Although it seems as if leadership in crisis primarily pertain to decision making, during the crisis response decisions are generally made at the operational level. Boin et al.,

(2017) argued that leaders should focus on the strategic issues and avoid micromanagement.

Politics and Public Administration

Crises and emergencies pose an extraordinary test for public agencies and has a way of becoming politicized rather quickly (Lindholm, 2017). Such incidents require coordination of actions among multiple organizations, as well as the integration of multiple agencies and jurisdictions into a functioning response system. (Kapucu et al., 2010). The effectiveness of response operations depends on characteristics of the disaster and collective behavior of the responding agencies.

In the field of public administration, there are significant theoretical discussions on policy networks, collaborative decision making, and network management. Agranoff and McGuire (2003) and Berry et al. (2004) discussed how government agencies learned from experience and adapted to the changes in the environment. While Cyert and March (1963) conceptualized organizations as “adaptive institutions” that responded to environmental changes by changing decision protocols and problem-solving activities. Studies of policy reform and organizational change showed it was common to think of crises as opportunities for desired change (Boin & Hart, 2003). However, current policies and institutional arrangements are embedded in laws and this is challenging to change even in the face of adversity.

The popular notion that crises make it easy to overcome longstanding barriers to reform is not only naive, but also logically unfounded. Crises present reform minded leaders with an intricate mix of opportunities and risks. At the same time crisis

management and reform leadership is not the authority of the same executives. As such crisis is now a leadership issue making it difficult for leaders to emerge from a crisis unscathed as there are public expectations; they would not be able to fulfill (Boin & Hart, 2003).

Window of Opportunity

A major disaster can create a “window of opportunity” a decision that generally remains open for a short period of time and is closed due to a variety of factors (Brundiers & Eakin, 2018; Kapucu & Liou, 2014).which suggested that disasters provided the impetus for communities to develop and implement structured policies that not only withstood the pressures of politics at all levels of government, but also improved the resilience of communities’ social, physical, natural environment, and economic systems.

When a crisis occurs, opportunities arise for changes in the institutional processes and improvement in several ways. The crisis introduces a chance to learn if institutional malfunctions were not known before and presents the final test which determines the effective functioning of an institution. Disasters open political space and acts as catalysts for change (Pelling & Dill, 2010). In some instances, learning from the crisis entail a minor fix of an institution, or change (Howlett, 2012) it also involves an element of innovation. Others assumed small crises are not enough to induce change, but for institutional change to occur the event must be very large (Drazen & Easterly, 2001).

However, institutional improvements also occur through more systematic learning from one’s own experience or that of others (Howlett, 2012) without the immediate

trigger of crisis as a focusing event. In this form of learning, experiences come from various sources, such as evidence and lessons drawn from one's own and other jurisdictions, from predecessors or other policy field.

Disasters serve as evidence of the need for change in public policy and practice and create opportunities to redesign, revise or rebuild the human environment damaged by the event (Comfort et al., 1988). Another view expressed noted that disasters triggered by environmental phenomena did not result in political change; instead, they acted as catalysts that put into motion, potentially provocative social processes at multiple social levels.

Summary

There is an urgent need to integrate existing disaster legislation and fill critical gaps in the regulatory framework in Trinidad and Tobago. The current law is outdated and does not mandate all relevant authorities to ensure public awareness and resilience. Comprehensive disaster management legislation is intended to support the ODPM in building a culture of safety and resilience across Trinidad and Tobago, empowering the national disaster office to fulfill its mandate for national comprehensive disaster management (ODPM, 2014). Necessary changes will allow the ODPM to have the required legislative authority and accelerate the organization transition to the proposed national disaster management authority. An important point considered is the placement of the ODPM in the government hierarchy; as a division of the ministry of national security, this frustrated the process of proper disaster management (CDERA, 2008a). Success in disaster management requires a central authority for functions such as

planning, reporting, monitoring, resource mobilization, and policy action. The proposal submitted in the updated HFA report to transition the ODPM to a cabinet appointed body to improve accessibility, will elevate the importance of disaster management in the country.

Significant challenges include limited resources and human resource capacity of all disaster management stakeholders for policy implementation, especially the ODPM. Additionally, several agencies underestimate the importance of their roles in disaster risk reduction. With the necessary legislative framework, the development and implementation of national policies in critical areas including the national CDM policy, the national response framework, and the national hazard mitigation policy must be accelerated. A view expressed on the relationship between policy formation and policy implementation was that once policy goals have been specified and decided upon, implementation is seen as a-political administrative activity (Hill & Hupe, 2016).

Chapter 3: Research Method

This study was interpretative and descriptive research into the effects of the lack of policies and supportive legislation for disaster management in Trinidad and Tobago and how this impacts the operation of first responders. Descriptive designs provide a wealth of information to understand, interpret, and identify problems and suggest solutions. Conducted primarily to gain an understanding of why the CDMF has not been implemented, my inductive analysis provided new and practicable strategies to improve disaster management in Trinidad and Tobago. Disaster management remains a challenge as the relevant legislation, policies, and infrastructure need improving and, in some

instances, implementing. Additionally, the challenges of disaster management and its impact on the public's desire for government intervention cannot be measured through a standard template. Each year, the damage from flooding increases and there are no significant changes to policies to mitigate this natural hazard. Gaining a different worldview on the perceptions and experiences of the disaster management and responding agencies was essential, with a view to equipping them with better strategies to manage disasters in Trinidad and Tobago.

A gap exists in the research literature on the effects of the lack policies and supporting legislation for disaster management and the development of effective strategies to improve disaster management in Trinidad and Tobago. I used a qualitative study to support the interpretative and descriptive reason for the research and to understand why the government has not updated the current legislation to keep abreast of global changes to disaster management. In addition, I used a phenomenological approach to allow for the description of an aspect of human experience through one-on-one interviews. In Chapter 3, I discuss the overall study's research design, the basis for the design, the role of the researcher, the selection process of participants, the data collection, instrumentation, management processes, and the data analysis plan.

Research Design and Rationale

The lack of current policies and supporting legislation and the way operations are conducted regarding disaster management in Trinidad and Tobago informed the chosen design. A research design is the logic that connects the research purpose and questions to the processes for empirical data collection and analysis; the research design implied or

relied on the chosen research paradigm (Bloomberg & Volpe, 2008; Creswell, 2009; Rowley, 2002). The central research question for this phenomenological research study was: What are the consequences of lack of a CDMF, how might a CDMF be implemented, and what factors do disaster managers in Trinidad and Tobago perceive as vital for preventing the implementation of a CDMF? The research question sought to capture the perspectives, experiences, and knowledge of participants associated with the study on the scope of the problem.

The essential central concepts focused on the examination of strategies, formation, and implementation of workable outcomes to dealing with disasters and the issues surrounding interagency collaboration to improve disaster management and reduce the destructive impact of flooding in Trinidad and Tobago. The theory of the multiple streams framework guided this study on the relationship between political affiliation and the development of policies and legislation. However, for an agenda change to materialize, the three streams must come together at a specific point in time if a window of opportunity arises (Birkmann et al., 2010; Weible & Sabatier, 2017, p. 20). Focusing events like natural disasters create that window of opportunity and capture the attention of the politicians, which can lead to significant changes. A qualitative research approach was chosen for this study to explore the central issue surrounding disaster management strategies in Trinidad and Tobago.

The objective of qualitative research is to produce accurate and valid data and to produce in-depth and illustrative information to understand the various dimensions of the problem under analysis (Fink, 2010; Patton, 2014). Qualitative research has several

traditions and approaches to investigations, each of which produces an enormous amount of data (Patton, 2014). The research aligns the questions to a selective population best suited for the study using structured and semi structured interviews as the evaluation methods to collect and compare responses. I focused on exploring the perceptions and lived experience of participants with knowledge derived from experiences in disaster management in Trinidad and Tobago. The interviews were a collaborative conversation in which I established the general direction for the discussion and pursued specific topics raised by the participants to inquire about past experiences, a process that was standard for all interviews. While preparing a structured interview was time consuming, the response rate was generally high, and during the process, I was present to explain the questions to avoid misinterpretation from the respondents.

A qualitative design is not concerned with numerical representatives, but with the deepening of understanding of human and social problems in their setting and to make sense of these problems by analyzing the meanings that people bring to them, using stories to answer questions, often in the form of self-disclosure (Carl & Ravtich, 2016; Locke et al., 2009); a quantitative approach was not considered. This approach was naturalistic and interpretative, involving the use of a variety of empirical material (Maxwell, 2013; Queiros et al., 2017). The research design was fluid, flexible, interactive, and reflexive (Atkinson & Hammersley, 2007; Maxwell, 2013)

Through the qualitative research method, I gathered the perceptions of the research participants about the strategies employed by the government of Trinidad and Tobago in the management of disasters. Moreover, I was able to understand the necessity

for the implementation of the comprehensive disaster management policies and the updating of disaster legislation. I selected this methodology because qualitative research allows a researcher to probe respondents for detailed information relative to the research topic; a researcher uses an interview process to gain insight from the respondents, such as actions, experiences, opinions, and collaboration. Data collected helped to reinforce or refute the studies trends or reveal bias that otherwise was not relevant to other methodologies. Quantitative research is not suitable for obtaining detailed information about the context in which events or behaviors occur, nor does it allow flexibility in the type of data obtained (Allison et al., 2016).

Phenomenology aims to develop insight from the perspectives of those influenced by detailing their experiences of a specific time in their lives (Patton, 2014). Information obtained through first-person accounts during informal one-on-one interviews, which is transmitted and analyzed for themes and meanings, allows the experiences to be understood (Moustakas, 1994). Hanna et al. (2017) described phenomenology, including Husserl's phenomenology, as the pursuit of acquiring knowledge of oneself, their consciousness, and the world around them. Phenomenological inquiry was used to examine, describe, and illuminate the subjective experiences of selected disaster managers and first responders in dealing with disasters in Trinidad and Tobago without clearly defined policies and supporting legislation.

The phenomenological approach is used to gather experiential material through interviews, which is the most common method in this approach, used in conjunction with written descriptions, observations, and related literature. The method was both

descriptive and hermeneutic, as the study combined both experiences with meanings (Friesen et al., 2012). Hermeneutic phenomenology is focused on people's lived experiences and selected participants who have evocative stories to tell about their shared experiences, whereas descriptive phenomenology turns to the description of the lived experience where consciousness is present. This approach did not impose theoretical explanations but sought to develop an intimate connection with the research participants and refrain from theorizing about them (Giorgi & Giorgi, 2003).

The goal was to reveal human experiences derived from consciousness; I did not seek to expose shared different experiences resulting from the social interaction of participants, which is one of the strengths of descriptive qualitative research. This methodology ensured that meaning was not just given to the experience by the participants but that I sought to understand what it meant for the participants: sense-making by both participants and researcher (Smith, 2003). This flexible approach allowed for in-depth examination of areas of interest from the participants' perspectives.

Role of the Researcher

A researcher is vital in the organization and analysis of data in qualitative research and is the sole instrument used for a study and the primary mode of collecting the information. The role of the researcher involved the identification of my own assumptions and biases and having my own perceptions of the subject under investigation prior to the data collection process. Qualitative research design is fluid, flexible, interactive, and reflexive (Atkinson & Hammersley, 2007; Maxwell, 2013). My role as the researcher was to connect and reconnect the dots between all these intersecting parts,

and I was central in the conduct of analysis and in attaching meaning to the experiences of the participants. As a researcher, I developed and improved my familiarity with disaster management having interacted with members from first-responding agencies and other organizations involved in disaster management in Trinidad and Tobago.

My experience in emergency management has spanned more than a decade. I was an educator at a local college in the field of emergency management. I conducted outreach training in disaster management in several rural communities in Trinidad. These experiences provided a strong background to understand and appreciate the complexity of emergency management in Trinidad and Tobago. In this type of study, the researcher is the primary instrument responsible for the selection of the research methodology best suited to the research topic. Additionally, the researcher performs a dual role, that of the subject and the object of the study (Loftland & Loftland, 2006; Merriam & Tinsdell, 2016).

I opted for face-to-face interviewing for this study to capture synchronous communication and social cues, which allows people to interact at the same time and in the same space. These signals from participants enabled me to extract added information not captured from nonverbal communication, on their real perceptions, in cases where verbal communication was not sufficient. During interviews, all details taken from nonverbal communication were documented in a journal. Semi structured interviews were conducted for planned meetings, and I used recording devices and open-ended questions. For persons who were not be able to participate in face-to-face interviews, alternate methods were considered including sending a survey with the questions

electronically for participants to complete. To prevent loss of data resulting from device failure, a backup audio tape recorder was available during interviews.

Methodology

Study Population

The populations selected were individuals who have experienced the phenomenon of interest and expressed their willingness to talk about it in an audio recorded interview. The selected persons were emergency managers from responding agencies, fire service, police, EHS, and emergency management working groups. Some emergency managers/service providers targeted through the ODPM included disaster management coordinators from areas most affected by flooding. I selected a sample size of 15 participants with similar backgrounds using purposive sampling. I chose purposeful sampling to identify and select individuals or groups of individuals knowledgeable about or experienced with the phenomenon of interest (Elikan, 2016; Patton, 2002). Purposive sampling helped me identify and select individuals with experience in disaster management who were willing and able to engage in a phenomenological conversational-style interview about their lived experience. The goal was to understand the pitfalls and barriers inhibiting implementation of disaster policies and updated legislation and to ascertain how this impacts the operation of first-responding agencies in the management of disasters.

Validity

Validity in qualitative research indicates consistency and trustworthiness regarding activities and events associated with the phenomenon. However, developing

validity standards in qualitative research is challenging because of the necessity to incorporate rigor and subjectivity as well as creativity into the scientific and methodical process (Johnson, 1997). A valid study demonstrates what existed and is accurate; to further the validity of the study, I used member checking; individual textural-structural descriptions were translated and made available to the participants for review. In qualitative research, multiple sources are used to collect and analyze data using several different methods (Creswell & Poth, 2017). Because my primary focus was on what goes on inside the human instrument, the appropriate tools of data collection were person-to-person interviews and the use of social media platforms. I opted for a semi structured approach that elicited unrestricted descriptions of participants' lived experiences and documents related to the participants' experiences.

Interviews were recorded with the consent of the participants and were transcribed verbatim to provide the most suitable method that can be used by inexperienced researchers for data analysis (Merriam & Tinsdell, 2015). In-depth interviews were used to collect data and entailed direct and personal conversations with each respondent; data came from an interaction between an interviewer and the interviewee; as such, the setting and research skills were important. Selected participants who were unable to meet face to face were given an option to use video chat through Zoom or Skype or telephone interviews.

In this process, I set the tone of the discussion by beginning with general open-ended questions intended to encourage the respondent to speak freely about the topic. Another technique generally used in semi structured interviews is a set of predefined

questions that allow an opportunity to explore one or more in further detail. This method provided a wealth of information, established linkages between several topics, and created an environment where the respondents felt comfortable to participate in the conversation. However, Queiros, et al. (2017) posited, “there are some limitations and pitfalls because [this method] is time intensive, and it is not generalizable” (pp. 377–378).

To accomplish the objective and intent of this study, I examined peer-reviewed publications to acquire a greater understanding of the material related to this topic. I used interviews as the primary method for data collection; this enabled a better understanding of the roles played, and the strategies applied by first responding agencies in dealing with disaster management in Trinidad and Tobago. Participants comprised of personnel from first responding agencies, the ODPM and the DMU’s with experience in the operations and strategies applied to disaster management in Trinidad and Tobago. The data collection method involved face- to- face interviews, using a semi structured interview format (Appendix A) and teleconferencing to understand the roles played, and the strategies applied by disaster management agencies in dealing with disasters in Trinidad and Tobago.

Procedures for Recruitment, Participation, and Data Collection

The recruitment strategy developed involved the use of social media as this platform promoted information sharing and relationship building. It was also used to encourage persons from first responding agencies and other agencies involved in disaster management who would willingly and openly shared their lived experiences of the phenomenon. After an initial prescreening of potential candidates and obtaining contact

information an invitation letter was sent via email requesting participation in the study. The letter of invitation included contact information as the potential study candidates were required to make to indicate their interest. Once responses indicating willingness to participate were received a questionnaire and the informed consent form was emailed to the selected participants. This was followed up with telephone conversation to finalize the selection of participants. However, before the data collection process commenced, all participants had to submit an informed consent form.

The criteria for the selection specified that potential participants must have emergency management experience either as a member of a first responding agency or leaders from the disaster management agencies.

Participants were advised that they have the option to discontinue the interview at any time during the data collection process should they experience any discomfort. The final sample was dependent on when data saturations was achieved; when the perceptions shared by individual participants begin to sound very similar to that of other participants and no new information was revealed.

Data Analysis Plan

The data analysis plan was aimed at coordinating methodological and analytical materials on the factors inhibiting the implementation of the CDMF in Trinidad and Tobago and how this impacted on the operation of disaster management agencies in dealing with disasters. Qualitative content analysis, often described as thematic analysis, was commonly used with several analytic strategies to identify key content areas of the data and integrate those content areas into coherent results (Sandelowski, 2010). The

process for data analysis emanated from the Van Kaam method, outlined in Moustakas (1994) in which the researcher used hand coding for analysis, and the NVivo 11 software for data management and storage. In studies based on phenomenological or hermeneutical methodology, the concepts of bracketing and epoché were used to explain how the researcher behaved in relation to the analyzing procedure. This approach could affect the researcher's interpretation of the informants' story and the conclusions given in the result; therefore, every effort was made to put aside all biases, preconceptions, and prior knowledge of the subject to look at the phenomena with open, new eyes (Moustakas, 1994). The main features of the data analysis process entailed:

Data logging: the collecting of raw data from personal interviews of the participants and simultaneously recording the responses.

Restructuring the data log to have a better understanding of the data collected from participants.

Clustering and thematizing: establishing the core themes of the experience for each participant.

Transcribing the data and generating feeling and themes.

Data coding: reducing the data by breaking down the interview text into meaningful and manageable text segments.

Exploring the links that existed between the explicit statements and the implicit meanings in respondents' discourse used for the interpretation and organization of the themes.

The qualitative analysis discovered patterns, coherent themes, meaningful categories, and new ideas. In general, good analysis uncovered enabled a better understanding of a phenomenon or process. A careful and thoughtful presentation of qualitative research report in a logical manner made such report convincing and acceptable to other researchers and prospective users of the findings. However, the quality of analysis could be hampered if the data collection instrument was not well done, contains serious gaps, or drifts from the research questions. Making good sense of data was a process of organization, reduction, consolidation, comparison, and reconfiguration.

Issues of Trustworthiness

Trustworthiness addressed the methods that ensured the research process was carried out correctly. Guba and Lincoln (1985) referred to trustworthiness whether collected from direct observations, focus groups or interviews, as evidenced by the following.

Credibility

Credibility was established through activities such as peer debriefing, prolonged engagement, persistent observation, triangulation, negative case analysis, referential adequacy, and member checks. Guba and Lincoln (1985) considered member checks to be the “single most important provision that can be made to bolster a study’s credibility” (as cited in Shenton, 2004, p. 68). Qualitative data are credible when others recognize experiences after having only read about them. As Shenton (2004) described, once the researcher engaged the participants in reading the transcripts, “the emphasis should be on whether the informants consider that their words match what they actually intended since,

if a tape recorder has been used, the articulations themselves should at least have been accurately captured” (p. 68).

Methods employed to support member checks included audio recording and verbal feedback during the interview, the use of various data types which included interview transcripts, interview journaling, as well as documented details of the modified Van Kaam method for data analysis. Participants included members from first responding agencies, disaster management agencies and other support agencies, who were involved in the management of disasters, particularly flooding in Trinidad and Tobago; this varied selection allowed the researcher to gain multiple views of the issue in focus.

Transferability

As the researcher it was my responsibility to provide details of the participants and the research process which included a rich account of descriptive data to enable the reader to assess whether my findings were transferable to their own setting and to make connections between elements of a study and their own experience. This included the context in which the research was carried out, its setting, sample, sample size, sample strategy, interview procedure and topics, and excerpts from the interview guide. It was best summarized by Guba and Lincoln (1985), “it was, in summary, not the naturalist’s task to provide an index of transferability, it was his or her responsibility to provide the data base that made transferability judgments possible on the part of potential appliers” (p. 316).

Dependability

To establish dependability, the researcher was required to provide an in-depth methodological description which enabled this study to be repeated in the same context, with the same methods, and with the same participants, obtaining similar results (Shenton, 2004). The decision for my choice of purposeful sampling was to identify and select individuals or groups of individuals that were knowledgeable about or have experience with the phenomenon of interest (Elikan, 2016; Patton, 2002). Purposive sampling assisted me with the identification and selection of individuals who had experience in disaster management and who were willing and able to engage in a phenomenological conversational style interview about their lived experience. An audit trail gave details of the entire research process and I was responsible for providing a complete set of notes on decisions made during the research process, sampling, research materials, emergence of the findings and information about the data management. Throughout the process member checking was completed as this was the most important provision used to strengthen a study's credibility (Guba & Lincoln, 1985). The process was completed during the normal course of observation and conversation where participants were asked to read any transcripts of dialogues in which they participated to ensure that the information was plausible.

Confirmability

Confirmability referred to the degree to which the results could be confirmed or corroborated by others. The strategies used to enhance confirmability entailed procedures for checking and rechecking the data throughout the study and the interpretation based on

the researcher's preferences and viewpoints grounded in the data. During the study I included procedures to verify that the findings and concepts described were founded in the data and not a result of poorly performed analytic work or preconceived assumption. Confirmability implied that the research was judged and understood by others.

Ethical Procedures

In conducting any research using people as subjects, the importance of ethical research cannot be underestimated (Yin, 2016). A significant responsibility of any researcher was to ensure that all ethical principles were applied to ensure the protection of all participants in the study. The process entailed the recruitment of participants; the development of protection measures to ensure they were not harmed and confidentially in the collection of information was maintained throughout the study. To avoid any legal or ethical issues arising from the collection of data, the researcher obtained permission from the Walden University Institutional Review Board (IRB), this was to ensure compliance with all institutional and federal regulations. In the application for permission the details of the procedures and safeguards used to ensure the participants were protected from abuse was explained, and an Informed Consent Form was included. As the researcher I was required to comply with all procedures and safeguards in the conduct of this research.

Agreements to Gain Access to Participants

There were challenges in contacting potential subjects and encouraging them to participate and provide information. Therefore, it was important to ensure that all possible measures were taken with regards to ethical concerns concerning access to the

participants were upheld and all obligations to respect their needs, rights, and desires were met. Selection of participants was unbiased and fair and took into consideration those who would benefit from the study. (O'Sullivan et al., 2016). An informal invitation letter was sent via email to potential participants, requesting participation and willingness to share their experiences openly and honestly. This was the first step in ensuring informed consent; this was accompanied by consent forms for the participants in the study. Throughout the stages of the recruitment process, detailed records were kept of all contact and communication with the participants.

Treatment of Participants

Qualitative research was used to explore and capture persons' subjective experiences, meanings, and voices and can result in ethical challenges for participants and the researchers. Potential ethical concerns may exist in how researchers gain access to participants and the effects the researcher may have on them. As part of the informed consent process the researcher must approach the participants with general respect and courtesy. The researcher was responsible for ensuring that there was a relaxed atmosphere, in which the participants were always aware that they can stop participating in the research process at any time should they wished to do so.

During research I was tasked with specific responsibilities towards the participants, some of which included ensuring voluntary participation, obtaining informed consent, and assuring participant confidentiality and anonymity throughout the study. Both the conduct of the study and participants selection was fair and unbiased.

Agreed-upon standards for research ethics helped ensure that the needs and concerns of the participants involved in the study were considered, that appropriate oversight for the conduct of research took place, and that a basis for trust was established between the researcher and participants. I considered using alternative methods like telephone and social media like messenger video chat, Zoom or SKYPE to conduct the interviews if some of the participants were not be able to meet in person.

Treatment of Data

Qualitative research is inductively grounded and based on philosophical and ethical grounds and while data management was challenging, it was a vital part of qualitative research and was crucial to ensuring the success and efficiency of the study. I carefully reflected on and thought about ethical dilemmas related to the practice of qualitative research as well as responsibilities, especially regarding the respondents. A combination of manual and electronic data management systems was utilized, which involved interviews, concurrent with note taking, reflective journaling, revising field notes, and listening to audiotapes. NVivo 11 software was used for data management and storage, as when implemented properly these processes can enhance the quality and rigor of the research. Confidentiality was maintained throughout the study and all recorded and written data was secured in a locked filing cabinet accessible only to me. All computers and devices used to file all digital and text data were secured using personalized passwords. The information was not shared with others outside the dissertation committee and must be retained for a period of five years. At the conclusion of the period

of retention all data stored on recording devices will be deleted and all written documents will be incinerated.

Summary

This study was conducted to explore the factors inhibiting the implementation of the disaster management framework and to understand how the lack of current policies and supporting legislations impact the operation of first responding agencies in Trinidad and Tobago. While disaster management in Trinidad and Tobago was the direct responsibility of the ODPM, citizens must participate in dealing with issues related to flooding. Therefore, gaining a different view on the insights and experiences of these stakeholders was important, as a way forward to understand how disasters, particularly flooding was managed and develop workable mitigation strategies against the devastating impact of this disaster. To validate the choice of qualitative research strategy used, Chapter 3 discussed the research design of the overall study. It contained the rationale for the design, the role of the researcher, participant selection process, data collection, instrumentation, data management processes, and the data analysis plan.

Chapter 4: Results

This study was conducted to explore factors inhibiting implementation of CDMF in Trinidad and Tobago. Due to a lack of current disaster management policies and legislation, understanding the strategies used by first-responding agencies in the absence of a comprehensive approach to dealing with disasters would fill a gap in existing research on disaster management in Trinidad and Tobago. To gather data on the lived experiences of participants, I used a phenomenological research approach as the primary method for this inquiry and secondary sources, such as standard operating procedures and policy guidelines, to explore and understand what is being done in disaster management in the country. The central research question was: What are the factors inhibiting implementation of CDMF in Trinidad and Tobago? This chapter contains a description of the research setting, participant demographics, participant recruitment, data collection, process for data analysis, and the approaches for ensuring trustworthiness. I conclude this chapter with a summary of the results and findings, followed by discussions, recommendations, and conclusion, in Chapter 5.

Setting

I used face-to-face interviews as the primary method for data collection. Due to restrictions arising out of the COVID-19 pandemic, face-to-face interviews were arranged with 15 participants who indicated their preference to be interviewed via the online platform Zoom. All interviews took place between January 4, 2021, and January 14, 2021, at various times convenient to the participants. Most participants preferred to be interviewed at their homes; only one participant was interviewed at their workplace. The

settings provided by most of the participants afforded the necessary privacy, but not all were able to avoid distractions and interruptions. As part of my follow-up process, I used telephone calls, email exchanges, and Zoom meetings to conduct transcript reviews and verification of data interpretation with the participants.

Demographics

Disaster management policymakers, members of first-response agencies, and personnel from the local government disaster management units and lobbyists were the population of interest. Five disaster management policymakers, five members from disaster management units, three members from first-response agencies, one member from an international response agency, and one disaster management lobbyist met the established participant criteria and represented a cross-section of gender and experience with disaster management. Participants were from different geographic locations and included experienced officers of disaster management agencies who had the knowledge and experience of dealing with both local and regional disasters.

The years of experience of participants ranged from 10 to 20 years; participants worked as firefighters, police officers, military personnel, disaster coordinators, field officers, disaster management lobbyists, and disaster management policymakers; and all had experience in the field of disaster management. The average time for interviews was 45 minutes; the maximum was 60 minutes. Participant demographics are shown in Table 1.

Table 1*Demographics of Participants*

Pseudonym	Numbers of Participants	Occupation	Years in role	Gender
Participant 1	1	First responder	20	Male
Participant 2	1	Military	15	Male
Participant 3	1	Law enforcement	15	Male
Participant 4	6	Policymaker	10	Male
Participant 5	3	Disaster unit	10	Male
Participant 7	2	Disaster unit	10	Female
Participant 8	1	Lobbyist	10	Female

Participant Recruitment

I received approval from Walden University IRB before initiating the recruitment of participants (approval number 10-07-20-0387274). As detailed in the study design, the process for recruitment focused on enrolling participants using partner organizations who provided a listing of persons who met the stipulated criteria. An initial screening process for disaster management participants was conducted by contacting potential candidates by phone followed by email. This resulted in the identification of 20 potential participants whom I contacted by telephone and email. In the initial step, participants were provided with study information and a request to volunteer to be a part of the research.

I sent follow-up emails 48 hours after forwarding the initial invitation, and I received responses from 18 potential participants. To confirm suitability, I sent an initial email to all potential participants in which I provided a full explanation of the consent document and inquiry investigation prior to obtaining the participants' agreement to take part in the study. In the invitation to participate, I stated that persons were not obligated to participate.

Only those who completed the consent form were interviewed. The criteria used for the participant selection process included persons who have 10 years or more experience in the field; members of first-response agencies, disaster coordinating agencies, and local government agencies who have disaster management experience; serve or served as an emergency management official or have knowledge of disasters that have impacted various communities. There were no major problems encountered during the selection of participants and all persons who responded to the email questions met the stipulated requirements. One participant, after agreeing to be part of the study, opted not to respond to the consent letter and was subsequently excluded. Another participant did not acknowledge or respond to the email requesting a suitable date for the interview, and another participant was inadvertently omitted from my contact list. The participants were quite eager to participate and expressed great interest about the topic during conversations prior to the interviews.

Data Collection

There are several techniques used to collect information using the qualitative methods: (a) participant observation, (b) direct observation, (c) semi structured

interviewing, and (d) case studies (Trochim, 2006). My primary used was semi structured interviews with experts in the field of emergency disaster management in Trinidad and Tobago. The experts were emergency managers, first responders, and policymakers. The data collection phase took place in January 2021 and lasted 2 weeks with daily interviews with one or two participants. I collected data from the participants following a strict protocol to protect the quality of the data and the authorized research methods using face-to-face interviewing via Zoom. Before proceeding with the data collection, I used bracketing (epoché) as prescribed in Moustakas (1994) to bring into awareness my subjectivity, assumptions, and vested interests in undertaking this research and to consider how these may impact on my interviews with participants.

Before the start of the interviews, all participants gave consent, and the data collection process was completed in fulfillment with the procedures and ethical guidelines outlined in Chapter 3. The process entailed using semi structured, open-ended questions and prompts to encourage more detailed responses from participants. I conducted 15 face-to-face interviews via Zoom and reached data saturation after 10 interviews but continued the process with the other participants. To protect the identities of the participants I recorded the interviews, saved them separately, and labeled each with a code.

Having identified six different categories, I interviewed each participant with a variety of crucial questions and related probing questions linked to the central research question to further arouse participants' perceptions on the subject. During data collection,

I used various methods and was transparent in the research process. This was augmented by documenting all the stages used in the data collection and analysis.

At the completion of the interviews, I provided the participants with the opportunity to review and correct any information captured in their transcripts that did not reflect a true interpretation of their responses. After the data analyses, participants were again allowed to highlight any perceived misconceptions related to their statements concerning their functions in disaster management or the roles of other agencies. All but three of the participants responded to the initial review of the interview transcripts without corrections and verified and confirmed the accuracy related to the issue under investigation at the completion of the data analysis. Three participants responded at a later date with the information that needed to be corrected. To improve the trustworthiness of the research results in any phenomenological research, obtaining feedback from the interviewees about the validity and extensiveness of summaries reflecting participant experiences is important (Guba & Lincoln, 1985; Sandelowski, 1993).

Additional Secondary Data

I obtained additional secondary data from the first-response organizations and emergency management organizations participating in the interviews. This information provided data needed to understand and fully appreciate how these organizations operate in the management of disasters. Secondary data collected included emergency response operation procedures, policy guidelines, disaster legislation, and any other information used to support the goal of the research. Document review is a way of collecting data by

reviewing existing documents and helped me understand the history and operation of the first-responding agencies, policy makers, and the organizations in which they operated (Bowen, 2009). A review of documents may reveal a difference between formal statements of the operating policy purpose and the actual policy implementation. I examined the documents for any information that would give a better understanding of the operations of the agencies and organizations that were the subject of my study to help with the formulation of questions for the interviews.

Data Organization and Management

I conducted the data collection and analyses and was responsible for the selection of participants, their enrollment, obtaining the necessary informed consent, and authenticating the accuracy of the interview transcripts. I used purposeful sampling to identify and select individuals who were knowledgeable about or experienced with the phenomenon of interest (Elikan, 2016; Patton, 2002). Purposive sampling helped me to identify and select individuals who had experience in disaster management and who were willing and able to engage in a phenomenological conversational style interview about their lived experience. Benoot et al. (2016) provided a core argument supporting purposeful sampling, suggesting it was not meant to be comprehensive in scope. Purposeful sampling is routinely used in qualitative research and requires a researcher to select study participants based on the study needs. Therefore, a researcher's interest is not in exploring all potential information relevant to the study, but rather in "examining the complexity of different conceptualizations" of the research problem, questions, or subject (Benoot et al., 2016, p. 2).

All collected data were securely stored on password-protected computers and devices specifically used in filing digital and text data, as detailed in Chapter 3. In keeping with the requirements of Walden University, all secured data will be kept for 5 years after which time they will be securely destroyed.

Data Analysis

In a qualitative study, the data analysis process involves organizing and coding the data into themes represented by figures, tables, or a discussion, consistent with the overall goal of answering the research question (Wahyuni, 2012). The in-depth interview transcript forms the basis of the data and the analysis processes, comprised of two data coding cycles, while triangulating with the modified Van Kaam data analysis method. This was the first step in interpreting the data and developing an analytical view toward making sense of the information collected. For analysis of the textual data collected, the principal focus was to develop analytical outputs on the lived experiences of participants involved in disaster management. The applied data analysis processes mirrored the modified Van Kaam data analysis method defined in Moustakas (1994). This involved using transcribed participant responses, a combination of hand coding and coding using NVivo 11 Pro software to increase validity. The software was also used as the central source for data management and storage.

Researchers engage in interpreting data when conducting qualitative research. Interpretation involves trying to make sense of the data and the lesson learned (Guba & Lincoln, 1985) and exists in several forms: hunches, insights, and intuition. In the interpretation process, researchers step back and form larger meanings of what is going

on in the situations or sites. My experience in the field of emergency management spans more than a decade, as an, educator, and outreach trainer in disaster management in several rural communities within Trinidad. These experiences provided a strong background and gave me a better understanding and appreciation of the complexity of emergency management in Trinidad and Tobago. The field interviews gave me detailed insight on data collection processes using various methods, including telephone and video interview. The experience gained helped me to accurately analyze my data and gave me a deeper understanding of the subject.

Hand Coding

I conducted line-by-line coding for this type of data, as this method offered the ability to separate the data, define the actions into which they fell, looked for inferred assumptions, extracted indirect actions and meanings, determined their significance, compared data with data, and identified the gaps (Charmaz, 2006). Several benefits of using hand coding for data analyses were identified; it had the capacity to gain understanding of the data and developed an overall image presented by participants (Basil, 2003; Stuckey, 2015), additionally it allowed me to directly engage with the data and initiated the analysis process (Klenke, 2016). I started with the hand-coding process for the data analysis, to highlight complex details of the interview transcripts. This was a thorough and intense process which involved reading and re-reading transcripts several times to gain a deeper understanding of the participants' responses on their experience with the current disaster management system. Once I transcribed the first interviews,

there was no need for follow-up questions because all the required information was collected.

During data analyses and to help in understanding the concepts in the raw data, I used an open-coding method to develop codes and read and reread the responses from each group using the constant comparative method, compared elements present in one interview to another to identify similarities and differences. Each response was categorized, and from these categories, themes developed to illustrate consistency in the answers until saturation was met, notes made in each transcript indicating when the meanings changed in their descriptions of disaster management. There was one unrelated element in participant responses relating to their experience, requiring the listing and grouping of significant statements and the reduction and removal of unnecessary statements (Moustakas, 1994).

There were several significant responses noted, conveying unchangeable descriptions of participants' experiences. The next phase in this process was the thorough examination of significant participant responses to assist with the categorization of the inactive features of participants' experiences into themes. The grouping of these responses entailed using a systematic method to distinguish and arrange ideas and thoughts in participant responses. I identified specific words and phrases to understand participants' feelings and sensitivities concerning their role in disaster management.

The final phase of the hand-coding method ensured the validation of all passive characteristics and themes before the creation of individual distinctive images for each participant. Using ingenious variations and structural descriptions for each participant,

further developments emerged from the individual textural images mixing the static elements and themes. A blend of expressive meanings for participants was produced as a group, based on their experiences and I saved the explanations for assessment of results from coding using software.

Coding Using NVivo 11 Pro

In preparation for uploading into the NVivo 11 Pro software program, the first step in the data analysis process entailed cleaning and reorganizing the data. The cleaning process involved removing of all unrelated material in the interview transcripts and establishes codes for each participant. When using NVivo 11 for data analysis, it was important that transcript data was cleaned, to ensure the removal of all unrelated information, create new identifies for participants, and save the organized transcripts before uploading into the software program (Adu, 2016). I listened to the appropriate interview tape while reading each interview and this brought back to memory the personalities and characteristics of each participant. In preparation for uploading into the NVivo 11 Pro software program, I reviewed the research question, interview questions, and participant responses prior to saving the cleaned interview data.

The introduction of the cleaned interview data into the NVivo 11 Pro software program was the next step in this process. I organized the data into two key storage file, case classifications and case nodes. Case classifications was generally used for the development of names using codes that was assigned to each participant based on their characteristics, while case nodes used observation of participants responses to code specific information. After uploading and readjusting the data, I conducted further

into smaller units isolating patterns and relationships, before the emergent themes were labeled. Pattern coding included coding systems aimed at creating major themes, probing causes or explanations, exploring relationships, and creating theoretical constructs (Huberman et al., 2013, p. 87).

After separating emergent patterns and labeling new emergent themes, I developed an account describing each of the emergent themes before moving on to the next phase, subsequent data analysis phase. This involved a corroboration of the data to ensure that it followed the modified Van Kaam method of phenomenological data analysis, as defined in Moustakas (1994). Before developing the finished and combined descriptions of participant experiences, I analyzed the data, compared descriptions developed using hand coding, with descriptions generated using coding software.

Evidence of Trustworthiness

To prove the internal methods used to establish accuracy in the research processes, and in the distribution of the results, evidence of trustworthiness in qualitative research was essential (Guba & Lincoln, 1985). I designed a strategy to document and highlight the process for participant selection, peer debriefing, worked with my dissertation committee, employed the use of required research methods and a compact description of the subject that were investigated. Prior to the start of data collection, I consulted with my committee members for guidance on strategies that was used to enhance the quality of my research instrument.

To stimulate in-depth responses from participants to all questions I used the same interview questions supported by probing questions and applied specific saturation

guidelines based on Ness's (2015) data saturation guidelines for inexperienced researchers. I reached data saturation after completing 10 participant interviews as I noted the replication of information. To confirm that no new information was obtained during the interviews, I continued the interview process with the balance of the participants to substantiate the initial findings.

To avert any discrepancies resulting from possible misunderstanding of interview questions, I used probing questions to clarify any contradictions in the responses of interviewees. Bergman and Coxon (2005) underscored the need for interviewer sensitivity during interviews insisting the use of probing questions to clarify discrepancies in responses from interviewees. In the conduct of qualitative interviews, using follow-up questions permitted the researcher to clarify initial responses or provided further details, as illustrated by Edwards and Holland (2013).

To ensure that answers to the questions were captured accurately, I audio recorded all face-to-face interviews prior to transcribing responses from each participant. The audio recordings provided the ability to capture word for word what the participants shared about their experiences in dealing with disasters. While the initial interviews afforded comprehensive responses from most participants, certain varying responses obtained during data analyses required additional clarification to some views expressed. After completion of data analyses, I contacted the participants via telephone at convenient times, and substantiated the accuracy of results (member checking). Throughout the follow-up sessions, I questioned conflicting interpretations resulting from

the initial interviews and asked more probing questions to gather additional details and clarified inconsistent statements.

To recall and dispel any personal opinions and enhance my understanding of participants reaction associated with the issue in the initial step in my data collection process, I used a bracketing method (epoché) as specified by Moustakas (1994). Consequently, to be able to focus specifically on participants responses, I recalled memorable personal experiences before intentionally disengaging emotional discussions which referred to personal experiences to pay more attention to participant responses.

Credibility

To ensure credibility in qualitative research, transparency on the research processes and formulating detailed steps that support the quality of results were imperative. I established credibility by conducting triangulation from multiple data sources using reputable research methods. This involved capturing information from multiple perspectives, which included semi- structured interviews conducted with emergency managers, first responders, and policymakers.

I provided details of the main processes with the use of the modified Van Kaam method for data analyses validating transparency. To ensure that credibility was achieved I took additional steps and confirmed that participants were willing to share honest experiences and prompts during interviews. In some cases, the participants were asked the same question in a rephrased manner, to detect any inconsistencies in the participants' responses, which aided the clarification of participant responses with inconsistencies. I

conducted follow-up sessions (member checking) to aid in the exclusion of disparity in the responses of participants.

At the conclusion of the interviews, I utilized member checking with the participants to confirm the accuracy and consensus of the information. All the interviewed participants accepted the follow-up member checking sessions and were all provided with a copy of the interview transcripts to confirm accuracy. I conducted the member checking through reviews of the transcripts by the participants. When providing instructions to the participant regarding the member checking process, I was explicit regarding my expectations with member checking. Following this, discussions on the interpretations that evolved during data analysis I confirmed the accuracy of the information. My earlier training in the field of emergency management helped to establish familiarity with the research setting. I conducted a random selection of participants by reaching out to pre-screened prospective participants using partner organizations to send invitations to participate. Interestingly, all participants volunteered to participate, and indicated their intentions to contribute to the development of new knowledge, by providing useful data.

Transferability

Transferability represented the reader's ability to transfer the results of a study to their circumstances or generalize the results. It was used to ensure the context was well-defined for the reader to draw parallels between the study and their experiences. This study provided details of the number of participants, period of data collection, lengths of interviews, and the demographics of interviewed participants. This information,

therefore, allowed readers to recognize study limits and standardized transference of results. As a small sample size was used, qualitative studies, by their very design, were often difficult to replicate regardless of their sample size as future researchers may not have access to the identical subjects. Additionally, if other subjects were used, the results may differ (Myers, 2000). A small sample size was more useful in examining a situation in depth from various perspectives, whereas a large sample would be insignificant. The goal of phenomenology approaches was to focus on the lived experiences of unique participants where in-depth descriptions were an important component of the process. In such situations, small qualitative studies gained a more personal understanding of the phenomenon and the results contributed more valuable knowledge to the research

Dependability

By providing a thorough account of the study's processes, dependability was created. The use of reliable research processes that displayed the possibility of replicating the study in a comparable setting was a determining factor for dependability in qualitative research. This allowed other researchers to reproduce a comparable study gaining analogous results (Patton, 2015). In my study, the participants provided rich detail and descriptions of their policies and processes. Included in the methodology were face-to-face interviews using an interview format with open-ended questions utilized to perform data analysis and cultivate and complete the study. I provided detailed descriptions on the research design elements, data collection processes, analysis procedures, data management, and storage procedures to enable future researchers' ample information to allow replication.

Confirmability

Confirmability was acquired when the researcher disregarded personal views and bias, and ensured the data collected for the study was accurately reported. In qualitative research, to ensure verifiable results can be validated by others, adequate steps regarding confirmability was required. Providing a documented strategic plan on how the interviews were conducted, the data collected, and how the study was implemented increased the study's confirmability (Patton, 2015). I provided details of all research procedures; emphasized changes that emerged during the systematic, repetitive, and recursive research processes.

Results

The inadequacy in current disaster management policies and legislation was the motivation for this phenomenological study which focused on collecting the lived experiences of participants involved in disaster management, at various levels. The results presented in Chapter 4 were derived from the central research question: What are factors inhibiting the implementation of CDMF in Trinidad and Tobago? Following the in-depth analyses of participants' interview transcripts, formulation and categorization of nodes, and the development of the main themes summarizing the meaning of participant experience, themes and subthemes on participants' experiences surrounding their roles in disaster management in Trinidad and Tobago were developed (see Table 2).

Table 2*Emergent Themes*

Emergent themes	Nodes	Sources	References
Systemic failure	Political aspect to decision making	6	15
	No proper succession planning	6	15
	The system is not moving	6	16
	Not prepared to deal with disasters	7	17
	Each organization has its own plan	7	17
	Everybody stands alone until they have to come together	6	15
Issues of policy formation and adherence	Disaster risk management is political	8	18
	There is not any national government policy on disaster management approved	10	20
	Did not see disaster management as a priority	12	20
	Policy makers need to get more serious when it comes to preparing for disasters	10	20
Lack of modern legislation on disaster management	Lack of government leadership	10	15
	Disaster management has not received the attention it deserves	10	20

The major themes included: (a) systemic failure, (b) issues of collaboration, (c) issues on policy formation and adherence, (d) lack of modern legislation on disaster management, (e) and barriers that inhibit disaster management, education, and training. Subthemes emerged under issues of collaboration, and collectively the subthemes included (a) lack of proper coordination amongst agencies, (b) issues on policy formation and adherence, (c) poor contingency plans, nonexistent policies, and lack of standardization, (d) issues with administration structure, and (e) desire for policy restructuring.

The applied theoretical frameworks combined were the advocacy coalition framework and the multiple streams framework which aided the provision of answers to the central research questions, by recognizing stakeholder's perspectives in relation to the lack of policies and current legislation necessary for the development of effective disaster management strategies in Trinidad and Tobago.

Theme 1: Systemic Failure

Theme 1 *systemic failure* emerged as the most significant role activity for participants, resulting from their experiences in disaster management. Performance was a vital indicator used in the evaluation of employees in any organization (Anitha, 2014). First responding agencies and other support function agencies were part of the work-force community, and also required defined policies and procedures to be able to effectively perform their duties. For performance appraisals related to disaster management operations, leadership must align the relationship between the organization and the scope of responsibility, to facilitate organizational success (Sorenson, 2013). Among other issues, lack of interagency collaboration, the absence of policies, and updated legislation hindered emergency management agencies meeting their expected goals while dealing with disasters. This led to a reduction in the output of productivity thereby, leading to failure in the ability to effectively deal with emergency situations.

Asked to describe their experience in the management of disasters, all participants believed that having clearly defined policies, procedures, and current legislation in addition to having effective and adequate tools, promoting interagency collaboration, providing relevant logistic support were all important role activities in achieving effective

performance. All participants gave responses with references (see Table 2). During our interview, (P1) described his feelings about his role in the following way:

While I am confident in the competence of our disaster management professionals to prioritize, plan and implement measures, this competence is often not reflected in what is done in these matters, as all agencies are not readily trained in disaster management. The reality is there is always a political aspect to decision making in these matters and this often overshadows the purely technical input.

(P2) described his view on disaster management: “No succession planning was put in place for the future, the system is not moving. We have no policy, you have the politicians running out and do what they want to do, and they do it for the cameras.”

(P3) stated:

No system is perfect, it was a bit rough when they started but the objective is to have a degree of self-reliance within the communities. They have strived to increase their own individual capacity by the introduction of CERT as what it does is empower the community.

(P4) recounted his experience with disaster management when he stated that:

If the leader does not have the political will, it remains right there. You have on one side policies guided by one organization and then you have to follow the directorate of another. How does one find a medium in such situations?

Some participants affirmed that their role required active collaboration and engagement with other responding and support function agencies, to drive performance.

(P5) described his experience with the performance of other first responding agencies through actively engaging with them by stating “Disaster management needs structure, we need protocol, and we need processes and procedures documented so that we have somewhere to start, so that we have some type of uniformity. We need to get all agencies involved.”

(P6) reflected on the operations of the local entities tasked with the responsibility for disaster response and coordination within their regions and municipalities:

These entities do not get much money to manage any hazard impact in the area.

They are under resourced in terms of human resources, they are under resourced in terms of budget and they are under resourced in terms of material and equipment. In a smooth functioning system what one would expect is that independently, each one of these regional corporations and municipalities would be looking after their own affairs.

As participants described their experiences with operating in disaster /emergencies, they unanimously stated that their roles required more specific policies and procedures aimed at ensuring effective performance by all agencies. Through the provision of policies supported by legislation and the essential training that will enhance their performance. It assumes that participants hold strong opinions and are motivated to translate those beliefs into actual policy (Kingdon, 1984). For participants who are first responders, the ability to provide adequate working conditions to boost the morale of responding agencies served as the external stimulus for their performance, as such for policy changes to be affected government intervention was required.

Theme 2: Issues of Collaboration

Theme 2 *issues of collaboration* identified the concerns of first responders in disasters. Collaboration was a significant predictor of organizational effectiveness in operational contexts as collaboration amongst teams in disaster management was critical for the effective management of operation. Supported by Besharov and Jing (2014) and Cha et al. (2015), who stated that when resources were scattered, responsibility was dispersed; it became impossible for any single organization to manage the situation. In the disaster management setting, it was also important to have effective plans to support collaboration amongst responding agencies,

(P1) stated:

We do not have clearly outlined procedures that ensure a common understanding of the precise roles and interrelationship between agencies involved in disaster management, each agency operates according to their own mandate, we are operationally ready but fragmented.

(P2) stated: “There are no clear policies on how we should operate and how to interact with other agencies, so we basically just carry out all the functions and work alongside as best as we can with other agencies”.

(P3) stated his view on the dependency of volunteers:

We depend a lot on our CERT volunteers to give us the assistance as collaboration between first responding agencies is not effective, right now we do not have the togetherness with these agencies. But volunteerism can only take you

so far, it does not allow for productiveness, people disappear just when you want them.

(P4) shared the view on the some of the issues with collaboration among agencies:

First response agencies' primary function is responding to disaster or emergencies but there is no proper framework that guides these organizations to carry out their functions during that time. Because we are still operating based on what each organization will do and we do not listen to another organization because they are not responsible for us, and this is the behavior that goes throughout.

Theme 3: Issues on Policy Formation and Adherence

Policymaking comprises of the actions of a group of diverse individuals and their interactions during different stages and activities of policymaking (Béland et al., 2018).

When asked about how planners and policymakers perceived the importance of collaboration and coordination amongst all agencies in disaster management, generally participants stated that policy makers needed to get more serious when it comes to preparing for disasters and do a lot more work to ensure that Trinidad and Tobago was adequately prepared.

(P3) described his view on policy makers and how they regarded the importance of collaboration:

The people in charge of policies do not have any idea of what is happening, we do not have any contingency plans, no long-term plans and we do not have policies that align with the national view on how we should respond to disasters.

(P4) stated:

Nobody really appears to care about the importance of collaboration and coordination. There isn't any national government approved policy on disaster management, we are response centric. The policymakers in Trinidad and Tobago need to do a lot more work to ensure the country is adequately prepared for disasters. I don't think that they are there just yet.

(P5) further emphasized that: "Policymakers do not see disaster management as a priority; it is only when people are affected that politicians become very primal, they do not understand a logical dispassionate approach to disaster risk responses".

(P6) commented:

Policymakers need to get a little more serious when it comes to preparing for disaster in Trinidad and Tobago. There is a feeling that and a saying that God is a Trini and sometimes that particular statement may affect how we prepare.

(P7) expressed:

We need to find a proper leader in the country, somebody who has the political will to rise up and push that particular agenda in the country. A whole culture shock needs to take place. We would not understand the importance until we get impacted or we get hit by something major.

(P8)

I will give you a stark reality as to where policy is, there isn't any national, any government approved policy on emergency management as we speak. Yes draft, there has been a draft for some time, but there is no approved policy document on disaster management, you won't see it.

All participants understood that to have efficient and effective collaboration between responding there was a need to have defined policies and procedures. Agencies cannot perform efficiently or collaborate with each without being provided with the proper guidance to respond effectively to emergencies, as such policymakers and politicians must protect the interest of the responding agencies and those involved in disaster management.

Theme 4: Lack of Modern Legislation on Disaster Management

Disaster governance has a significant influence on the production and prevention of the growth of vulnerability. However, in some instances, the destruction experienced cannot always be attributed to natural disasters but can be because of bad governance (Sandoval & Voss, 2016). In Trinidad and Tobago, the importance of policy and legislation was not sufficiently emphasized even though the objectives are similar. Disaster management in the country was the responsibility of the ODPM, and while the organization does not have a legislative basis, the Disaster Measures Act of 1978 was the primary legislation governing disaster management in Trinidad and Tobago which focused solely on post-disaster response and provided a normative framework which governed the national response to disasters. The date of this legislation was an indication of how old the laws are and how unrelated they were to the changes in disaster management globally.

Asked about their views on the current legislation (P1) stated:

The Disasters Measures Act 1978 is three pages long and takes a long time to say nothing, it is outdated and archaic. The disasters measures act does not have any

weight at this point in time, with each agency having their own legislation that they are mandated to follow.

When asked to share another view (P2) said:

The legal drafters will only take disaster management document seriously when policy exists as policy has to precede legislation; we have a lot of documents that are in draft, most of them are just there, they have not been ratified and accepted.

(P3) expressed concerns: “One of the reasons the country has not moved forward in any meaningful way was due to the lack of policy and legislation at the national level”.

(P4) stated this concern about the current legislation.

The Act only specifically gives the authority of the President to declare an area a disaster; it is only after a disaster is declared the agency responsible for the coordination of disaster management in the country would be able to coordinate the response to the disaster.

(P5) stated:

When they amend the disaster measures act, they will have to look at every other supporting piece of legislation and make sure and empower people in authority to get things done. For the legislation to pass it has to go to the politicians to approve and it is at debate stage, that is where a lot of it gets shut down.

(P6) commented

It is absurd at this point in time because we never really had to use it at any given point. So, I am seeing a need for it, now we know that it is outdated, things have

changed, so we need to probably look at getting it upgraded. We need clear roles to be defined in the Disasters Measures Act.

Another participant (P6) stated: “It is about three pages long from start to finish and it really just is something put onto the books in case something bad happens.”

(P7) stated: “We have to move swiftly to work on the legislation process; we need to make sure comprehensive disaster managements, at all angles of the coin need to be built into legislation”.

(P8) “If you are looking for a completed document, it does not really exist if you look across the legislative framework of Trinidad and Tobago”.

Theme 5: Barriers That Inhibit Disaster Management

In response the question on the possible barriers that inhibit disaster management

(P1) expressed the view:

The problem is our culture, our very own culture cripples us in terms of our behavior, we are very reactive and not proactive people, although we are constantly threatened and we are losing more and more every year, people are not just proactive enough to understand and the realm of the issue. People don't accept responsibility; they don't accept that it is their responsibility to be prepared. Additionally, the government has not recognized in any meaningful way that disaster risk reduction should be part and parcel of the national conversation.

(P2) stated:

We are not taking the possibility of a disaster impact in our country seriously, and that is from the highest level in our land down to the lowest levels. Because there

is no government, I have seen, in recent time that has taken it seriously. I believe that there should be a specific piece of legislation that should be drafted specifically for dealing with disaster management in Trinidad and Tobago, that's how serious this country should take them because of where we are located in the world.

(P3) stated: "Politics and disaster management they are always at loggerheads because what the professionals in disaster management may recommend, the voter on the ground might be against and that's where the issues start stemming from".

(P4) stated: "Until and unless Government sees disaster risk management as a facilitator of sustainable development, until they see that, then the actions will not reflect that without governmental leadership on those matters".

(P5) stated:

When you have an organization that changes administration every five years for the last twenty years you are constantly changing your strategic plan. The country has not had consecutive administration in the last twenty years. So, every five years you have gotten a new administration with a new focus, a new strategic plan and therefore, that allows for change in the ability to coordinate.

(P6) stated:

When we begin as a state, as a government to show that we are doing these things in recognition of the fact that we live in a hazardous part of the world, then the message of disaster risk reduction will be taken seriously, because there is an example at the top.

(P7) stated:

Trinidad and Tobago has never had any major disaster to really test the resources and the agencies in the country that is a bad thing from the preparedness side; it's a good thing because we really truly don't want that to happen to put us to the test.

Theme 6: Education and Training

In reflecting on the issue of education and training (P1) shared this view:

Training is something that could be improved on; there is not enough training on disaster management for responding agencies. Training among agencies needs to be improved for us to be prepared to deal with disasters. Responding agencies must be able to function effectively with each other and this can only be improved through training.

(P2) stated:

Because disaster management is an annual event there is a level of training in disaster management or sensitization of disaster management that is required in order to increase the capacity. We could only inform and educate at this time, we cannot go and mandate them to do anything that they don't want to, we cannot force them.

During interviews, probing questions were asked, to further prompt stronger descriptions which aided in providing clear and brief answers to the research question of lived experience about the factors that inhibit comprehensive disaster management. In a situation, I asked, "can you tell me more about the issues that should be addressed as it

relates to disaster management in the country?” To provoke a deeper response, (P1) answered:

The ODPM needs to be an authority, they need to fall under the office of the Prime Minister and have that level of authority. I think the ODPM is being stifled under National Security; they should be overarching everyone, because in its current form, it will just be a revolving door in and out without any major changes.

However, (P2) shared his experience within operational areas for over the years: “The only thing to get us going, we have to be impacted by a disaster, then we will understand that sitting and waiting is not the ideal strategy”.

(P3) mentioned: “When it comes to disaster response and what are the policies within the organization for response, sadly I cannot tell you”.

(P4) stated “The fact is we are not fully prepared, because we lack the political will, we lack a culture that is moving towards being serious about disaster preparedness, and until that happens, we will always be one step behind”.

The results of the study supported these statements, as all participants agreed that the importance of agencies being provided with adequate defined policies, procedures and current legislation to support effective disaster management. During member checking, all participants provided a recap of their feelings about the importance of having defined policies, current legislation and collaboration amongst all responding agencies in order to have effective disaster management in Trinidad and Tobago.

Subtheme 1: Lack of Proper Coordination Among Agencies

The subtheme *lack of proper coordination amongst agencies* emerged from participant's descriptions of their role performance during disaster /emergency operations in Trinidad and Tobago. Operational barriers reported included the inability to have a coordinated approach to dealing with disasters. A shared perception held by the participants suggested that these barriers negatively impacted their roles in dealing with the management of emergencies in Trinidad and Tobago.

When asked to give their input on the challenges during emergency operations participants responded with the following experiences:

We all have different operating policies, procedures, and legislative framework. As a result, we operate according to our separate guidelines. Another participant acknowledged that not all agencies have received training in disaster management, more so training in interagency collaboration. A few participants affirmed that responding agencies would have done better if they were properly trained in disaster management.

Subthemes 2: Poor Contingency and Nonexistent Policies

Subtheme 3: Lack of Standardization

Subthemes 2 and 3 *poor contingency and non-existent policies and lack of standardization* emerged as participants recounted their experience resulting from the issues of not having clearly defined policies to guide their operation during disaster operations, giving accounts of the importance of standardization of operating procedures with other responding agencies. When asked the question about how the responding

agencies operated without disaster contingency plans and policies, participants stated that to achieve good results, there must be approved contingency plans. Responses presented captured mental conversations in the minds of participants about their actions as individuals, and their behavior as actors involved in disaster management.

One participant expressed his concern about the lack of inter-agency cooperation and collaboration amongst the fire service, police, emergency medical operations and other support function agencies, and the negative impact it yielded regarding disaster management operations. (P3) stated:

Proper training in disaster management should be given to all agencies tasked with the responsibility for disaster response. We all should understand that we are one in this battle. We all need to understand that there is a common goal, effective disaster management and response. In this way, we all can identify ways we can contribute to the effective disaster management as a collective body.

An interesting response was shared by one participant in response to a question on suggestions on how policymakers can contribute to the effective disaster management. (P1) stated:

Implement the incident command system and put in place written procedures so everyone will know their roles and functions and put all agencies together under one umbrella with the supporting legislative framework. This should eliminate existing issues and would improve interagency collaboration.

During member checking, participants confirmed the accuracy of transcripts and repeated concise versions of the initial responses. In summary, participants believed that

standardized procedures would have a positive impact the effectiveness of their roles in disaster management.

Subtheme 4: Issues with Administration Structure

The subtheme *issues with administration structure* validated the view that having a legislative framework for disaster management was an important recipe for successful management of all disasters and the effective operation of all responding agencies. Politicians and private sector drive legislative change with planners acting primarily as respondents and facilitators.

Discrepant Cases

All participants gladly responded to interview questions, provided useful details on their roles and activities in disaster management operations and strategies, they were cooperative, and none of them refused to respond to any of the interview questions. During my interview transcripts reviews, two discrepant cases where participant's responses were significantly different from the responses of other participants were identified. The first was where a participant affirmed that he was not exposed to any interagency disaster management operations and was only aware of the importance of this after completing a training program in disaster management.

In the second instance, the participant elaborated on the management of disaster in Tobago:

I can tell you the supporting agencies have a better cohesive mechanism than Trinidad. When you look at the professionalism of the response mechanism that response agencies provide it is better, more effective than the response

mechanism that the disaster management unit would give in Trinidad, there is no comparison.

All participants presented detailed examples of experiences encountered during disaster management operations. Responses from the other participants to the interview question on experiences within their respective agencies, and the impact of the lack of strategies on their performance described their experiences as disappointing.

Participants' Experiences

The core of participant's experience was to describe the meanings participants endorsed based on actual accounts of their roles with disaster management operations. This narrative provided a fusion of the quality and detailed accounts of participant experiences. Participants comprised of first responding agencies, policymakers and local government response units shared stories related to their role perceptions, role behaviors, and role performance within the perspective of evaluating disaster management operations.

Participants shared their opinions, feelings, and thoughts about their role in or with disaster management and indicated that improvement in disaster operations required the development of a current disaster management legislative framework, defined policies and procedures and interagency collaboration through training. Responding agencies, policymakers, and support function agencies required acute knowledge and understanding of their role in disaster management to help set clear goals. Some participants displayed a lack of confidence with their organization, while most were dissatisfied with the government's inaction in the provision of current legislation. Sharing

their experiences, therefore, highlighted most of the inadequacies of the disaster management system. Addressing these deficiencies would result in positive changes that can substantially enhance the collaboration among responding agencies.

Participants recognized that disaster management operations required leadership by professionals, trained in the field of disaster management. and viewed issues relating to disaster management based on the performance of personnel, accompanied by observation and discussion. Finally, acknowledged the importance of enhanced collaboration amongst all agencies involved in disaster management. In addition to understanding the responsibility that policy- makers have for ensuring the provisions of polices and legislations to support the operations of all responding agencies and enhance their performance and effectiveness in disaster management.

Summary

In Chapter 4, I presented a detailed and precise narrative of the research study as well as a thorough description of how the research methodology was applied to these data analyses. These data analyses were produced with study results based on the participant responses from face-to- face in interviews using semi-structured, open-ended questions relevant to the research topic and question. The research sample consisted of 15 participants comprised of first responders, policymakers, disaster management coordinators, and a lobbyist experienced in the field of disaster management.

Information about the results of the data analysis used to unearth the meaning participants attributed to their role in disaster management was also provided. Chapter 4

also illustrated research question themes derived from the semi-structured interview questions.

The process used for the development of themes and experiences of participants were clearly detailed and discussed during the data analysis. In Chapter 5, a description of how the study results will add to the body of knowledge on the enhancement of disaster management policies and strategies is suggested. Information on the study's limitations and its influence on trustworthiness were included in the chapter. Chapter 5 ended with recommendations for future research and implications for positive social change were presented.

Chapter 5: Discussion, Conclusions, and Recommendations

In this chapter, I review the purpose, the methods used to support findings, and the results of the study, which sought to answer the question: What factors are inhibiting the implementation of CDMF in Trinidad and Tobago? Based on the results of the data collected through in-person interviews, I hope to provide a deeper understanding of the recommendations being offered to improve disaster management operations. In this chapter, I interpret the findings based on the themes identified in Chapter 4 and share the unexpected outcomes, the limitations to the findings, its impact on trustworthiness, and a summary of key information. Finally, I conclude with recommendations for future studies and implications for social change.

The study's purpose was to explore the lived experiences of disaster response agencies, policymakers, and local government response personnel to understand the strategies applied in disaster management in Trinidad and Tobago to determine the reasons there is still insufficient policies and legislation for disaster management. I conducted this research because of the consistent occurrence of this problem despite successive attempts by previous policymakers to correct a deficiency. The study explicitly focused on the issues that need addressing to improve disaster management and enhance interagency collaboration among response agencies.

A phenomenological approach was used with a view to understand the strategies being applied with the intention to extricate information and support the interpretative and descriptive reason for the research. This comprehensive structure allowed for a far-reaching investigation of complicated issues related to a lived experience (Khan &

Rahaman, 2014). The central focus was aimed at exploring the perceptions and lived experiences of stakeholders well-informed in the field of disaster management in Trinidad and Tobago. The quantitative method was not used because it would not have provided an accurate view of participants' lived experiences and was not suitable for obtaining detailed information about the context in which events or behaviors occur; moreover, a quantitative approach would not have allowed for flexibility in the type of data obtained (O'Sullivan et al., 2016).

This study leads research efforts intended to explore factors inhibiting comprehensive disaster management in Trinidad and Tobago; the research was conducted using theoretical frameworks extracted from the advocacy coalition and multiple streams. In this research, I sought to expand the knowledge on disaster management by offering a deeper understanding of the issues preventing effective disaster management and the effects this has on interagency collaboration with a view to developing more efficient and effective approaches. Existing research on disaster management continues to focus on response activities. Although all response agencies have their individual policies and legislation, there is a lack of a comprehensive disaster framework to enhance interagency collaboration. Each agency is interdependent and relies on the other groups to provide assistance during a disaster.

Interpretation of the Findings

The aim of qualitative research is to produce accurate and valid data and to recount in-depth and illustrative information to understand the various dimensions of the problem under analysis (Fink, 2010; Patton, 2014). The findings align with the larger

body of literature examined in Chapter 2, particularly discussions on disaster policies and legislation over the last two and a half decades that has determined both areas need enhancing, the limitation of resources, lack of communication, and coordination between agencies. The findings confirm the low priority given to disaster management.

As it related to the research question and disaster management strategies applicable in Trinidad and Tobago and their effects on interagency collaboration, the findings help expand knowledge on the roles of all stakeholders involved in disaster management and the importance of having effective policies and supporting legislation to enhance the development of effective strategies to be used during these events.

The results provide an opportunity for other researchers to understand the operations of response agencies and their inability to collaborate through an exploration of firsthand experiences and strategies being used in disaster management. Long-established concepts of disaster management in Trinidad and Tobago are based on what occurs during the response phase of disaster management; however, the findings of this study prove that the lack of policies and current legislation inhibit the effective and collaborative efforts of all response and support agencies in the implementation of effective strategies in dealing with disasters. The participants shared their opinions on their roles, experiences, and performances with a view to enhancing disaster management in Trinidad and Tobago.

The main findings help to identify and highlight the significance of the roles of all responding agencies involved in disaster management and the need for clearly defined policies, procedures, and supporting legislation to operate effectively in the execution of

their duties. I identify several components inhibiting a collaborative approach in disaster management. Themes summarizing the systemic failure of disaster management policies in Trinidad and Tobago include: (a) lack of proper collaboration and coordination among agencies, (b) lack of modern legislation on disaster management, (c) issues of policy formation and adherence, (d) barriers that inhibit disaster management, and (e) education and training. Several subthemes emerged under lack of proper collaboration and coordination. Subthemes express the diverse aspects of experiences by participants during disaster operations and include: (a) poor contingency plans and nonexistent policies, and (b) lack of standardization.

The findings support the view that although responding agencies play a key role in disaster management, adding other vital components is necessary to support their efforts by developing effective interagency strategies to enhance disaster management operations. The key players in disaster management mostly collaborate in dealing with disasters and require a sense of obligation and understanding of each other's specific roles and how this impacts the successful execution of disaster management strategies.

Systemic Failure

The first theme, systemic failures, speaks directly to the lack of policies and procedures resulting in the need to assess the performance of responding agencies and create an understanding that their failure is attributed to a specific reason. The results highlight participants' views about the current disaster management system in Trinidad and Tobago and the roles of the responding agencies guiding policies and legislation as determined by the government and policy makers. However, their specific responsibilities

in disaster management are not clearly defined, resulting in general institutional weaknesses. Current policies and supporting legislation need updating to meet the needs of the agencies to foster more effective interagency collaboration and to meet the required standards of a CDMF. The results show that disaster management operations can improve significantly with updated policies and legislation.

Issues of Collaboration

The second theme, issues of collaboration, substantiates the importance of responding agencies working together. Participants highlighted the variations in approaches to dealing with disasters by response agencies; they all have different roles to play in disaster management. Interagency coordination is critical to successful preparation for response to emergencies, and as these events become more complex, the need for effective interagency coordination increases. Coordination can serve many useful purposes, eliminate gaps and duplication in services, determine an appropriate division of responsibility, and establish a framework for joint planning and strategic decision making on issues of common concern. There are no clearly defined procedures for a collaborative approach to dealing with disasters between response agencies. As such, legislation is imperative to ensure greater interagency collaboration in the management of disasters. The policymakers and government are responsible for ensuring that policies and legislation are current and updated to enhance the performance of all agencies in disaster management.

Lack of Policy Formation and Adherence

The theme lack of policy formation and adherence will support the views of the participants and is an important component impacting responding agencies. Interview results prove that there are no direct policies for a collaborative approach to disaster management. The theme highlights major weaknesses associated with the policies as they lack detailed explanations for the management of disasters, which hinders the effective operation of responding agencies. The data reveals that a large portion of the blame for lack of policies is attributed to politicians who do not regard emergencies as a pressing problem requiring sustained government intervention (Henstra, n.d.) and the inter-relationship among different guidelines prepared by different organizations. The government must take advantage of their position as the drivers of policy change and be more vigorous in their efforts to improving disaster management policies.

Lack of Modern Legislation on Disaster Management

The theme lack of modern legislation on disaster management corroborates the findings of Weible et al. (2012) who suggested that policy guides the decision-making process, whereas legislation serves many additional purposes, the law provides additional reinforced support to effectively and authoritatively achieve objectives that are deemed critical. The data verify that without any legal obligation, mandate, or enforcement, such efforts are not sustainable. Based on the date of current disaster legislation (1978) is an indication of how old the laws are and how unrelated they are to the changes in disaster management globally.

Barriers That Inhibit Disaster Management

The theme barriers that inhibit disaster management reveals that organization culture and that of citizens are the most significant barriers to effective disaster management and this negatively impacts effective disaster management operation. The results support Dietrich (2016) who stated that the culture of disaster-response organizations can severely hamper the process of recovery, as well as impede preparedness for future disasters. For there to be any improvements in disaster management major changes must be made in the culture of all citizens of Trinidad and Tobago inclusive of disaster management organizations.

Education and Training

The theme education and training highlights that there is insufficient training in disaster management being conducted for responses agencies individually and collaboratively to operate effectively with each other. The results note that while agencies are trained in their legal obligations, training in disaster management is not given the priority required to enable all response agencies to operate collaboratively.

Lack of Coordination

The subtheme lack of proper coordination among agencies illustrates the views of the participants about the need for all response agencies to work together to enhance disaster management operations. Currently, each response agency is tasked with specific areas of responsibility in the management of disasters. The primary response agencies operate according to their specific policies and procedures as there are no defined policies and procedures for interagency agency collaboration in dealing with disasters and this

becomes a challenge as it creates a divergence between agencies. While each agency has a role to play and a strategy that may be effective, collaborating will result in a more efficient operation.

Poor Contingency and Nonexistent Policies

The subthemes poor contingency and non-existent policies and lack of standardization signifies that clear, well-defined expectations are required to meet stipulated objectives. Data collected supports the views of responding agencies that there is no guidance for the collaborative approach to disaster management. Each agency generally follows the instructions based on the dictates of their superiors and their stipulated operation policies.as such there is no standardized approach to dealing with disaster management. Without the appropriate policy guidance, it is challenging to set goals. These subthemes suggest the need for a multipronged approach to bring about a change within the present disaster management system and develop a more cohesive approach. The current operating procedures for all agencies needs revamping, to include the training of all first responding agencies in disaster management, ensuring all agencies are aware of each other's roles and responsibilities; this will facilitate a more coordinated approach to dealing with disasters.

Issues with Administration

The final subtheme issues with administration, surfaces during data analysis, is an important part of ensuring that responding agencies have proper policies and procedures. To ensure effective disaster management operations it is imperative that policymakers and politicians provide the necessary legislative support and clearly defined polices for

all response agencies to operate efficiently and effectively. The government must be the driver of change by supporting the enactment of legislation. Participants infer that the government does not make use of all opportunities to ensure all agencies responsible for disaster management have updated disaster management legislation and policies that will improve interagency collaboration. The data suggests that the government does not consider it as an obligation to support changes in disaster management operations.

Limitations of the Study

This study addresses only the factors inhibiting implementation of comprehensive disaster management system and the effects on the performance of responding agencies. The research setting is confined to the application of strategies to enhance disaster management in Trinidad and Tobago. Having a wider context with a participant pool drawn from other regions within the CARICOM region affected by flooding will be useful to this study. Another limitation results from the use of Zoom platform as the primary method for data collection, and this is addressed by triangulating data sources, merging interview data with data from interview notes, operating procedures and policy guidelines.

Although I am engaged in the field of disaster management, it is important to note that all the participants who currently serve as first responders had no direct contact with me and as such, there was no undue pressure exerted on them to influence the interviews, in my opinion, they gave true and honest responses. Additionally, I did not encounter any challenge about undue familiarity that could influence the objectivity of responses during the period of my dealing with all participants.

Recommendations

The study focuses on gaining an understanding of the strategies used in disaster management in Trinidad and Tobago and explores the factors that inhibited the implementation of CDMF. The interest in exploring the inhibiting factors emanated from the failure of the policy makers and the government to provide effective solutions to this dilemma. The results provide several recommendations that can be used in Trinidad and Tobago or as a template for the effective disaster management strategies in other countries experiencing similar issues in dealing with disasters.

The recommendations highlight the need for the wellbeing of all response agencies to become a priority in the management of disasters and include training programs specifically designed to incorporate all responding agencies with the objective of enhancing interagency collaboration. Additionally, it is essential that all response agencies and support functions agencies are enlightened about the new changes and strategies in disaster management to augment their roles and responsibilities and improve the technical skills which will ultimately enhance disaster management operations. The aim of enhancing training is to improve coordination of disaster response and the quality and availability of disaster management tools. Through training, information on current disaster management strategies is applied to improving disaster management policies, procedures, and operation.

Training in disaster management is also beneficial to members of the community and is essential to influencing behavior and developing a culture of safety and resilience, resulting in the reduction of injury to citizens, destruction to property and economic loss.

In strengthening disaster management strategies, and with the enactment of disaster legislation, the collaborative approach to disaster and all these measures will go a long way to improving the quality, timing, and effectiveness of the response to a disaster.

In Chapter 1, the study's limitations illustrated opportunities for further research, using an alternative research approach or research instrument to gain a different perspective of the issue. Future researchers may consider collecting data, using a case study research design to gain deeper understanding of the issue, through interviewing and observation. Inclusion of observation to the researcher's data collection plan could foster the identification of observable elements not contained in this study. The researcher would be allowed an opportunity to challenge the theoretical assumptions of this study, using a case study design.

Another method for future research involves the use of a quantitative approach to further explore the relationships of response agencies, policymakers and authorities directly involved in disaster management in Trinidad and Tobago. Quantitative research methods focus on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon, the goal in conducting quantitative research is to determine the relationship between an independent variable and another a dependent or outcome variable within a population.

The other opportunity for future research involves taking a closer look at the barriers inhibiting the effectiveness of disaster management strategies on performance during disaster management, to uncover possible resolution to these anomalies. A mixed methods research design of combining qualitative and quantitative research components,

reducing time and resource allows for the expansion and strengthening of the study's conclusions and, contribute to answering the research questions. Additionally, obtaining results from different methods have the potential to enrich understanding of the problems and research questions. Better understanding will be obtained by triangulating one set of results with another and thereby enhancing the validity of inferences.

Implications

This study offers answers to the research question, exposing a broad range of interest on disaster management strategies. Specifically, emphasizing the role of response agencies, policy makers, local government and politicians, as well as the overall organizational efforts aimed at solving the problem of effective disaster management in Trinidad and Tobago. Undoubtedly, the results offer significant support to the research literature on disaster management strategies, emphasizing the need for all response agencies and other stakeholders to ponder on giving new meaning to their roles and functions in disaster management. Based on the results additional suggestion is that all the stakeholders involved in the creation and application of disaster management strategies, together, play a key role in the effective management not only of flooding but disasters in general.

Significance to Practice

Until recently, the response phase remains the focal point of disaster management. However, this study focuses on factors inhibiting the implementation of comprehensive disaster management which expands the focus on all phases of the disaster cycle and incorporates greater collaboration among all agencies by evaluating participant's

perceptions about their experiences. The outcomes are therefore important to practice, as they bring to light the various other strategies that can be applied to getting a better understanding of their efforts in enhancing interagency collaboration in disaster management. In a post-disaster situation, multiple agencies, often representing first responders, support function agencies, local government agencies, private companies, and NGO sectors with different strategies and management styles come together at the disaster site and are expected to cooperate.

Quick and effective emergency cooperation is made difficult because of a separation between individual agency goals (Burchardt, 2009) and social welfare goals (Huamin, 2010). Individual agency goals include avoiding blame and liability; posturing for bureaucratic or public acclaim; and politicking for control of resources or for a controlling role versus other responding agencies. Interagency cooperation depends on reputation and potentials interaction of the different agencies, and these are the primary factors in cooperation. Identifying, allotting, and employing key roles in disaster management activities helps expedite the expansion of stronger strategies being used by response agencies in the dealing with disasters. It is hoped that this study will open new ways of inter-agency cooperation and thus speed up and increase aid to disaster victims.

Significance to Theory

This research focuses on the effects of the lack of policies and legislation and its impact on effective disaster management in Trinidad and Tobago. Two theoretical frameworks serve as the foundation for this study: the advocacy coalition framework and the multiple streams framework. Together, the two theories move beyond the boundaries

of the policy-making process and assist in making sense of the complex set of socio-political activities that constitute policy making, as policy development does not occur automatically or spontaneously in response to a social problem (Althaus et al., 2013; Cairney, 2013; Howlett et al., 2012). Collectively, the two theories assist in the development of a profound appreciation of the meaning agencies involve in disaster management create about their role in applying effective strategies in dealing with disasters, and the meaning they credit to how the lack of clearly defined policies and legislation impact their roles.

The target populations are first response agencies, policy makers and local of government response units. Although there is research available on the effects of natural disasters, they have been conducted mainly on the operations of agencies during the response phase rather than on the effects of not having sufficient defined policies, procedures and legislation to enhance the performance of all responding agencies. The outcome provides a window through which other researchers can understand influences, choices, and identities which relate to development of effective disaster management strategies. The study is significant to theory because it offers new knowledge that helps all responding agencies involved in disaster management.

Significance to Social Change

The participants involved are professional disaster management agencies, policymakers, local government response units. This study highlights ways through which some of the causes of lack of policies and legislation among responding agencies in Trinidad and Tobago can be addressed. Policy makers and the government both must

take a more proactive approach to ensuring that the responding agencies have the required detailed policies that encourage a more collaborative approach to disaster management. The failure in the administration for effective systems, lack of disaster training for all response personnel and insufficient collaboration at all levels within response agencies are reasons for the deficiencies in the current disaster management system. The results suggest that with the implementation of education and training, review of policies, procedures and legislation, involvement of communities will contribute to a change of behavior by both citizens and those involved in disaster management. With the implementation of these measures, the impact of flooding and other hazards will be managed more effectively, further reducing damage and destruction to property, displacement of persons and reduction in economic loss. This can be a standard for other countries with similar problems relating to disaster management. Therefore, the results should enlighten and enhance our knowledge on the role each of the responding agencies play in disaster management functioning as either an obstacle or as an initiator aimed at improving disaster management in Trinidad and Tobago.

Conclusion

In January 2018, the country was subjected to severe flooding in various communities, however, the issue which occupied the media related to flooding in the community of Greenvale. It was not just the flooding but the approach to the management of this and other events which brought to the fore the role played by response agencies. In that event hundreds of victims including men, women, children, persons with disabilities, and the elderly were marooned or displaced. It was an

overwhelming blow to the community and the country, especially for those who lost all their possessions. Today, flooding is the number one natural phenomenon impacting the country displacing thousands of people and it appears that the impact of natural disasters, especially flooding is getting worse every day causing significant challenges for responding agencies.

In summary analyzing the cost of damages and losses to the country's economy, one would say thousands of dollars are lost through overall destruction of infrastructure, property and economic losses, displacement of citizens all attributed to the effects flooding. The research highlights issues relating to first responders, as well as all stakeholders such as government, policymakers, tasked with the responsibility of ensuring that the job of dealing with disaster management in Trinidad and Tobago is managed effectively and efficiently.

Despite the strategies deployed by government agencies, and NGO's, destruction caused by flooding continues to persist. The results of the effects of existing strategies in use by responding agencies require the strengthening of existing strategies with more effective ones to enhance overall performance (Garg et al., 2013). It is necessary to look deep into the reasons the existing strategies fail and follow through with the recommendations made to work out ways by which effective ones can be developed, to enhance disaster management operations. From the findings, it is clear that most of the problems related to the flooding and issues relating to lack of interagency collaboration are problems imposed by those in authority elected and appointed to govern and administer policies.

The gap between evidence of the effectiveness of disaster management strategies and the lack of a CDMF is due to poor supervision of organizations tasked with the responsibility to monitor the activities of policymakers and senior personnel of the disaster management agencies. Few studies focus on the adequacy and effectiveness of the strategies used by disaster management. This study explores the factors inhibiting implementation of CDMF and how this impacts the operation of disaster management personnel.

The results provide substantial contribution to the research literature on developing effective disaster management strategies, supporting the need for stakeholders to consider a more collaborative approach to the problem in Trinidad and Tobago. However, to make this come to realization, the cooperation of all entities involved need to come together to work out effective strategies and remedies to enhance disaster management, eradicating division, self-centeredness and putting the country first.

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Appendix A: Semi Structured Interview Questions

Interview Questions: Disaster Management Unit Coordinators (DMU)

1. What is your current job title?
2. How long have you worked with the DMU?
3. What is the most frequent hazard that impacts your community?
4. Does the Community have an adequate disaster management plan? How often is tested or amended?
5. Can you describe what actions you take to ensure your community is prepared to respond to disasters?
6. Tell me about your biggest challenges to disaster preparedness.
7. What do you think needs to happen to address this situation?
8. Has your organization been involved in any effort of disaster prevention, response and recovery in the Community? If so, to what extent?
9. What is the long-term prevention/mitigation strategies/activities for hazards in your community?
10. What are the policies that guide your disaster management operations, particularly flooding in your community?
11. Can you elaborate on any policies or practices you would change to increase disaster preparedness?
12. How does the comprehensive management framework align with your operating procedures?

13. How does the current disaster legislation support your disaster management operations?
14. Can you describe the collaboration between your organization and other first responding agencies in the management of disasters in your community?
15. How effective is the partnership with other first responders in the management of disasters in your community?
16. What are some of the concerns arising during and after a disaster?
17. What has the government/policy makers done to address your concerns?
18. Are there any other comments related to your disaster management challenges and priorities you would like to share?

Interview Questions: Policy/Decision Makers (ODPM/ TEMA/ MOLG)

1. What is your role and function in your organization?
2. What is the function of your organization in disaster management in the country?
3. Who is responsible for disaster management in the country and what are their responsibilities at the different levels National, Regional, Community?
4. How confident are you in prioritizing, planning and implementing measures to reduce human and material loss from potential disaster?
5. How does your organization's emergency operation planning network collaborate with other entities to create plans that support a coordinated response to disasters?
6. How do planners and policy makers perceive the importance of collaboration and coordination among all agencies in disaster management?

7. How does the state and regional organizational structures support collaboration within the emergency operations planning network?
8. What are the current policies that guide the operations of all agencies involved in disaster management?
9. Do the policies clearly outline the procedures to ensure a common understanding of the precise roles and interrelationship between agencies involved in disaster management?
10. Are the policies supported by legislation?
11. What impact does the comprehensive disaster management framework have on the operation of all responding agencies in disaster management?
12. How does the current disaster legislation support the comprehensive disaster management framework?
13. What has your organization done to ensure responding agencies comply with the Comprehensive Disaster Management Framework?
14. What are some of the barriers that inhibit the implementation of the Comprehensive Management Framework?
15. How do these factors impede collaboration/cooperation/ communication among agencies involved in disaster management?
16. What level of support does your organization receive from the central government?
17. How can the relationship between policy – makers/ coordinating agencies and the government be enhanced?

18. What do you see as gaps/outstanding needs and requirement for effective disaster management in the country?

Interview Questions: First Responder/ Supporting Agencies

1. What is your current position?
2. How long have you been involved in emergency management?
3. Have you ever been involved in a disaster? If so, what type of disaster?
4. How prepared do you think you are if a disaster were to occur today?
5. Do you think that your agency has adequate resources to respond to disasters?
6. What are the factors preventing your agency from being prepared for a disaster?
7. How can this be resolved?
8. What in your opinion has the government/policy makers done to prepare the country for disasters?
9. In your operation procedures what are the specific roles and responsibilities of your agency in a disaster?
10. What does the procedures state as is relates to collaboration and cooperation with other first responding agencies?
11. How can the relationship and coordination between first responding agencies be enhanced?
12. What are the procedures outlined for effective interoperability communication between first responding agencies?
13. How does your agency operations procedures align with the comprehensive disaster management framework?

14. How does the comprehensive disaster management framework impact the operations of your agency?
15. What legislative support is there for your agency's disaster management policies and procedures?
16. What is the message would you like me to take away today?