

Exploring a Disaster Management Network in the Caribbean:
Structure, Member Relations, Member Roles, and Leadership Styles

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ABSTRACT

This study examined the dynamics of an inter-organizational national disaster management organization (NDO) in the Caribbean. It sought to provide a better understanding of network structure, functions, and member relations, which provided a foundation for understanding member roles and leadership styles. This dissertation's primary research question was: *How do members participate in the national disaster management network in the Caribbean?*

In personal interviews, network members identified the NDO as a semi-open network system, incorporating both hierarchical and collaborative characteristics. This analysis argued the network constitutes a dynamic system that shifts its governance structure to adapt to circumstances confronted during the disaster management cycle. This study also found network structure affects member positions and those views reciprocally affect how the NDO is organized. One participant clearly claimed a central network position and served as "network broker," while several other members formed two high density groups within the NDO.

Network members played a range of formal and informal roles in the collaboration, including coach and coordinator. The central NDO member played several primary roles: fundraiser, change agent, manager, and informer. This analysis also suggested leadership styles shaped the network's hybrid governance structure: some members employed a directive or delegative style, while others relied upon a participatory approach. This mix of styles underscored the importance of shared leadership in a disaster context.

The Saint Lucia government has endeavored to engage citizens in disaster management planning through an extensive NDO committee structure. This study yielded insights into that decentralized decision-making structure and process. The NDO, as a public policy network, has served as a "new governance" form of government action. At the national level, non-governmental organizations have used the structure to work to frame disaster management issues, while citizens active at the grassroots levels have participated in the nation's disaster preparedness and response planning processes. This new governance mechanism may be deemed

participatory but not yet representative democracy. Overall, however, Saint Lucia's networked and engaged approach to disaster response and mitigation has encouraged deeper mutual awareness of shared challenges among government units, participating third sector organizations, for-profit entities, and the nation's citizens.

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GLOSSARY OF ACRONYMS

CARICOM	Caribbean Community
CDEMA	Caribbean Disaster Emergency Management Agency (formerly CDERA)
CDERA	Caribbean Disaster Emergency Response Agency
CDM	Comprehensive Disaster Management
CIDA	Canadian International Development Agency
DANA	Damage Assessment and Needs Analysis
EOC	Emergency Operating Center
FEMA	Federal Emergency Management Agency
ICS	Incident Command System
INGO	International Non-governmental Organization
NAO	Network Administrative Organization
NDO	National Disaster Organization
NGO	Non-governmental Organization
NEMAC	National Emergency Management Advisory Committee
NEMO	National Emergency Management Office
OCHA	Office for the Coordination of Humanitarian Affairs
PDPPP	Pan-Caribbean Disaster Preparedness and Prevention Project
SLRCS	Saint Lucia Red Cross Society
UC	Unified Command System
UN	United Nations
UNDP	United Nations Development Programme
USAID	United States Agency for International Development

CHAPTER 1

INTRODUCTION

This research examines the dynamics of an inter-organizational network—the national disaster organization (NDO) of the Caribbean island state of Saint Lucia—to describe and understand better the structure, functions, member relations, member roles, and leadership styles of a government-led disaster management network. Investigating network structure, functions, and member relations provides a foundation for comprehending better member roles and leadership styles that emerge within a NDO.

This analysis is important because little empirical research exists on NDOs in the Caribbean or more generally on disaster management networks. Very little is known about how Caribbean NDOs were formed on the individual island states or how they operate. Additionally, few studies have focused on member roles and leadership styles within cross-sector disaster management networks. By charting the roles members play and the leadership styles they practice, this study contributes to the scholarship on disaster management networks in general and leadership within NDOs in particular.

Background and Purpose

Collaborative networks are increasingly perceived as essential when confronting complex public issues since a single organization cannot address the intricacy of such issues alone (Agranoff, 2007; Agranoff & McGuire, 2003; Kapucu, 2006; Vigoda-Gadot, 2003). In any case, in a democratic society, an array of stakeholders should be involved in discussions regarding issues of public concern. Public collaborations not only include government, but also businesses (Austin, 2000; Babiak & Thibault, 2009; Goldsmith & Eggers, 2004, p. 9; Vigoda-Gadot, 2003, p. 11), non-governmental organizations (NGOs) (Agranoff, 2007, p. 2; Agranoff & McGuire, 2003, p. 25; Austin, 2000; Berke & Beatley, 1997; Goldsmith & Eggers, 2004, p. 9; Vigoda-Gadot, 2003, p. 11), and private citizens (Burby, 2003, p. 34). These collaborations generally form because organizations seek to reduce uncertainty associated with complicated issues (Chisholm, 1989, p. 38); need to pool resources to accomplish common public goals (Kapucu,

2005, p. 38; Kenis & Provan, 2006, p. 228); and seek to exchange information to obtain a full picture of the issues they are confronting (Kapucu, 2005, p. 38; Kenis & Provan, 2006, p. 228).

Collaborative networks also form as a means for government to reach deeper into communities (Agranoff & McGuire, 2003; Goldsmith & Eggers, 2004), indicating a shift in the model of democratic governance. Whether government establishes these networks or becomes a player within them, the collaborations serve not only to exchange information and resources, but also to “enhance the operating capacities of [their] partners and the ... community” (Agranoff, 2007, p. 60). Through these networks, government and the collaborative members may be able to acquire community support and involvement. With such support and involvement, community members become a part of the process and network members may become better integrated into the communities which may, in turn, promote overall community comity. According to Kapucu (2006), “Public involvement in partnerships is a capacity building exercise that helps create a more resilient community” (p. 215).

Public policy networks—or collaborations—that engage non-governmental entities, such as businesses and NGOs, represent an instrument of “new governance.” Government is a vital player in these service delivery arrangements, but is not the only important actor (Hendriks, 2009, p. 690). These networks provide many more citizens potential opportunities to have a voice in the policy process. Bingham, Nabatchi, and O’Leary (2005) have suggested such new governance processes “enhance democratic decision making; and foster decisional legitimacy, consensus, citizen engagement, public dialogue, reasoned debate, higher decision quality, and fairness among an active and informed citizenry” (p. 554). As a result, active stakeholders develop a sharper awareness of their interdependence and of their collective capacity to address the complexity of public issues.

Disasters as “Extreme events trigger greater density of communication and interaction among organizations that stimulates collective action. A critical aspect of this process is the formation of new and/or stronger networks among multi-sector organizations” (Kapucu, 2005, p. 38). Networks of collective action become necessary when government alone lacks capacity to address the scope of extensive disasters (Chisholm, 1989, p. 36). Although numerous organizations are involved in disaster response, just as many stakeholders will be involved in disaster planning, recovery, and mitigation if the social capacities implied by relief activities are to be maintained (Berke & Campanella, 2006; Canton, 2007; Col, 2007; Coppola, 2007; Green,

1977). By incorporating the private and third sectors into NDOs, governments not only can broaden their reach, but also develop more comprehensive disaster management plans. The NDOs—as networked organizations—may potentially improve implementation of those strategies at the community level in a more sustainable fashion.

The concept of NDOs is not new. In the late 1970s, Green (1977) and Skeet (1977) advocated for the creation of this type of organizational network at the national level to improve communication and coordination among the various groups responding to disasters. Both authors suggested government should serve as the central planning and coordinating organization within such an entity. Skeet (1977) has claimed, “It is the responsibility of government to ensure that legislative steps are taken to permit certain precautions to be enforced and to guarantee that an efficient national organization exists for the provision of relief” (p. 10). Some scholars (Agranoff, 2007; Berke & Campanella, 2006; Green, 1977; McGuire, 2006; Moore, 2006; Skeet, 1977) contend governments are the only choice for steering NDOs: governments are responsible for creating and implementing national policies, usually possess the capacity to mobilize large-scale resources, can engage in long-term disaster efforts, and, if stable, bring legitimacy to the decision-making process. Government is “the institution that can be called to account by citizens for the justice and equity of its response” (Moore, 2006, p. 26; see also McGuire, 2006).

One step toward addressing disaster issues in the Caribbean—one of the world’s most disaster-prone areas—has been the creation of a regional organization, the Caribbean Disaster Emergency Management Agency (CDEMA). In 1991, Heads of Government from sixteen Caribbean States—including Saint Lucia—signed an agreement to create this organization devoted to disaster issues affecting the region.¹ CDEMA’s primary purpose is to coordinate immediate response to disaster situations affecting its members when their capacity is overwhelmed (www.cdera.org/about_history.shtml). It is also responsible for assisting its members in establishing their NDOs. As a stipulation of membership, CDEMA has imposed government-led NDOs on its members.

CDEMA has strongly encouraged its members’ governments to take full responsibility for the formation and maintenance of NDOs. This action demonstrates a visible commitment by area governments to disaster management issues. The NDOs provide a space for “making and

¹ Original CDEMA members: Anguilla, Antigua/Barbuda, Bahamas, Barbados, Belize, British Virgin Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts/Nevis, Saint Lucia, St. Vincent/Grenadines, Trinidad/Tobago, and Turks/Caicos. In 2010, Haiti and Suriname became CDEMA members (www.cdera.org).

maintaining the necessary linkages... when dealing with catastrophic or potentially catastrophic disasters” (Waugh & Streib, 2006, p. 132). Through NDOs, governments have an opportunity to institutionalize their network connections (Agranoff & McGuire, 2003, p. 24) as well as disaster management protocols. CDEMA also recommends that members include a broad array of stakeholders, both public and private, in NDO decision-making processes, even though the inter-organizational networks are overseen and supported by government.

Although this research is an exploration of leadership roles and styles within a networked organization rather than a policy study, the policies of Saint Lucia set the stage for the network’s establishment and operations. Saint Lucia’s efforts to mobilize island-wide support for disaster response began in earnest in 1979 when the government hosted the Caribbean Disaster Preparedness Seminar to discuss issues affecting the area at that time, specifically hurricanes, flooding and landslides. However, it took more than 10 years for government to put resources toward setting up an office to manage disaster issues. That one-person office has since evolved into a six member operation and a network that incorporates public, private, and third sector organizations.

In 2006, the Saint Lucia Cabinet approved Disaster Management Act No. 30 that delineates the responsibilities of each of the three sectors with regards to preparedness, response, recovery, and mitigation. With this legislation, the nation’s government indicated its intent to view disaster management comprehensively and to partner with businesses, NGOs, and private citizens on disaster issues. Government recognizes such external partnerships “are a prerequisite in order for sustainable and effective disaster management to take place. Similarly cooperation between government agencies is equally important due to the crosscutting nature of disaster management” (NEMO, 2009, p. 11). Government, as a result, has the responsibility of ensuring key stakeholders have the resources to comply with the legislation’s requirements. Network members keep government informed of each sector’s needs in this regard.

The island state’s disaster policy framework “focuses on reducing risks—the risk of loss of life, economic disruption and damage to the environment and property, especially to those sections of the population who are most vulnerable due to poverty and a general lack of resources” (NEMO, 2009, p. 13). As network members, these key stakeholders are expected to share their knowledge to create disaster management plans and strategies that take a comprehensive approach to disaster management. They are also expected to incorporate this

same approach into their individual sectors' development strategies. Thus, the disaster management policy of Saint Lucia aims to "reinforce the development potential of Saint Lucia by reducing risks from all hazards" (NEMO, 2009, p. 13).

The overall disaster management policy seeks to "provide an enabling environment for disaster management," advance programs aimed at risk reduction, and enhance coordination among network members during all stages of disaster management (NEMO, 2009, p. 15). The network members, as a result, focus on institutionalizing disaster management throughout Saint Lucia. Network members have produced several policy documents, including damage assessment and needs analysis, donations and importation of relief supplies, and emergency shelter management. They have also created numerous emergency plans (a partial listing): evacuation, water management for droughts, emergency response for the homeless, urban and maritime search and rescue, telecommunications, transportation, relief distribution, and response to hurricanes, volcanic eruptions, earthquakes, floods, and landslides. Network members are presently working on business continuity plans to ensure the for-profit and public sectors can function following a disaster.

Through the NDO, Saint Lucia's disaster policies came to the fore. The island state has developed its disaster management network to ensure effective communication and coordination among key stakeholders. The national government has created its NDO to implement disaster management strategies effectively and to "ensure that the capacity for tracking, monitoring and disseminating information on phenomena and activities that trigger disaster events is established and maintained" (NEMO, 2009, p. 14). Saint Lucia's policy framework, therefore, emphasizes the importance of communicating with all stakeholders, especially communities. Network members strive to inform, train, and prepare communities to become more resilient to natural disasters.

By including businesses, NGOs, and local citizens, NDOs open up an opportunity for more residents to have voice in the policy process. They serve as potential "new forms of representation," but little is known about "their implications for democratic practice" (Hendriks, 2009, p. 690). For instance, what populations do these NDOs engage? Can network members actually frame or reframe policy issues? Promoters of new governance have contended these mechanisms yield several benefits, including access to an extensive knowledge base and resources. Public policy networks, according to Bingham, Nabatchi, and O'Leary (2005),

promote individual liberty while maintaining accountability for collective decisions; advance political equality while educating citizens; foster a better understanding of competing interests while contributing to citizens' moral development; and orient an atomized citizenry toward the collective good (p. 554).

As such, NDOs may promote participatory as well as representative democracy.

In the case of Saint Lucia, the government has recognized that it cannot alone position the nation for comprehensive disaster management mitigation and response and, thus, has shared some of its responsibilities for planning and response with the private and third sectors as well as with private citizens. Government has accomplished this through its disaster management structure which includes National and District Committees. These Committees serve as mechanisms to engage stakeholders in disaster management decision-making processes and activities. Businesses, NGOs, and citizens have the opportunity to participate in these Committees to plan and carry out disaster management activities. Government has charged the NDO with informing local businesses of the importance of business continuity as well as the economic and social impacts should companies be unable to operate during and after disaster situations. The NDO is also responsible for assisting NGOs and private citizens serving on the National and District Committees with training in disaster preparedness and response efforts. These Committees are discussed in more detail in Chapter 4.

This research began with the aim of discovering how NGOs fit into a government-led disaster management network. One scholarly work served as the main source for this particular interest because it was the only book-length study that had investigated the relationship between government and NGOs after a natural disaster in the Caribbean. Berke and Beatley's *After the Hurricane: Linking Recovery to Sustainable Development in the Caribbean* (1997) reported on recovery efforts after Hurricane Hugo ravaged the islands of Antigua, Jamaica, Montserrat, and St. Kitts/Nevis on 17 September 1989. Their research sought to determine how the governments of these island states collaborated with local and international NGOs during recovery from the crisis. The authors' findings were interestingly mixed.

Two months after Hurricane Hugo, the Montserrat government reached out to NGOs to form a disaster committee to coordinate reconstruction efforts. But, "The resistance of the NGOs to participation on the committee and their unwillingness to work with government officials—

and the resulting failure of this committee—contributed to the poor organization during the replacement period” (Berke & Beatley, 1997, p. 93). Similarly, relations between the Antiguan government and local NGOs following Hugo were contentious for three main reasons: the public perceived the NGOs’ damage assessments as more credible than those of the government; the interviews and surveys indicated NGOs were more successful with recovery activities than government; and government excluded NGOs from its recovery plans in the immediate aftermath of the storm (Berke & Beatley, 1997, pp. 157, 169, 173).

On the other hand, relations between the St. Kitts’ government and that nation’s NGOs were more amicable. Berke and Beatley (1997) noted a national disaster committee that worked with NGOs was already in place before Hurricane Hugo struck. The authors found three primary examples of government-NGO collaboration on St. Kitts. One involved staff at the Emergency Operating Center (EOC) working effectively with two local NGOs, the Lions Club and the Rotary Club, to obtain and distribute aid. Berke and Beatley (1997) argued “this successful interorganizational collaboration was due in part to the long-term membership of the deputy national disaster coordinator in the local Lions Club chapter” (p. 133). This finding underscores the significance of personal relationships during disaster situations and for establishing partnerships and collaborations prior to potential crises.

Berke and Beatley (1997) concluded government should collaborate with local NGOs on disaster efforts: “Because community-based NGOs are deeply rooted in the society and culture of a locality, they enable people to express their real needs and priorities, allowing problems to be correctly defined and responsive aid and development programs to be designed” (p. 185). The authors, however, focused solely on the recovery stage and activities external to the characteristics of the partnerships, such as how government and collaborating NGOs were rebuilding houses.

Although this source and the literature review yielded important information about NGOs as well as about their typical relationships with government, no specific additional information on the role of NGOs in Caribbean NDOs seems to exist. In fact, it appears no research has been conducted on the roles of any Caribbean NDO members. The relative lack of research on the roles of members in NDOs in disaster management prompted a careful review of the disaster management literature concerning not only NGOs, but also businesses and private citizens.

Literature on the role that businesses play in disaster management issues is limited (Binder & Witte, 2007, p. 3; Muller & Whiteman, 2009, p. 589), particularly for the Caribbean. The principal reason for this finding is that business engagement has been minimal in all stages of disaster management until recent years. In the 1990s, when “corporate social responsibility” became popular within the for-profit sector, more businesses became involved in the disaster response and recovery stages. Corporations have tended to offer in-kind goods and services, such as transportation, equipment, and logistical assistance, and, at times, cash donations. Companies benefit directly if they offer in-kind donations and staff volunteers rather than financial assistance. Three types of corporations—logistical, information technology, and telecommunications—have been most involved in disaster response over the years; they are able to offer equipment and services essential to relief efforts (Binder & Witte, 2007, p. 11).

Most of the research on businesses involved in disaster relief and recovery has been conducted recently: the 2004 Asian tsunami served as a defining moment for private sector involvement in disaster response. From this sparse literature, businesses appear to collaborate with governments and NGOs in relief efforts for four main reasons:

- Corporate social responsibility (Austin, 2000, p. 70; Balcik *et al.*, 2010, p. 27; Binder & Witte, 2007, p. 13; Brinkerhoff, 2002, p. 68; Maon, Lindgreen & Vanhamme, 2009, p. 150)
- Enhanced reputation and brand image (Austin, 2000, p. 76; Balcik *et al.*, 2010, p. 27; Binder & Witte, 2007, p. 4; Brinkerhoff, 2002, p. 68)
- Improved employee morale, motivation, and recruiting (Austin, 2000, p. 76; Balcik, *et al.*, 2010, p. 27; Binder & Witte, 2007, p. 4; Brinkerhoff, 2002, p. 66)
- Access to information and new partnerships (Austin, 2000, p. 94; Binder & Witte, 2007, p. 13; Brinkerhoff, 2002, p. 66)

Corporate social responsibility, reputation, and employee commitment may assist corporations in gaining more customers, especially those seeking to purchase from socially responsible companies. Access involves an entrée into an arena where new information and fresh ideas may be obtained. It is also a means to test new systems and to connect to new partners, potentially leading to new business generation.

Advocates of increased corporate participation in relief efforts argue businesses bring much needed resources with them, particularly expertise (Binder & Witte, 2007, p. 3; Brinkerhoff, 2002, p. 68; Maon, Lindgreen & Vanhamme, 2009, p. 150) and new technology (Binder & Witte, 2007, p. 3; Maon, Lindgreen & Vanhamme, 2009, p. 150). Companies are generally on the cutting edge of improved productivity processes and technology that the public and third sectors lack. With corporate involvement, disaster agencies can acquire “significant insights into how corporations master the process of planning, implementing, and controlling their supply chain operations” (Maon, Lindgreen & Vanhamme, 2009, p. 150).

And, corporations own much of the critical infrastructure affected by disasters. In the United States, for example, “Private sector companies own and operate 85 percent of our Nation’s critical infrastructure. Transportation, electricity, banking, telecommunications, food supply, and clean water are examples of services relying on infrastructure that have become basic aspects of our daily lives” (U.S. White House, 2006, p. 81). Thus, in many ways, it is critical to involve corporations in disaster planning and recovery efforts in order for the primary disaster agencies—governments and NGOs—to understand how this infrastructure works and may be protected, repaired or rebuilt as necessary.

However, critics of corporate involvement have expressed concerns about their deepened involvement in disaster response. Businesses may become competitors of NGOs for government funding to tackle recovery activities and may not be interested in humanitarian principles, just profits (Binder & Witte, 2007, p. 3). These actions raise the suspicions of NGOs and some governments regarding the motives behind business participation. Companies may also disengage if difficulties mount that affect their bottom-line or ability to function efficiently (Brinkerhoff, 2002, p. 67). On the other hand, Binder and Witte (2007) have pointed out increased competition may reduce ineffectiveness and inefficiencies and that business engagement is unlikely to become dominant prevalent since donors want their funds to benefit individuals affected by a disaster, not to increase corporate profits (pp. 3, 6).

Nonetheless, due to coordination challenges evident during the Asian tsunami, businesses have become more interested in how they could mitigate the difficulties with coordination. As a result of their intention to become more active participants in the disaster response stage, the Business Roundtable and World Economic Forum have embarked on disaster initiatives (Balcik *et al.*, 2010, p. 27; U.S. White House, 2006, p. 81). Hurricane Katrina served as a harsh reminder

of the urgency for progress to be made on such proposals. Yet, these initiatives are global in outlook.

As more national governments seek to decentralize their operations, participation of local companies in disaster management issues will become increasingly critical. During the preparedness and mitigation stages, businesses can play vital roles in maintaining and upgrading the public infrastructure they oversee (i.e., electricity, natural gas, communications) as well as in preparing appropriate plans for immediately addressing damages resulting from a disaster (Joint Commission, 2005, p. 13; U.S. Department of Homeland Security, 2008, p. 7). For the response and recovery stages, local businesses have a strong incentive to assist in response and recovery efforts. They are usually quite socially connected. The for-profit sector not only can offer needed goods and services, but also serve as information hubs. According to the Joint Commission on Accreditation of Healthcare Organizations (2005), businesses (and religious institutions) “are frequently trusted sources of information within ethnic communities” (p. 60). This is important since ethnic communities in many cases constitute disaster-vulnerable populations. Because of their resources and standing in their communities, businesses can serve as important actors in disaster management.

The disaster management literature has offered similar claims regarding the importance of NGO inclusion in disaster mitigation and response. NGOs are usually the first responders (other than local community members) on the scene after disasters strike—many times even before government or other official disaster response agencies arrive. Some scholars (Benson, Twigg & Myer, 2001; Canton, 2007; Coppola, 2007; Corbacioglu & Kapucu, 2006; Kapucu, 2006; Skeet, 1977) have recognized the value of including NGOs in disaster management efforts. These analysts regard NGOs as versatile, quick to respond, and generally trusted by the public. Benson, Twigg and Myer (2001) have suggested NGOs are positioned to serve a vital function in the prevention, mitigation, and preparedness stages of disasters (p. 200). Yet, a limited number of analyses have addressed how NGOs engage in these activities or the roadblocks they encounter as they do so (Benson, Twigg & Myer, 2001, p. 200). From such studies as have occurred, it appears that when NGOs are included in public decision-making concerning disaster issues tensions between those entities and government may arise from different philosophies and operating procedures. In some cases, tensions exist because NGOs receiving funds from

government are hesitant to be critical of public sector actions and government, on the other side, acts as a micro-manager of the NGOs instead of as a partner.

NGOs, however, differ from businesses dramatically based on their long-term involvement with disaster response. Businesses are just beginning to devise strategic ways to engage in preparedness and response efforts. NGOs, on the other hand, historically have responded to disasters and will continue to do so. Most NGOs are established for charitable purposes with the aim of alleviating suffering among those in their communities. After World War II, NGOs began responding internationally to meet the basic needs of people affected by disasters. That work resulted in a broad realization among NGOs engaged in crisis response that providing immediate aid following disaster events was insufficient. Accordingly, they began learning about the devastated areas in which they worked and sought to create long-term development programs in those locations, including sustained health care, environmental and education initiatives. In other words, NGOs became involved in broader development efforts as an integral part of their disaster related responses. Many today are involved not only in immediate crisis relief and response, but also in recovery activities. A smaller, but still significant number are engaged in mitigation activities.

Additionally, NGOs are generally known for encouraging citizen engagement at the grassroots level and for representing vulnerable populations. Yet, NGOs are typically not official members of government-led disaster networks. This is surprising since these organizations play an important role in disaster response and recovery. For instance, with the exception of the American Red Cross, not until after Hurricane Katrina hit the Gulf Coast in the United States in 2005 did the United States Federal Emergency Management Agency (FEMA) revise its national plan to include NGOs. Even in that revision, FEMA did not include NGOs directly in decision-making processes and usually excluded them from its EOC, making coordination and communication difficult between government and civil society relief organizations (Chandra & Acosta, 2009; Cutter *et al.*, 2006, p. 1; Tierney, Lindell & Perry, 2001, p. 257; U.S. DHS, 2008; U.S. GAO, 2008; U.S. White House, 2006, p. 49; Waugh, 2006).

The relative lack of information on businesses, NGOs, and private citizens engaged in disaster management planning and other activities raises questions concerning why they become involved in NDOs and how such diverse members work with each other in these networks. Furthermore, because the network literature (Agranoff, 2007; Bryson, Crosby, & Stone, 2006;

Huxham & Vangen, 2000; Linden, 2002; McGuire, 2006; Provan *et al.*, 2005) and disaster management literature (Kapucu, 2006; Kapucu & Van Wart, 2006; Skeet, 1977) have placed such significance on the role of leaders in networks, particularly in crisis situations, important questions arise concerning leadership in NDOs. Do all network members assume leadership roles? What leadership styles emerge from the roles that members play in the network? Based on the literature review, few scholars have conducted whole network analyses of any sort (Babiak & Thibault, 2009, p. 118; Provan, Fish & Sydow, 2007, p. 479), let alone of disaster network dynamics, especially studies focused on member roles and leadership styles. Moreover, “leadership in extreme contexts may be one of the least researched areas in the leadership field” (Hannah *et al.*, 2009, p. 897; see also Huxham & Vangen, 2000). Thus, investigating how leadership roles and styles affect network dynamics would begin to address an important gap in the disaster management, network, and collaborative leadership literatures. Overall, this paper’s research extends the original source of its inspiration—Berke and Beatley’s pioneering effort—in four primary ways:

- It addresses all four main stages of disaster management—preparedness, response, recovery, and mitigation;
- It investigates the details of how an established NDO and all its members operate (at the time of Berke and Beatley’s study, Jamaica and Saint Kitts/Nevis were the only two island states with quasi-formal structures for dealing with disaster issues);
- It expands the research focus beyond government and NGOs since it investigates a network that includes, to some degree, businesses and private citizens; and
- It specifically examines how leadership roles emerge in a disaster management network and what leadership styles appear most prevalent within it.

Importantly, CDEMA considers businesses, NGOs, and private citizens to be important stakeholders in the NDOs it promotes and supports.

The issues mentioned above—exclusion by and large of the private and third sectors in national disaster management decision-making processes; rocky relations between government and NGOs; government and NGO suspicion of business motives; little research on disaster networks; a dearth of research concerning Caribbean NDOs; and limited research on member

roles and leadership within disaster networks in general and in the Caribbean particularly—highlight the value of investigating how a Caribbean NDO functions, what roles members assume, and what leadership styles are employed within a cross-sector disaster management network. The literature not only indicates the importance of member roles in networks, but also the significance of leadership in such collaborations: “A recurrent finding throughout the decade’s research has been the importance of leadership to successful coordination. In study after study, the indispensability of strong leadership has been confirmed” (Minear, 2002, p. 32). Yet, ambiguity of authority and of leadership, particularly during the disaster response and recovery stages, still prevails, which leads to inefficient, ineffective coordination efforts among all disaster response and recovery organizations. This suggests a need to identify member roles and leadership styles to understand better how disaster management efforts are presently conducted.

Existing scholarly work related to this topic may be found in three separate literatures: disaster management, inter-organizational networks, and collaborative leadership. Research on disaster management issues has largely focused on the four main stages of disasters separately: planning, response, recovery, and mitigation. Recently, however, more work has been dedicated to viewing all stages together under the term “disaster management.” A vast body of research has been devoted to collaboration in the literature on networks. However, the volume of work dedicated to disasters specifically is much smaller. Since 9/11, more scholars have investigated collaboration among those organizations responding to disasters; but, far fewer are researching the internal dynamics of such networks, whether established or emergent. A third literature—collaborative leadership—typically discusses general management and leadership issues. Scholarly research largely has overlooked the leadership roles that members play in networks, especially disaster networks. Even fewer scholars are researching leadership styles that members employ in networks.

Little is known about how individual Caribbean island states are employing NDOs and if their present organizational forms are functioning effectively. This research, therefore, adds to the literature by mapping an example of a Caribbean NDO in Saint Lucia. This study contributes empirically to existing scholarship since it is one of the first to explore this phenomenon and to produce information about Caribbean NDOs. The study is particularly significant to NDO managers who coordinate disaster management efforts daily for their nations as well as to academics interested in the collaborative dynamics of disaster networks. This analysis clarifies

how NDOs function and how member relationships operate. This is important since the present environment surrounding disaster management is such that both governments and scholars are encouraging collaborative efforts among those responding to catastrophic events.

This analysis also expands scholarship documenting the importance of leadership within collaborations and advocating the inclusion of key stakeholders in disaster networks. Knowing when and how opportunities arise to give network members leadership roles during various stages of disaster management is important since it may suggest the leadership skills and capacities affecting the styles of leadership necessary for effective network functions and member relations. This data may assist scholars and practitioners alike in developing improved means of purposively forming national disaster management networks, overseeing member relations in inter-organizational settings, and understanding better collaborative leadership within disaster contexts more fully.

Study Overview and Central Research Questions

This study began with the assumption, based on the available literature, that the majority of national responses to natural disasters have been relatively uncoordinated and inefficient and that businesses, NGOs, and private citizens are typically excluded from government decisions regarding disaster management. To understand the relations among such diverse disaster response players, this study focuses on a Caribbean disaster management network that has included all of these stakeholders, to some extent, in its national disaster efforts. The study's objectives, therefore, were the following:

- to map a cross-sector national disaster management network;
- to comprehend how this type of network is structured and functions; and
- to identify what roles members undertake and what leadership styles emerge within a Caribbean NDO.

The main focus of this study was to discover what roles members assume in a NDO and to identify what leadership styles are associated with those roles. The Caribbean nation of Saint Lucia serves as a good example for examination since it has experienced several tropical storms

and some major hurricanes and its NDO has operated for more than 10 years. The evolution of the island state's NDO and its sustained period of operation permit analysis of structure, functions, and membership. Saint Lucia is a member of both the Caribbean Community (CARICOM) and CDEMA. Consequently, the nation follows the same guidelines for disaster management as other Caribbean island states, making it a representative example of a Caribbean NDO.

Several questions guided this research to discover the structural composition and internal leadership dynamics of the network:

- Is the network an open or closed system?
- What governance structure has been established by the network and why?
- What are the network's disaster management priorities and which members are most engaged in those activities?
- Are members involved in the creation of appropriate legislation and/or policy and guidelines for the network and for national and local disaster response and mitigation?
- What coordination and communication mechanisms does the network employ?
- What challenges has the network faced with coordination and communication?
- What positions do the members occupy within the network?
- How do the members relate to each other? Do their sectoral backgrounds—government, private sector or third sector—affect network relationships?

This work explored whether government leads disaster-related efforts in all stages of its national disaster response and management plans or if leadership rotates among network members depending on which disaster stage is occurring. More specifically, this research explored the dynamics of member relationships, how leadership roles emerge in such a network, and what leadership styles appear most prevalent within it.

From these questions emerged the study's primary question: *How do members participate in the national disaster management network in the Caribbean?* This primary question was informed by the exploration of two secondary research questions:

- What roles do members play in national disaster networks in the Caribbean? This question considered how occupational roles (e.g., managerial level, required qualifications) and personal characteristics (e.g., age, experience) affect structure and member dynamics. It also addressed whether members' roles are independent or interdependent since that affects member relations as well as network structure and functions. Most importantly, this question reflected on which network participants play central roles and why, whether all members assume leadership roles, and whether any members play more than one leadership role in the network; and
- What leadership styles emerge from those roles within national disaster networks in the Caribbean? This concern builds on the question regarding member roles, including leadership roles (e.g., champions, facilitators, boundary spanners) as well as leadership styles (e.g., directive, charismatic, catalytic, transformational).

These questions served as helpful guides to address the study's objectives.

The study employed a case study to address these concerns. The case focused on identifying the structure, member relations, member roles, and leadership styles of an active Caribbean NDO. Data was gathered through face-to-face interviews with official members of the Saint Lucia NDO and through document and secondary data analysis. The qualitative research design resulted in an exploratory and descriptive study, highlighting the environment of the phenomenon being studied via interviewee viewpoints. The semi-structured, open-ended interview questions were essential to obtaining details about the context and setting in which the members operate. In addition, Crosby and Bryson's (2005) cross-sector collaborative leadership framework was used as an aid in addressing network leadership related research questions. Their conceptual scheme, elaborated in Chapter 2, included components that align neatly with this research.

Definitions of Key Terms

Collaborative Leadership

Collaborative leadership is a style of leadership action and responsibility shared among individuals in an effort to guide others in an agreed-upon direction to achieve a common purpose. Collaborative leaders support the development of knowledge, talent, resources, and other professional capabilities of those involved in addressing a common concern or shared vision (Chrislip & Larson, 1994, p. 5; Crosby & Bryson, 2005, p. 184; Crosby, Bryson & Stone, 2006, p. 44; Huxham & Vangen, 2005, p. 4; Luke, 1998, p. 1). With collaborative leadership, several individuals can assume leadership roles, separately or simultaneously. They may be found throughout an organization (or group or network or any partnership effort) and may include high-ranking officers, mid-level managers, grassroots workers or even, at times, external champions. Changing or rotating leaders is also a common practice when employing this leadership style (Crosby & Bryson, 2005, p. 184; Luke, 1998, p. 34). Collaborative or shared leadership emphasizes the importance of teamwork. As a result, collaborative leaders must work to ensure that team members communicate, cooperate, and coordinate with each other. The concept of collaborative leadership is addressed in detail in Chapter 2.

Disaster

This study used the following FEMA definition of “disaster:” “a dangerous event that causes significant human and economic loss and demands a crisis response beyond the scope of local and state resources” (Canton, 2007, p. 40). This research focused on natural disasters as opposed to human-induced crises: a natural disaster is a “geophysical concept,” while a disaster is “a social concept” (Dynes, 2002, p. 41; Özerdem & Jacoby, 2006). Natural disasters—earthquakes, floods, tsunamis, volcanic eruptions, hurricanes—disrupt the functioning of communities and result in loss of life, property, and environment. Both types of disasters affect the physical and emotional capacities, directly and indirectly, of survivors. As a result, disaster management systems typically incorporate both physical and emotional rebuilding efforts in their response and recovery stages.

Disaster Management

Disaster management typically includes four main stages—which often overlap—preparedness, response/relief, recovery/reconstruction, and mitigation (Coppola, 2007, p. 8; Özerdem & Jacoby, 2006, p. 12).

- Preparedness means planning. “Effective planning requires an understanding of the nature of disaster, the risks facing the community, and the availability of community resources. This helps to ensure that plans are based in reality and do not represent just wishful thinking on the part of the jurisdiction” (Canton, 2007, p. 225). Preparedness requires information gathering to understand the locale’s social norms, economic status, governance structure, political situation, capabilities, local institutions, and needs;
- The response stage involves providing immediate assistance—food, water, shelter, first aid—to disaster survivors;
- The recovery stage focuses on restoring utilities, rebuilding structures and re-establishing “relatively normal social and economic activities” (Haas, Kate & Bowden, 1977, p. xxvii). However, in some cases, recovery efforts not only try to return the devastated community to pre-disaster life, but also to tackle problems brought to the forefront by the disaster; and
- The mitigation stage involves prevention measures against a future disaster. It is the most challenging stage and entails analyzing risk for both structural and nonstructural mitigation. This stage is also generally the least well funded (Smillie & Minear, 2004, p. 19). Donors appear to prefer to give funds to attain readily visible results; they give to buildings and to salient programs. Many organizations, as a result, prefer to rebuild schools or develop programs where materials can be distributed and numbers can be provided rather than attempt long-term mitigation activities, such as behavior modification.

Network

This study views networks as inter-organizational structures that include various public and private agencies working collaboratively on disaster management issues to address dilemmas affecting all stakeholders. As such, it embraces networks as:

formal and informal structures, composed of representatives from governmental and nongovernmental agencies working interdependently to exchange information and/or jointly formulate and implement policies that are usually designed for action through their respective organizations (Agranoff, 2004: 63) (Milward & Provan, 2006, p. 9).

This definition emphasizes network member relations and their linkages internally as well as externally to solve problems, to take action on complex issues, and/or to set certain agendas. It also places networks as organizational structures between hierarchies and markets (Powell, 1990; Thorelli, 1986). Networks “entail more enduring and diffuse connections than markets but more reciprocal and egalitarian arrangements than hierarchies” (Scott, 1998, p. 276). Additionally, this definition captures how CDEMA describes how its NDOs should function. CDEMA expects its member NDOs “to secure, coordinate and channel to interested inter-governmental and non-governmental organisations reliable and comprehensive information on disasters affecting a Participating State” as well as “to mobilise and coordinate disaster relief from governmental and non-governmental organisations for affected Participating States” (www.cdera.org). CDEMA also expects its NDOs to engage members in policy decision-making processes.

Outline of the Dissertation

This analysis is organized in several chapters. Chapter 2 provides a review of the scholarly literature relevant to the study. It highlights pertinent issues from works on disaster management, inter-organizational networks, and collaborative leadership. Chapter 3 presents the study’s methodology. The analysis used a qualitative framework, gathering primary data through semi-structured, open-ended interviews with members of the Saint Lucia NDO. Chapter 4 offers an overview of government-led disaster management networks in the Caribbean. This chapter

acquaints the reader with the region's disaster history and its formation of national disaster organizational networks and profiles the Saint Lucia NDO. Chapters 5 and 6 provide an analysis of interview data regarding structure and member relations as well as member roles and leadership styles, respectively. Chapter 7 summarizes the study's results and offers conclusions. Appendices contain a list of the interview questions used in the research, the Virginia Tech Institutional Review Board approval letter, and copyright permission correspondence.

CHAPTER 2

LITERATURE REVIEW

This research draws on three separate literatures: disaster management, inter-organizational networks, and collaborative leadership. Because these distinct literatures have not been fully integrated, this chapter is organized into separate sections in order to highlight the main themes emerging from each. Insights from the three streams of inquiry were employed to analyze the Saint Lucia national disaster organization (NDO).

Since numerous scholars have written about disaster management issues, the chapter first presents a sketch of this literature to provide relevant background and a description of the environmental context for ideas discussed later. This section underscores what the literature reveals about non-governmental organizations (NGOs) and their roles in disaster management. Second, network research has focused generally on network benefits and inter-organizational relations regarding corporate, environmental, and government networks. The literature on disaster management networks is slim. This section, therefore, introduces central ideas from the network literature closely related to disaster management and leadership. Third, the chapter reviews the collaborative leadership literature. This section articulates the need for collaborative leadership within disaster management networks. Finally, the main themes are highlighted and linked to the study's aims in the chapter summary.

Disaster Management

Disaster management scholars typically study disasters as comprised of stages. In the past, scholars and practitioners generally discussed the four main phases separately. More often now, analysts view these phases as overlapping and cyclical. However, the disaster management literature seldom delves into NGO participation in any disaster period. For ease of discussion, each stage is briefly addressed below and includes findings from the disaster management literature and also information from the nonprofit literature that reveals how NGOs are an important part of disaster management efforts.

Preparedness Stage

“Lack of preparedness cannot be justified in an age in which the geographical pattern of disaster areas is well known, the recurrence interval of many disasters is estimable and relief methodologies have been globalised” (Alexander, 1997, p. 295). Preparedness or planning is one of the essential components directly affecting all stages of disaster management. Whatever actions are taken (or not taken) during one disaster stage affect the others to varying degrees. “To this end, it is important to use a structured process such as the problem-solving model and to synchronize various plans to create a holistic community response” (Canton, 2007, p. 225). This is not a simple process, especially among stakeholders with differing viewpoints. This means government administrative officials must coordinate with emergency service organizations (fire departments, police, ambulance services, even, at times, the military). And, before a disaster strikes, both government and first-responder organizations must work in conjunction with local organizations that will usually respond to a disaster (social service agencies, churches, NGOs). According to Mileti (1999), “In the absence of prior interorganizational and community planning, each affected agency will tend to perform its disaster-related tasks in an autonomous, uncoordinated fashion” (p. 223). Without prior planning, those responding to disasters will do so in a less effective, less efficient manner than might otherwise occur.

Preparedness plans should address issues concerning overall disaster management (such as public information, communication, monitoring and reporting mechanisms); training; reliable equipment; and legal authority (Coppola, 2007, p. 210; Green, 1977, p. 47). Plans should anticipate the need for more personnel; adverse conditions; equipment needs; and back-up services (Manion & Golden, 2004, pp. 18-19). Disaster preparations should be integrated vertically and horizontally, internally and externally. Canton (2007) has argued plans can actually be ordered such that lower-level plans must be addressed before higher-level ones can be successful: lower-level plans address risk management, strategies, and mitigation and upper-level plans include emergency operations, business continuity, and recovery; success at both levels may lead to improved community resiliency (p. 201).

However, governments and communities typically attach low priority to natural disaster planning (Berke & Campanella, 2006, p. 194; Dynes, 1978, p. 59; Mileti, 1999, p. 223). Even those who should be concerned with disaster management issues—local planners, public works

engineers, building inspectors, other local government officials—generally place disaster preparedness as a low priority. Berke and Campanella (2006) have suggested these officials are more focused on the immediate rather than the long-term, especially regarding unlikely events: “The importance of preparing for a disaster in the distant future and risk-averse action is likely to be eclipsed by more immediate and pressing concerns (street potholes, waste disposal, and crime) that affect people almost daily” (p. 195).

Research indicates if government plans clearly define responsibilities and expectations of others, effective response and recovery is possible. For example, the government of Qinglong County, China—an area prone to earthquakes—has been successful in responding to disasters for several reasons: mitigation plans; interagency communication; continuous monitoring and exercises; involvement of citizens; “thorough implementation of the local emergency plan” (Col, 2007, p. 119). This success has been based on effective planning, including training. Training is a capacity building activity. Scheduled training and exercises for key responding organizations improve responders’ skills and tend to improve intra- and inter-organizational relations. Although forming and maintaining relations prior to disaster is a challenge, it is an essential part of effective disaster response capabilities (Green, 1977, p. 47; Kapucu & Van Wart, 2006, p. 301; Waugh & Streib, 2006, p. 132). Developing relationships among government and its citizens and NGOs is important since all of these actors will respond to disasters.

Citizen involvement in community preparedness is critical to disaster response, recovery, and mitigation efforts (Berke & Campanella, 2006; Burby, 2003; Col, 2007, p. 122). It gives citizens, including those who are typically underrepresented, an opportunity to be heard on government decisions regarding disaster management issues. Citizen involvement is also beneficial to planners. When planners and other public officials discuss issues with citizens, they can acquire valuable knowledge about a community. Researchers (Alexander, 1997; Beristain, 1999; Berke & Campanella, 2006; Burby, 2003; Farah, 2003; Lindenberg & Bryant, 2001; McDonald, 1985; Minear, 2002; Özerdem & Jacoby, 2006; Skeet, 1977; Smillie, 1995) have emphasized the benefits of being aware of and understanding the local culture of a disaster site to be effective in all stages of disaster management, especially in preparation. All organizations responding to disaster must be sensitive to the coping strategies that communities have adopted and work with them, rather than seek to supplant them. With citizen involvement, officials learn about local norms. As a result, both officials and communities can devise relevant alternative

crisis plans and solutions to local problems, increasing the community's sense of ownership in disaster management strategies (Berke & Campanella, 2006, p. 193; Burby, 2003, p. 34). The Philippines provides an example of successful citizen involvement. Because of citizens' interest in and involvement in disaster response, Philippine residents formed their own local organizations, including NGOs, to develop plans "to protect themselves from possible threat of disaster" (Luna, 2001, p. 221). In fact, many examples exist of citizens establishing NGOs due to a specific disaster serving as a catalyst, for instance, the 2004 Asian tsunami, Hurricane Katrina in 2005, and the 2010 Haitian earthquake.

NGOs are a potential channel for governments and communities to promote citizen involvement. Although NGOs are diverse, they share several distinguishing features. They are "voluntary in the sense that they are created, maintained, and terminated based on voluntary decision and initiative by members or a board" (Hudson & Bielefeld, 1997, p. 32). They are not part of government and do not distribute profits to board members or any other stakeholders. Many NGOs' missions focus on addressing community needs, hence, serving a particular public good. As legal entities, these tax-exempt organizations conduct work related to such fields as the arts, education, health care, and social welfare. NGOs are known for their autonomy and for being "highly practice-oriented" (Coppola, 2007, p. 389).

As a result, NGOs "often bring an in-depth understanding of a particular geographic area or special population and have access to underserved populations" (U.S. GAO, 2007, p. 6). They are generally involved in the day-to-day activities of a community and have formed connections to community residents and leaders. Many engage in crisis response activities, even those NGOs whose missions do not include disaster management issues. Hence, it seems important for government and other organizations involved in disaster management activities to seek out the knowledge that NGOs have of a community of which they are a part.

Even though NGOs are key actors, they are seldom included in formal disaster management planning processes at the national, state or local level. After 9/11, the United States Government Accountability Office (2002) called for NGOs to be involved in planning: "state and local efforts related to emergency preparedness could explicitly address the role of charities and charitable aid in future events" (U.S. GAO, 2002, p. 26). That advice apparently went unheeded. During Hurricane Katrina, NGOs encountered several problems with government. Pipa (2006) has claimed, "Officials and systems seemed habitually to discount their abilities,

complicate their ability to find critical financial resources, or hinder attempts to acquire crucial information and coordinate in a fashion that would help them perform to their highest potential” (p. 12). Also, local NGOs are generally still not involved in government-led training and exercises or consulted about resources, including local information. In other words, NGOs rarely have seats at the table when it comes to decisions made by public officials, including decisions on disaster management issues (Chandra & Acosta, 2009; Cutter *et al.*, 2006, p. 1; Homeland Security Institute, 2007; Pipa, 2006, p. 21; Tierney, Lindell & Perry, 2001, p. 257; U.S. GAO, 2007, p. 1; U.S. White House, 2006, p. 49; Waugh, 2006).

One reason that NGOs are not invited to participate in planning is government officials may not trust these entities with disaster efforts. Over the years, in some cases, an antagonistic relationship has existed between government and NGOs. At times, politics causes these contentious relations. For example, in the Philippines, NGOs had to create strong advocacy programs to encourage “popular participation in planning processes” and to influence government decisions on development issues to avoid more disaster “risk to the community” (Luna, 2001, p. 222). At other times, funding issues foment antagonistic relations:

NGOs find it more difficult to get funds for disaster mitigation and preparedness, compared to relief and emergency operations. There is a perception that the impact of DMP [Disaster Mitigation and Preparedness] programmes is more difficult to measure, hence priority is given to emergency response. Funding is more easily accessed in a disaster because the need is visible (Luna, 2001, p. 223).

Additionally, many NGOs receive government funding for their programs and are hesitant to be critical of government actions. The literature rarely discusses planning as an issue connected to fundraising for budget sustainability regarding disaster management. Yet, scholars and NGOs should consider the link between the two. NGOs would benefit if they went through scenarios and determined how and where dollars would be spent for each stage of a disaster. Although this would vary from disaster to disaster, many of these crises have commonalities. These similarities, used as guides, could possibly alleviate any internal and external confusion regarding the placement of donations.

Regardless, government officials involved with disaster management appear wary of NGO volunteers’ real objectives, of potential liabilities, and for their safety since they may lack the necessary training and skills in response operations (Kapucu, 2005; Waugh, 2000). Indeed,

local NGOs responding to Hurricane Katrina had little experience with safe, effective response protocols. McDonald (1985) has offered an alternative concern: Jamaican NGOs “turned out to be weak and not mass organizations with an indigenous supporting structure. The local churches, it transpired had very much stronger organization at the community level” (p. 32). The churches had better communication channels and stronger links to community residents than other local NGOs. Additionally, Vigoda-Gadot (2003) found many NGOs suffered from “problems of bureaucracy, control mechanism, and coordination among units, which substantially harm their efficiency and performance” (p. 87).

Another reason that NGOs are not more often a part of disaster planning and training may be they, along with many government officials, do not deem preparedness a priority. NGOs, particularly smaller organizations, may lack adequate funding, staff or time necessary to plan for the unexpected or to seek long-term strategic solutions when short-term ones are easier to fund, as they quickly demonstrate results to donors and the general public. As Kiefer and Montjoy (2006) have observed, “serious preparation is often expensive, requiring implementers to divert resources from tangible current needs and demands to prepare for something they hope will never happen” (p. 123). Thus, if government and NGOs worked more closely together, the challenges related to preparedness might be mitigated to an extent.

Government at all levels must recognize what NGOs bring, both positive and negative, to disaster management. By including them in planning discussions, officials may obtain local knowledge and may hear the voices of vulnerable populations. Adams (2008) has argued, “To be effective in disaster planning, communities must be alert to areas of vulnerability, including specific populations who may be at greater risk following a disaster” (p. 25). Since NGOs may be able to provide valuable assistance in disaster management efforts, government “must plan for their participation and treat them as valued and necessary partners” (U.S. White House, 2006, p. 63). This means government has to be better prepared and improve its own capacity for response and mitigation planning. Nevertheless, NGOs should be integrated into disaster planning and training to enhance response, recovery, and mitigation efforts.

The literature on disaster preparedness stresses the importance of planning in all stages of disaster management. It also emphasizes that all stakeholders need to be included in the planning process. “When stakeholders take the initiative and put proposals on the table for consideration in plans, both the strength of plans and implementation success improve markedly” (Burby,

2003, p. 39). The preparedness literature also has argued NGOs are key stakeholders. This means NGOs, government, and other essential stakeholders should form connections to address disaster management issues. If they do so during the planning stage, they can rely on those relationships in the other disaster stages, increasing the likelihood of needed cooperation during crisis events.

Response Stage

Offering assistance immediately following a disaster is an extraordinarily complex task. The number of participants during disaster response is enormous and varied: donors; transportation agents; freight forwarders; customs agents; ministries of health; health personnel; agricultural workers; government agencies; corporations; media; field partners; volunteers; international and national coordinating agencies (i.e., United Nations (UN) and the Federal Emergency Management Agency (FEMA) in the United States, respectively); foundations; material aid supporters; and recipients. The sheer number of actors can cause significant impediments to effective response (Hancock, 1989, p. 19; Schumer, 2008, p. 13; Terry, 2002, p. 15). The framework (Figure 1) below provides a useful schematic of the complexity of the international response system.

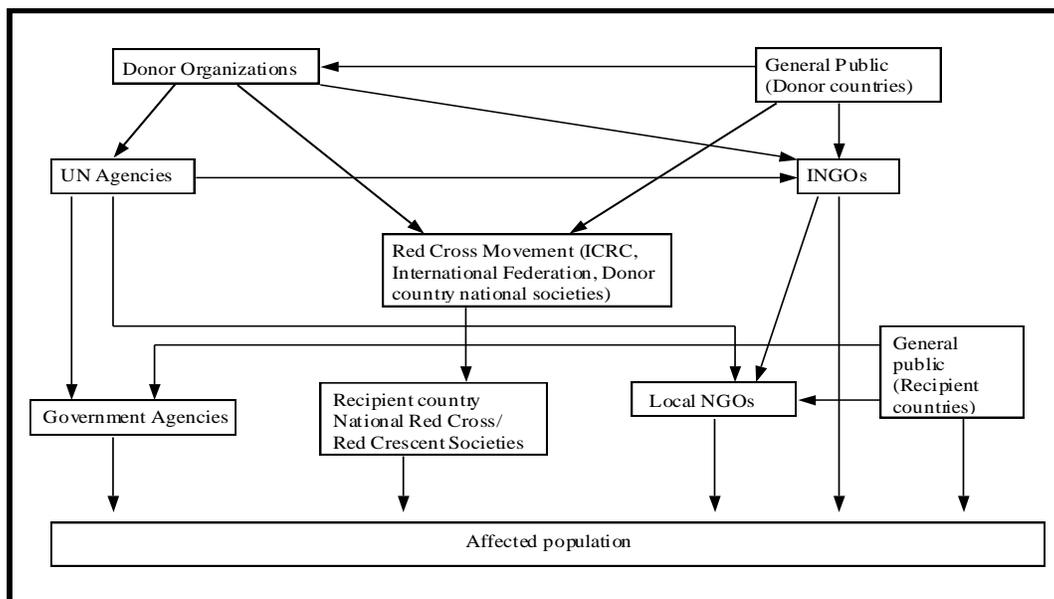


Figure 1. The International Disaster Response System (Source: Borton, 1993, p. 188.) Used with permission of John Wiley and Sons, 2010.

Of these participants, four seem to be the main actors comprising the international and United States' national disaster response structure: the UN and FEMA (proxy for affected governments); local emergency services; media; and NGOs.

The UN is a large umbrella organization. One of its main entities activated for disaster response is the Office for the Coordination of Humanitarian Affairs (OCHA). It works to plan and organize response efforts in the specific devastated area by ensuring appropriate operational coordination mechanisms are in place. It uses a sectoral or "cluster" coordination model rather than a geographic method (Telford & Cosgrove, 2006, p. 119). OCHA also serves as a facilitator, helping response organizations access information to understand the scope of needs in affected areas, to allocate resources, and to build local capacity. As a coordinator and facilitator, OCHA typically looks to governments' disaster organizations and international and local NGOs to perform response activities on the ground. "The largest amount of UN direct support for NGOs has been in the area of humanitarian relief and assistance" (Reimann, 2006, p.49). The International Federation of Red Cross and Red Crescent Societies and international NGOs, such as CARE and World Vision, usually choose to work under the UN umbrella.

In the United States, FEMA serves in a similar capacity as the UN when a state government requests its assistance. It facilitates "relief and assistance activities of federal, state and local governments, the ARC [American Red Cross] and the Salvation Army as well as other voluntary relief organizations that agree to operate under FEMA's direction" (Kapucu, 2006, p. 215). Its mission is to support first responders and citizens by helping them strengthen their disaster management capabilities. During disaster, FEMA oversees "mass care" activities (emergency first aid, shelter, food, and other relief items) and long-term housing and needed human services. FEMA usually relies on the ARC and the National Voluntary Organizations Active in Disaster to coordinate NGO efforts, yet neither has the authority to direct the activities of the independent NGOs responding.

Agencies in the affected disaster area that often work for local government are emergency services (fire and rescue, police, ambulance, and civil protection). As first responders, they are responsible for evacuation, search and rescue, security of affected areas, and casualty handling. These activities occur in the core perimeter where the greatest destruction has occurred. First responders work at the operational level and engage in the day-to-day activities needed to cope with the event-related damages. However, local government response agencies

may not have capacity to respond effectively (Coppola, 2007, p. 280; Green, 1977, p. 31). As Canton (2007) has observed, “The fact is that first responders are not equipped to cope with large-scale disasters and catastrophes. For crises of these proportions, there must be a community-level response supported by state and federal resources” (p. 30).

The media are expected to provide necessary alert notices and warnings to the general public to help ensure safety as well as to relay the actions of the major organizations responding to a disaster. Usually, the media cover crises based on their magnitude or uniqueness. Media, as a result, can be highly influential in determining how important a disaster is perceived by politicians, organizations, donors, and the general public. Thus, the media can shape public awareness of the operations of first responders and other relief organizations during a disaster situation.

Many NGOs are dedicated to assisting people in need, including disaster survivors. Because of their close proximity to disaster scenes, NGOs, including faith-based organizations, typically provide temporary shelter, food, first-aid, clothing, and other physical support. They, unlike many other response agencies, offer not only physical aid, but also emotional support (such as mental health counseling and job training) to survivors and even to other relief workers. Since most NGOs work at the grassroots level, they are familiar with the needs of the communities in which they operate and their civic strengths and weaknesses (Brinkerhoff, 2002, p. 49; U.S. GAO, 2007, p. 6). As such, many NGOs focus on communities’ most vulnerable populations (Adams, 2008, p. 26; Pipa, 2006, p. 4). In the United States, NGOs played an important role in the response stage for Hurricane Katrina and served the vulnerable populations affected by the hurricane well (Fagnoni, 2006; Homeland Security Institute, 2007; Pipa, 2006; U.S. House, 2006; U.S. White House, 2006).

These principal participants must collaborate if they are to provide aid effectively to disaster survivors. Due to the nature of humanitarian response and the variety and number of people and agencies involved, challenges are tremendous. Two main issues vital during the response stage are inter-organizational coordination (Drabek *et al.*, 1981) and inter-organizational relations (Gillespie *et al.*, 1993). Yet, the majority of barriers to efficient and effective response stems from lack of coordination and lack of collaboration. According to Dynes (1978), “As existing organizations take on new roles, assume heightened importance, or cease operation entirely, and as new organizations appear, the normal system of coordination no

longer works” (p. 51). The hurdles affecting collaboration and coordination include the following:

- lack of prior planning by organizations and communities (Dynes, 1978, p. 59; Mileti, 1999, p. 223; U.S. GAO, 2006);
- competition among agencies (Billis & MacKeith, 1993, p. 30; Coppola, 2007; Dynes, 1978, p. 63; Granot, 1997, p. 305; Linden, 2002; Minear, 2002, p. 25; Smillie, 1995, p. 233; Smillie & Minear, 2004, p. 200; Stephenson & Schnitzer, 2006, p. 222; Terry, 2002, p. 203; Vernis *et al.*, 2006, p. 69);
- distrust among organizations (Babiak & Thibault, 2009; Corbacioglu & Kapucu, 2006; Linden, 2002, p. 35; Stephenson & Schnitzer, 2006, p. 214; Vernis *et al.*, 2006, p. 37; Waugh & Streib, 2006);
- emergent volunteer groups and NGOs (Canton, 2007, p. 265; Dynes, 1978, p. 51; Harrald, 2006, p. 264);
- fear of diminished autonomy and power (Babiak & Thibault, 2009; Coppola, 2007, p. 393; Minear, 2002, p. 23; Vernis *et al.*, 2006, p. 37);
- lack of agreement on how coordination should occur (Babiak & Thibault, 2009; Dynes, 1978, p. 61; Huxham & Vangen, 2005; Minear, 2002, p. 29).

Lack of coordination and collaboration are key barriers, if not *the* key barriers, to response efficiency. Although collaboration has been noted as difficult, albeit essential, before a disaster occurs, it often becomes unwieldy during the response stage. Granot (1997) has claimed, “Even when all participants are skilled at what they are called on to do, co-ordinating their efforts is one of the most troublesome aspects of emergency management” (p. 305). Yet, the multitude and diversity of response agencies demand collaboration. Collaboration requires stakeholders be brought together to discuss their different viewpoints and to seek solutions to challenges so complex that they require group effort (Canton, 2007; Gray, 1991; Kapucu, 2006; McDonald, 1985). As a process of give and take, collaboration provides the possibility of constructing solutions no one agency could achieve by itself. Numerous scholars have contended collaboration and coordination are essential for mitigating and/or eliminating most of the problems encountered in a disaster situation (Beristain, 1999; Billis & MacKeith, 1993; Canton,

2007; Coppola, 2007; Drabek *et al.*, 1981; Dynes, 1978; Edwards, 1999; Granot, 1997; Gray, 1991; Green, 1977; Hancock, 1989; Linden, 2002; McDonald, 1985; Mileti, 1999; Minear, 1999; Minear, 2002; Schumer, 2008; Simo & Bies, 2007; Smillie, 1995; Smillie & Minear, 2004; Terry, 2002). Although the literature highlights many issues that hinder coordination of response efforts, two key subjects are discussed below: lack of communication and ambiguity of authority.

Effective delivery of relief aid is highly dependent on successful communication among response organizations. Improving communication is the most useful means of improving relations among agencies (Beristain, 1999; Drabek *et al.*, 1981; Dynes, 1978; MacCormack, 2007; Stephenson, 2006). Communication should be constant and accurate. “There is universal consensus that information sharing is the sine qua non of coordination activity” (Reindorp & Wiles, 2001, p. viii). Yet, communication challenges are multiplied during a disaster. According to Bui *et al.* (2000), “where sources of data and/or decisions are high volume, encompassing a large geographic area and covering a gamut of organizational entities, information gathering and fusing can be daunting” (p. 427). With respect to communication, the literature discusses three chief issues: lack of prior relationships among responding agencies, breakdowns in communication, and lack of public awareness.

First, it is important that disaster agencies form relationships. By establishing connections prior to disaster events, these agencies may understand each other better, which may lead to an improved integrated response. Second, breakdowns in communication refer mainly to equipment failure and incompatibility and to language and cultural differences. During a disaster, equipment failures are expected, especially in remote regions that lack sophisticated systems, creating longer response times and hampering coordination. System breakdowns have been the norm for years, but, little has been done to improve them or upgrade equipment in disaster-prone regions. This was quite evident during Hurricane Katrina; NGOs listed “the lack of communications and technology as one of the largest impediments to their relief and recovery efforts” (Foundation for the Mid South, 2005, p. 2). Also, at times, breakdowns due to language or cultural differences occur. Most international non-governmental organizations (INGOs), however, anticipate these potential barriers when engaging in relief work overseas and, to circumvent them, usually partner with local NGOs. Third, media play a large part in conveying disaster-related information to the general public. Yet, reporters typically highlight damages rather than the needs of governments or NGOs and the disaster survivors whom they are trying to help. Thus, it is important for

humanitarian agencies to form meaningful relationships with print, radio, and television journalists as media are the main tool to reach the public prior to and during a disaster (Coppola, 2007; Drabek *et al.*, 1981; Minear, 2002; Rieff, 2002). Such relationships may assist NGOs as well as governments and other response agencies in getting media to disseminate more accurate, useful information to the public.

Although public awareness is important, communication and coordination among responding agencies is critical to effective disaster response. Linking the relief activities of government and NGOs could create synergistic collaboration that would be immensely beneficial for all in need. But, ways and means by which to coordinate and communicate across sectoral lines remain elusive. Ambiguity of authority appears to obstruct effective collaboration. No one organization has complete authority over any stage of disaster. According to Beristain (1999), this ambiguity “allows space for creativity,” but also forces disaster response organizations to spend time and money on discovering who is doing what (p. 101). The debate surrounding authority continues. Some scholars (Corbacioglu & Kapucu, 2006; Drabek *et al.*, 1981; Green, 1977, p. 48; Reindorp & Wiles, 2001; Skeet, 1977, p. 12; Wise, 2006, pp. 308-310) argue a single point of contact would ensure well-organized operations, thereby reducing chaos. These same scholars suggest that the central coordinating body supervise overall response efforts, keep participants well informed, and reduce unnecessary duplication of efforts.

Internationally, the UN (more specifically, OCHA) is a likely candidate to serve as such a central coordinating body. The UN has a history and strong presence in many countries (Canton, 2007), plus it can “authorize humanitarian intervention, including the use of force” (Falk, 1999, p. 131). OCHA has worked extensively with the NGO sector and seems to understand the flexibility needed to respond effectively during and after a disaster. For example, after the Asian tsunami, the UN recognized key development projects were not getting stakeholder approval in a timely fashion (Shepard, 2006, p. 8). To facilitate the process, a UN volunteer formed an ad-hoc committee consisting of government officials, local authorities, and INGO representatives to exchange information and improve coordination. In addition, OCHA has established direct communication mechanisms with the NGO sector, designated a liaison to work with NGOs, pre-identified NGOs that will take the lead on certain issues during disaster, and incorporated NGOs into its planning processes. The UN, however, has its own challenges. It appears more interested in process than results, suffers from intense internal competition among its units, and is too

bureaucratic to be flexible enough to adapt to unexpected situations (Hancock, 1989; Minear, 2002; Reindorp & Wiles, 2001; Rieff, 2002). At times, “some [UN] agencies are prone to focus on UN matters to the exclusion or neglect of NGOs and the Red Cross Movement, who are key players and partners in humanitarian response” (Reindorp & Wiles, 2001, p. iii). Moreover, Minear (2002) has argued the UN has “had recurring difficulty functioning apolitically in highly politicized circumstances” (p. 125).

Government is another option to serve as a central coordinating body for disaster response and recovery. Governments have the authority to create a national plan, address problems, and enforce international humanitarian laws during disaster (Green, 1977; Reindorp & Wiles, 2001). Governments are in a better position to establish appropriate disaster management strategies than external agencies. According to Moore (2006),

Government is the one institution with the scale to mobilize the necessary resources. It is the one institution with the authority to distribute the burdens and benefits of the relief and recovery effort fairly. It is also the institution that can be called to account by citizens for the justice and equity of its response. And only through a democratic process organized by government can society create the occasion for a meaningful collective discussion of what is owed to the victims of a disaster (p. 26).

Government may be more effective if it establishes a national disaster organization through legislation and gives it the authority and enforcement to act accordingly (Green, 1977; Skeet, 1977). All emergency response operations ideally could flow through the national disaster organization. Although not a supporter of centralized authority, Dynes (2002) does advocate the idea of institutionalizing emergency management within local government (p. 47). Nevertheless, government, too, has its challenges. It may lack capacity. It also may lack the trust of its own citizens and/or the external agencies that want to help the population affected by disaster, e.g. the situation in Haiti now.

In the United States, FEMA is a possible contender to guide coordination efforts among all response organizations, government and non-governmental organizations. FEMA relies on the Unified Command (UC) model. This model’s design emphasizes the importance of coordination among multiple agencies and/or jurisdictions. It outlines how numerous responders can collaborate without relinquishing their authority or abdicating their particular responsibilities (Canton, 2007, p. 273; Joint Commission, 2005, p. 28; U.S. Department of Homeland Security,

2008, p. 48; U.S. White House, 2006, p. 13). UC encourages information sharing since “jurisdictional authorities jointly determine objectives, strategies, plans, and priorities and work together to execute integrated incident operations and maximize the use of assigned resources” (U.S. White House, 2006, p. 209). The UC construct also urges government to have a “limited preoccupation with adhering to the chain of command” (Canton, 2007, p. 312). UC officials appear to be able to structure and restructure necessary actions and relationships depending on the situation. For instance, although formal authority seems to be pre-set, informal authority is incorporated so experts on the ground can assess the situation and make quick decisions. Thus, in principle if not always in practice, the UC concept allows NGOs to work with government without relinquishing their operational autonomy.

FEMA operates differently than NGOs. It is less flexible about rules and regulations, regardless of the circumstances. According to Pipa (2006), “The predominant culture at FEMA seems deficient in its relationship to the charitable sector beyond those typically active in first response” (p. 20). UC has other drawbacks concerning NGO involvement. First and foremost, the UC model does not fully integrate NGOs into the system. Instead, FEMA looks to the ARC to coordinate the NGO sector informally. This can create tension. “Interorganizational conflicts arise around issues of authority, responsibility, and public recognition between the American Red Cross and other organizations” (Gillespie *et al.*, 1993, p. 24). The conflicts among NGOs are “compounded by significant differences in training, facilities, experience, and conceptual grasp of the requirements for action among organizations” (Comfort & Cahill, 1988, p. 180). Thus, there is an urgent need to clarify the role of FEMA and, in particular, how it might coordinate with the NGO sector. After Hurricane Katrina, FEMA and the ARC agreed that the federal agency should serve as the primary lead for mass care activities (U.S. GAO, 2008, p. 14). Nonetheless, it has long been FEMA policy to work with charities “as a facilitator, not as a leader or director” (U.S. GAO, 2002, p. 26). Presently, FEMA does not have the staff resources to assume the role of primary agency for handling mass care (U.S. GAO, 2008, p. 13). If FEMA should take on the role of coordinating all NGOs in response, both government and NGO staff must be open to creating a process that works for all parties involved. That would likely prove a thorny process.

NGOs hesitate to enmesh themselves in rigid bureaucratic structures because their flexibility and autonomy would likely be affected. NGOs “have no obligation to coordinate with

other NGOs or with official government responders” (Coppola, 2007, p. 398). And, should they receive significant funds, as they often do in catastrophic disasters, no financial incentives exist for cooperating with others. This was a significant problem during the Asian tsunami response. NGOs were flush with money. Telford and Cosgrave (2006) have claimed, “Many of these organizations were ‘cash rich’ and keen to start their individual activities with limited need and incentive to coordinate with local government or with other actors (World Bank, 2005a)” (p. 62). These NGOs chose not to coordinate with other entities and bypassed the UN mechanisms, resulting in duplication of efforts and leaving certain geographic areas and populations without aid. The decision not to collaborate with others is clearly an impediment to effective response efforts (Edwards, 2004, p. 105; Vernis *et al.*, 2006, p. 68).

On the other side of the authority debate, some scholars (Dynes, 2002; MacCormack, 2007; Stephenson, 2006; Waugh & Streib, 2006) believe a central authority is not the answer. In this view, a centralized hierarchical model is unsuited to the complexity of the disaster context. These authors suggest governments and NGOs are moving away from central coordination, just as the nature of the organizational world is moving from mechanistic models to organic models where authority is lateral rather than hierarchical (Linden, 2002, p. 15; Kapucu, 2006). As Kapucu (2006) has argued, “in extreme events, standard procedures cannot be followed; such events require a dynamic system to adapt to unanticipated and rapidly changing conditions” (p. 210). Hence, networks may be a potential solution. As organic organizations, they offer benefits such as task division, flexibility, and emphasis on communication and coordination (Canton, 2007, p. 312).

Agranoff (2007) has advocated for the use of “collaborarchies” in disaster response; collaborarchies are “hybrids between voluntary organizations with boards and officials, and collaborative structures like work groups and committees within contemporary bureaucratic organizations” (p. 84). Elements of bureaucracies and networks are combined for enhanced collaboration, coordination, and communication, particularly at the field level. “Communication channels substitute for the hierarchical structure in participants’ home organizations. It is through this array of actors that the patterns of communication flow” (Agranoff, 2007, p. 101). Provan and Milward (1995) have suggested networks are more productive if they are centralized. In collaborarchies, representatives from organizations self organize into a “pooled authority system that is based more on expertise than on position” (Agranoff, 2007, p. 87). This arrangement

permits the flexibility of networks and the stability of bureaucracies. It incorporates both spontaneity and planning. Such non-linear structures are devised to increase information sharing which should, as a result, create a solid base for partner organizations to work toward improved planning, response, recovery, and mitigation.

Regardless of the coordinating mechanism, trade-offs must be anticipated. Minear (2002) has claimed utilizing a decentralized authority would “facilitate strengthening local capacity and ownership,” while employing centralized control would permit better accountability (p. 184). As Skeet (1977) has aptly noted, “a certain loss of sovereignty should, during joint operations, be accepted” (p. 24). To ease the anxiousness felt over the loss of a measure of organizational autonomy, relationships among response agencies are critical. Whether a central authority or a network, partnerships become paramount.

The importance of pre-existing relationships among disaster response agencies cannot be overstated (Fagnoni, 2006, p. 15; Kapucu, 2006, p. 209; Linden, 2002, p. 48; Pipa, 2006, p. 41). With relationships already established, the process of sharing information and mobilizing people and goods is more streamlined. Waugh and Streib (2006) have stressed communication and collaboration are facilitated if these relations are based more on “personal familiarity, not just institutional contact” (pp. 137). For example, during Hurricane Katrina, “Personal and pre-existing relationships among local nonprofit, foundation, and religious leaders played a significant role in their ability to assess the situation quickly and to act flexibly to fill human service needs in the midst of a chaotic situation” (Pipa, 2006, p. 41). These prior relationships help to build trust. And, the very nature of collaboration requires mutual trust. In a disaster situation, trust is a key factor to instilling the confidence disaster response organizations need to have in each other (Kapucu, 2006, p. 209; Pipa, 2006, p. 20). This trust should help NGOs as they continue into the recovery stage since NGOs typically lack “adequate resources for disaster rehabilitation and recovery” (Moore, 2006, p. 25).

The literature indicates NGOs inevitably respond to disasters and communication and coordination between government and NGOs is too often inadequate or nonexistent. This study, as a result, examines a NDO that includes most of the key actors—government, local emergency services, a few businesses and private citizens, and one NGO—to understand the actions and relations of the various members during the response stage. It investigates the challenges members have faced during response and how they affect NDO functions and member relations.

Additionally, the literature discusses the importance of leadership during response. This study, therefore, investigates NDO structure to determine whether it employs a bureaucratic or network form or uses a combination of the two forms. NDO structure influences not only leadership style, but also member relations. By exploring leadership types that emerge during the response stage as well as during the other stages of disaster management, this study should also add to the literature.

Recovery Stage

Public perception is government has the inherent responsibility to rebuild its nation and enough resources to come to citizens' aid during and after a disaster (Canton, 2007, p. 31; Coppola, 2007, p. 210; Luna, 2001, p. 220). During the recovery stage, local officials engage in “complex intergovernmental processes and in key public policy choices that affect the future of the community”; yet, research on how these officials make their choices and on the options available to them is limited (Rubin & Barbee, 1985, p. 57). To ensure effective recovery of the damaged area, officials must weigh immediate and future goals. They must consider economic issues as well as community values. Their decision-making process “requires astute political and administrative leadership” (Rubin & Barbee, 1985, p. 62). This void in the literature on official recovery actions is problematic. Thus, this study explores a NDO where policy decisions are made by the network members who represent not only government, but also business, NGOs, and private citizens. Another noticeable gap in the literature is the role of NGOs in the recovery stage. This study aims to begin to close this gap by researching the roles of NDO members in one nation.

Both government and NGOs are central players in recovery tasks and understanding their relationship is important. The relationships between government and NGOs have changed over time. Governments and the UN at first ignored NGOs when they began their foray into disaster response and recovery. Now, both are dependent on NGOs as contractors, service deliverers, and executors of humanitarian work (Anheier & Cunningham, 1994; Billis & MacKeith, 1993; Coppola, 2007; Özerdem & Jacoby, 2006; Rahman, 2006; Reimann, 2006; Smillie, 1995; Zaidi, 1999). Because government programs either have been ineffective or were not offered, NGOs have stepped into the role. After a disaster, NGO workers provide a number of services, thus,

shifting the responsibility of basic services from government to NGOs. Yet, in the United States, “there is no official federal or state policy, documentation, or guidance for how NGOs lead or work with government through the disaster *recovery* phase” (Chandra & Acosta, 2009, p. 3). According to Canton (2007), during the recovery stage, “Coordination and not command becomes paramount and it is the non-paramilitary agencies such as public health and public works and voluntary agencies like the Red Cross and Salvation Army who must work together to restore the community” (p. 30). Difficulties in the recovery will continue without appropriate coordination and communication between government and NGOs.

For many, the unclear and/or changing relationship between government and NGOs creates confusion and tension during and after disasters. Overseas, “governments resent the resources bestowed by donors on NGOs and find NGOs difficult, if not impossible, to coordinate. They become increasingly anxious about demonstrating their own credibility and authenticity to their citizens” (Anheier & Cunningham, 1994; Smillie & Minear, 2004, pp. 210-213). Tensions also exist when citizens appear to trust NGOs more than government. Berke and Beatley (1997) discovered this in their research conducted after Hurricane Hugo in 1989: both Jamaican and Antiguan citizens perceived NGOs as more credible than government, particularly regarding damage assessments (pp. 63, 157). These governments, as a result, lost a large measure of their standing as they approached the need to make choices in the recovery stage.

Since state capacities are, at best, uneven, some scholars (MacFarlane, 2000; Özerdem & Jacoby, 2006; Salamon, 1995; Smillie, 1995) have argued NGOs should become more involved in the policy-making and politics of disaster management. Skeet (1977) has suggested a compromise: “Voluntary agencies should work closely with governments but retain their independence” (p. 24). By shifting the relationship with government to include open dialogue, changes are possible. However, MacCormack (2007) and Smillie (1995) caution NGOs that government has the final say on national disaster management issues.

Part of the recovery process includes short and long-term development projects. A disaster illuminates community problems and, hence, paradoxically, development opportunities in the area. In the past two decades, NGOs have begun working in development, regardless of disaster occurrence. Development is meant to “nationally, and internationally, foster socially just, sustainable economies with accountable, inclusive systems of governance” (Fowler, 1997, p. 6). NGOs attempt to assist individuals and communities to participate in the public decision-

making process and in reducing poverty. Ideally, this promotes inclusiveness, accountability, and transparency. It also improves the likelihood that local norms and culture will be included in any long-term recovery plans. Smillie (1995) has argued, “NGOs are regarded as one of the best hopes for improved public information and better education on development issues” (p. 135). Yet, public education is a challenge. NGOs that endeavor to inform the public may encounter several barriers: “literacy and education; language; access to technology and the media; class structure; poverty, or the effects of poverty; cultural understanding; lack of government sponsorship; conflicting interests of ‘big business’; and hostile or restrictive governments” (Coppola, 2007, pp. 233-239).

Nevertheless, NGOs could have long-term impacts during the recovery stage. It is vital for civil society to be restored following disasters. According to Alexander (1997), “The loss of social organizations impedes the rebuilding of villages, so aid programs should consider the rebuilding of organizations and local capacities among their primary objectives” (p. 14). As local organizations, NGOs are well positioned to rebuild social capacities by connecting survivors to other people and organizations. They “work on an ongoing basis to increase population resilience by developing economic resources, reducing risk, ameliorating resource inequities, and attending to areas of social vulnerability” (Chandra & Acosta, 2009, p. 4). Through their work, NGOs appear to forge close bonds with many local citizens. Some scholars (Anheier & Cunningham, 1994; Fowler, 1997; McDonald, 1985) doubt NGOs can produce the results needed in development. Moreover, development is not seen by all as a positive movement. Berke and Beatley (1997) suggest development projects can make disaster impacts worse by causing environmental degradation, while Fowler (1997) argues such efforts too often prohibit communities’ involvement: “the one thing commonly standing in the way of authentic participation is the mechanism used to interact with communities: development projects” (p. 16).

Development projects are supposed to facilitate capacity building during the recovery stage. Capacity building is regarded as an effective tool in disaster recovery and mitigation (Beristain, 1999; Farah, 2003; Minear, 2002; Özerdem & Jacoby, 2006; Paton & Johnston, 2006). It offers local individuals and organizations the means to enhance their quality of life. It offers tools to individuals and communities to become self-sufficient and resilient. Schumer (2008) argues NGOs can help empower communities; “local ownership also raises the likelihood of sustainability and reduces the risk of paternalism” (p. 21). Despite these laudatory claims,

actual local participation in capacity building efforts and long-term documentation of recovery efforts has received little scholarly attention. There is oddly a marked gap in research on the theory and practice of participatory involvement, local decision-making and ownership in the agenda-setting of emergency humanitarian assistance (Weiss & Collins, 2000). Smillie (2001) indicates both academics and practitioners agree this gap is problematic because building local capacity is not only fundamental to the effective delivery of humanitarian aid, but also contributes to strengthening the foundation for further efforts in recovery, development, and mitigation. This study, as a result, contributes to addressing this gap to an extent since it explores how the NDO and its members encourage local participation and capacity building.

Other scholars (Canton, 2007; Hancock, 1989; McDonald, 1985; Minear, 2002; Rieff, 2002; Smillie & Minear, 2004) are skeptical of NGOs' capabilities in capacity building. "Even international NGOs with strongly expressed commitments to building local institutions are, for the most part, anything but nurturing of local capacities" (Smillie & Minear, 2004, p. 16). For any organization, capacity building is a difficult and long-term endeavor. One reason for the difficulty is "capacity building, like coordination, is ultimately about power: the sharing of power and resources, of limelight and accountability" (Minear, 2002, p. 71). This power creates tensions because, typically, "donors have more power than implementing agencies, Northern NGOs than Southern NGOs, military actors in the aid sphere than civil ones, providers than beneficiaries" (Minear, 2002, p. 71).

Another reason may be external actors choose to control the agenda; they frame the problems as well as offer, fund, and implement the solutions (Hancock, 1989; Minear, 2002). When NGOs and others engage in this type of behavior, distrust arises. Suspicions increase when external actors rely on outside expertise and do not incorporate local knowledge. Without local participation, capacity building efforts are for naught. Distrust also occurs when the devastated community becomes too dependent upon NGOs and other agencies. Rieff (2002) asserts once Northern NGOs started to provide more development aid in the Southern Hemisphere, dependency was created and a new "colonial atmosphere" was formed (p. 275). International NGOs and other agencies, therefore, should have plans in place to determine their exit procedures so a community can return to taking care of itself. The issue of withdrawal is rarely addressed in the literature or in practice (Fowler, 1997; Haas, Kates & Bowden, 1977). Fowler (1997) has observed NGOs seldom concern themselves with strategic disengagement;

withdrawal “results from funds running out, donor fatigue, transfer of staff, or ...for political reasons” (p. 105). Without appropriate strategies in place, NGOs and other agencies involved in recovery and/or development issues risk harming more than aiding the communities affected by disaster.

NGOs must have their own plans in place when they engage in recovery and development activities. They must also be involved in government’s recovery planning and decision making to help ensure the recovery process is efficient and swift (Berke & Beatley, 1997, p. 173; Chandra & Acosta, 2009, p. 1). Clearly, government and NGOs should form some type of working arrangement for disaster management. Paton and Johnston (2006) have asserted, “The quality of reciprocal relationships between communities and societal institutions will influence the quality of the community experience of recovery” (p. 313). Government and NGOs must dedicate time and resources to maintain their relationship. The character of their relationship during the planning stage typically sets the tone for the overall efficacy of disaster management efforts later: “Articulating NGO roles in human recovery requires early planning, and this planning may have collateral benefits in enhancing the resilience of a community to withstand a disaster” (Chandra & Acosta, 2009, p. 12).

Although government and NGOs undertake much of the recovery work during disaster initiatives, there is limited scholarly research on the recovery stage. The literature that has been published acknowledges the tensions between government and NGOs. As a result, scholars debate the role of NGOs in policy making and in development work occurring during this stage. Yet, social capital needs to be restored and NGOs are viable candidates to help to make those social connections. This is one reason why civil society entities should be included in the decision-making process concerning recovery efforts. They bring community knowledge with them and may offer alternative solutions that government and other stakeholders have not considered. This study examines the activities of St. Lucia NDO members during the recovery stage to discover which agencies are at the forefront of rebuilding the nation, both physically and socially, following disasters. It also investigates the relationships among NDO members, particularly government and NGO representatives.

Mitigation Stage

A disaster highlights the significance of mitigation. The mitigation stage of disaster management focuses on reducing loss of life and property, preserving community social networks, maintaining economic viability, preparing for future disaster. In other words, it focuses on striving for improved community resilience. According to Paton and Johnston (2006), resilience has four main factors or dimensions: necessary resources for community safety; competencies to use the resources; plans that include the integration of those resources at all levels; and strategies that guarantee the resources are continuously available (p. 9). Long-term planning is essential. If thoughtful, thorough plans are in place, a disaster offers a community the opportunity to showcase its solutions to make the community more resilient (Berke & Campanella, 2006, p. 193; Burby, 2003, p. 41). Such plans could prevent economic motivations from overpowering other community values. When economic issues alone prevail, devastation can result. For example, when the government of Jamaica insisted on expanding its already profitable Blue Mountain coffee crop, it destroyed the island's forest which resulted in increased soil erosion (Collymore, 2004, p. 317).

The mitigation stage should be a high priority for government officials, especially those concerned with development issues, and for communities. Yet, both planners and the public show little interest in natural hazard mitigation (Burby, 2003, p. 37). It seems "the public is more easily stimulated to donate by news of spectacular casualties and losses than by spectacular shortfalls in mitigation against future disasters" (Alexander, 1997, p. 293). When attention and funds are given to mitigation, they usually go to structural mitigation which produces more readily visible results. Yet, nonstructural mitigation efforts are important: "regulatory measures; community awareness and education programs; nonstructural physical modifications; environmental control; and behavioral modification" (Coppola, 2007, p. 185).

NGOs are more likely to become involved in nonstructural mitigation, particularly community awareness and education programs since many of them already conduct these efforts in communities. However, few NGOs undertake any mitigation activities. Those that do engage in such efforts typically focus on training or the environment. They also do not see mitigation as its own program; instead, they take on mitigation efforts as a part of their developmental

programs (Ahmed & Potter, 2006, p. 40; Luna, 2001, p. 221; Salamon, 2003, p. 245; Smillie, 1995, p. 39). According to Benson, Twigg, and Myers (2001),

the literature contains little serious discussion of the role of NGOs or CBOs [community-based organizations] in this area or the particular challenges they face. Perhaps this is an indication of the way in which mitigation commonly falls into the gaps between development and relief and of the fact that it is often seen merely as a type of activity rather than something more intrinsic to sustainable development (p. 203).

Other than being a low priority and having to raise funds for mitigation issues, there are several reasons why NGOs and others remain disengaged in mitigation strategies. Two of these are discussed below: political advocacy and legitimacy.

In an ideal world, political interests would not be considered during disasters. But, “disasters are political events” (Coppola, 2007, p. 529). And NGOs, in general, seem hesitant to engage in politics and advocacy. According to Benson, Twigg, and Myers (2001), many scholars have criticized NGOs “for failing to challenge the political factors underlying crises” (p. 202). Since many civil society organizations are funded, at least partly, by governments, the majority does not engage in any type of advocacy, particularly on issues that may undermine such support (Smillie, 1995; Smillie & Minear, 2004). Several scholars (Beitz, 2004; Edwards, 1999; Granot, 1997; Lindenberg & Bryant, 2001; MacFarlane, 2000; Rahman, 2006; Shue, 2004; Tvedt, 2006) claim NGOs are ready to engage in advocacy. In this view, humanitarian agencies should work to change public perceptions and to change state actions for disaster risk reduction, recovery, and mitigation.

To be persuasive political players, NGOs need to push for changes in the disaster system. They need to become involved in policy formulation to ensure risk analysis is a guaranteed part of disaster management. They need to tackle policies that place huge burdens on their efforts. For example, in the United States, one such concern is linked to the Stafford Act:

Other than the American Red Cross for some shelter services, there is no provision to allow the government to contract with NGOs for services related to human recovery. Established contracts between the federal government and local NGOs are one possible mechanism for pre-positioning needed resources. Having these contracts in place could encourage a more efficient, timely, and coordinated local response (Chandra and Acosta 2009, p. 10).

As Ahmed and Potter (2006) have contended, “NGO attempts to change the ways in which states act and how they define themselves and their roles have the *potential* to transform” (p. 14).

NGOs have historically had successes in advocacy efforts. In the 1960s in the United States, for example, they led social movements that changed policies on racial issues and war. In the 1970s, particularly in Latin America, the number of professionals working at NGOs increased for political and economic reasons. With such professionals at the helm, these organizations often became “*political interventions*” (Zaidi, 1999, p. 261). Yet, in the early 21st century, the majority of NGOs have become service providers, not well-versed “policy innovators and social critics” (Salamon, 1995, p. 218). On the other hand, civil society organizations have successfully worked together, on a global basis, to spotlight corporate and government abuse. Likewise, NGOs could collaborate before and after disaster situations to change policies and bring attention to important disaster management issues. Since these institutions have changed behaviors concerning corporate social responsibility and government mismanagement, they are at least potentially capable of pushing an improved disaster management agenda to force needed changes to the system.

Because many NGOs throughout the world lack political expertise, MacCormack (2007) and Rieff (2002) say no to advocacy. Rieff (2002) suggests NGOs are knowledgeable about their own area, but they are not in a position to know or understand the bigger picture (p. 171). Without advocacy experience, many NGOs have not been exposed to how the political system functions. Some scholars (Rahman, 2006; Salamon, 1995; Shue, 2004; Tvedt, 2006) claim the lack of political skills and lack of understanding of key players keep NGOs from effectively engaging in advocacy. Stoddard, however, seems to be on the fence. Stoddard (2006) acknowledges NGOs are already involved indirectly in politics since policymakers occasionally obtain information from NGOs that determine their decisions (p. 45). But, these information exchanges “often lack quality and rigor, are not conscious or coordinated, are not strategically delivered, and can result in policies wholly contrary to the NGO humanitarian agenda” (Stoddard, 2006, p. 69). Only when NGOs go from offering information to pressing for policy change does it become advocacy. They need to become active participants in the political system, demonstrate professional competence, and form successful alliances “to place their issues on the political agenda” (Edwards, 1999, p. 29). NGOs need to join forces to create policy that mirrors others regarding emergency relief (Granot, 1997, p. 310). Still, Fisher (1998) argues

even if NGOs engage in advocacy, it may have little, if any, effect on policy: “advocacy, like collaboration, may have more impact on the delivery of services than on redistributive policies, more impact on local environmental crises than on national policy, and more impact on strengthening civil society than on engendering top-down democratic reforms” (pp. 124-125). To become legitimate advocates, NGOs need to “strengthen their own identities and autonomy *before* seeking to influence policy makers” (Fisher, 1998, p. 76).

Legitimacy is vital for NGOs since they do not have the legal authority of governments or economic power of corporations (Fisher, 1998; Fowler, 1997; Schumer, 2008). Legitimacy affirms NGOs as suitable agencies to conduct disaster management activities. Ahmed and Potter (2006) have declared, “Legitimacy implies representativeness and trustworthiness” (p. 244). NGOs have legitimacy claims if they have prior experience with disasters (Dynes, 2002, p. 31); diversified funding, especially at the local level (Edwards & Hulme, 1996, p. 969; Minear, 2002, p. 127; Zaidi, 1999, p. 264); demonstrable achievements (Fowler, 1997, p. 183); and solid organizational goals and leadership (Dynes, 1978, p. 51). It helps if NGOs conduct their operations transparently and form strong relationships not only within the community, but also with other NGOs. Without trusting partnerships and accountability measures in place, NGOs will have difficulty claiming legitimacy. It is possible legitimacy can come through trusting partnerships with government, other disaster response organizations, and communities. How resilient a community is to a disaster is determined not only by members’ skills and hazard knowledge, but also by their personal and organizational relationships within the community. Strong social bonds may assist community members in resuming their way of life during and after a disaster. Relationships and partnerships, therefore, are critical to disaster management.

The literature on the mitigation stage is minimal. Scholars who have researched mitigation issues cannot agree on the role of NGOs. Some argue NGOs should work closely with government, while others suggest NGOs have the potential to become active advocates that challenge government to do more to create resilient communities. Thus, this study examines the NDO’s activities concerning mitigation strategies within members’ home organizations. It also addresses the issue of member relations within the network. Are all members of the NDO considered legitimate? Does being a part of the network automatically bestow legitimacy on each member? This study, therefore, investigates whether the members work together on mitigation issues and if so, how they collaborate.

Inter-organizational Networks

Networks, like hierarchies and markets, are coordinating mechanisms. The main difference among the three is that hierarchies rely more on rules and order; markets, price competition; networks, trust and cooperation (Powell, 1990; Rhodes, 2003, p. 61). Networks are essentially based on member relations. McGuire (2006) and Agranoff (2007) argue that public management networks combine characteristics of hierarchies and networks to function effectively. With public networks, the government usually forms a lead agency specifically to oversee network activities with an assigned coordinator and with a legal mandate to engage in policy making. Because it is held accountable directly by the public, the government generally steers or influences the direction of these networks. Agranoff (2007) refers to such networks as “action networks” or “collaborarchies.” For the sake of consistency and clarity, this section employs the general term “networks” to refer to government-led inter-organizational networks.

Inter-organizational networks share some common characteristics: permanent status, communication system, informally identified governance structure, and coordination system (work groups, division of labor) (Agranoff, 2007, p. 7; Rhodes, 2003, p. 63). More and more organizations appear to be moving from vertical to horizontal structures. One main reason for the switch is that vertical systems focus on fixing routine problems, whereas networks, or horizontal systems, tackle issues that require substantial changes in the social structure (Agranoff & McGuire, 2003, p. 109). In the 1980s, government began building networks with NGOs to deliver services. For government, “collaborative networks are seen as appropriate devices to tackle public management problems” (Milward & Provan, 2006, p. 8). In the 1990s, NGOs also turned to networks to augment their resource base and extend their international reach (Anheier, 2005; Young *et al.*, 2002). In particular, McGuire (2006) has argued, “A merging of hierarchy and collaborative networks is also present in emergency management” (p. 36).

As key players in disaster management, both government and NGOs recognize that they each represent a part of the total disaster picture and that one organization typically does not possess sufficient internal knowledge or resource capacity to address the increasingly complex problems associated with disaster management. Networks, therefore, seem a viable solution for handling the intricacies of disaster issues (Kapucu, 2006, p. 207; Milward & Provan, 2006, p. 8).

These strategically-formed inter-organizational networks may reduce uncertainty and increase capacity (Agranoff & McGuire, 2003, p. 96; Child & Faulkner, 1998, p. 114; Chisholm, 1989).

Several scholars have argued networks have many other benefits:

- to improve performance and become more competitive (Beeby & Booth, 2000; Castells, 2000; Goldsmith & Eggers, 2004; Linden, 2002; Podolny & Page, 1998, p. 62);
- to acquire new information and resources (Agranoff, 2007; Agranoff & McGuire, 2003; Beeby & Booth, 2000; Child & Faulkner, 1998, p. 115; Fowler, 1997, p. 112; Linden, 2002; Podolny & Page, 1998, p. 62);
- to learn (Beeby & Booth, 2000; Linden, 2002);
- to set and implement policy agendas (Agranoff, 2007; Creech & Willard, 2001).

Networks are “adaptive, creative, and quite congenial to innovation . . . pragmatic, goalsearching, and problem-oriented” (Landau, 1991, p. 7). Additionally, ethics or values seem to characterize networks (Agranoff, 2006; Goldsmith & Eggers, 2004, p. 180; Podolny & Page, 1998, p. 60; Thompson, 2003, p. 47). The literature rarely discusses the issue of networks’ benefits to the general public. Over time, as network goals are accomplished for the public good, the general public benefits. Public value and benefits are certainly pertinent to a disaster management network. According to Simo and Bies (2007), cross-sector collaboration efforts “in disaster response create and enhance public value” (p. 139).

Disaster networks incorporating government and NGOs should identify resources and skills, social and economic trends, community goals and values (Paton & Johnston, 2006, pp. 97-98) as well as appropriate communication and coordination mechanisms. According to Benson, Twigg, and Myers (2001),

Many NGOs increasingly choose to work with governments, providing important opportunities for the replication and scaling up of work and for influencing public policy. This trend is particularly marked in relation to local governments, which in a number of countries are being accorded increasing responsibilities. Examples include governments working with NGOs on risk mapping, NGO provision of DMP [disaster prevention, mitigation, and preparedness] training for government staff and NGO participation in government disaster committees (p. 211).

NGOs should also form their own networks to ensure “those with limited access to funds for rebuilding, political influence, and other disaster assistance resources” have the opportunity to be heard and to reconnect “severed familial, social, and religious networks of survivors at a grassroots level” (Berke & Campanella, 2006, pp. 205, 206).

Due to the popularity of network use by government and NGOs in the past two decades, a substantial literature on networks and network management exists. The literature on network management that deals with cross-sector collaboration serves as a framework that brings the issues of structure and network roles together. It also highlights the issue of leadership and its import for a disaster management network and its members. Although many network issues are noteworthy, three principal concerns relevant to this research are discussed below: structure, inter-organizational member relations, and network management.

Network Structure

This research began with the assumption that most networks are open, at least, during their start-up phase. Yet, over time, as they start to function as units, the possibility increases that they will become closed structures. According to Provan, Fish, and Sydow (2007), “There have been few studies of whole network evolution” (p. 508). In short, little is known about how networks change over time. Similarly little is known about what specific structures are needed to maintain networks and if networks go through predictable stages as they mature.

The network literature seldom discusses whether networks constitute open or closed systems. This matter is important since whether the analyst views networks as open or closed determines how structure and relations are studied. Harrald (2006) has argued, “The closed system model (which Dynes has termed the “military model”) assumes environmental chaos and the need for command, control, and centralized decision making” (p. 264). As a closed system, a bureaucratic model seems appropriate since decentralization could lead to problems with systemic coordination. Provan and Milward (1995) have claimed networks, particularly large ones, are more productive if they are centralized and coordinated by a central agency: “Networks can lead to improved system-level outcomes, but only when network integration is centralized,

external control is direct and nonfragmented, the system is stable, and resources are adequate” (p. 30).

If closed systems, networks are likely to be relatively impermeable to outside influence due to restricted access. As closed systems, they would shut their doors to outside influences that do not accord with existing culture, rely solely on the knowledge and skills of their members to make decisions, and disconnect themselves from their surrounding environment. Thompson (2003) has suggested, “Networks by their very nature are exclusive communities—you are either in them or outside of them” (p. 123). Such exclusivity may increase interdependence among members which can lead to problems. By becoming or remaining closed systems, members limit their partners. As a result, “expertise may become too narrow” (Miles & Snow, 1992, p. 57) since participants may limit or stop reaching out to others beyond the network for new ideas and knowledge (Walker, 1997, p. 81). Such limitations could lead to network dysfunction or atrophy.

Nevertheless, Galloway and Thacker (2007) and Thompson (2003) have suggested network forms can be contradictory regarding boundaries. As Thompson (2003) has observed,

As a consequence [of exclusivity,] a certain ‘distance’ and ‘boundary’ is created towards other resources and activities. However, at the same time, relationships and networks can also be ways to bridge over boundaries, to bring activities and resources closer together. This is the paradox of networks. A network is a way of reducing the effects of certain boundaries by creating other ones. So in this approach boundaries in networks should never be conceived as given—neither in terms of the existence of actors or the boundaries they create (p. 232).

It, therefore, is possible boundaries are ceaselessly moving. This may allow for an open system.

Some scholars (Agranoff, 2007; Castells, 2000; Chisholm, 1989; Harrald, 2006) have argued networks are open systems. “The open-system, problem-solving model assumes an environment that supports continuity and recovery and a need for coordination, cooperation, and decentralized decision making” (Harrald, 2006, p. 264). This definition strongly points to a disaster situation. Harrald (2006) has emphasized,

The organizational systems that respond to extreme events must be open systems that allow information to be gathered from and transmitted to the public and nongovernmental organizations in addition to standard governmental sources. They must promote distributed decision making and improvisation in the face of unexpected events or conditions. We must recognize that the response to and recovery from a catastrophic

event cannot be successful if only emergency managers and first responders are prepared and expect to operate within a closed system (p. 270).

Networks appear as porous structures, dependent on their surrounding environment. They are, therefore, interdependent with their environment and their members rely on each other as well as on their external ties. Ehin (2004) explains the effects of members' external connections through chaos theory:

Chaos theory stipulates that a system (person or group) is unpredictable and bounded at the same time. Hence, such a configuration never attains true equilibrium since it is very sensitive to small disturbances all the time or is never precisely in the same place twice. Concurrently, the system never goes beyond certain margins. It has a self-reference to which it ceaselessly returns (p. 77).

Relations among members and their relationships beyond the network change these boundaries.

Members, consciously or not, influence the direction of networks by developing formal and informal norms based on their relationships with each other. The structural issues most researched on network relations are centrality and member ties. Centrality refers to the member organization that stands at the network's center. Location determines closeness and the member's number of linkages to other members. The member most central can receive and deliver information through a minimum number of steps, making communication quick and efficient. Central members may, because of their many ties to other members, have access to numerous resources and, therefore, to more power than others. Strong ties mean members have closer relations to certain members. Such ties may result in cliques. These cliques—or even dyads—may act to dominate decision making. Kilduff and Tsai (2003) argue that more research is needed on triads and cliques, especially since it is unclear what determines when members seek to change their positions or why members associate more with some members and not others.

Whether a closed system with preferred dependent relations or an open system with interdependent relations, the network itself should be a safe space (Powell, 1990, p. 300). Several scholars (Agranoff, 2006; Agranoff & McGuire, 2003; Creech & Willard, 2001; Ehin, 2004; Goldsmith & Eggers, 2004; Linden, 2002; Milward & Provan, 2006; Thompson, 2003) claim open secure spaces allow members to negotiate and exchange ideas about any rules, procedures,

and values that they deem necessary for the network to function effectively. These efforts help to create the network structure and a “working” culture of shared norms in order to achieve goals.

Many of the Caribbean island states, particularly CDEMA members, appear to be using a “star” network where one organization is central and directly connected to all the other members. The coordinating agency of the government, the NDO, has direct ties to the member agencies of the network and is responsible for assisting them in becoming better prepared for disaster. This central agency becomes the “linking pin” or network broker. Aldrich and Whetten (1981) have suggested the linking pin organization functions to send communications, transfer resources, and direct member behavior. As a result, the linking pin organization could assume control over the functions and members of the network. In a star network, it is conceivable to have isolates, which are organizations that do not correspond with the other members, yet, have responsibility within the network. Additionally, Gillespie *et al.* (1993) found organizational type (emergency management or social service) was predictive of inclusion in the network. For instance, social service agencies tend to offer services mostly during the response and recovery stages, making them likely to be isolates in the disaster preparedness and mitigation stages. Similar organizations generally work and communicate more often, leaving out members who are less prominent in their respective disaster stages.

Regardless, member relations and network positions affect structure and functions when all members are asked to participate in a network’s formation. Huxham and Vangen (2000) have claimed, “Structures thus play an important leadership role because they determine such key factors as who has an influence on shaping a partnership agenda, who has power to act, and what resources are tapped” (p. 1166). Then, structure itself plays a role within the network. This is quite significant since policy makers, funders or the lead agency (i.e., government) determine the structure of many public collaborations. In this view, structure is seen as providing “*contextual leadership*” (Huxham & Vangen, 2000, p. 1169). Another way of viewing the structural component is the location or position of the member in the network. This position may determine a member’s relative power. Structure, thus, may affect the way members behave. According to Castells (2000), relations based on power actually determine structure: “the network morphology is also a source of dramatic reorganization of power relationships” (p. 502). In other words, the core of networks lies with member relations.

Since little is known about the structure of the Caribbean NDOs, this research investigates the structural arrangement of one national disaster management network. This is important since structure may shape the innovation and interdependence, along with other factors, of the network (open or closed system); position of members (centrality); and internal and external ties (power potential). This study also investigated whether the network was a “safe space” conducive to open discussion and trusting relationships among members. Such information serves as a foundation for understanding the roles of the members, including NGOs, in the network.

Inter-organizational Member Relations

With regard to network relationships, Granovetter (1973) broke new ground with his work on “weak ties” by arguing “the analysis of processes in interpersonal networks provides the most fruitful micro-macro bridge” (p. 1360). Granovetter scrutinized strong and weak ties within small groups and communities and claimed strong ties developed within networks, whereas weak ties were members’ connections to the outside. Weak ties were significant because they acted as “bridges” to the world beyond the groups. Using weak ties means the information within groups could reach more people outside the groups, whereas strong ties tended to confine information sharing within groups. The reverse was also true. Through weak ties, new information may enter networks: “those to whom we are weakly tied are more likely to move in circles different from our own and will thus have access to information different from that which we receive” (Granovetter, 1973, p. 1371).

Internal and external relations are important in disaster management networks. Positive internal relations should lead to better cooperation among members, while external relations may not only allow new information into the group, but also may contribute to network effectiveness. Numerous researchers (Agranoff, 2006; Agranoff & McGuire, 1999; Creech & Willard, 2001; Ehin, 2004; Kilduff & Tsai, 2003; Klijn & Teisman, 1997; Landau, 1991; Miles & Snow, 1992; O’Toole, 1995; Thompson, 2003) have focused on network relations. Their research has suggested several factors may hamper the formation and maintenance of strong relationships: lack of time; turnover among staff and volunteers; geographic distances; funding cutbacks; a prevailing view that existing relationships are sufficient; struggles for power; and lack of trust.

Both the disaster and network literatures briefly treat issues of trust and power as potential barriers to effective relationships. Babiak and Thibault (2009) claim trust and power can initiate as well as prevail over network members' efforts to compete and to collaborate (p. 139). These two issues seem key to understanding relationships which, in turn, are vital to comprehending network structure, functions, and leadership.

According to Huxham and Vangen (2005), "There is no coherent body of literature on power in collaborative settings" (p. 174). Yet, all entities, including government and NGOs, deal with inequalities and struggles for and against power. Several scholars (Agranoff, 2007; Agranoff & McGuire, 2003; Castells, 2000; Child & Faulkner, 1998; Chisholm, 1989; Fowler, 1997; Kenis & Provan, 2006; Kilduff & Tsai, 2003; Landau, 1991; Mandell, 1999; Milward & Provan, 2006; Podolny & Page, 1998; Thorelli, 1986) broach the concept of power. Within networks, members share an incentive to pursue common goals. Some members, however, try to shape and use the network for their own purposes. As a result, networks are constantly evolving due to member struggles for control. Some participants pressure others to meet their own ends. Comprehending these struggles can improve knowledge of the nature of networks and relations within them. Most researchers discuss ways in which power can be acquired, such as:

- economic, technological, and/or intellectual resources (Milward & Provan, 2006, p. 10; Provan *et al.*, 2005, p. 607; Thorelli, 1986, p. 40);
- control of information (Agranoff & McGuire, 2003, p. 186; Provan *et al.*, 2005, p. 607);
- ties inside the network and outside to experts and champions (Agranoff, 2007, p. 100; Child & Faulkner, 1998, p. 116).

Another means of acquiring power is network position (Chisholm, 1989, p. 132; Milward & Provan, 2006, p. 10). One way positional power within networks is determined is through centrality. Positional power may also rest on external factors, such as connections to outside experts and other resources as well as the member's position within her or his own organization. However, all members automatically have power: they can opt to disagree with decisions or decline to participate in activities. These dissenters may delay or eliminate an activity or strategy.

Power can cause conflict. “All network members, although formally regarded as equals by virtue of membership, will not have the same degree of power, and it is the linkages between the members and their respective power over each other in causing outcomes that determine the culture of the network” (Child & Faulkner, 1998, p. 116; Landau, 1991). Members come into networks with loyalties to their own organizations and may want to exert power to ensure their organizations benefit from their network involvement. To reduce unnecessary conflict, members should devise clear rules, appropriate communication channels, and/or accountability mechanisms (Agranoff & McGuire, 2003, p. 134; Chisholm, 1989, p. 86; Kenis & Provan, 2006, p. 229; Linden, 2002, p. 82). These general rules help to reduce uncertainty and increase the level of trust among members. When members generate their own expectations and establish rules of behavior in the beginning phase of network development, an effective coordination system is more likely to emerge.

Conflict may be needed at times to keep networks innovative; “challenges and disagreements are central to the functioning of a shared-access system” (Ehin, 2004, p. 74). Tensions serve to keep members engaged and push them to reconsider their views. Also, power can be harnessed to improve network performance. If members learn to share power or agree that power should be distributed—at times unevenly—among themselves, then participant expectations about roles and tasks may become clearer, leading to enhanced effectiveness. This is especially relevant to a disaster management network: certain members may well have more expertise during specific stages of a disaster situation. Shared power can create tensions, yet it can also lead to cohesiveness: “A network is, in a sense, something that holds a tension within its own form—a grouping of differences that is unified” (Galloway & Thacker, 2007, p. 61). These tensions must be balanced so they do not lead to undue conflict. It is possible this is achieved in considerable measure through trust. Trust reduces member resistance. Members may cooperate with others members whom they trust when those “trusted members” are the ones who create the conflict in order to change the network direction.

Thorelli (1986) has asserted, “A cousin of power and influence is trust” (p. 38). Trust, though, is more personal in nature than conventions and procedural guidelines. During the initial formation period, members discover one another’s strengths and weaknesses as active participants. They determine which members are sincere in their comments and dedicated to the network goals. Members over time create norms of reciprocity. To create a trusting network

environment, “the development of norms of reciprocity, civility, and mutual respect” is essential (O’Toole, 1995, p. 51). These norms, created by members, serve as self regulators, influencing the direction of the network. If all members know each other, then norms are likely to be clearer and enforced, generating trust within the network. Once trust is established, it is this “baseline” trust that members hold in account to use in the future. They assume if they do something for one or more members, those members will respond in kind at a later time. The norms of reciprocity become part of the network culture. They may lead to members feeling a sense of obligation to other participants. Yet, norms may create problems when they become too cemented. Once institutionalized, these behaviors can “create severe problems of adaptation to changing circumstances” (Thompson, 2003, p. 128). And, networks must adapt to survive.

Additionally, network density may have a direct impact on how cooperative members are in implementing actions. The concept of density describes the linkages among the organizational members of a network. A dense network implies members are in contact with each other more often which should lead to improved coordination. Greater density means members rely upon their interpersonal relations—the social capital of the network—to facilitate actions. Frequent communication and regular meetings generate social capital (Agranoff, 2007; Agranoff & McGuire, 2003; Chisholm, 1989; Ehin, 2004; Stephenson, 2006; Thompson, 2003). Important elements of social capital are norms and trust, both of which are related to the values and goals of the members. Kapucu (2006) argues social capital is especially important during a disaster: “The value creation process of public and nonprofit partnerships in emergencies can generate incremental social capital, not only to the partners and members, but also to society as a whole” (p. 209). One possible reason for this is that it is “the only form of capital [not physical and not human] which is renewed and enhanced during the emergency period” (Dynes, 2002, p. 10). Physical capital is destroyed and human capital is lost. Social capital may actually be boosted because networks serve as communication channels, as enforcers of norms, and as avenues to change. Social capital during disaster is also important because “it has the advantage of shifting attention away from making the environment sustainable to how social systems can function in any environment. ... It has the advantage of shifting the focus away from human vulnerability toward an emphasis on human capability” (Dynes, 2002, p. 48). This underscores the importance of trust among network members.

Trust is the foundation of network relations and management (Agranoff, 2007; Agranoff & McGuire, 1999; Agranoff & McGuire, 2003; Beeby & Booth, 2000; Child & Faulkner, 1998; Goldsmith & Eggers, 2004; Linden, 2002; Mandell, 1999; Milward & Provan, 2006; O'Toole, 1995; Thompson, 2003; Walker, 1997). It may be *the* element bonding networks together. Network members must trust each other to share relevant information to achieve agreed-upon goals and address specific problems. They must trust that members are competent and committed to the network. The development of trusting relationships does not happen instantly. Huxham and Vangen (2005) have maintained, "Workable relationships take time—often around two years—to establish and the world does not stand still for long enough for embedding to take place" (p. 152). Walker (1997) has questioned whether trust is sustainable in these relationships:

Is it reasonable to suppose that all members of a network can develop and maintain sufficient levels of multilateral trust, commitment, and shared relational norms to avoid the kinds of information silos; conflicts over divisions of domain, resources, or rewards; and bureaucratic inertia that plague hierarchical organizations in turbulent environments? (p. 77).

To maintain trust and cohesion among members, Agranoff (2007) suggests mutual exploration; demonstration of competencies; nonencroachment on other members' field of expertise; display of respect for other members; and progressive results (pp. 121-122). Kapucu (2006) also encourages government, NGOs, and other disaster response organizations to form trusting relations before disaster strikes since trust is crucial during disaster response (p. 209).

Trust, interdependence, and unity "may be analogous to the cohesive force of legal-rational authority in bureaucracies" (Agranoff & McGuire, 2003, p. 182). Yet, who is responsible for ensuring unity is achieved within the network? The network literature seldom addresses how networks manage themselves or how designated managers function within networks (Agranoff, 2007, p. 26; Provan, Fish & Sydow, 2007, p. 503). Network managers are expected to coordinate and assist members, but they rarely have any "real authority" over members. The members are beholden to their own organizations, have their own authority measures, and are usually voluntarily involved in networks. Managing relations is challenging and, without some level of trust, may be impossible. Network managers of a government-led network, therefore, must gain the respect and trust of their members and be able to decide when to emphasize tasks over relationships as well as when to incorporate new elements to reach consensus. They must also

learn to contend with shared leadership, especially in disaster management networks where members focus on the stage(s) of a disaster where they perceive their core competencies lie.

This study examines one NDO's density and, therefore, asks questions regarding communication and coordination mechanisms to help verify member linkages. Density may determine the level of trust and potential for conflict. Both affect not only member relations, but also network structure and function, and which participants may assume leadership positions. The investigation of member relationships in a disaster network is vital because of shared power among participants. Disaster management networks bring together individuals who are in broad accord with the networks' purpose: to improve preparedness, response, recovery, and mitigation efforts. They also bring together individuals who are fairly diverse, bringing necessary tension to discuss a variety of solutions to the challenges that they face. This study examines the relationships among NDO members to discover if pressures or anxieties exist, particularly between government and NGO representatives. If they do exist, this analysis asks if and how those pressures affect the structure, function, and leadership capacities of the network.

Network Management

Network management is generally defined as the directing of numerous stakeholders with diverse backgrounds who come together to engage in joint activities and strategies for a shared purpose. Network management is fundamentally about managing network structure (known as "network constitution" or "network structuring") and facilitating member interactions (known as "game management") (Kickert & Koppenjan, 1997, pp. 46-47; Klijn & Teisman, 1997, p. 105). For network structuring, managers may need to change the norms (or rules) or resources to get members' to change their perceptions (Kickert & Koppenjan, 1997, p. 52). They may even have to change members' positions within the network. For instance, they can alter the distribution of resources, changing the power dynamics. The literature, however, does not explore when certain methods or strategies should be employed or when particular tasks should be initiated. For game management, managers must understand members' viewpoints in order to know when to intervene to find consensus or to avoid conflict. Both game management and network structuring require effective facilitation and communication skills (Agranoff & McGuire, 2003, p. 178; Goldsmith & Eggers, 2004, p. 158). Facilitation skills assist managers in negotiation, problem

solving, team building, and strategic planning. Through effective communication skills, network managers may reframe issues and introduce new ideas. Open communication channels are essential (Agranoff & McGuire, 2003, p. 179; Goldsmith & Eggers, 2004, p. 119). Managers should determine what channels members prefer. According to McGuire (2006), “The more points of contact among network members, it is argued, the better the communication and the greater the trust” (p. 38). In essence, network managers and bureaucrats engage in similar tasks, but network managers spend more time on trust and cooperation issues.

To create a trusting atmosphere within networks, managers should focus on sustaining commitment (Ehin, 2004; Linden, 2002; McGuire, 2002; Milward & Provan, 2006), minimizing conflict (Goldsmith & Eggers, 2004; Kilduff & Tsai, 2003; Milward & Provan, 2006; Thompson, 2003), and upholding accountability among members (Agranoff & McGuire, 2003; Milward & Provan, 2006). Managers should demonstrate their own commitment to their groups and persuade members to participate. Member involvement leads to participant buy in, resulting in stronger commitment to network goals and possibly to other members. To reduce conflict, managers should ensure constant information flow so all participants are aware of situational status and network progress. Managers should use accountability measures such as specific schedules and outcomes. To keep accountability at the forefront, Agranoff and McGuire (2003) have recommended network managers track activities and progress at “three distinct levels—individual, team, and the organization as a whole” (p. 134).

Additionally, members as well as outside stakeholders expect managers to indicate network effectiveness. They expect solutions and accomplishments. Representatives expect the network to produce deliverables which validate their membership individually and organizationally. But, scholars barely touch upon how effectiveness might be measured. It may be possible to measure network effectiveness based on impact and benefits of networks to members and society. Agranoff and McGuire (2003) suggest effectiveness is determined through solutions and results (p. 191). Interestingly, effectiveness may not be a key factor on which managers should concentrate. According to Chisholm (1989), “Landau has argued persuasively that the pursuit of reliability by organizations may well prove more beneficial in the long run than concern for efficiency. Instead of managing for success, Landau asserts that we are better off managing to protect against failure” (p. 183). Thus, network managers must be alert to causes of failure. Several roadblocks may cause network failure: members’ headquarters’ structures may

make coordination difficult or offer weak incentives to cooperate (O'Toole, 1995, p. 45); turf protection causes members to become too competitive (Beeby & Booth, 2000; Linden, 2002); immediate costs versus long-term benefits (Chisholm, 1989; Linden, 2002); networks become vehicles for authorities to avoid "difficult or costly responsibilities" (O'Toole & Meier, 2004, pp. 681-683). Insufficient time to make appropriate decisions and insufficient resources may create barriers, too.

Managers themselves may cause their networks to collapse. They may spend too much time on internal activities rather than on learning about the potential impacts of external forces. Miles and Snow (1992) found that managers "tend to wait until environmental demands accumulate to crisis proportions before attempting a response" and even when they anticipate environmental implications, managers "frequently make patchwork alterations to the existing organization ... without considering the ultimate systemic impact" (p. 70). Managers also may "respond to the stronger and more politically powerful elements of the surroundings, thus magnifying the tendency toward inequality" (O'Toole & Meier, 2004, p. 681). Such behavior may create rivalries among members or discourage member participation if they feel their involvement is being discounted. Network managers seem to have some power to direct and influence the whole network if members are dedicated to shared processes and goals. "In other words, the success of network management largely depends on the quality of the leadership and the commitment power possessed by the representatives of the organizations involved" (Kickert & Koppenjan, 1997, p. 58). The question, however, remains whether network managers are actually leaders.

Research is slim on network leadership. Many questions remain unanswered in the literature. How do network leaders actually operate? Can any member become a leader within networks? Do leaders rotate? Does appointed or natural leadership serve networks better? Are both needed and why? Are networks more open to informal or shared leadership? To become leaders, do members strategically engage in certain activities? Do they adhere to characteristics that scholars claim are needed? Or do leaders display bureaucratic, hierarchical skills? Are all network members, including NGOs, given opportunities to lead?

The network approach encourages collaborative leadership. Joint responsibility promotes information exchange, leading to transparency. Consequently, collaborative leaders rely less on positional power to encourage goal alignment and achievement among network members.

Leaders within networks may rely more on respect and trust than on their positions. Thus, it appears members can assume leadership roles in networks. Ehin (2004) refers to this as natural leadership: “Natural leadership is situational based on talent, expertise, and the demands of a particular state of affairs and is reliant on the *commitment* of followers to a common goal” (p. 95). Agranoff and McGuire (2003) disagree; leadership is not about “personal attributes, talents, or conditions of individuals, but roles in a system of strategic interactions” (p. 183). So, are network managers considered leaders? It seems managers are, in essence, collaborative leaders. They view the bigger picture, generate appropriate strategies to realize network goals, and keep members engaged. They demonstrate “to participants that their involvement has meaning and direction” (Agranoff, 2007, p. 111). They hold networks together. According to Linden (2002), “This is the way you need to work when you want to provide leadership and have no formal authority over your peers” (p. 60). They remain alert to structural and member relations dynamics. As leaders (with limited authority), they guide members and networks and, as a result, are in positions of power.

Within disaster management networks, collaborative leadership is essential. Based on Canton’s (2007) research,

It is not unusual to see a transition in leadership over time as the need for specialized expertise changes. . . . The tasks required of each agency are still being performed simultaneously, but overall coordination is handled by the agency best suited to do so at that particular point in the operation (p. 205).

Thus, having more than one ‘lead’ agency can possibly strengthen the network. In disaster management networks, member organizations are charged with leadership roles based on their expertise during a specific stage of a disaster. Collaborative leadership, therefore, results.

Discovering how the NDO leader or leaders guide the network is important. The manager’s capabilities and management style decide, to a great extent, the network’s structure, functions, and how members relate to each other. They also may determine if and how collaborative leadership is used in the NDO. As a network manager, this individual is responsible for obtaining and maintaining members’ dedication to the network, developing accountability measures for network responsibilities, creating a safe space, keeping the focus on network goals. Thus, the NDO manager must display leadership qualities. Although this study discovered some

information about the NDO manager, its main focus was network leadership in general. Because little scholarly attention is given to leadership in disaster networks, this study sought primarily to address questions regarding shared leadership, leadership roles, and the styles of leadership exhibited in NDOs.

Collaborative Leadership

With increased recognition that local, national, and international issues are connected, academics and practitioners are according increased interest to collaborative work. This new way of organizing and responding to social challenges indicates, according to Bilimoria and Godwin (2005),

the need for leaders to act with enhanced inclusion and engagement of others, flexibility, responsiveness, openness, ethicality, and proactivity. Furthermore, even in the face of the new tensions and challenges, leaders are held to a high standard of behavior; they are regarded as role models for, and living images of, the values to which society and organizations proscribe (p. 261).

In this view, leadership looks very different from early understandings of the phenomenon as mainly consisting of the exercise of command-and-control methods. The above statement also aptly applies to NGO leaders.

After reviewing the literature on network and NGO leadership, both types of leaders appear to share four distinct characteristics. First, collaboration leaders understand shared purpose as the driving force of network life, while NGO leaders regard their mission similarly. Both purpose and mission are based on values. As a result, values serve as their “power base and energy source” (Mason, 1996, p. 107). Second, the aim of NGO leaders is “to improve the *human condition* in some way” (Brown & Ruhl, 2003, p. 7). Owing to their missions and commitment to humanity, NGOs often elicit public trust (Anheier, 2005; Brown & Ruhl, 2003). “As lofty as it may sound, [NGOs] represent the conscience of society and are the driving force in many efforts that are aimed at improving the quality of life for citizens” (Block, 2004, p. 7). The same can be said of network leaders engaged in public issues. They seek to address complex social problems. Thus, members of collaborations must establish trust among themselves and they must work to gain public trust for their actions. Third, because of the third sector’s

extension into the broader society, NGO leaders answer to an array of stakeholders: those whom they serve, board members, staff, volunteers, funders, and society at large. They are quite dependent on these stakeholders to ensure services can be offered. Network leaders also interact with a diverse range of stakeholders: all parties working in, and those supportive of, collaborative efforts. Fourth, both NGO and network leaders rely heavily on volunteers. NGO leaders answer to an unpaid board of trustees and individuals who volunteer to assist with programs. And, ideally, it is best when collaboration leaders get individuals to join their efforts on a voluntary basis. With volunteers, NGO and network leaders rely on their dedication to the mission or purpose of the work. Because these leaders operate in a unique environment, they must assume many roles and display several capacities to relate effectively to their stakeholders. The literature on NGO and network leadership addresses these roles and characteristics.

These attributes are important to both types of leaders in relation to disaster management networks. According to the literature, in NGOs and in collaborations, such as disaster networks, leaders need similar skills. Both Linden (2002) and Agranoff (2007) directly compare collaborations to NGOs or voluntary organizations. For instance, Agranoff (2007) asserts collaborative networks have governance structures similar to NGOs (p. 118). Within both, stakeholders usually select officers rather than have these incumbents appointed by one individual or leader, and they typically rotate their positions as well. Linden (2002) claims both collaborative and NGO leaders have to understand the politics of their stakeholders and communities to garner the support they need to achieve their goals (p. 141). Additionally, successful collaborations and NGOs tend to have committed leaders and loyal external champions (Agranoff, 2007, p. 93; Linden, 2002, p. 221). Based on the complexity of disaster situations and the varied stakeholders involved in them, it seems collaborative leadership appears well suited for disaster management networks. Realizing that the majority of NGO leaders, particularly leaders of disaster response NGOs, are familiar with this style of leadership, their participation in disaster networks should be beneficial to the network and its members: they should be able to demonstrate, endorse, and/or guide the practice of collaborative leadership.

Although three theories related to collaborative leadership described in the next section seem particularly appropriate to consider to disaster situations and disaster management networks, both contingency and situational theories of leadership also merit discussion. These two leadership theories suggest leaders need to employ different leadership styles based on the

situation and the stakeholders involved. Contingency theory is fundamentally about alignment: leadership effectiveness is determined by how well leaders match their styles to the circumstances or contexts they confront (Block, 2004, p. 165; Dym & Hutson, 2005, p. 40; Northouse, 2001, p. 74). In other words, particular situations call for particular leadership styles. Dym and Hutson (2005) have described alignment as follows:

If one were to align a leader who is determined and communicates well and whose personality and behavior (style) fit well with the organizational culture, who understands how to structure the organization's future and light up the pathway to success, who communicates frequently with direct reports and makes staff followers feel supported and understood, and who holds high standards in a way that is sensitive to both individual and group psychological needs—if one were to see such alignment, what would be witnessed is effective leadership (p. 45).

In this view, leaders who cannot align their styles to their circumstances will encounter difficulties not just with addressing the situation, but also connecting with stakeholders.

It is equally important for leaders to adjust their styles to the types of relationships that they have established with stakeholders. Situational leadership theory, like contingency theory, suggests leaders must be fully aware of self, stakeholders, and environmental conditions. Concerning situational leadership, Yukl (2006) has asserted leaders must know “the characteristics of followers, the nature of the work performed by the leader's unit, the type of organization, and the nature of the external environment” (p. 14). Grasping the complexity of a situation is of utmost importance. This is particularly relevant for disaster events: changes are constant and, at times, immediate and dramatic, as crises and their consequences unfold. Flexibility, therefore, is paramount in the context of disasters. Within disaster management networks, leaders should be highly cognizant of key stakeholders' viewpoints, their capabilities, and their willingness to collaborate. Northouse (2001) has contended “the essence of situational leadership demands that a leader matches his or her style to the competence and commitment of the subordinates” (p. 54). Changing leadership styles to suit the context and stakeholders appears to be necessary. Disaster situations also appear to demand collaborative leadership.

Collaborative leaders fully understand that sharing among stakeholders must occur—sharing information, resources, and power. “In shared-power situations, however, leadership that encourages the participation of others must be emphasized because only it has the power to

inspire and mobilize those others” (Bryson & Crosby, 1992, p. 21; Huxham & Vangen, 2000). Few scholars (Bryson & Crosby, 1992; Bryson, Crosby & Stone, 2006; Crosby & Bryson, 2005; Simo & Bies, 2007) offer cross-sector collaborative leadership models. Crosby and Bryson’s framework is applicable to this research. Crosby and Bryson (2005) suggest their schema is relevant to both public and nonprofit organizations because of its breadth, its capacity to incorporate the importance of individual and group effectiveness, and its attention to “developing regimes of mutual gain”; “A regime of mutual gain is a policy regime that achieves widespread lasting benefits at reasonable cost and that taps and serves people’s deepest interests in, and desires for, a better world for themselves and those they care about” (p. 182). Such regimes are germane to disaster management networks.

Theoretical Foundation for Collaborative Leadership

The main contemporary leadership theory from which collaborative leadership has emerged is transformational leadership. Burns first used the phrase “transforming leadership” in 1978. He described a transforming leader as someone who attempts to discover the reasons followers follow so as to take steps to help to develop the individual to her or his full capacity. Transformational leadership elicits more from “followers by raising their level of consciousness about the importance of the work, by persuading them to subordinate or transcend their self-interest for the good of the organization and its mission, and by setting the bar of achievement higher and higher” (Dym & Hutson, 2005, p. 42). It underscores “the growth of followers, and it places strong emphasis on morals and values” (Northouse, 2001, p. 157). It places emphasis on the leaders’ ability to inspire and to stimulate intellectual interest. These leaders motivate others by revealing to them how they as stakeholders and individuals personally relate to the mission or purpose of the organization. It seems the first priority of these leaders is the organization; they develop individuals to achieve organizational goals as well as to improve individual capabilities.

From transformational leadership theory, three scholars have produced descriptions of specific leadership styles that relate directly to collaborative leadership: servant leadership; adaptive leadership; and catalytic leadership. Like transformational leadership, these styles are concerned with incorporating stakeholders in the process of problem identification and of generating viable solutions. These approaches build upon transformational theory, but they go

beyond it in three key ways. First, they integrate a number of leadership theories into their approaches. Their holistic approach pushes leaders to consider how their organizations are connected to others and permits greater flexibility for leaders who are in constantly changing circumstances, such as disaster situations. Second, they focus on individuals. Stakeholders are the first priority; organizations take a back seat. Leaders develop individuals' potential for personal as well as professional growth. Relationships are placed ahead of tasks. The logic is by assisting individuals to reach their highest potential in life, they, as a result, will want to improve themselves and to give their best to their organizations. These leadership styles not only strive to encourage followers to become better, but also seek to make social and institutional changes for society's betterment. Third, these approaches focus "heavily on senior-level leaders" (Northouse, 2001, p. 157). Transformational leaders depend on the authority inherent in their positions to steer or change behavior. Servant, adaptive, and catalytic leadership focus instead on the importance of leaders who emerge from the grassroots. These leaders see the potential in others to become leaders regardless of their positions within organizations, communities or network structures. Additionally, these styles share other commonalities: values; genuine concern for others and community; relationships based on trust; strategic thinking; collaboration; group work; leaders without authority; and application of distributed power. These approaches emphasize the importance of ethics and values. Leaders use their core beliefs to create a sharing, honest culture and to make decisions. They rely on their personal strength of character—their inner spirit, their integrity—to revitalize themselves and reexamine their perspectives in order to be able to assist others (Greenleaf, 1998, p. 204; Heifetz, 1994, p. 274; Luke, 1998, p. 220). Although these three leadership styles have many similarities, each is unique in its own right.

With servant leadership, Greenleaf (1977) placed significance on leaders truly becoming servants to their followers and to a vision. This is an enormous responsibility. Servant leaders are genuinely concerned for their followers, organizations, and communities. They want to contribute to their communities and want others to be able to do the same. They, as a result, treat others as their peers and try to develop their potentials. Greenleaf (1977) placed emphasis on servant leaders having the ability to foresee events and actions in the future and to have the courage to act on that foresight. For servant leaders, "there is a growing sense of overriding purpose in all that is undertaken. Purpose becomes pervasive in all thinking. It is not an

obsession. It quiets and enriches all of thought” (Frick & Spears, 1996, p. 84). Their purpose leads to their own inner peace, allowing them to set an example for others.

Adaptive leadership incorporates the valuable role of conflict. Heifetz (1994) has contended, “Adaptive work consists of the learning required to address conflicts in the values people hold, or to diminish the gap between the values people stand for and the reality they face. Adaptive work requires a change in values, beliefs, or behavior” (p. 22). Leaders create or manage uncomfortable settings, but not so uncomfortable that stakeholders cannot effectively address challenges set before them. Adaptive leaders shift responsibility for the challenge to the key stakeholders. Heifetz (1994) believes leaders can accomplish this by creating a “holding environment” where they “keep the level of distress within a tolerable range” (p. 128). Within the holding environment, adaptive leaders reveal external threats and internal conflicts as well as allow norms to be disputed. By managing holding environments adroitly, leaders produce enough pressure to obtain productivity and necessary change. They also spend time protecting those within the holding environment who represent “voices of leadership without authority” (Heifetz, 1994, p. 128). Thus, adaptive leaders must show compassion to stakeholders for the stress that is being generated, “both because compassion is its own virtue, and because it can improve one’s sense of timing. Knowing how hard to push and when to let up are central to leadership” (Heifetz, 1994, p. 241).

With catalytic leadership, Luke (1998) has recognized the interlinking nature of public problems; leaders are “thinking about problems in a systemic or interconnected way, fostering dialogue and concerted action toward solving problems, and sustaining momentum over time” (p. 21). Catalytic leaders focus attention on the issue among numerous stakeholders and demonstrate connections to them. To get stakeholders to accept these connections, catalytic leaders must be trustworthy. Luke (1998) has stressed trust and credibility are the “underlying foundation for cooperative, collaborative, and collective efforts” (p. 97). These connections are made via dialogue. Luke (1998) has espoused incorporating “personal stories and anecdotes” into dialogues to enhance learning and to discover “which issues are most important to them and why” (p. 106). Such stories demonstrate that multiple solutions may be needed to improve a situation or eliminate a problem. These narratives set the stage for stakeholders to find common ground. Catalytic leaders do not endorse any solutions, instead, they shift responsibility to the stakeholders. “Because each task requires considerable energy and a wide array of interpersonal

and conceptual skills, a shared or shifting leadership model is critical for sustaining efforts” (Luke, 1998, p. 34).

However, dangers exist within all three leadership styles. Northouse (2001) has claimed that scholars avoid discussing the pitfalls with these approaches, such as the difficulty of implementing them in “real-life settings” (p. 246). With servant leadership, two challenges may exist for leaders: they may lack the capability to delegate tasks to others, and followers may lack the skills and capacity to do the work assigned to them. With adaptive leadership, a risk is that the leader may not fully comprehend the “holding environment” dynamics, therefore, not knowing when to push for change. Or the reverse, a leader may push too far and unbalance the “holding environment,” confusing members and/or making them resentful. With catalytic leadership, by shifting the responsibility to stakeholders, a complication is that stakeholder empowerment may be difficult to secure and to implement (Northouse, 2001, p. 246). With all three leadership styles, a danger lies in managing conflict effectively. It is possible leaders cannot handle conflict effectively and stakeholders either do not understand the reason for conflict or personalize the reasons for dissensus which may lead to more tension not only within the individual but within the group. Additionally, although theoretically these styles appear quite positive, these leadership forms are not supported by empirical research. A large gap in the leadership literature is that all three approaches have not been researched enough. More research on how these leadership styles work (or not) in specific situations would be beneficial.

Nonetheless, Burns (1978) raised the importance of the connection between leaders and followers in his analysis of transformational leadership. Transformational leaders demonstrate consideration for followers and for their well being. This urges employees to go beyond their job descriptions, and stakeholders to go beyond their specific responsibilities. Avolio (2005) has claimed, transformational leaders “change situations for the better, develop followers into leaders, overhaul organizations to provide them with new strategic directions, and ... inspire people by providing an energizing vision and high ideal for moral and ethical conduct” (p. 195). Likewise, servant leadership, adaptive leadership, and catalytic leadership seek to reflect these transformational leadership actions. They also go beyond transformational leadership by focusing more on organizational and individual flexibility, relationships, and leading without authority. All of these approaches are potentially pertinent to leadership in disaster management networks.

Cross-sector Collaborative Leadership Framework

Crosby and Bryson's (2005) "Leadership for the Common Good" framework consists of four components: (1) acting in accord with the dynamics of a shared-power world; (2) astutely designing and using forums, arenas and courts; (3) steering the cycle of policy change; and (4) applying specific leadership capabilities. In the first component, the authors emphasize collaboration is needed; one organization cannot perform effectively on its own. Cooperation among several organizations is necessary to bring adequate resources to bear on overwhelming societal challenges (Alexander *et al.*, 2001; Benn & Dunphy, 2005; Bryson & Einsweiler, 1991; Chrislip & Larson, 1994; Huxham & Vangen, 2005; Luke, 1998). Both the disaster literature and network literature clearly and repeatedly draw the same conclusion.

Disaster management networks are formed in a "shared-power world." They aim to make their communities more resilient by being prepared for a disaster. In order for communities to safeguard themselves better, numerous stakeholders must join forces. These networks come together to share information and resources to respond effectively to and recover efficiently from a disaster. This requires network members to understand that leadership must be shared. During a disaster, "It is not unusual to see a transition in leadership over time as the need for specialized expertise changes" (Canton, 2007, p. 205). Typically, coordination of disaster efforts is pushed to the most local level of leadership (Coppola, 2007, p. 279; Kapucu & Van Wart, 2006, p. 296; Skeet, 1977, p. 13). Thus, leadership is simultaneously occurring at all levels during a disaster.

In the second component, Crosby and Bryson (2005) discuss three settings in which participants can consider issues: forums, arenas, and courts. All three give stakeholders an opportunity to bring differing views of and solutions to a complex issue. Forums are settings where stakeholders gather to deliberate over concerns and where a common understanding or meaning is created. Such settings include public hearings, task forces, media outlets, conferences. Forums result in "a potential list of decisions, issues, conflicts, or policy preferences available for discussion" (Bryson & Crosby, 1992, p. 92). In forums, visionary leadership is needed to produce an agreed-upon interpretation derived from diverse opinions (Bryson & Crosby, 1992, p. 81). Arenas are venues where policy is made. Examples include city councils, legislatures, boards of directors, and corporate committees. Within arenas, decision

makers determine if and how to adopt policy and/or policy changes. In arenas, leaders employ their political savvy and interpersonal acumen to guide people toward a desired outcome (Bryson & Crosby, 1992, p. 81). Courts are the official settings where law is applied to settle disputes, often about the implementation of policy. However, Crosby and Bryson (2005) note an informal court must be included—the “court of public opinion” (p. 185). Public norms may have as much enforcement power as official courts. In this setting, leaders must rely most on ethics to make their decisions. In all three settings, leaders bring salience to the issues, push for the realization and implementation of change, and seek to legitimate joint decisions (Crosby & Bryson, 2005, p. 184).

During a disaster, the main forum is the Emergency Operating Center (EOC). The EOC is where disaster response agencies give and receive information on evolving crisis situations. Its establishment is aimed at easing coordination. Outside of a disaster event, the disaster management network itself serves as a forum. The network members should hold frequent meetings and form needed task forces or committees (Agranoff, 2007, p. 122; Skeet, 1977, p. 20). These gatherings help to keep the disaster management agenda upfront, ensure specific tasks are accomplished, and improve stakeholder relations. For many disaster networks, such gatherings serve as arenas. Network members meet to discuss appropriate disaster policy, guidelines, and legislation. They, in turn, must establish relationships with politicians since they must rely on their legislatures to approve disaster management plans and policies. As for the official setting of courts, for disaster networks, the court of public opinion seems most relevant most often. The general public—and the media—judge the effectiveness of disaster networks, resulting in either a gain or loss of public trust in network members’ future suggestions and actions.

In the third component, the framework explores several phases of policy change, from initial agreement to problem formulation to policy formulation to implementation and evaluation. According to Luke (1998), the most overlooked phase is implementation; during this phase, public leaders must demonstrate progress, maintain stakeholder relationships, and assist network members with attaining their personal goals related to the issue (pp. 123-125). Throughout the policy phases, leaders must engage in certain tasks to move the process forward. They need to set the agenda and to get the underlying problem recognized as a priority among the public and policymakers (Luke, 1998, p. 54). Leaders, therefore, must frame the issue. They must define

and simplify the concern and interpret possible solutions so everyone can understand it, capturing both public and political support for action on the concern (Bryson & Crosby, 1992, p. 66; Luke, 1998, p. 157). They must also be able to build productive teams, to create usable strategic plans, to acquire needed resources, to identify and manage stakeholder views and expectations (Bryson & Crosby, 1992).

Effective disaster management coordination may not be “possible in any country without a comprehensive legally endorsed set of disaster relief procedures” (Skeet, 1977, p. 20). Disaster management networks must engage in policy creation and advocate for policy adoption and implementation. They must bring all stakeholders into policy dialogues. A disaster can serve as a catalyst for communities, and societies at large, to make positive change to their social systems. A disaster can generate solidarity and underscore problems, thereby shifting the focus to those concerns (Beristain, 1999; Wijkman & Timberlake, 1984). If properly prepared, disaster management networks should be able to offer potential solutions. However, Boin & t’Hart (2003) and Quarantelli (2003) caution that new policies or policy reform will be limited. “Nevertheless, changes that were underway before a disaster occurred might be accelerated if organizational leadership is present (Quarantelli, 2003, p. 7).

The fourth component focuses on leadership in cross-sector collaboration. Leaders who advocate for collaborative work must demonstrate certain skills and abilities. Crosby and Bryson (2005) contend eight leadership capabilities are vital in cross-sector collaboration:

1. leadership in context;
2. personal leadership;
3. team leadership;
4. organizational leadership;
5. visionary leadership;
6. political leadership;
7. ethical leadership; and
8. policy entrepreneurship.

This framework appears to be the sole scholarly attempt at explaining when in the collaborative cycle certain leadership capabilities come into play. The first four capacities suggest leaders

should be aware of their surroundings, themselves, and others. Those assuming leadership roles in a disaster must understand the culture of the community where the disaster has occurred as well as the cultures of the responding organizations. These leaders must know their own strengths and when it is necessary to hand the reins over to someone else and why. Stephenson (2006) has contended, “The operating environment of humanitarian assistance is best conceived as an inter-organizational social network or regime and the problem of power and authority in such situations must be reconceptualized” (p. 42). Thus, leaders in a disaster must be comfortable with shared responsibilities and shared power. The last four capabilities signify how leaders should make connections, internally and externally, among stakeholders and in the context in which the issue resides. For disaster management, forming relations prior to a disaster assists with response and recovery efforts. Disaster management networks should aim to build trust and confidence among members since, during disaster, connections are imperative. Collaborative leaders ensure these relations are maintained throughout a disaster cycle.

Leadership in Context

Leadership in context stresses the importance of leaders understanding the cultural, historical, social, economic, and political aspects of the various worlds in which they function. They need to understand how all of these worlds come together. In other words, leaders must engage in systemic or systems thinking (Alexander *et al.*, 2001; Luke, 1998; Provan *et al.*, 2005). They must keep the “big picture” in the forefront to be able to articulate how the various stakeholders and key issues are related. Leaders are strategists. As strategists, they create a road map of suitable tactics to realize the goals of the collaborative while maintaining a balance between the internal and external environments their organizations inhabit (Bear & Fitzgibbon, 2005; Eadie, 1997; Frick & Spears, 1996; Gardner, 1990; Greenleaf, 1977; Heifetz, 1994; Hudson, 2005; Jinkins & Jinkins, 1998; Knauff, Berger & Gray, 1991; Luke, 1998; McLaughlin, 2006; Nanus & Dobbs, 1999; Pidgeon, 2004). The road map should include the history of the collaborative and its stakeholders as well as future aims. As strategists, “leaders also need to understand how different communities think about leadership” (Crosby & Bryson, 2005, p. 188). They should know what leadership styles are preferred by various stakeholders and be able to adapt. This means collaborative leaders must understand themselves as leaders. As Bryson

(2004) has claimed, “Understanding oneself and others is particularly important for developing the strength of character and insight that invigorates leadership” (p. 299).

Personal Leadership

Self awareness is often stressed in the leadership literature (Avolio, 2005; Avolio & Luthans, 2006; Beck & Yeager, 2001; Bennis, 1989; Bennis, 2003; Bryson, 2004; Bushe, 2001; Carlson & Donohoe, 2003; Cotterell, Lowe & Shaw, 2006; Dym & Hutson, 2005; Eadie, 1997; Frick & Spears, 1996; Greenleaf, 1977; Hecht & Ramsey, 2002; Heifetz, 1994; Hesselbein, Goldsmith & Bechkhard, 1996; Jinkins & Jinkins, 1998; Knauff, Berger & Gray, 1991; Nanus & Dobbs, 1999; Pidgeon, 2004; Yukl & Lepsinger, 2004). For leaders to understand those whom they lead, they must know themselves fully: “The self-belief that marks out the most successful of our ancient leaders seems to flow from a deep understanding of their own strengths and weaknesses, from a totally realistic knowledge of themselves” (Cotterell, Lowe & Shaw, 2006, p. 286). By recognizing their own skills and limitations, leaders know when to take on or delegate certain tasks, thus, maximizing their strengths and accommodating their weaknesses. Avolio and Luthans (2006) have argued, “leaders who know themselves have much more energy to address what others say. They tend to listen more intently” (p. 128). Paying attention helps leaders generate trust among stakeholders. From self-awareness, leaders should gain confidence, allowing them to learn from mistakes and take appropriate risks. To become self aware, leaders must reflect on their attitudes and behaviors and listen to their instincts: “Listening to the inner voice—trusting the inner voice—is one of the most important lessons of leadership” (Bennis, 2003, p. 28). As self-awareness grows, leaders become more effective. Awareness makes leaders “more intuitive and divergent in their thinking” (Nanus & Dobbs, 1999, p. 9).

Leaders who actively seek to understand themselves display both curiosity and openness. Some researchers (Bennis, 1989; Bennis, 2003; Bryson, 2004; Bushe, 2001; Frick & Spears, 1996; Jinkins & Jinkins, 1998; Yukl, 2006) believe effective leaders remain inquisitive. From curiosity, leaders realize and accept that change is constant. They show a willingness to experiment with new ideas, plans, and processes. These experiments keep organizations on the cutting edge. Leaders who are curious are better able to keep sharp their awareness of their organization’s situations and of themselves. Through curiosity and self-awareness, leaders

display an eagerness to learn. Several scholars (Bear & Fitzgibbon, 2005; Bennis, 1989; Bennis & Townsend, 1995; Block, 2004; Brown & Ruhl, 2003; Bushe, 2001; Denhardt & Denhardt, 2006; Eadie, 1997; Frick & Spears, 1996; Greenleaf, 1977; Hesselbein, Goldsmith & Bechkhart, 1996; Howe, 2004; Kanter, 1996; Knauft, Berger & Gray, 1991) deem openness to be important. Kanter (1996) has argued, “Leaders with open minds... are a step ahead of others in envisioning new possibilities” (p. 91). Openness gives leaders the confidence to take risks, helping them to remain dedicated to making necessary changes for present and future success (Bennis, 1989; Frick & Spears, 1996; Howe, 2004; Knauft, Berger & Gray, 1991; Yukl, 2006). It also makes leaders appear approachable. When leaders listen seriously to other viewpoints, they become better informed (Avolio & Luthans, 2006, p. 128; Bennis & Townsend, 1995, p. 27; Denhardt & Denhardt, 2006, p. 81; Frick & Spears, 1996, p. 2; Smillie & Hailey, 2001, p. 164). Therefore, they can make better decisions: “Openness to knowledge helps one achieve the state in which one sees a wide enough range of choices in a practical situation and is able to choose the best one” (Frick & Spears, 1996, p. 53). Self-awareness allows leaders to be more open to new ideas and methods to move their organizations forward.

Team Leadership

Collaborative leaders believe individuals are capable of solving problems by working together and believe in the benefits of group efforts or teamwork (Avolio, 2005; Bear & Fitzgibbons, 2005; Beck & Yeager, 2001; Crutchfield & Grant, 2007; Cotterell, Lowe & Shaw, 2006; Chrislip & Larson, 1994, p. 146; Gardner, 1990; Greenleaf, 1977; Heifetz, 1994; Kanungo & Mendonca, 1996; Lewis, 2001; Luke, 1998; Mason, 1996; Schein, 2004; Smillie & Hailey, 2001; Yukl, 2006). Leaders seek to maintain commitment among and address the conflicting needs of team members. They “use their knowledge of the particular issue, knowledge of stakeholders’ interests, personal contacts and networks, and personal credibility to convince key stakeholders that participation in the effort is worthy of their involvement” (Linden, 2002; Luke, 1998, p. 67). They work to ensure trust exists within the group. Trust is critical for getting multiple, diverse stakeholders to embrace the same vision and the same outcomes (Anheier, 2005; Avolio, 2005; Avolio & Luthans, 2006; Bear & Fitzgibbon, 2005; Bennis, 1989; Bennis, 2003; Bennis & Townsend, 1995; Block, 2004; Brown & Ruhl, 2003; Bryson & Crosby, 1992;

Chrislip & Larson, 1994; Eadie, 1997; Frick & Spears, 1996; Gardner, 1990; Greenleaf, 1977; Heifetz, 1994; Jinkins & Jinkins, 1998; Kanungo & Mendonca, 1996; Luke, 1998; Mason, 1996; Maxwell, 2002; Pidgeon, 2004; Smillie & Hailey, 2001).

One means for leaders to engender trust is to be visibly supportive of team members. They, therefore, may need to take on the role of a coach. As coaches, leaders pay close attention to team members and help them in developing new skills (Brinckerhoff, 1994; Eadie, 1997; Gardner, 1990; Hudson, 2005; Nanus & Dobbs, 1999; Vigoda-Gadot, 2003). They show respect to the members for contributing their time voluntarily to the collaborative. They must be especially adept at inspiring the team and identifying “shared beliefs and values, and to draw on them as sources of motivation” (Gardner, 1990, p. 191). Another way to generate an atmosphere of trust within a group setting is to ensure open communication and effective communication mechanisms (Alexander *et al.*, 2001, p. 169; Bear & Fitzgibbon, 2005, p. 103; Bryson & Crosby, 2005, p.189; Chrislip & Larson, 1994, p. 89; Huxham & Vangen, 2000, p. 1167). Leaders create a group space that is a safe place for dialogue and for exchanging ideas. This space aids the flow of information, assisting the group in making decisions and making progress. Thus, leaders focus on “the ‘process’ of how people work together to solve problems, not on the ‘content’ of the problem itself” (Chrislip & Larson, 1994, p. 64).

According to Bryson and Crosby (1992), collaborative leaders recognize “that leaders and followers influence and empower each other” (p. 40). As a result, they promote shared responsibility, hence, shared leadership. If groups are working to manage change, leaders must “shift responsibility to the primary stakeholders” (Heifetz, 1994, p. 121). Shared leadership encourages commitment and learning as well as places emphasis on accountability. In group settings, participants must listen to others’ perspectives and, consequently, learn about new ideas and processes of reaching the established goal. Shared leadership helps members see the benefits of flexibility and begin to appreciate differing viewpoints. With participatory approaches, leaders help team members become leaders themselves—“leaders without authority” (Heifetz, 1994). In collaborative work, leaders basically give up some of their own power in order to empower the group.

Organizational Leadership

According to Bryson and Crosby (1992), collaborative leaders focus on “nurturing effective and humane organizations, interorganizational networks, and communities” (p. 40). They ensure stakeholders understand the collaboration’s purpose and plans, secure the necessary resources to achieve their shared goals, and accept shared power. These leaders cultivate an environment of trial-and-error (or adaptive learning) to encourage new ideas and possible solutions to issues as they arise. They encourage teamwork and develop stakeholders’ potential to become leaders themselves. Crosby and Bryson (2005) have asserted collaborative leaders must become skillful at three particular tasks: maintaining focus on “organizational purpose and design”; anticipating and adjusting to organizational changes and external environmental shifts; and developing a sense of community both within the organization as well as outside of it (p. 190). Crosby and Bryson’s viewpoint of leadership shares the contextual imperative of contingency and situational leadership theories.

From the perspective of contingency theory, a successful leader achieves alignment internally—from relations with stakeholders to organizational structure to an appropriate culture for employees—and externally—ensuring the organization is positioned appropriately within its many environments. The challenge for leaders is to achieve a balance between internal and external demands. Chemers (1997) , employing a contingency theory perspective, has claimed it is “quite clear that leadership, like other social psychological phenomena, was dependent on subtle sets of interpersonal relationships rooted in a particular context of task and authority” (p. 32). As such, leadership style and context are critical for organizational leadership.

Visionary Leadership

For Bryson and Crosby (1992, 2005), visionary leadership is about creating meaning and effectively communicating it. “Vision is leadership’s most powerful medium, not just its message” (Alexander *et al.*, 2001, p. 164). As visionaries, leaders keep their eyes toward the future to predict how best to position their organizations. They must have “the ability to see the whole in the perspective of history – past and future – to state and adjust goals, to evaluate, to analyze, and to foresee contingencies a long way ahead” (Frick & Spears, 1996, p. 217). Many

scholars (Bennis, 1989; Bennis & Townsend, 1995; Brinckerhoff, 1994; Brown & Ruhl, 2003; Bryson, 2004; Carlson & Donohoe, 2003; Cotterell, Lowe & Shaw, 2006; Chrislip & Larson, 1994; Crutchfield & Grant, 2007; Denhardt & Denhardt, 2006; Eadie, 1997; Frick & Spears, 1996; Gardner, 1990; Hecht & Ramsey, 2002; Howe, 2004; Hudson, 2005; Knauff, Berger & Gray, 1991; McLaughlin, 2006; Nanus & Dobbs, 1999; Smillie & Hailey, 2001; Yukl, 2006) agree leadership requires creating, communicating, and spurring stakeholders to realize a shared vision. This means leaders must use language and symbols carefully. They must also be attuned to their own actions and how they will be perceived. Leaders must realize how they present ideas will influence how stakeholders respond and which solutions will be considered to address an issue (Crosby & Bryson, 2005, p. 191). Leaders must be persuasive.

In addition to vision, persuasiveness is necessary for effective leadership (Avolio, 2005; Bear & Fitzgibbon, 2005; Cotterell, Lowe & Shaw, 2006; Dym & Hutson, 2005; Frick & Spears, 1996; Gardner, 1990; Greenleaf, 1977; Hesselbein, Goldsmith & Bechkhard, 1996; Jinkins & Jinkins, 1998; Nanus & Dobbs, 1999; Yukl, 2006). Aristotle long ago concluded there were three ways to be persuasive—ethos, logos, and pathos. In other words, persuasiveness emerges from character, from reason, and from emotion, respectively. Effective leaders rely on all three. When leaders use such methods to be heard by stakeholders, they are better able to enhance organizational operations and make needed internal changes. Since network organizational forms typically include numerous stakeholders, leaders with such capacities can be quite powerful, possibly allowing them to catalyze changes in their external environments related to their issues or situations as well. Yet, for such to occur, leaders must possess an ability to influence others.

Contingency theory offers an explanation of how leaders persuade effectively. According to Chemers (1997), this theory contends leadership is “primarily the exercise of social influence” (p. 30). Thus, the quality of leaders’ relationships with stakeholders will determine the level of influence leaders will have in certain circumstances. By knowing their stakeholders and their organizations or networks well, leaders may be more influential. Greenleaf (1998) has asserted the persuasive leader “ventures and takes the risks of going out ahead to show the way and whom others follow, *voluntarily, because they are persuaded that the leader’s path is the right one – for them*, probably better than they could devise themselves” (p. 44). However, persuasive leaders wield power (Cotterell, Lowe & Shaw, 2006; Jinkins & Jinkins, 1998; Yukl, 2006) and they must exercise that power with caution and responsibility: “To use power responsibly is

perhaps the greatest challenge of leadership” (Cotterell, Lowe & Shaw, 2006, p. 95; Jinkins & Jinkins, 1998; Yukl, 2006). Through persuasion, leaders are able to convince stakeholders of the importance of achieving the organizational vision and mission.

According to Maxwell (2002), “one of the most valuable benefits of vision is that it acts like a magnet – attracting, challenging, and uniting people” (p. 55). If visions are like magnets, leaders must constantly urge stakeholders to stay the course. They must demonstrate their own commitment through their messages and their actions. Bennis and Townsend (1995) have argued, “Vision conveyed to the organization through action brings about a confidence on the part of the followers, a confidence that instills in them the belief that they’re capable of doing whatever it takes to make the vision real” (p. 45). This view suggests that change is possible through visionary leadership.

Political Leadership

Collaborative leaders may create and implement policy decisions. They, therefore, may need to shape conflict as well as intervene when conflict arises among stakeholders, to know how to utilize arenas effectively, and to avoid bureaucratic resistance (Bryson & Crosby, 1992, pp. 50-53). In a “political” role, leaders seek to form beneficial relationships. Several scholars (Bilimoria & Godwin, 2005; Brown & Ruhl, 2003; Carlson & Donohoe, 2003; Cotterell, Lowe & Shaw, 2006; Crutchfield & Grant, 2007; Gardner, 1990; Hudson, 2005; Kanter, 1996; Lewis, 2001; Luke, 1998; Nanus & Dobbs, 1999) have stressed the importance of relationships, alliances, networks. These links are vital to leaders for obtaining information on the latest ideas, processes, funding sources, experiments, programs, technology. These connections may also furnish information on issues affecting the community and, in turn, the collaboration and its members’ organizations. Leaders, as a result, must be constantly aware of the needs and directions of their stakeholders. In this role, leaders must be boundary-spanners. “Leaders must become *cosmopolitans* who are comfortable operating across boundaries and who can forge links between organizations” (Kanter, 1996, p. 91).

Scholars (Bennis, 1989; Bennis, 2003; Bogardus, 1934; Cotterell, Lowe & Shaw, 2006; Frick & Spears, 1996; Gardner, 1990; Greenleaf, 1977; Jinkins & Jinkins, 1998; Luke, 1998; Maxwell, 2002; Nanus & Dobbs, 1999; Yukl & Lepsinger, 2004) have also emphasized internal

and external relationships must be created and maintained with integrity. Leader integrity is based on honesty and character (Cotterell, Lowe & Shaw, 2006, p. 97). According to Nanus and Dobbs (1999), “A good character, an accessible personality, and an ability to communicate well are highly valued in both political and nonprofit leadership” (p. 174). Leaders with integrity inspire trust. Trust, moreover, is the key component of relationships. To earn the respect of stakeholders, leaders must “assume every moment matters in enhancing trust” (Avolio & Luthans, 2006, p. 46). Trustworthy leaders can “exercise leaderlike influence beyond the system over which they preside. They must do what they can to lead without authority” (Gardner, 1990, p. 98; Crutchfield & Grant, 2007).

Ethical Leadership

For Crosby and Bryson (2005), “A prime task of ethical leaders is educating others about ethics, constitutions, other laws and norms” (p. 197). Leaders apply law and norms to appropriate situations and use them to resolve conflicts in a fair, consistent manner. Yet, ethics also applies to character. Collaborative leaders can derive power or influence from their ethical character. Ethical leaders create a sharing, honest culture and demonstrate a genuine concern for others, their organizations, and their communities. According to Luke (1998),

Ethical action revolves around the interdependence between personal well-being and societal well-being, / which leads to a sense of shared destiny with others. To have this concern for others is to understand the importance of being a member of a larger moral community and provides the broadest theme for right conduct. A broad concern for societal well-being adds a deeper dimension to ethical behavior (pp. 237-238).

As a result of their values and concern for others, leaders may gain the confidence of stakeholders, getting them to commit to resolving the issue at hand. Leaders must “remember that ethical behavior and trust go hand-in-hand” (Brown & Ruhl, 2003, p. 65).

Policy Entrepreneurship

Collaborative leaders know how to “put it all together” by appreciating and understanding the “connectedness of things” (Bryson & Crosby, 1992, p. 56; Vigoda-Gadot,

2003). They see the value in individuals, organizations, communities as distinct entities and as interrelated networks. “And they know how to make a difference. They know when, where, how, and why to intervene with whom and what” (Bryson & Crosby, 1992, p. 56). Leaders, therefore, need to be change agents. They must recognize when change is necessary and when and how to implement it. As change agents, leaders strive to improve internal and external organizational capacities (Brown & Ruhl, 2003; Carlson & Donohoe, 2003; Hudson, 2005; Nanus & Dobbs, 1999). They must anticipate obstacles preventing stakeholders from accepting change. They must be alert to how change will affect organizational culture. To do this, they must truly understand existing culture. Jinkins and Jinkins (1998) have argued, “leadership requires a sensitivity to cultural context that is grounded in the willingness to recognize, to accept (to some degree), and to accommodate the entire web of invisible assumptions and values that constitute a culture’s identity” (p. 88).

Overwhelmingly, leadership scholars (Anheier, 2005; Avolio, 2005; Avolio & Luthans, 2006; Bear & Fitzgibbon, 2001; Beck & Yeager, 2001; Bennis, 1989; Bennis, 2003; Bennis & Townsend, 1995; Bilimoria & Godwin, 2005; Brown & Ruhl, 2003; Bryson, 2004; Carlson & Donohoe, 2003; Cotterell, Lowe & Shaw, 2006; Crutchfield & Grant, 2007; Denhardt & Denhardt, 2006; Dym & Hudson, 2005; Eadie, 1997; Frick & Spears, 1996; Gardner, 1990; Greenleaf, 1977; Hecht & Ramsey, 2002; Heifetz, 1994; Hudson, 2005; Jinkins & Jinkins, 1998; Kanungo & Mendonca, 1996; Lewis, 2001; Luke, 1998; Mason, 1996; McLaughlin, 2006; Nanus & Dobbs, 1999; Pidgeon, 2004; Schein, 2004; Smillie & Hailey, 2001) concur that knowledge of culture is essential. Such familiarity assists leaders in explaining the need for and benefits of change. Schein (2004) has argued, “the only thing of real importance that leaders do is to create and manage culture; that the unique talent of leaders is their ability to understand and work with culture” (p. 11). This insight suggests leaders must be prepared to guide others in handling change (Bennis, 1989; Bryson, 2004; Brinckerhoff, 1994; Denhardt & Denhardt, 2006; Eadie, 1997; Hudson, 2005; Jinkins & Jinkins, 1998; McLaughlin, 2006; Nanus & Dobbs, 1999; Pidgeon, 2004). Leaders must draw a picture of the potential changes to which various stakeholders can relate. They must also demonstrate their own embrace of change. Their behaviors should be indicative of how change should be handled.

Crosby and Bryson (2005) argue a leadership cycle exists within the policy arena in which some of the eight leadership capabilities are more dominant than others. They claim

visionary leaders are prominent when the cycle begins, political leadership takes over in the middle, and ethical leadership emerges during evaluation (2005, p. 197). Visionary leaders are able to bring stakeholders together in appropriate forums and guide them in creating a persuasive vision and wisely crafted policy proposals. Political leadership assists in steering proposals through the adoption and implementation phases. Ethical leaders ensure the process has been conducted within the boundaries of the law and the norms of the community. Throughout the cycle, personal leadership is needed. “The personal leadership of champions and sponsors is vital throughout, but especially important in the early phases when the involvement of these people signals that a change effort may actually be sustained and successful” (Crosby & Bryson, 2005, p. 197). The authors highlight the importance of shared leadership throughout the cycle; “leadership will need to be dispersed across a variety of groups and organizations” (Crosby & Bryson, 2005, p. 184). In shared leadership scenarios, members of networks or collaborations assume certain roles and their own perceptions of those roles determines how power is shared and who they believe exercises leadership and how.

Crosby and Bryson’s framework connects directly to this study’s analysis of a disaster management network. Its four components parallel the claims found in both the disaster and network literatures. Disaster networks form because the various organizations cannot cope with disaster management issues on their own. These networks must use various settings—forums, arenas, courts—to accomplish their goals. They must also engage in the policy process to ensure appropriate legislation is enacted. And, to move the network forward, leaders within it must demonstrate several leadership capabilities, including self awareness, forming productive teams, persuasiveness, and political astuteness. Thus, collaborative leadership is essential in reducing the chaos of disaster management efforts. It is needed in disaster networks so appropriate preparations and decisions can be made regarding specific activities during each disaster stage. Although many challenges exist in collaborative networks and disaster management, collaborative leadership may help to serve to overcome those barriers.

Chapter Summary

This chapter has offered a review of scholarly work concerning disaster management, inter-organizational networks, and collaborative leadership. Each section discussed a number of central issues related to leadership within disaster management networks.

The review of the disaster management literature presented information on the principal stages of the disaster cycle. First and foremost, disaster management needs to become a priority for government, NGOs, other agencies with disaster relevant capabilities, and communities. In all four disaster stages, the literature clearly suggests the importance of planning, developing trusting relations among disaster organizations, understanding cultures (organizational and community cultures), and leadership. If plans and relationships are already in place, coordination and collaboration should improve on addressing disaster mitigation as well as relief and reconstruction, especially if communication occurs on a consistent basis throughout all four stages. Also, the literature stresses the need for NGO involvement at all levels of disaster management. Yet, debate continues concerning the strengths and limitations that these civil society organizations bring to each stage of the disaster cycle. Regardless, the literature claims if responsibilities and roles are clearly defined with room for improvisation, efforts across all stages of disaster management would improve.

The examination of inter-organizational networks addressed structure, inter-organizational member relations, and network management. Among other issues that the discussion made clear, the structure of networks influences member relations and member relations shape structure. Thus, network managers must focus on both dimensions to ensure cooperation among members. Much of the literature indicates that “hierarchical networks” appear most effective regardless of their intended purpose. With these network types, the literature emphasizes that change should be anticipated and accepted, particularly changes in network boundaries, membership, and norms when new members enter or established members exit. These changes affect member relations. Thus, network managers should strive to create a safe environment so communication can flow easily among members to build trust, reduce conflicts, and diffuse power. Bryson, Crosby, and Stone (2006) have contended structure influences network effectiveness and discuss three types of governance structures:

(1) self-governing structures in which decision making occurs through regular meetings of members or through informal, frequent interactions; (2) a lead organization that provides major decision-making and coordinating activities; and (3) a network administrative organization, which is a separate organization formed to oversee network affairs (p. 49).

This study focuses on collaborative networks rather than network administrative organizations since collaborative networks appear more flexible and the appointed government-led organization is not considered a separate organization by the majority of network members. The literature also argues leadership within networks is important. Without it, networks are less effective. However, little attention has been given to leadership within networks. This study, as a result, helps to fill a void in the literature.

The section on collaborative leadership highlighted Crosby and Bryson's "Leadership for the Common Good Framework." This study employs their framework as a means to analyze its findings because of its four distinct components. These factors focus on the fundamental elements of collaborative leadership in a network structure. The first component of the framework—a world where power is shared—emphasizes the importance of several organizations joining together "to marshal the legitimacy, power, authority, and knowledge required to tackle any major public issue" (Bryson & Crosby, 1992, p. 4). Given the complexity of many public issues, including disaster management, one organization cannot address such concerns singlehandedly. Forming a network of stakeholders affected by an issue permits members to develop and share common goals, secure informal coordination, allocate resources and activities as well as share power and authority (Bryson & Crosby, 1992, p. 12). Bryson, Crosby, and Stone (2006) highlight five factors that affect the formation and continuation of cross-sector collaborations:

1. initial conditions (general environment, sector failure, direct antecedents);
2. formal and informal processes (building leadership, building trust);
3. structure and governance (membership, configuration, structural form);
4. constraints and contingencies (power imbalances, competing institutional logics); and
5. accountability and outcomes (results, public value) (p. 45).

These issues are especially relevant to disaster management networks. For example, disaster management networks usually form because of the failure of individual sectors to handle effectively any one stage of the disaster cycle; the number of tasks in each stage is overwhelming for one organization to manage. Members of collaborations or networks must recognize their interdependence regarding the issue that they are confronting. In addition, the collaborative leadership and network literatures suggest the importance of trust and leadership within networks. Leadership and trust affect network processes which, in turn, influence structure. The resulting structure affects network membership and member dynamics. With the diversity of stakeholders responding to disaster management issues, competing institutional logics and power imbalances can create tensions. And, disaster management networks need to demonstrate results and public value in order for government officials and the general public to heed their advice on disaster issues. Bryson and Crosby (1992) contend organizations in the collaboration must “engage in political, issue-oriented, and therefore messy, planning and decision making” (p. 5). Building on planning and prior discussions, disaster management networks should be ready to offer potential solutions to address disaster issues before or immediately after they occur. In other words, collaborations, including disaster management networks, are settings in which “representatives of diverse stakeholders engage in defining public problems, finding promising solutions and obtaining and sustaining the necessary policies, programs, rules and norms that can establish a ‘regime of mutual gain’ over the long haul” (Crosby & Bryson, 2005, p. 182). As a result, this study examines reasons for network formation, leadership styles, member roles, and network structure.

The second component—forums, arenas, and courts—are settings in which discussions occur aimed at producing shared understanding among many stakeholders; through these discussions, decisions are made concerning how to address public issues and strategies are developed to manage any conflicts (Crosby & Bryson, 2005, p. 184). Forums allow for discussions where numerous perspectives may be heard and alternative solutions may be suggested and assessed. Disaster management networks serve as forums in which members discuss plans and policies to address shared concerns. Networks may also serve as arenas. Crosby and Bryson (2005) have claimed, “In arenas, executive, legislative and administrative decision makers consider whether and how to adopt and implement proposed policy changes” (p. 185). In an ideal disaster network structure, members are leaders of government agencies,

businesses, NGOs, and community-based organizations. They, therefore, would have the power to create and implement appropriate plans to address disaster issues. In this setting, stakeholders engage in “policy-making that establishes rules, laws, norms, principles, policies, standards or plans of general application to a specified population or category of actions” (Bryson & Crosby, 1992, p. 103). Courts serve as “official and unofficial judges [to] settle disputes about policy implementation and sanction conduct in accord with laws, rules and norms” (Crosby & Bryson, 2005, p. 185). For disaster management networks, courts not only enforce codes designed to prevent or mitigate challenges resulting from crises, but the broader court of public opinion holds networks and their members publicly accountable.

In all three settings, leadership is imperative to move collaborations toward their goals. According to Bryson and Crosby (1992), “Instead of dictating directly what people should do or not do, or directly controlling the social bedrock, leaders must influence the way action and structure are created and recreated. The relevant image is not one of the in-charge leader, but of the visionary, political, and ethical leader who is also a guide, persuader, facilitator, coach, and team player” (p. 87). This study, with a particular focus on the disaster management network as a forum and/or arena, investigates the roles network members play and the leadership styles that they employ. Bryson and Crosby (1992) have contended, “in order to raise and resolve public problems constructively, leaders must attend to human interaction, institutional arrangements, and the ways human interaction and social structures are linked through ideas, rules, modes, media, and methods” (p. 89). This study explores network structure and member relations to gain a better understanding of member roles and leadership styles within a disaster management network.

The third component—the policy change cycle—encompasses seven phases: initial agreement; problem formulation; search for solutions; policy or plan formulation; proposal review and adoption; implementation and evaluation; and continuation, modification or termination (Crosby & Bryson, 2005). Disaster management network members work year round to address issues within these phases. For instance, members discuss mitigation actions that can be implemented throughout the year to alleviate some of the difficulties encountered during the response stage. Bryson and Crosby (1992) encourage collaborators to use a variety of tools to address any public issue: “policies, plans, programs, projects, decisions, actions, budgets, rules, or regulations” (p. 64). As in the disaster management cycle, leadership is a key factor in the

policy change cycle. In both cycles, leaders need to frame issues appropriately by taking into account the differences among stakeholders, their attitudes and feelings toward those concerns and the potential solutions being discussed, and how stakeholders within the network will respond to assigned aspects of the matter (Bryson & Crosby, 1992, p. 172). Leaders engage most in issue framing during the early policy change cycle phases and during the planning and mitigation stages of disaster management. Additionally, the framework advocates for forward mapping and backward mapping in this component. Policy makers engage in forward mapping by devising the plans and details of what and how those below them implement their solution to a problem, whereas backward mapping occurs at the grassroots level identifying ways to address local problems and find ways to gain the support of higher level officials (Bryson & Crosby, 1992, p. 288). Disaster management networks should also use both types of mapping in order to involve top-level government officials along with community residents.

The fourth component—the eight leadership capabilities—highlights the abilities necessary for leaders in a collaborative structure. Crosby and Bryson not only explain the style of collaborative leaders—a participatory style or approach—in networks, but they also discuss, directly and indirectly, the roles that some network members typically assume while serving in a leadership capacity. Leadership style is the approach or technique that a leader uses to address an issue. These actions are typically divided into two categories: task-oriented and people-oriented behaviors (Northouse, 2001, p. 32). The participatory leadership style “is inclusive, based on a strong trust-communication cycle that actively involves both leader and follower. It requires buy-in by all involved, and calls for all to actively participate in the decision-making process” (Smith, 1995, p. 210). As for roles, they are specific jobs or positions that members may assume to advance the network toward its goals. Since no one individual possesses all of the abilities needed to lead a collaborative effort, several members may need to take on leadership responsibilities simultaneously. Thus, leadership must be shared.

Although eight capabilities are listed, three examples are offered here for clarification regarding how participatory leaders may need to assume more than one role at a time. Additionally, Crosby and Bryson (2005) have contended, “New people may move into leadership roles in the course of the cycle” (p. 197). This insight applies to disaster management networks. One capability—leadership in context—means leaders must see and comprehend the interconnectedness of an issue and the affected stakeholders. Leaders must “understand people,

groups, organizations, institutions, and communities as separate entities and as parts of interorganizational networks” (Bryson & Crosby, 1992, p. 56). Using this capability, leaders take on the role of strategists. They also take on the roles of “interpreters and direction givers” (Bryson & Crosby, 1992, p. 45). A second capability—team leadership—stresses that leaders must build trust among network members as well as encourage the development of their individual capacities to move into leadership roles when needed. Hence, leaders serve the roles of builders and coaches since they must “lay the foundation” for a cooperative environment (Bryson & Crosby, 1992, p. 38). A third capability—political leadership—involves forming relationships. Leaders exercising these capacities take on the role of boundary-spanners to reach outside of the network and obtain information and resources. These three examples aptly apply to disaster management networks.

Although this study draws on Crosby and Bryson’s framework, it also turns to other literature for guidance. The analysis relies on other leadership scholars because network members may employ leadership styles other than a participatory one. Some members may use an autocratic leadership style if their home organizations adhere to a strict hierarchical structure. Other network members may employ transformational styles.

For example, Avolio (2005) has highlighted four transformational styles: individualized consideration, intellectual stimulation, inspirational, and idealized (p. 195). For example, with individualized consideration,

The hallmark characteristic of this style [individualized consideration] is getting to know exactly who the people are who work with you and for you, and helping them to develop to their full potential. This leader spends a lot of time concentrating on the best ways to develop his or her people to their full potential, providing the necessary support to accomplish this objective. They are sensitive to the needs of others, but also challenging, to get others to not accept where they are but to question where they can go in terms of their full development (Avolio, 2005, p. 197).

Regarding the three other leadership styles, Avolio (2005) has described an intellectual stimulation approach as one in which leaders consider numerous ways to make the most of opportunities and to deflect difficulties. Those who employ this leadership style concentrate on the intellectual capacities of stakeholders. Inspirational leaders tap into stakeholders’ energy and enthusiasm for an issue or task; they are “persistent, focused, and aligned around a common

purpose” (Avolio, 2005, p. 196). An idealized leadership approach centers on “the highest levels of moral reasoning and perspective-taking capacity” in which leaders surrender personal and professional benefits for the good of their followers, organization, and community (Avolio, 2005, p. 196). According to Avolio (2005), idealized leaders strive to be role models to “build trust in people because those who work for them know they are working toward the common good, and their sacrifices along the way are evidence of that, along with the consistency of their actions with their values” (p. 196). All four transformational leadership styles seek to enhance stakeholder capabilities and organizational capacities as well as promote “ethical conduct” (Avolio, 2005, p. 195).

Beck and Yeager (2001), on the other hand, have posited four different leadership styles, ranging from autocratic to transformational to participatory: Style 1 is Directing; Style 2, Problem Solving; Style 3, Developing; and Style 4, Delegating. The authors emphasize that Style 4 is the approach that leaders can best involve followers. As delegators, leaders turn responsibilities and decision making power over to others (Beck & Yeager, 2001, p. 25). By incorporating other scholars’ work regarding leadership styles and roles, this study broadens its base to consider the number of different styles and roles encountered when investigating the disaster management network as well as the knowledge that leaders may need to adjust their styles to accommodate situations.

Collaborative leaders may need to assume several roles: strategists, coaches, visionaries, politicians, entrepreneurs, change agents. In other words, collaborative leaders are catalysts and facilitators. They see and understand the larger canvas and create meaning and connections in it for stakeholders. Leaders inspire and mobilize others by possessing self-knowledge, self-confidence, commitment, integrity, and a demonstrated concern for others. And, collaborative leaders understand that sharing responsibility and power among stakeholders is necessary to build trusting relationships and effective collaborations which, in turn, develop the skills and knowledge of stakeholders and enhance organizations and communities. According to Smillie and Hailey (2001), “One of the critical competencies of an effective leader, therefore, is an ability to judge when to adopt the style that is best suited to a particular situation. Thus judgement becomes a key determinant of the effective leader” (p. 135).

All three literatures—disaster management, network, and collaborative leadership— influenced the framework for this study. All three discuss the importance of networks and

collaboration concerning disaster management, especially during the response stage. Based on findings from this literature review, this study highlights network structure and member relations as well as leadership roles and leadership styles. The disaster literature and network literature, however, have basically overlooked the Caribbean and its disaster management networks for the last 20 years. This study contributes to the literature by investigating a Caribbean NDO. Additionally, the leadership literature includes few published works on network leadership. This study adds to the literature by investigating the styles and roles of leadership exhibited by NDO network members.

CHAPTER 3

METHODOLOGY

This study examines an under-researched social phenomenon: the dynamics of a government-led national disaster management inter-organizational network (NDO). The analysis employs a qualitative case study to address its central research questions. The case investigates how an active NDO is structured and functions. It also examines the roles that members play and the leadership styles employed within the NDO. To explore these issues, I gathered data mainly from the NDO members through personal interviews; however, I also consulted documentation, such as annual reports, and secondary sources to obtain background information and to understand the extent of NDO activities in, and NDO members' involvement with, all stages of disaster management. Qualitative research methods were suitable for this study since they allow for investigation of little known phenomena (Creswell, 1998, p. 17). I selected a representative case—the Saint Lucia NDO—for in-depth analysis not only to gain insight into network dynamics, but also to identify member roles and leadership types within the network. Since little information is available publicly regarding NDOs in the Caribbean, a qualitative approach was appropriate to obtain data that would provide a more comprehensive understanding of an active multiagency disaster management network in that disaster-prone region.

This chapter describes the research methods used in the study. It is divided into six sections: (1) conceptual framework, (2) study population, (3) strategy of inquiry, (4) data collection procedures, (5) data analysis techniques, and (6) credibility issues.

Conceptual Framework

A postmodern view of knowledge underpins this research. I believe knowledge is a social construction. The constructivist ontology suggests there may be multiple views of reality and aims to appreciate a particular phenomenon through the eyes of those who have experienced it. For this research, I gathered data from numerous individuals with varying viewpoints to obtain an overall “truth” about the NDO and its members. “Multiple ways of knowing and multiple truths” exist where “the possibility of specific local, personal, and community forms of truth, with a focus on daily life and local narrative” are accepted (Kvale, 2002, pp. 301-302).

Multiple perspectives take on an important, yet challenging role in the constructivist epistemology. “There is not one reality out there to be measured; objects and events are understood by different people differently, and those perceptions are the reality—or realities—that social science should focus on” (Rubin & Rubin, 1995, p. 35). As such, a qualitative research design was one of the better approaches for this study because it allowed me “to inductively and holistically understand human experience in context-specific settings” (Patton, 1990, p. 37). The phenomena studied revolved around numerous actors engaged in disaster management issues, making for a complex environment with intricate processes to be explored. A qualitative research design appeared most likely to capture elements of such complexity robustly because it lends itself to in-depth interviews. According to Kvale (2002), “Valid knowledge is not merely obtained by approximations to a given social reality; it involves a conversation about the social reality” (p. 313). I held conversations with key informants which permitted their various perspectives to be heard.

The interviews were semi-structured and, therefore, flexible in order to focus on the interviewee perspectives (Marshall & Rossman, 1989, p. 82). This approach gave me the opportunity to ask the interviewees for more detailed explanations and clarifications regarding their involvement in the NDO. I used open-ended questions to learn about the “lived experiences” of NDO members and to understand better the intricacy of the phenomena being studied (Creswell, 1998, p. 19; Creswell & Clark, 2007, p. 29). The interviewees provided helpful information concerning the following: historical context; detailed profile of the NDO and its members; descriptions of the NDO’s functions (activities, structure and processes); member roles and relations; and the styles of leadership displayed in the NDO. This research design allowed me to explore what and when roles and leadership styles surfaced as well as how a single non-governmental organization (NGO) was not only involved in the NDO, but also how it was perceived by other members.

A qualitative research design also allowed for a “close-up view [where one] does not exist” (Creswell, 1998, p. 17). The literature review suggested few in-depth studies on natural disaster networks, in general, and in the Caribbean, in particular, have been published. I located five articles and one book exclusively on natural disasters affecting the Caribbean. Four of the five articles, published in the 1980s, discussed hazard history, vulnerability, and preparation. The fifth article, written in 1997, briefly outlined disaster management plans on several island states.

The book by Berke and Beatley (1997) focused on interactions—or the lack thereof—among governments and NGOs on three islands during and after Hurricane Hugo. Otherwise, researchers have given little attention to the region, except a few scholars at the University of the West Indies, Mona Campus, Jamaica. That university’s website suggested researchers there are focused primarily on mitigation issues. However, a press release dated 6 April 2009 explained that the Mona Campus and CDEMA had recently signed a Memorandum of Understanding to work closer together on all stages of disaster management (<http://www.mona.uwi.edu/>). That initiative has not yet produced any analyses nor published any research on overall disaster management efforts of the various island states.

Study Population

I originally selected the island of St. Kitts/Nevis as the primary target for research because it had experienced several hurricanes in recent years and Berke and Beatley’s (1997) earlier study provided a rough comparative benchmark. But, the NDO manager of St. Kitts/Nevis did not respond to numerous e-mails or repeated telephone calls during a period of two months. Based on the research proposal approved by my Advisory Committee members and the Virginia Tech Institutional Review Board (IRB), if the NDO manager was unresponsive, I was to look for another comparable island state. I, therefore, consulted the CDEMA website for other options; the website listed 16 members based in the Caribbean (www.cdera.org). Of those 16, at the time of the investigation, seven members had websites. I reviewed all of those for pertinent information. Additionally, I contacted two CDEMA staff members, the Executive Director and the Public Information Officer, to discuss the state of disaster readiness of CDEMA members and which ones officially incorporated NGOs, businesses, and private citizens into their NDOs. Surprisingly, neither of these officers could state with certainty that any NDOs included these stakeholders within their national disaster management networks. But, the Public Information Officer did suggest three island states—British Virgin Islands, Jamaica, and Saint Lucia—that she believed were the most advanced in their disaster management efforts.

With this information, the options of potential island states to study were narrowed to five: two recommended by the Public Information Officer: British Virgin Islands and Saint Lucia (Jamaica was removed as an option: it has a population of 2.5 million, twice as many residents as

any other island state, making it an unrepresentative case); Anguilla; Antigua/Barbuda; and Trinidad/Tobago. These five were selected because they most closely resembled the criteria initially used to select St. Kitts/Nevis. I then e-mailed the NDO managers of the five island states to request permission to study their networks. Three NDO managers responded to my note. I then scheduled time to talk with each manager about the research process. Ultimately, I spoke with two managers as the NDO manager of Trinidad/Tobago was not available at the appointed time of the call and did not respond to requests to reschedule. The manager on Anguilla, although interested, was not ready to participate in the research. After a conversation with the third manager, the Saint Lucia NDO manager agreed to participate.

Strategy of Inquiry: Analytical Case Study

This research produced a case analysis designed to provide in-depth understanding of the internal dynamics of the Saint Lucia NDO and the overall context of the network. I examined two specific dimensions within this single-case (embedded) design. The first embedded unit of analysis was the roles of members within the NDO. The second unit of analysis was the leadership styles that occurred within the NDO. Stake (1998) refers to this as an instrumental case study; the overall case—the NDO structure and functions—was of secondary importance; “it plays a supportive role, facilitating our understanding of something else” (p. 88). In this research, that “something else” was the member roles and leadership styles in an inter-organizational network structure. The Saint Lucia NDO served as the vehicle to understand better these units of analysis.

I employed a single-case design since I intended to ask “why” and “how” questions, I had no control over the phenomenon being studied, and my concerns were contemporary within a “real-life context” (Yin, 2003, p. 6). The Saint Lucia NDO is an active network in the Caribbean. I asked questions relating to why the NDO was structured the way it was, how the NDO operated, how member relations affected network roles, why and how members—particularly non-government members—participated, and what styles of leadership emerged within the network.

I also selected the single case study because I aimed to examine a relatively unexplored area. The single case design is ideal for exploring situations where a researcher can access a

phenomenon that has been basically inaccessible. “For a case study, the researcher should focus on an event, process, or program for which we have no in-depth perspective on this ‘case.’ Conducting the case study provides a picture to help inform our practice or to see unexplored details of the case” (Creswell, 1998, p. 95). This analysis made the unfamiliar familiar by tracing the current structure and functions of the Saint Lucia NDO. It allowed for “an exploration of a ‘bounded system’... through detailed, in-depth data collection involving multiple sources of information rich in context” (Creswell, 1998, p. 61). I based the boundaries of the NDO on its official membership (those the Prime Minister appointed) and I collected information from those members as well as from available documents.

I had three other reasons for conducting a single case study instead of multiple ones. First, the Saint Lucia NDO seemed a representative case. “Here the objective is to capture the circumstances and conditions of an everyday or commonplace situation” (Yin, 2003, p. 41). The island state had experienced several hurricanes and tropical storms and is a member of both CARICOM and CDEMA. As a member of these two Caribbean organizations that address disaster management issues, Saint Lucia should adhere to the same principles and procedures for disaster management as other Caribbean island states. Second, according to Creswell (1998), “more than one case dilutes the overall analysis; the more cases an individual studies, the greater the lack of depth in any single case” (p. 63). Concentrating on one island state permitted attention to obtaining and analyzing details. For this research, the objectives were to explore and describe as fully as possible a phenomenon where little research exists. I sought to develop a “rich description” of the NDO being studied. Third, practical concerns regarding the amount of time and resources available for this work made a single-case (embedded) design an appropriate choice.

Data Collection Procedures

The case study employed three forms of data collection. First, I conducted a search for relevant literature on NDOs and other scholarly documents. I continued to locate literature related to the research throughout the study. The second—and main method—was data collection from semi-structured, open-ended interviews with NDO members. In addition to the literature review and interviews, I gathered documentary information. I collected data on the

NDO and on each of its members through a review of web sites, available internal publications (such as technical reports and disaster plans), and other public documents (including relevant laws and newspaper articles). I paid particular attention to obtaining information regarding the roles of members in the NDO as well as to how those roles were presented.

Interviews allowed NDO members to reflect on their network experiences and roles. The information garnered from them did not appear otherwise to be available. Interviewing only the members and not those outside of the network who may be involved in disaster management for Saint Lucia narrowed to some extent my understanding of the NDO. Another possible concern was interviewees came with biases and limited perceptions because of their position within the NDO and their own organizations. However, triangulation—use of multiple interviews and sources of information—helped to mitigate this concern.

The Virginia Tech IRB approved this research on 17 July 2009 (#09-613). To schedule interviews for the research, I held several conversations and exchanged e-mails with the Saint Lucia NDO manager. Eventually, I obtained a list of NDO members' names and contact information. I then e-mailed and telephoned all members with valid information. As protocol dictated, I e-mailed a consent form to the interviewees, informing them of the study's purpose, procedures, extent of anonymity/confidentiality, potential risks, potential benefits, and participant responsibilities and rights. The form stated participation in the study was voluntary and, for the purpose of confidentiality, I would assign a code to each interviewee. Nonetheless, since the island state and the NDO each have relatively small populations, it is possible that certain descriptions in the analysis may reveal the identity of the participants by someone familiar with the NDO membership. Consequently, I used caution in reporting data that may be considered too revealing of any single interviewee. The form also stated the interviews would last approximately one hour. Before each interview occurred, I obtained all participants' signed consent forms.

I conducted twenty-three interviews between 16 and 29 September 2009, representing 70% of the NDO membership. The NDO interviewees represented government ministries, local businesses, community interests, and one NGO. Some clarification is needed regarding the number of interviewees. One member was in transition from one ministry to another, so this individual responded to questions regarding the involvement of both ministries in the NDO. That same individual also represented three separate roles within the NDO: two positions from the

ministry the individual was leaving and one from the new post. It, therefore, would be accurate to state that I gathered information from 25 organizational representatives in the NDO. Additionally, I interviewed four other individuals. Three were NDO staff members: the Manager and two senior-level members. The Manager's interview is included in the interview total of 23. Based on the information gathered from the other two staff members, I decided not to include their interview data in the analysis. These two conversations yielded information about their job descriptions only and not about their interactions with other network members. The fourth individual was a staff member at one of the NDO member organizations; the interviewee for that organization invited this person to join the interview. This individual's observations are included in the analysis, but they were not counted as a separate interview. In other words, both of the staff members' comments were counted as one interview for that one organization.

Although the goal was to interview all NDO members, I experienced difficulties connecting with some members. Two individuals refused to be interviewed. For the remaining six NDO members who did not respond to repeated requests or who had scheduling conflicts, I continued my attempts to schedule time to conduct the interviews via telephone. To date, none of those members has responded to any of those requests.

All interviews included a set of predetermined questions to ensure consistency in the information gathered from each interviewee. I designed the interview guide to identify issues regarding structure, function, member roles, and leadership. The questions included descriptive, structural, and contrast questions to discover viewpoints and meanings (Neuman, 1997). Yet, semi-structured interviews allow some latitude which I used to obtain details or clarification or to urge a response when an interviewee was reluctant to answer a question. The questions were e-mailed to interviewees beforehand to help them prepare.

I arranged to conduct the interviews in the interviewees' offices in order to reduce the distance between the investigator and those being studied (Creswell, 1998). Creswell and Clark (2007) refer to this as "closeness" where the researcher goes to the interviewees' location to gather information (p. 24). When appropriate, I asked probing questions to capture the depth of the interviewees' experiences and to develop a fuller explanation of any unclear statements. The interviews were rich in information about the interviewees' past and present involvement and the internal operations of the NDO. They provided detailed data on disaster management activities in the NDO. These on-site interviews ranged in length from 20 to 90 minutes. I tape recorded the

interviews, with the exception of one, and later fully transcribed them. I stored the audio files on tape in a locked filing cabinet and on my personal computer that is password protected.

Face-to-face interviews provided an opportunity to witness reactions to questions, such as facial expressions, body language, and other nonverbal reactions that provided clues to help decipher what the interviewees were actually “saying” about their experiences. To assist in recalling these reactions, I took notes on the interview settings, the interviewees’ body language, tone of voice, and any other factors that captured my attention either during the interviews or immediately afterward. Following Rubin and Rubin’s advice (1995), these notes also contained my reaction to each interviewee; “This record makes our notes more interpretable and helps us figure out later how much to rely on our interpretations of each interview” (p. 120). I filed the notes from the interviews in a locked filing cabinet in my house.

After completing each interview, I prepared an analytical memorandum concerning it (Miles & Huberman, 1984). These analyses reflected upon ideas generated from the questioning, such as any themes, speculations, disagreements, and relationships among emerging ideas (Maxwell, 1996; Miles & Huberman, 1984). I used these memoranda to update coding, highlight unexpected information, and determine next steps. The memoranda, thus, served as an ongoing means of assessing the data.

The third method of data collection was document analysis. I gathered data from relevant documents, such as annual reports, press releases, and newspaper articles. I also reviewed the Standard Operating Procedures volume for Saint Lucia’s disaster management system, numerous policy documents, and approved national plans. Policy documents pertained to donations, emergency housing, emergency shelter management, and hazard mitigation. The Saint Lucia Cabinet has approved national plans, for example, on earthquakes, emergency shelters, evacuation, flooding, hurricanes, oil spills, relief distribution, stress management, telecommunications, transportation, and volcanic eruptions. I created summary forms for each document to help organize and distill the information.

It should be noted that while I was on site, two national emergencies generated numerous meetings among ministries and local groups: a hospital fire that overwhelmed community capacity in the southern region of the island state and the emergence of H1N1 that closed elementary schools in the northern region. Since they were deemed “emergencies” rather than “disasters,” the NDO was not fully activated. However, those members directly affected by the

emergencies went into response mode. When invited, I attended these meetings. For example, I participated in the Pharmaceutical Association’s meeting where discussion took place on the creation of clinics specifically to handle confirmed cases of H1N1. Another meeting between two ministries occurred to discuss possible closure of the port because of the outbreak. I also participated in other meetings related to the NDO’s functions, including a meeting of the newly established Auxiliary Corps.

The timetable below outlines the research process:

<i>Activities</i>	<i>2009/2010</i>
Defended Proposal	May 2009
Gathered publicly available data on original network and its members	May
Submitted IRB request	July
Contacted managers of NDO for permission to study and interview	July—August
Received permission to study from Saint Lucia NDO manager	August
Gathered documents from Saint Lucia NDO manager	August
Analyzed and wrote summaries and memos on documents	August-September
Scheduled interviews with NDO members	August-September
Conducted interviews with NDO members and NDO staff	September
Sent thank you notes to interviewees immediately after interview	September
Transcribed interviews and began analysis	September-October
Wrote summaries and memos on interviews	September-October
Reviewed previous document analysis	October
Coded and analyzed interview data	October-March 2010
Interpreted and challenged patterns/themes from interviews	October-forward
Wrote draft of Methods Chapter	January
Wrote draft of Introductory Chapter	February
Wrote draft of Chapter on Caribbean/Saint Lucia history	February
Wrote draft of Chapter on Literature Review	March
Started reducing information into manageable clusters	March
Wrote drafts of chapters on data analysis, including relevant literature	March forward

Data Analysis Techniques

I began analysis of the interviews by first listening to the recorded interviews, transcribing them, reading the transcripts, and then reviewing analytical memoranda, meeting notes, and related document summary forms. I took brief notes on each of the interviews to “develop tentative ideas about categories and relationships” (Maxwell, 1996, p. 78) and then compared those notes to earlier ones. From the identified possible themes, I explored topics in detail and then began coding—organizing—the material. I linked emerging themes back to the research questions. This process permitted “patterns, themes, and categories of analysis [to] come from the data; they emerge out of the data rather than being imposed on them prior to data collection and analysis” (Patton, 1990, p. 390). Once categories surfaced, I explored and analyzed themes and/or patterns emerging from the words and stories of the interviewees to see how they might relate. When linkages appeared promising, I reviewed the interviews again to verify that evidence existed in the data before moving forward. I continually challenged the emerging themes and/or patterns. According to Marshall and Rossman (1989), “the researcher must engage in the critical act of challenging the very pattern that seems so apparent. . . . Alternative explanations always exist; the researcher must search for, identify, and describe them, and then demonstrate how the explanation offered is the most plausible of all” (p. 119).

“After the data have been grouped into the meaningful clusters, the analyst undertakes a delimitation process whereby irrelevant, repetitive, or overlapping data are eliminated” (Patton, 1990, p. 408). Data reduction was important in order to make analysis more manageable. I took care when adding and deleting categories. When new codes were added, I went “back to the original interviews [to] look for and mark each place that is an example of the material that now belongs in the new categories” (Rubin & Rubin, 1995, p. 228). I continued coding until “new data [did] not add to the meaning of the general category” (Miles & Huberman, 1984, p. 223). As a result, I conducted an iterative process of considering and refining ideas and reexamining assumptions throughout the research process. As final categories and themes were established, I organized the data to present a clear picture of the phenomenon being studied.

Credibility Issues

I sought to enhance the credibility—or validity—of the research by concentrating first on the study’s structure. “In a broader concept, validity pertains to whether a method investigates what it is intended to investigate, to ‘the extent to which our observations indeed reflect the phenomena or variables of interest’ (Pervin, 1984, p. 48)” (Kvale, 2002, p. 302). I organized this study to explore and reflect the specific phenomena under examination and to provide details of how the research was conducted. According to Marshall and Rossman (1989), “by keeping thorough notes and a researcher’s diary that records each research design decision and the rationale behind it, researchers allow others to inspect their procedures, protocols, and decisions” (p. 148). This transparency served as one means of research and researcher credibility. Credibility was also achieved through several other methods described below.

Site Selection Criteria

The careful selection of the NDO enhanced credibility. Miles and Huberman (1984) state, “Qualitative studies call for continuous refocusing and redrawing of the parameters of the study during fieldwork, but some initial selection is still required. The conceptual framework and research questions determine the foci and boundaries within which samples are selected” (p. 37). Saint Lucia has spent time, finances, and effort in creating a national NDO to oversee all stages of disaster management.

Other criteria also enhanced study credibility. First, Saint Lucia’s official language is English. I preferred to study an English-speaking island state to ensure greater accuracy of the data gathered from interviews. The probability of inaccuracies was higher if interviews needed to be translated from another language. Second, Saint Lucia is a CDEMA member and, therefore, follows the same disaster management guidelines to which all that organization’s members adhere. The selected island, in this regard, was representative of the other island states. Third, Saint Lucia has had experience with tropical storms and hurricanes. Finally, and most importantly, I selected Saint Lucia because the NDO manager granted me access to the network membership.

Since each Caribbean NDO has different characteristics and little public information is available for those that exist, it is possible that the NDO studied may not sufficiently represent experiences in national disaster management networks. Moreover, given the focus of the NDO's goals, the interviews represented a partial segment of the experiences of all networks active during natural disasters. Interviewing only NDO members limited the scope of the research since many of the members had connections to local, regional, and international actors also involved in disaster management efforts for Saint Lucia.

Triangulation

I examined multiple sources—relevant scholarship, in-depth interviews, publications and other documents produced by the NDO, documents about the network from outside sources, and websites—to enhance the likelihood of capturing major issues and challenges linked to relationships among NDO members. Triangulation of data ensures integrity and accuracy (Creswell, 1998, p. 202; Maxwell, 1996, p. 93; Miles & Huberman, 1984, p. 234). By using triangulation, it increased the probability of locating supporting evidence to ensure findings were trustworthy. However, Maxwell (1996) cautions interviews and documents are “all vulnerable to self-report bias” (p. 94). I sought self-consciously to remain aware of potential bias. For example, to “establish confidence in the ‘truth’ of the findings” during the interview process, I encouraged participants to speak candidly (Lincoln & Guba, 1985, p. 290) and worked to ensure the confidentiality of their responses.

Peer Debriefing

“Soliciting feedback from others is an extremely useful strategy for identifying validity threats, your own biases and assumptions, and flaws in your logic or methods” (Creswell & Clark, 2007; Maxwell, 1996, p. 94). Peer debriefing provided individuals knowledgeable in the subject, but outside the study, an opportunity to review the emerging findings (Creswell, 1998; Lincoln & Guba, 1985). I asked individuals expert in the areas of disaster management, networks, and leadership to review the progress of the work and to ensure the information was clear and logical. I also asked my Committee Chair to review the findings on a scheduled basis.

Throughout the research process, I remained aware their biases could, in fact, be introduced into the study unknowingly. Ceglowski (2002) points out “researchers have relationships with mentors that guide them in how they conduct their research” (p. 7). Hence, I conducted periodic conversations with some of my colleagues on ways to reduce potential biases and to improve the transparency of the work.

Member Checking

I selected specific interviewees—the NDO manager and two NDO members who appeared to be viewed as leaders by their colleagues and who had long-term experience with the NDO—to review the analysis. This member checking occurred at the end of the study, but before it was submitted for final review. “There are good reasons for conducting feedback after final analysis instead of during data collection. For one thing, the researcher knows more. . . . In addition, you can get feedback at a higher level of inference: on main factors, on causal relationships, on interpretive conclusions” (Miles & Huberman, 1984, p. 242). Member checking gave the interviewees a chance to judge the accuracy and integrity of the accounts included in the written document (Creswell, 1998; Maxwell, 1996). However, I offered the participants the opportunity to fact check only, not to alter any part of the analysis.

Researcher’s Role

Integrity is vital to the research process. Through self-reflection, I attempted to identify the biases, conjectures, and concepts that I brought to the research. I realized early on, as the conductor of the exploratory process, that the investigation was undertaken from a constructivist worldview. Since constructivism promotes working “from the ‘bottom’ up, using the participants’ views to build broader themes and generate a theory interconnecting the themes” (Creswell & Clark, 2007, p. 23), I believe such an inductive process was appropriate for the research. “When participants provide their understandings, they speak from meanings shaped by social interaction with others and from their own personal histories” (Creswell & Clark, 2007, p. 22). As a result, I captured “meanings” through in-depth, semi-structured, open-ended interviews with NDO members. I asked interviewees to discuss their backgrounds and the professional

experiences they brought to the network, to recall significant moments of their NDO participation, to explain activities they considered successes and failures and why. I asked them to describe their relationships with other members as well as their perceptions of leadership. These questions assisted me in discovering how the members see the world in which they work: “knowledge is gained through people talking about their meanings” (Creswell, 1998, p. 19).

I sought to be alert to how my own biases and cultural background affected participants during interviews and might be influencing how my interpretations developed. It was important to me to know how I might influence the interviewees: the researcher must learn what emotions “she is conveying to the interviewees” that affect her style of questioning as well as the interviewees’ interpretations of those questions (Rubin & Rubin, 1995, p. 18), and “how this affects the validity of the inferences” from these conversations (Maxwell, 1996, p. 91). My notes referenced not only the interviewees’ reactions, but also my personal responses during and after the interviews. These reflections helped to determine how my reactions could have affected emerging understandings and interpretations. I also accepted that the interviewees’ statements represented their own “truths.”

CHAPTER 4

DISASTER MANAGEMENT IN THE CARIBBEAN: A DESCRIPTIVE OVERVIEW

This chapter opens with a brief review of the history of natural disasters in the Caribbean. It next offers background information on how the region began establishing formal disaster management organizations. This section concludes with an overview of Saint Lucia and its national disaster organization (NDO).

History of Natural Disasters in the Caribbean

The geographical territory of the Caribbean may be defined in several different ways, including languages and political affiliations. For this research, the Caribbean region is defined by the Caribbean Sea including all of its island states and Central America: the most northern island state (Bahamas); the most eastern point (Barbados); the most southern state (Guyana); and the most western point (Central America). The region is defined broadly here since the Caribbean Disaster Emergency Management Agency (CDEMA) has members within this extensive boundary.



Map 1. Caribbean Region (Source: <http://www.WorldAtlas.com>)
Used based on Fair Use Analyzer, 2010.

A natural disaster can cause great devastation. Social structures may be shattered. Economies may be disrupted. Environmental habitats may be destroyed. Infrastructures may be obliterated. A natural disaster is “an overwhelming ecological disturbance that exceeds the community’s adjustment capacity and, as a result, requires external assistance” (De Ville de Goyet, 1986, p. 83). Natural disasters can have devastating impacts on individuals, families, communities, and nations. A natural disaster can create situations where “the normal patterns of life within a community are suddenly disrupted and people are plunged into helplessness and suffering, and, as a result, may urgently need food, shelter, clothing, medical attention, protection and other life-sustaining requirements” (Skeet, 1977, p. 1).

The Caribbean is one of the most highly disaster-prone geographic areas in the world. Some of the worst recorded natural disasters have occurred on this Sea’s island states over the centuries. “Almost every major city in the region has been devastated by a natural disaster in the past 300 years” (Collymore, 2004, p. 305). In 1692, an earthquake crumbled part of Port Royal, Jamaica; in 1782 and 1825, hurricanes swept through Barbados and Puerto Rico, respectively; in 1997, the Soufriere Hill volcano erupted over Montserrat (Bradford & Carmichael, 2007; Davis, 2002; Lewis, 1980). During this present decade, Haiti has experienced several natural disasters. On 22 September 2004, Hurricane Jeanne pummeled Haiti and generated severe flooding and mudslides by lingering over the island state for three days, resulting in over 3,000 deaths (http://www.nhc.noaa.gov/pdf/TCR-AL112004_Jeanne.pdf). On 4 September 2008, Tropical Storm Hanna caused over 500 deaths and severe flooding; that flooding occurred because Tropical Storm Fay and Hurricane Gustav had pounded Haiti just two and three weeks prior to Hanna (http://www.nhc.noaa.gov/pdf/TCR-AL082008_Hanna.pdf). On 12 January 2010, an earthquake, registering 7.0 on the Richter Scale, flattened Port-au-Prince, the capital of Haiti, and its surrounding locales; it was one of the most fatal on record with a death toll that exceeded 150,000 individuals (http://news.bbc.co.uk/2/hi/in_depth/americas/2010/haiti_earthquake/default.stm). Although Haiti was considered for study because of its experience with natural disasters, the nation was not a CDEMA member at the time of this study.²

² Haiti joined the regional agency in early 2010 and has not yet established a NDO or any other type of disaster management network.

Hurricanes, however, are the most prevalent natural disaster in the Caribbean. According to Collymore (2004),

In the period 1910 to 1930, north Atlantic hurricanes averaged 3.5 per year, increasing to an average of 6.0 per year between 1944 and 1980. Since 1960, a slight decrease in frequency has been observed, but intensities and magnitudes have increased significantly. Some of the most severe hurricanes of the century have been experienced in this period, including David, Frederick, Allen, and Gilbert. In the 110 years between 1871 and 1980, 119 hurricanes traversed the eastern Caribbean. In that same period, there have been single years in which as many as four hurricanes (1925) and five storms of less than hurricane intensity (1916, 1988) struck the region (Granger, 1988). The decade of the 1990s saw the emergence of intense cyclonic activity, with more than seven major hurricanes being experienced (p. 305).

Berke and Beatley (1997) have also argued hurricanes have had particularly destructive impacts on the area in recent years:

between 1983 and 1989 the Caribbean region sustained more losses from hurricanes than from any other natural hazard, with approximately two million people left homeless and \$1.5 billion in economic losses. In terms of value of damages from hurricanes and tropical storms, the Caribbean region ranks among the highest in the world (OAS 1990) (pp.5-6).

For the present decade, the numbers are astounding. From 2000 to 2009, the National Hurricane Center recorded 73 tropical storms and 74 hurricanes in the Caribbean (www.nhc.noaa.gov). The greatest activity occurred in 2005: 12 tropical storms and 15 hurricanes. Not all of these affected the area tragically. But, Category 3, 4 or 5 hurricanes were generally catastrophic for at least some island states. One example is Hurricane Ivan in 2004. Ivan was a Category 3 when it moved over Grenada and grew in strength to a Category 5 storm from 9-12 September, affecting the Dominican Republic, Grand Cayman Island, and Jamaica. This hurricane destroyed or damaged approximately 95% of the buildings on Grand Cayman Island (<http://www.nhc.noaa.gov/HAW2/english/history.shtml#ivan>).

The list of natural disasters occurring in the Caribbean is extensive. And, the region's island states vary in their capacities to cope with these crises. "Ironically, the small countries, such as the Caribbean islands which are the most vulnerable to the long-term effects of disasters, are those which can least cover the investment in human resources that is required for disaster

preparedness” (De Ville de Goyet, 1986, p. 86). As a result, the United Nations (UN), along with several other supporting organizations (e.g., the Canadian International Development Agency and the United States Agency for International Development), have undertaken to assist the region with improving its capacity to prepare for, respond to, recover from, and attempt to mitigate natural disasters.

Regional Disaster Agency and National Disaster Organizations

In 1979, Hurricanes David and Frederick wreaked havoc on Dominica and the Dominican Republic. These particular hurricanes triggered a move in the early 1980s for many in and outside of the Caribbean to make disaster management a higher priority in the region (Morrissey, 2004; Poncelet, 1997). The UN Disaster Relief Office, “with support from the Pan-American Health Organization (PAHO) and the League of Red Cross Societies,” formed the Pan-Caribbean Disaster Preparedness and Prevention Project (PDPPP) in 1981 (Morrissey, 2004, p. 389). The PDPPP’s goal was to locate and implement methods to improve regional disaster response and to reduce the impacts—social, economic, physical, and environmental—of future disasters. To achieve this goal, the PDPPP pushed area governments to develop preparedness policies and legislation, to give more attention to mitigation and environmental issues, and to conduct disaster training on preparedness and response (Poncelet, 1997, p. 271). The PDPPP served as one of the region’s first disaster-related coordination mechanisms, facilitating inter-island communication and collaboration. But, due to limited funding, the PDPPP ended in 1991.

The UN proclaimed the 1990s the International Decade for Natural Disaster Reduction. Two destructive hurricanes that occurred in the Caribbean in the late 1980s—Hurricane Gilbert and Hurricane Hugo—prompted this proclamation. On 12 September 1988, Gilbert hit Jamaica as a Category 3 storm and traversed the entire island and increased to a Category 4 as it passed over the Cayman Islands one day later. It stayed in the Caribbean for nine days. Gilbert is considered one of the largest storms in recorded history, affecting not only Jamaica and the Grand Caymans, but also Haiti, the Dominican Republic and much of the eastern shores of Mexico, Central America (Costa Rica, Guatemala, Honduras, Nicaragua) and South America (Venezuela) (<http://www.nhc.noaa.gov/HAW2/english/history.shtml#gilbert>). Hugo proved equally destructive. It lingered in the Caribbean for 7 days (15-22 September 1989) as a

Category 4/5 storm. Damage in Puerto Rico and the United States Virgin Islands topped \$1 billion (<http://www.nhc.noaa.gov/HAW2/english/history.shtml#hugo>). Because of these two hurricanes and the assistance of several international government donor agencies, the majority of Caribbean island states soon embarked on efforts to improve the region's capacity to cope with disasters.

Taking a major step in this direction, leaders of the Caribbean Community (CARICOM)³ became convinced the PDPPP needed to continue to keep disaster preparation, capabilities, and mitigation in the forefront among the island states. Accordingly, CARICOM launched the Caribbean Disaster Emergency Response Agency (CDERA) in September 1991 to replace the PDPPP. CDERA's main objective is "to make an immediate and coordinated response to any disastrous event affecting any Participating State, once the state requests such assistance" (www.cdera.org). CDERA is funded by its members and several international donor agencies and is primarily responsible for coordinating resources.

In its first few years as the lead disaster response agency in the Caribbean, CDERA assisted its members in establishing individual NDOs. Conditions for membership are discussed below (also refer to Chapter 1 for membership list). One critical condition of membership in this regional organization was that the NDO be housed under the umbrella of the national government. People, in general, have the perception their government will rescue them in times of crisis (Cahill, 2007; Canton, 2007; Coppola, 2007; McDonald, 1985). Hence, CDERA member NDOs are the responsibility of the various island state governments. The names, structures, incumbent term limits, and even locations of the government branch housing NDOs vary from nation to nation. According to their websites, for example, Jamaica houses its Office of Disaster Preparedness and Emergency Management within the Prime Minister's Office (www.odpem.org), and the British Virgin Islands' Department of Disaster Management, the Deputy Governor's Office (www.bviddm.com). Meanwhile, Trinidad and Tobago's Office of Disaster Preparedness and Management is located in the Ministry of National Security (www.odpm.gov.tt).

Once the NDOs were operational, CDERA worked with its participating island states on integrating disaster management into their national policies and strategies as well as improving

³ CARICOM was founded in 1973 to bring about cooperation among the independent states of the Caribbean and the dependent territories of Great Britain (www.caricom.org).

coordination among members. CDERA also focused on creating a regional policy and decision-making infrastructure, determining with its members priority hazards, and developing educational materials and training workshops to address them. Educational resources include natural hazards fact sheets, matrix of disaster management activities, and digital maps of the region's geography and infrastructure. Recent workshops have centered on disaster risk management for sustainable tourism, information communication technology, and safer construction. In 2000, CDERA began addressing disaster risk management initiatives; staff members worked with regional insurance entities and financial institutions on their roles in disaster risk management capacities and encouraged specific ministries—tourism, health, agriculture, planning and infrastructure—to begin preparing disaster risk management plans (www.cdera.org).

A year later, the agency held a meeting with its members and other key stakeholders to introduce its Comprehensive Disaster Management (CDM) Strategy and Framework and request their endorsement of the new approach. The CDM concept conceived the stages of disaster management as overlapping and cyclical. CDM is “a strategy which promotes multi-hazard risk management, intersectoral consultation and stakeholder participation” (www.cdera.org). CDERA used flooding as its first CDM model. In an earlier survey on priority hazards, CDERA members had cited flooding as their top issue. Ninety percent of the membership had experienced flooding since 1997, but only 25 percent of participating states had plans to guide disaster management activities aimed at addressing the hazard (<http://cdm.cdera.org/database/QueryResults.php>). CDERA conducted pilot projects on flood management in Barbados, Saint Vincent, and Trinidad/Tobago. These three members performed hazard mapping and risk assessments and created recovery and rehabilitation procedures. To ensure sustainability of the pilot projects, CDERA collaborated with regional institutions, such as the Caribbean Institute of Meteorology and Hydrology, to continue working with these island states (www.cdera.org). Most recently, the agency has turned its efforts toward understanding the impact of climate change on the region and standardizing gender-sensitive community methodologies for its members use.

To achieve its many objectives, CDERA constantly seeks funding, particularly from international development agencies. For example, the Canadian International Development Agency (CIDA) funded the flood management pilot projects. To continue the work on this recurrent hazard, the Japan International Cooperation Agency underwrote a project to improve

regional flood hazard mapping by enhancing and broadening “hydrological observations, flood analysis technology, Geographic Information Systems capability for flood hazard mapping” and establishing an “early warning flood hazard system mechanism” (<http://cdm.cdera.org/database/QueryResults.php>).

CIDA has funded 12 projects totaling more than \$7.7 million since 2001 (<http://cdm.cdera.org/database/QueryResults.php>). Several of its programs have focused specifically on safe building practices, and CIDA staff members have conducted building training and certification workshops. Two other large donors to CDERA are the United States Agency for International Development (USAID) and the United Nations Development Programme (UNDP). In the last ten years, USAID has given in excess of \$8.2 million and UNDP has contributed \$4.2 million (<http://cdm.cdera.org/database/QueryResults.php>). The broad intention of USAID disaster programs has been not only to enhance regional capacity, but also to promote sustainable development. One USAID disaster management project, for instance, centered on local community awareness and coordination efforts. The UNDP’s main objective, on the other hand, is to strengthen institutional capacity. It has focused on enhancing CDERA’s capabilities and its participating states’ NDOs. One of its latest programs aims to facilitate “the replication of best practices” in order to promote “knowledge transfer in disaster preparedness and risk reduction initiatives within the Caribbean” (<http://cdm.cdera.org/database/QueryResults.php>). These information exchanges should bring about stronger partnerships within the region.

CDERA continues to emphasize disaster training and to assist its members with the formulation of disaster legislation, policies, and guidelines. The agency has developed model disaster management plans, including standard operating procedures for resource mobilization and deployment and for telecommunications for members to tailor to their own circumstances. It also performs other functions for its members, such as collecting and disseminating reliable information to governmental organizations and non-governmental organizations (NGOs) outside of the Caribbean as well as mobilizing and coordinating disaster relief efforts upon request by an affected island state. Additionally, agency staff members have worked with participating Heads of government to establish an emergency fund to which members contribute based on a sliding scale. This fund is used to assist members when their disaster response and recovery capacities have been overwhelmed.

As members of CDERA, participating NDOs agree to develop the capacity to respond to crises swiftly, effectively, and efficiently. They must maintain a state of readiness and be willing to make available material resources to other members as well as dispatch their trained volunteers to assist with response efforts in other states as requested. In addition to mitigation efforts, CDERA also seeks to support its members in developing their response capabilities as well. Members also must form national planning groups with key stakeholders who have defined roles and responsibilities, including key Ministries, emergency services, utilities, businesses, and NGOs. These planning groups define and implement national disaster management policies. Members must periodically test their communication system with CDERA and the other member NDOs to ensure appropriate coordination equipment is in working order. Members also agree to the following (a partial listing): fully equip their Emergency Operating Center (EOC); conduct drills and training for volunteers in their disaster management system; create a resource database; develop an emergency shelter program; establish community participation programs as well as a comprehensive public awareness program; develop damage assessment procedures; conduct hazard mapping; and identify credible future emergency event scenarios.

In April 2009, CDERA was renamed the Caribbean Disaster Emergency Management Agency (CDEMA), reflecting its increased efforts to integrate all four stages of disaster management into its ongoing portfolio of activities. When this research began, seven of the original 16 members had websites; none of the seven specifically described which agencies and/or organizations made up their NDOs. Two members (Grenada and Trinidad/Tobago) have since updated their websites and now provide a generic list of involved organizations; they both state key members of their NDOs include government ministries and NGOs. Additionally, the Trinidad/Tobago NDO includes faith-based and community-based organizations, while Grenada's NDO includes the private sector. As of February 2010, two additional island states had joined CDEMA (Haiti and Suriname) and three members (Barbados, Belize, and Jamaica) included the structure of their NDOs and explicitly named the organizations involved in disaster management in their island states on their NDO websites. All three of these NDO structures include a national committee, subcommittees (described as sectoral or operational), and local committees (referred to as district or parish committees). Their NDO membership includes government ministries, the private sector, NGOs, and voluntary organizations. All three nations

officially include the local Red Cross in their NDO. In Barbados, the Red Cross has the official function for first aid training, response and relief activities, and distribution of supplies.

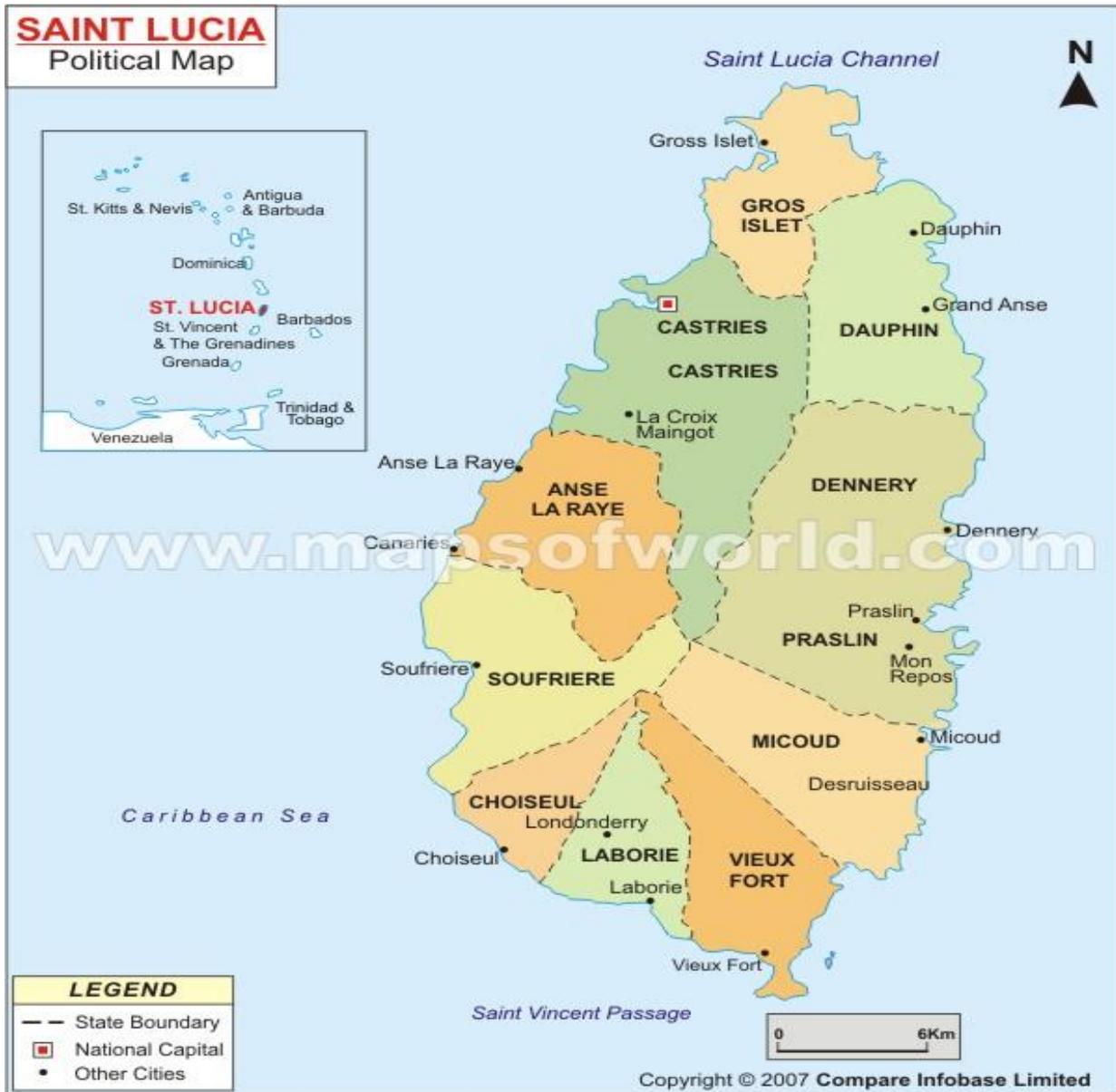
CDEMA encourages collaboration with local organizations outside of government, such as businesses, community service clubs, community leaders, churches, citizens, association leaders, and NGOs. CDEMA states that a policy of collaboration “helps to ensure more rational use of the limited resources available to the region as duplication is minimized. It also means that technical assistance provided is of the highest quality as each agency is allowed to take the lead in the area where it has specific technical expertise” (www.cdera.org). As noted above, the disaster and network literatures also claim such groups should be involved in disaster management efforts. Since the structure of and membership in the majority of the NDOs is not public information, an examination of a NDO offers insight into which organizations are official members.

Overview of Case Study: Saint Lucia National Disaster Organization

Saint Lucia’s land area is 238 square miles. The island state is volcanic in origin: the Gros Piton and Petit Piton are volcanic cones towering above the active volcanic region of Soufriere. Surrounding this area are dense jungle and forested mountains. Saint Lucia has a population of approximately 166,000, with a third living in the capital of Castries. The island’s economy relies on tourism and agriculture (mostly bananas, cocoa, and other exported tropical products). Saint Lucia became an independent state from Great Britain in 1979 and is a parliamentary democracy.

Saint Lucia is vulnerable to several natural disasters besides hurricanes and tropical storms: storm surges, flooding, landslides, drought, volcanic eruptions, earthquakes, and tsunamis. In 2008, Saint Lucia felt the shocks of four earthquakes. Fortunately, no major damage occurred. Still, hurricanes dominate the disaster agenda. Since 1950, Saint Lucia has experienced 6 hurricanes and 11 tropical storms. The strongest and most destructive was Hurricane Allen (Category 4) on 4 August 1980. Allen is a classic example of the increased intensity and magnitude of hurricanes in the Caribbean Basin in the modern era. It caused severe damage to Barbados, the Cayman Islands, Dominica, Jamaica, Saint Lucia, and St. Vincent (Lewis, 1980, p. 241). Allen, like so many other large storms, disrupted economies and social structures as well as

demolished physical infrastructures. It “destroyed 97% of St. Lucia’s banana plantations, 95% of St. Vincent’s, 75% of Dominica’s and 40% of Grenada’s, according to the London-based Latin America Bureau” (Wijkman & Timberlake, 1984, p. 74).



Map 2. Island State of Saint Lucia (Source: Map from <<http://www.mapsofworld.com/>>) Used with permission of Compare Infobase Limited, 2010.

On 10 September 1994, Tropical Storm Debby caused such severe inland flooding that Saint Lucia’s rulers officially requested international assistance. Both CDEMA and the United States Agency for International Development provided financial support. The most recent

hurricane to strike Saint Lucia was Hurricane Dean on 17 August 2007 as a Category 2. Dean was responsible for severe damage to the nation's north and west coasts: "Damage there was estimated at \$18 million" (http://www.nhc.noaa.gov/pdf/TCR-AL042007_Dean.pdf).

Like the other Caribbean island states, Saint Lucia became interested in creating a formal disaster organization in the early 1980s. One year prior to Hurricane Allen, Saint Lucia hosted the Caribbean Disaster Preparedness Seminar which gathered more than 150 representatives from the Caribbean, Latin America, and North America to discuss disaster management concerns. At the time, Saint Lucia did not have a formal NDO. In fact, available documentation and interviews did not yield any information regarding when Saint Lucia created its first office devoted to disaster issues. However, in 1990 the government hired a national disaster coordinator. It was a one-person, one-desk situation and, according to some of this study's interviewees, was rather an ad hoc system. By February 1995, the Office of Disaster Preparedness had three staff members, indicating more commitment from the Saint Lucian government to disaster management. Five years later, the government renamed the unit the National Emergency Management Office (NEMO), a name still used today. As of September 2009, NEMO had six staff members: a Director, Deputy Director, Corporate Planning Officer, Inventory Officer, Secretary, and Office Assistant/Driver.

Saint Lucia's disaster management vision statement is "A nation highly resilient to hazard impacts and adaptable to hazard risks." The mission is:

To develop, test and implement adequate measures to protect the population of Saint Lucia from the physical, social, environmental and economic effects of both natural and man-made disasters. Its responsibility is to ensure the efficient functioning of preparedness, prevention, mitigation and response actions.

The Saint Lucia government established a formal disaster management structure in 2000 to pursue appropriate policies and plans to achieve this vision and mission.

The Office of Disaster Preparedness (now NEMO) was instrumental in obtaining the nation's Cabinet's approval of the National Emergency Response Plan in August 1996. This initiative addressed numerous topics, from hurricane, earthquake, and volcanic eruption response to stress management response to emergency shelters and donation policies. For example, the Donations Policy (known formally as the Donations and Importation of Relief Supplies Policies

and Guidelines in Saint Lucia after Disasters) focuses on assistance—provision of equipment and supplies, finances, and emergency teams—during the disaster response and recovery stages. The document includes some of the following: an explanation of the Supply Management National Committee’s role and functions, instructions on the importation of relief supplies (e.g., only the Ministry of External Affairs, International Trade and Investment as well as NEMO are authorized to request international assistance), the Memorandum of Understanding between NEMO and the Saint Lucia Postal Services, documents concerning customs and excise for the Saint Lucia Air and Sea Ports Authority, and guidelines for NGOs accepting and moving goods on behalf of the island state. The Donations Policy also offers guidelines for the provision of relief supplies to other countries. Saint Lucia has created a five-person committee (Permanent Secretary within the Office of the Prime Minister, Ministry of External Affairs Permanent Secretary, Ministry of Finance Permanent Secretary, Police Commissioner, and NEMO Director) that determines whether Saint Lucia will provide equipment, goods, money, and/or technical assistance to another country affected by a disaster.

NEMO staff also lobbied for Disaster Preparedness and Response Act No. 13 of 2000, (later replaced by Disaster Management Act No. 30 of 2006), which outlined NEMO’s responsibilities and required that organization to work with the National Emergency Management Advisory Committee (NEMAC) to create and amend, when appropriate, the National Emergency and Disaster Response Plan. NEMAC is discussed in more detail below. The National Emergency and Disaster Response Plan incorporated over 15 procedural guidelines, including: preparing all ministries and volunteers to respond to disasters; coordinating and implementing the Plan; notifying the public of the existence of an alert or declaration of a state of emergency; establishing inventories of supplies, systems, and services; distributing emergency supplies; safeguarding against epidemics and fires; and cooperating with international countries and organizations. Additionally, by law (Emergency Powers [Disasters] Act No. 5 of 1995), NEMO can requisition both public and private resources during a national state of emergency. Other laws related to disaster management and other organizations of authority in addition to NEMO and NEMAC include the following: Education Act No. 41 of 1999 (Section 139); Health Practitioners Act (Section 16.11); Water and Sewage Act No. 14 of 2005 (Section 10); Police Act 2004 (Chapter 14.1). While these statutes are not the focus of this analysis, taken together they do provide a legal structure for authoritative government action in

various substantive domains of public responsibility relevant to disaster prevention and management.

NEMO uses all forms of communication to conduct public awareness campaigns to inform the general public of disaster issues. It also works with government ministries as well as private and public sector organizations on disaster management issues, mainly through NEMAC. Since 2000, NEMO has periodically prepared and reviewed national disaster preparedness, response, and business continuity plans. The office works through the individual sectors represented by NEMAC members to prepare the island state for disaster. NEMO has focused particularly on business continuity planning and, a few years ago, requested that a government official be loaned to the organization as a Corporate Planning Officer. One of the main goals of this position is to change the mindset and practices of businesses and government leaders concerning business continuity planning. This individual conducts evacuation drills as well as training on hazard identification, risk transfer, and insurance, specifically business interruption insurance. Thus far, the financial sector and the Saint Lucia Air and Sea Ports have both actively developed business continuity plans in order to comply with international regulations. Based on the interviews conducted with NEMAC representatives, the Corporate Planning Officer, however, has had difficulties securing comparable compliance levels with the agriculture and tourism sectors. With agriculture, individual farmers are constrained financially to invest in risk reduction measures, such as planting more trees on steep slopes to lessen flooding. The same challenge arises with the tourism sector concerning small businesses. These owners are reluctant to spend large sums of money on preventative measures, especially related to construction costs. Some owners, for instance, are unwilling to retrofit their buildings to withstand Category 4 hurricane winds. Other owners who do not anticipate being affected by a disaster have even chosen not to have directional signs for emergency exits.

More recently, NEMO staff members are in the process of creating plans and policies for cruise ships and the hospitality industry in the event of a disaster. These efforts are essentially the result of external forces: the cruise ships docking in Saint Lucia and other Caribbean islands are now requiring such preparedness and response plans. NEMO committee members have also formulated policies for mass crowd events, displaced persons, and natural hazard mitigation, to name a few. The main foci are the preparedness and response disaster stages. Any plans that have been outlined for the recovery and mitigation disaster stages are rather skeletal. However,

NEMO is attempting to create a revolving fund into which communities can tap for mitigation planning purposes. For instance, Saint Lucia has tremendous problems with trees. Strong winds and rain that produce mudslides leave communities vulnerable to falling trees since many areas have not replanted native trees destroyed in prior disasters. If a community needs to have trees trimmed or removed before the hurricane season, that jurisdiction may make a request for support from the revolving funds. Although a small step, it demonstrates at least some progress on work with disaster mitigation issues.

NEMO’s formal reporting structure reflects the CDEMA guidelines:

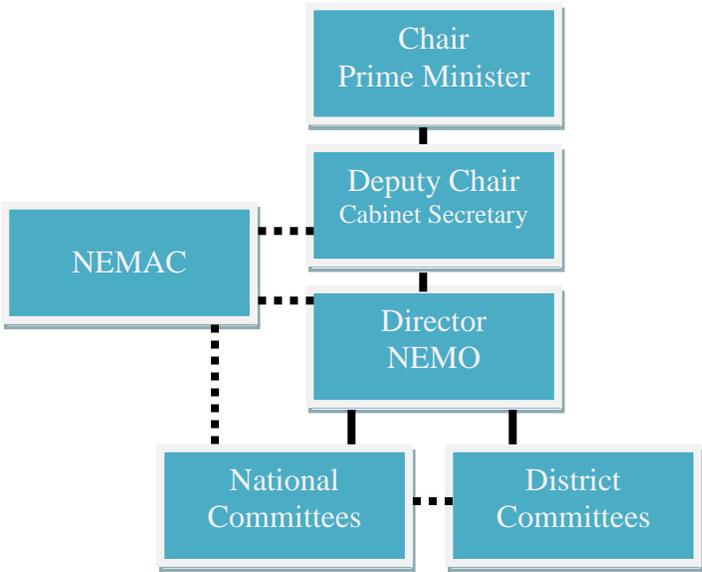


Figure 2. NEMO Structure

Both the Chair and Deputy Chair oversee and are ultimately responsible for Saint Lucia’s disaster management efforts. The Deputy Chair represents the Chair at disaster management functions when the Prime Minister cannot attend. NEMO’s Director reports to the Chair and Deputy Chair. The Director serves as a liaison between these two high-level government officials and NEMAC, particularly between disaster management meetings and, at times, during the response stage. The Director keeps all parties informed of relevant issues, coordinates NEMAC’s as well as the National and District Committees’ preparedness and response activities, and encourages participating organizations to include mitigation strategies in their overall disaster management plans. NEMAC is a network comprised of key stakeholders from all sectors within

Saint Lucia: government, for-profit, and non-profit organizations. As a voluntary entity, NEMAC members do not report directly to any government official or organization. Government representatives in the network, however, either directly or indirectly report to the Prime Minister, depending upon their position in their home organization. Whatever their formal sectoral home, all NEMAC participants have agreed to serve in the network and work with its Chair, Deputy Chair, and Director on disaster management issues. NEMAC members, along with NEMO staff, are charged with working closely with the National Committees and overseeing the District Committees to ensure all communities are prepared to respond to disaster situations. NEMAC's specific composition and responsibilities as well as those of the National and District Committees are explained below.

National and District Committee members perform duties outside of their official job descriptions, although for several volunteers within NEMAC and the Committees, some activities are part of their professional responsibilities. The National and District Committee Chairpersons work with NEMO to discuss the preparedness and response needs for their functional areas of responsibility and their communities' concerns and progress, respectively.

There are 12 National Committees:

1. Damage Assessment and Needs Analysis (DANA)
2. Emergency Works
3. Hazard Mitigation Council
4. Hospitality Crisis Management
5. Information
6. Oil Spills
7. Shelter Management
8. Stress Management
9. Supply Management
10. Telecommunications
11. Transport
12. Wellbeing

According to the 2008-2009 NEMO Annual Report, another National Committee for Agriculture is presently under consideration by NEMAC and the Ministry of Agriculture, Lands, Fisheries and Forestry.

The National Committees are working groups. Committee members draft plans and procedures for NEMAC review and participate in trainings and exercises. Groups meet as often as needed to ensure they are prepared for disasters. The National Committees are comprised of representatives of various entities—government, business, community organizations, NGOs—representing the interests of the island state. For example, the Shelter Management National Committee roster includes numerous representatives of government, local communities, and NGOs; Chief Education Officer (Chairperson); Ministry of Education and Culture’s Shelter Team; *all* local area schools, churches, and community centers/human resource centers; Saint Lucia Red Cross Society (SLRCS); Ministry of Communications, Works, Transport & Public Utilities (Inspectors); Ministry of Education and Culture (Inspectors); Council for Persons with Disabilities; and relevant Shelter Team Leaders from the 18 District Committees.

Although most National Committees consist mainly of government officials, NEMAC has included relevant businesses and NGOs in some of these committees’ membership. Table 1 does not list all members, but rather provides a snapshot of the National Committees’ diverse membership:

National Committee	Business	Government Ministry	NGO
Damage Assessment and Needs Analysis (DANA)	Banana companies, utility companies	Agriculture, Communications & Works, Education, Tourism, Health	Chamber of Commerce, churches, Saint Lucia Hotel and Tourism Association, Saint Lucia Red Cross Society (SLRCS)
Emergency Works	Cable companies, Saint Lucia Electric Services LTD, Saint Lucia Water and Sewerage Company, telecommunication companies	Communications & Works, Health, Home Affairs & Internal Security	Saint Lucia Hotel and Tourism Association
Hazard Mitigation	Insurance companies	Agriculture, Communications & Works, Physical	Chamber of Commerce, SLRCS

		Development, Social Transformation	
Hospitality Crisis Management	Tour operators (in- bound and out-bound)	Agriculture, External Affairs, Health, Tourism	Airlines Association, National Taxi Union, Saint Lucia Hotel and Tourism Association
Information	Cable companies, newspapers, radio stations, television stations	Agriculture, Education, External Affairs, Health	None
Oil Spills	HESS Oil, Shell Antilles, Texaco	Agriculture, External Affairs, Home Affairs & Internal Security, Physical Development	None
Shelter Management	None	Communications & Works, Education	Churches, SLRCS
Stress Management	Mental Health professionals	Education, Health	Adventist Disaster Response Agency, Association of Gospel Preaching Churches, CARITAS Antilles, Saint Lucia Christian Council, Saint Lucia Counselling Association, SLRCS
Supply Management	Consolidated Foods	Health	Blind Welfare Association, Boy Scouts, Education International, Girl Guides, Lions Club, National Organization of Women
Telecommunications	Telecommunication network service providers, tourism sector, utility companies	Communications & Works, Home Affairs & Internal Security	Amateur radio clubs, HAM radio clubs
Transport	Shell Antilles, Texaco	Agriculture, Communications & Works, Education, External Affairs	National Mini Bus Association, National Taxi Union, Saint Lucia Marine Association

Wellbeing	None	Education, Health, Social Transformation	Empress Menen Foundation, Poverty Reduction Fund, SLRCS, Salvation Army
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Table 1. National Committees’ Membership

Notably, the Supply Management National Committee incorporates youth groups, while the DANA and Telecommunications Committees include private citizens. The DANA National Committee encourages citizens proficient in hand-held radio use to join, while the Telecommunications National Committee includes town and village council members. For all National Committees, the districts’ team leaders assigned to particular areas are expected to participate in meetings and be actively involved in pertinent decision-making processes.

The Transport National Committee, in particular, has 24 members and 10 participants (42%) represent businesses. These participants are from large businesses as well as organizations serving as a voice for small businesses: Hackshaw Boating, National Mini Bus Association, National Taxi Union, Saint Lucia Helicopters, Saint Lucia Marine Industries Association, Saint Lucia Marine Terminal, Shell Antilles, the hospitality industry, the shipping industry, and Texaco. The Committee Chairperson is a senior executive of a private transportation company who has been in this leadership position for six years.

This committee is responsible for identifying publicly and privately held transportation resources that may be needed during a disaster; assigning and coordinating responsibility for dispatching these resources; establishing operating procedures for its coordination centers that are established during disasters; and creating a roster of personnel for the centers. Committee members, along with Royal Saint Lucia Police Force officers, have developed a plan for establishing four centers for coordinating transport requests located strategically in the North (Bisee), South (Vieux Fort), West (Soufriere), and East (Dennery). During disasters, Transport National Committee members must be aware of and inform the proper authorities regarding the clearance of debris from roadways and gullies, the numbers of survivors requiring transportation to medical facilities and designated shelters, and the movement of response teams and relief supplies. Other duties include, but are not limited to: managing logistics for fueling, the needs and security of personnel at the centers, air and sea transportation requests from the EOC, and post disaster transportation needs for supplies.

The Wellbeing National Committee also has relatively few government officials. NGOs make up the majority of its participants: out of 38 members, 26 (68%) are NGOs. Some of the following NGOs are represented on this committee: Adventist Development and Relief Agency; Association for the Improvement of Rastafarianism; Basic Needs Trust Fund; CARITAS Antilles; Help Age International; Islamic Association of Saint Lucia; Kiwanis Club; National Community Foundation; Rotary Club; Saint Lucia Christian Council; and Saint Lucia National Council of Women's Voluntary Organizations. Additionally, members from the Shelter Management and the Supply Management National Committees are members.

Due to their mission of assisting individuals and families in need as well as their trained personnel, the SLRCS and Salvation Army have permanent leadership positions as Chairperson and Deputy Chairperson of the Wellbeing National Committee, respectively. The committee's overall goals are to provide health and safety services during and after disasters; to test the committee's plans; to provide solutions to challenges encountered during disasters regarding wellbeing issues; to review post-disaster response and recovery activities and amend arrangements to plans, if necessary; and to make recommendations on how to improve coping mechanisms in disasters.

Immediately following a disaster, survivors generally seek shelter, information, nutrition, first aid, and personal essentials (clothing and counseling, for instance). Beyond these basic needs, survivors may require transportation as well as advice on finances and other forms of assistance. As such, the Wellbeing National Committee has divided its main responsibilities into six functional areas and assigned specific members associated activities (assigned organizations):

- Accommodation (Shelter Management National Committee);
- Feeding (SLRCS and Salvation Army, within the first 72 hours of a disaster);
- Personal Requisites (all members);
- Personal Services (all members);
- Registration and Inquiry (District Committees; the SLRCS oversees tracing); and
- Financial Assistance (Government of Saint Lucia).

Both the SLRCS and Salvation Army rely heavily on the committee's civic associations and faith-based groups to assist with community feeding following disaster events. Likewise, for

Personal Services, the committee looks to the Adventist Development and Relief Agency as well as CARITAS Antilles to undertake most of these related tasks.

To accomplish assigned goals, committee members and numerous volunteers work in the designated shelters and in four centers established, when necessary, in affected districts:

- *Survivor Reception Centres* are for survivors with non-threatening injuries. At these centres, survivors receive first aid and interview with police officers to provide information about their disaster experience. Survivors needing more time or services will typically be transferred to either a designated emergency shelter or a Rest Centre.
- *Rest Centres* serve as temporary overnight accommodations for homeless survivors until transportation can be provided to a designated emergency shelter.
- *Family and Friends Reception Centres* are sites usually located near the disaster scene where family and friends may reunite with missing loved ones. Qualified professionals are located at these facilities to help family and friends to cope with their shock and grief.
- *Family Assistance Centres* are set up for approximately four days following a disaster and are intended to offer family and friends who have not located their missing loved ones with long-term assistance, including providing updates on search and rescue operations, financial advice, and professional services should subsequent investigations be necessary. These centres work closely with the Wellbeing National Committee and the island state's Department of Human Services.

Beyond taking care of the affected populations during crises, the Wellbeing National Committee is also responsible for ensuring volunteer workers are given proper attention and are not overworked due to the nature of response and recovery activities. Committee members assigned this task work with appropriate organizations to ensure workers have food, water, facilities for first-aid and washing, communication devices to connect with their families, quiet spaces to relax and regroup, suitable briefings to determine psychological wellbeing, and end-of-the-day debriefings, to name a few.

The Shelter Management National Committee provides an example of one such entity that works closely with the District Committees. Key functions of this Committee during normal times include reviewing and updating shelter management policies and plans as well as emergency shelter instruction manuals, approving shelter selection, inspection and maintenance,

communicating with District Committee shelter management sub-groups, locating funds for building upkeep and emergency supplies, conducting training, and overseeing public awareness campaigns. Members of this Committee must be knowledgeable not only of the Shelter Management Standard Operating Procedures document, but also of related operating policies, such as Continuity of Operations Plans for the Ministry of Education and Culture, schools, churches, and utility companies; National Plan for Transportation in Disasters; National Damage Assessment Plan; and District Evacuation Plans. Members must also be trained in the following: introduction to disaster management, shelter management, EOC management, Incident Command System, telecommunications, and first aid/CPR. During a national disaster event, this Committee oversees 308 designated shelters located throughout Saint Lucia, maintains a list of all registered shelter occupants, and coordinates with the Transport National Committee concerning supply distribution to the shelters and with the District Committees regarding evacuation.

The District Committees are comprised of local citizens in the following locations:

1. Gros Islet
2. Castries North
3. Castries North West/Babonneau
4. Castries South
5. Castries South East
6. Castries East
7. Castries Central
8. Anse la Raye
9. Canaries
10. Soufriere
11. Choiseul
12. Laborie
13. Vieux Fort North
14. Vieux Fort South
15. Micoud North
16. Micoud South

17. Dennery North

18. Dennery South

The former Prime Minister decided District Committees were needed to augment Saint Lucia's disaster response capacity and that they should replicate the type of work performed by the National Committees, yet only do so at the community level. Thus, the District Committees are typically divided into sub-groups that mirror the National Committees. These committees generate and implement local community preparedness and response plans and activities, such as evacuation and emergency shelter plans, and submit them, along with any requests, to NEMAC for consideration and approval. As part of their routine functions, committee volunteers tour their districts to become familiar with evacuation routes and existing hazards, hold public awareness information meetings to sensitize residents to area hazards, and identify and renew contracts with local suppliers. These contracts with local shop owners allow the District Committees to acquire supplies immediately during or following a disaster.

The more active District Committees have their own newsletters, meet regularly with their Village Councils and local fire station personnel, conduct simulation exercises within their communities for resident participation, conduct membership drives, hold social events, and engage in fundraising activities. Some committees have used their funds to train community residents, provide fencing for warehouses, and purchase items for distribution in an emergency situation. They are also involved in some hazard mitigation activities. A few District Committees have worked with their assigned Community Development Officer—an employee of the Ministry of Social Transformation, Human Resource Development, Youth and Sports—to identify trees posing a threat, obtain training on the use of chainsaws, and carry out tree trimming and cutting.

Many District Committees hold monthly executive and general membership meetings. Sub-groups within the District Committees that mirror the National Committees meet on an as needed basis. The Micoud District, as an example, is one of eleven districts of Saint Lucia. It is located on the eastern side of the island state and has a population of approximately 16,000. The district has divided itself into two areas for planning and operations purposes: Micoud South and Micoud North. Sub-groups are based on the groupings employed by the National Committees. So, Micoud has a shelter management sub-group that maintains the district's shelters in normal

times and oversees shelter management during disasters. Micoud South has 21 shelters, while Micoud North maintains 16. The majority of these locations are either schools or churches. NEMAC officials have advised shelter management sub-groups to include local representatives from the following organizations in the shelter management sub-group: the Village Councils, schools (principals and senior teachers), churches (parish priests and other heads of religious institutions), hospital and health center, police department, fire department, Ministry of Health, Solid Waste Management Authority, Saint Lucia Cadet Corps, and SLRCS.

In normal times, the shelter management sub-group ensures the maintenance of its designated shelters and pre-positions needed emergency supplies. In disaster situations when the Prime Minister has officially opened emergency shelters, each District Shelter Manager is responsible for reporting to the EOC and supervising an Assistant Shelter Manager of Administration as well as an Assistant Shelter Manager of Operations. The Assistant Shelter Manager of Administration ideally manages individuals responsible for registration, health/medical issues, maintenance, and security. Likewise, the Assistant Shelter Manager of Operations manages volunteers who are assigned duties related to storekeeping, food service, social activities, and counseling.

Several districts have completed their response and evacuation plans, while others are still in the process of doing so. A national mandate requires government officers working in the jurisdictions automatically to give the District Committee their support. This means any officers working in the field—firemen, policemen, forestry officials, fisheries representatives, community development officers, nurses—must provide assistance in disaster situations. These individuals are expected to attend district meetings to become knowledgeable about the district's state of preparedness and to work with the appropriate subcommittees during a disaster to implement the local area's response plan. NEMAC—mainly through NEMO—offers training to volunteers to strengthen the capacity of the District Committees. Some training exercises have included first aid/CPR, triage, initial damage assessment and needs analysis, vulnerability assessment, proper use of hand-held radios, GIS mapping, relief distribution, shelter management, stress management, and conflict resolution. The National Committees constitute another means of support for the District Committee representatives.

The National and District Committees have extended NEMAC's capacity and reach into every district. The formal NEMAC entity, however, is an inter-organizational disaster

management network consisting of senior-level representatives from numerous ministries, the private sector (two businesses and one individual citizen), and one NGO, the Saint Lucia Red Cross Society. NEMAC consists of 33 members:

1. Prime Minister (Chair);
2. Cabinet Secretary (Deputy Chair);
- 3-9. Permanent Secretaries of 7 government ministries (Agriculture, Lands, Fisheries & Forestry; External Affairs & International Trade and Investment; Finance; Physical Development and the Environment; Public Service; Social Transformation, Human Resource Development, Youth and Sports ; and Tourism and Civil Aviation);
- 10-20. National Committee Chairpersons (these leaders are representatives from 8 government ministries, 1 private citizen, 1 business, and the SLRCS);
21. Chief Medical Officer
22. Commissioner of Police
23. Commander of the Special Services Unit
24. Chief Fire Officer
- 25-26. Agriculture (Director of Agricultural Services and Chief Fisheries Officer)
27. Director of Meteorological Services
- 28-29. Saint Lucia Air & Sea Ports Authority (General Manager & Chief of Ports Police)
30. Chamber of Commerce Director
- 31-32. Leaders of the Opposition (Saint Lucia Labour Party & Organization for National Empowerment)
33. NEMO Director

Of these members, 11 serve as Committee Chairpersons of the National Committees, solidifying the link between NEMAC and these groups. As Chairpersons, NEMAC members can ensure that other network participants are informed of disaster management activities and updated on emergency situations. The other National Committee Chairperson is a private citizen.

The Chief Medical Officer acts on behalf of the Ministry of Health Wellness, Family Affairs, National Mobilisation, Human Services and Gender Relations. The Commissioner of

Police, Commander of the Special Services Unit, and the Chief Fire Officer are representatives of the Ministry of Home Affairs and National Security. The Director of Meteorological Services is an employee of the Ministry of Communications, Works, Transport and Public Utilities. The Leaders of the Opposition are appointed to NEMAC in an attempt to defuse any political tensions concerning the nation's disaster management issues. Since the residing Prime Minister represents the United Workers Party (considered a conservative political party), the other parties represented as members of NEMAC are the Saint Lucia Labour Party (considered a socialist democratic political party) and the Organization for National Empowerment (considered a minor or third party without a defining agenda). In August 2010, the Lucians Peoples Movement announced its formation and intention to run in the upcoming general election. Should members of this new party gain seats in the Senate or House of Assembly, the Prime Minister will invite a party representative to join NEMAC.

NEMAC serves as the central decision-making body for disaster management issues affecting Saint Lucia. By law, the NEMO Director must consult with NEMAC to establish new subcommittees or ad hoc committees before submitting plans, policies, and procedures to Cabinet for approval. During a disaster, the Prime Minister, as Chair of NEMAC, calls a meeting of the network to discuss the impending disaster and review the Director of Meteorological Services' statements. According to policy, if a national shutdown is needed, NEMAC must recommend such an order be issued to the Prime Minister who, in turn, makes the final decision. The Prime Minister and NEMAC followed this procedure during the approach of Hurricane Dean on 16 August 2007.

NEMAC members review proposed disaster policies and plans throughout the year. The group also reviews plans from the National Committees and District Committees to ensure they are appropriate to respond to a disaster, suggests new guidelines, meets to discuss any approaching national disaster, and serves as key EOC representatives. Given their positions within their own organizations, senior government officials and the NEMO Director expect NEMAC members to incorporate disaster plans into their home organizations as well as inform their organizational staff about national disaster legislation and any organizational disaster plans and procedures.

It is important to understand the history of the Caribbean and how the island states have regarded disaster management issues. That past reveals the relative youth of the NDOs. The

Saint Lucia NDO, for example, is just 15 years old in its more formalized structure. In its present state, the NDO has made progress with preparedness and response activities. This indicates, to some extent, the time needed to formulate plans and policies, to train an adequate number of individuals in disaster management issues, and to work with governments in the Caribbean to pass appropriate legislation. According to a conversation with a CDEMA officer during interviews for this study, Saint Lucia is one of three island states that CDEMA considers better prepared for disaster than its other members. Thus, Saint Lucia's NDO is an appropriate one to investigate, especially since no scholarly research on Saint Lucia's disaster management efforts has been conducted to date.

Likewise, NEMAC is sufficiently developed in its membership, with several long-term network participants, to be able to discuss its successes and challenges. Members should be aware of the positive and negative attributes of the NDO structure and its functions. They should also be able to provide insights into the relations among members and how they have evolved as well as the leadership styles emerging from members' roles. This information is important. It fills a void in the literature by allowing a deeper understanding of the roles that members play in a Caribbean cross-sector disaster management network.

This background also reveals that Saint Lucia is in the beginning stages of working with numerous stakeholders, including NGOs and its citizens, in inter-organizational collaborative efforts aligned with its disaster NDO. This is significant since the literature (Berke & Campanella, 2006; Burby, 2003) indicates NGOs and community participation in disaster management efforts is rare. It is important to study an example where government consciously chooses to include NGOs in its national disaster management decision-making processes. CDEMA strongly promotes collaborative efforts and Saint Lucia has followed its advice.

The research investigates the dynamics of NEMAC since it is the inter-organizational disaster management network for Saint Lucia. As leaders in their home organizations or within their communities, NEMAC members are in positions to seek to change how Saint Lucians view disaster management. Several network participants are also National Committee Chairpersons. Consequently, they can offer vital information not only about their home organizations roles in the network, but also on the disaster management processes employed throughout the island state. In several cases, due to this partial overlap in membership, interviews were conducted with NEMAC members who also served as National Committee Chairpersons, providing insight into

the structure and activities of the National Committees. Some of the National Committees, however, are not cross-sector groups. For example, the Oil Spills National Committee does not include NGOs and the Shelter Management National Committee lacks government representation. Moreover, few District Committees, on the other hand, have advanced enough in their disaster management efforts to offer the information sought for this exploratory study. District Committee volunteers are considered leaders in their communities, but many do not hold leadership positions within their representative organizations, limiting their access to information and potentially their capacity to affect needed change. Additionally, the majority of National and District Committee participants have not served in their roles as long as most NEMAC members in leadership roles within the network. As a result, NEMAC members were specifically interviewed because of their direct connections to all stakeholders in the nation's disaster management structure and their positions to see the broader disaster management landscape for Saint Lucia. The National and District Committees, however, were not a primary focus of this work, but their efforts are significant to Saint Lucia's overall disaster management capabilities. Here they are examined only through the observation offered by NEMAC members who also are engaged in committee-level efforts.

CHAPTER 5

FINDINGS AND ANALYSIS: STRUCTURE AND MEMBER RELATIONS

This chapter addresses the primary research question: *How do NDO members participate in their national disaster network in the Caribbean?* It concentrates on two of the study's main objectives—to map a cross-sector national disaster management network and to comprehend how this type of network is structured and how its members function—by addressing some of the guiding questions related to this component of the research:

- Is the network an open or closed system?
- What governance structure has been established by the network and why?
- What are the network's disaster management priorities and which members are most engaged in those activities?
- Are these members involved in the creation of appropriate legislation and/or policy and guidelines for the network and for national and local disaster response and mitigation?
- What coordination and communication mechanisms does the network employ?
- What challenges has the network faced with coordination and communication?
- What positions do the members occupy within the network?
- How do the members relate to each other? Do their sectoral backgrounds—government, private sector or third sector—affect network relationships?

This chapter discusses findings from data analysis related to network structure, functions, and member relations. It begins with a discussion of the open-system network model. The network literature (Agranoff, 2007; Castells, 2000; Chisholm, 1989; Harrald, 2006) has generally concluded an open system is most effective since a closed system prevents new information from entering the network and increases the possibility of “group think.” The data show that NEMAC is a semi-open network system.

After the discussion of NEMAC as a semi-open network system, the remainder of the chapter is organized around the disaster management stages as it addresses components of Crosby and Bryson's framework. For example, it examines how NEMAC tackles the public

issues of disaster management in a group setting in which power and responsibility are shared. The analysis focuses on common factors of inter-organizational networks: structure and governance, coordination and communication systems, and member positions and member relations. The chapter analyzes these factors based on the particular structure that NEMAC utilizes during the four disaster management stages. These factors influence the bonds and norms established among members that together constitute the network's working culture.

This chapter addresses the guiding questions related to network structure, priorities, and policy formulation. Under the heading *Structure and Governance*, the section describes how NEMAC's collaborative governance structure combines hierarchical and network features and employs three different structural configurations based to some extent on the disaster management stages. The one constant in this organizational arrangement is the network member that serves as the central player throughout the disaster management stages. This section also discusses priority network functions. Communication mechanisms, such as meetings and e-mails, will be analyzed below as well as challenges, including inactive members and new participants, under the heading *Coordination and Communication Systems*. Issues addressed in the *Member Positions and Member Relations* section include centrality, density, member tensions, and trust within the network.

Semi-Open Network System

Understanding the boundaries generated by a network is important. A network's system affects structure and functions as well as influences member interactions. According to network scholars, centralized decision making is more appropriate for a closed system (Harrald, 2006; Provan & Milward, 1995), while decentralized decision making works best in an open system (Harrald, 2006). As a result, closed systems typically produce dependent relationships among network members, and open systems generate interdependent relations. Both types of relationships may influence how innovative and flexible a network can become.

During all disaster management stages, NEMAC appears to function as a semi-open inter-organizational network system. Between the time of NEMAC's official recognition in 2000 and national elections in 2005, the former Prime Minister Dr. Kenny Anthony added 12 National and 18 District Committees. As noted above, the National Committees oversee the island state's

disaster preparedness and response planning efforts and become active EOC participants during a disaster, while the District Committees ensure their locales are aware of their specific plans and volunteers have been properly trained for response. The additions opened the network to new members' ideas and information. This network expansion, however, changed its structure; instead of one relatively small core group of organizational representatives forming NEMAC, the network now consists formally of 30 committees that report to NEMAC and NEMO. Although the core membership of NEMAC has remained stable, this now extended structure has affected member relations. NEMAC members work more in the National Committees and generally meet once a year as a core group, decreasing opportunities for official NEMAC members to get to know one another personally. One participant (#20028) suggested that meeting more often would help establish stronger relations by more members to NEMO: such ties would “*provide a little more support*” needed to accomplish disaster management objectives for Saint Lucia.

The current Prime Minister Dr. Stephenson King, on the other hand, has not expanded NEMAC further. Nevertheless, members have transitioned out to be replaced by other organizational representatives and, when the new Prime Minister was elected in 2005, he appointed new representatives. Thus, external forces—job changes and the elections—have opened the network to some degree. New participants may bring differing perspectives to the collaboration, potentially encouraging novel approaches to disaster management plans and increased innovation in problem solving.

Yet, these same members place some strain on network activities and relations since continuity of membership is disrupted. One participant explained it this way:

Interviewee #20008

Those of us who have been around for almost forever ...are persons in the fire service, persons who are in the different ministries, persons ...in the Red Cross. These are persons who have been around, have seen it happen. And sometimes that in itself can be a source of frustration where new persons come in perhaps with a different perspective and perhaps it's because I am the new sheriff in town and, thus, sayeth the sheriff kind of thing. Sometimes it can create. The old horns will think that they know it all and the new guys who think that they know it all better. ...But, I suppose that's just part of organizational dynamics.

This network representative has highlighted an important issue of group dynamics: experienced members may cause as much frustration for new members as “greenhorns” do for “old horns.”

This situation emphasizes the need for several scheduled gatherings so members may get better acquainted. Such meetings are opportunities for novices to learn from experts. At the same time, veterans must be willing to consider proposals by new members to improve the system. As with any collaboration, all participants must be given a safe space to be heard and must be prepared to listen to other members' suggestions.

External connections are another means of keeping the network structure open. Several network members discussed their use of external links to seek advice and/or training. Ten interviewees (#20008, #20010, #20015, #20016, #20018, #20020, #20021, #20023, #20027, #20028) presented examples of their experiences with training outside of Saint Lucia and NEMAC. Some of these individuals stated their external links were good sources of information; a few of them admitted they consult these sources first before seeking advice from NEMAC or NEMO. Regardless, some new information and response techniques filter into the network.

In a fully open network, the boundaries are constantly changing. NEMAC's boundaries, however, have remained the same for the last several years. Open networks also promote decentralized decision making to encourage flexibility and creativity when dealing with challenges. NEMAC has decentralized through its committees. However, its decentralized decision making is most evident during the response stage discussed in more detail below. Harrald (2006) cautions that network systems can become closed if only first responders are trained and prepared for disasters. On this point, NEMAC has avoided becoming a closed system: first responders in NEMAC are trained as well as some of the other network members and community volunteers who form the National and District Committees.

NEMAC's communication arrangement is another reason it appears to be a semi-open system. According to several respondents, much of the communication occurring within the network is one-way, from NEMO staff to NEMAC members. There are a few exceptions. For example, *Interviewee #20026* claimed the Chairpersons of the Transport and the Supply Management National Committee keep in constant contact. Nonetheless, the overall communication system keeps NEMO as the central player and limits direct contact among members. Network participants cannot form strong bonds without direct contact. Relying on NEMO to be the liaison keeps members from becoming better familiar with each other professionally and personally. Although members are free to contact other participants, the majority of members appear to expect NEMO to manage the communication system, discussed

in more detail below. Fully open systems utilize numerous communication mechanisms to ensure members are well informed and to encourage dialogue among them.

NEMAC, therefore, may be classified as a semi-open network system. Closed systems are more bureaucratic, while open systems are more decentralized. In general, NEMAC is a combination of the two systems throughout the disaster management stages. NEMAC's structure—its committees and communication system—has shaped the network into a semi-open system. The committees have expanded the network's boundaries, but the present communication system has prevented NEMAC from becoming fully open. This system has also limited, to some degree, member relations. One-way communication and infrequent meetings reduce member interaction, thereby limiting occasions for social engagement and dialogue among members. Some individuals, however, have assisted NEMAC in remaining somewhat open by reaching outside the network for information, while new members bring different ways of thinking, and perhaps fresh ideas, to the group dynamic. NEMAC's semi-open character has allowed it to be productive during the preparedness stage.

Structure: Preparedness Stage

Most NEMAC meetings are scheduled during the preparedness stage, including the annual meeting typically held before the hurricane season commences in June. During these gatherings, the majority of interviewees emphasized the Prime Minister was Head of the network and usually chaired the annual meeting and the NEMO Director dictated other meeting agendas. Although the Prime Minister and NEMO Director preside over meetings, several participants pointed out that both of them conducted meeting discussions in a participatory manner. Based on how meetings are conducted and the functions undertaken during the preparedness stage, it appears appropriate to conclude the network structure is characterized by a loosely-based hierarchical structure (see Figure 3).

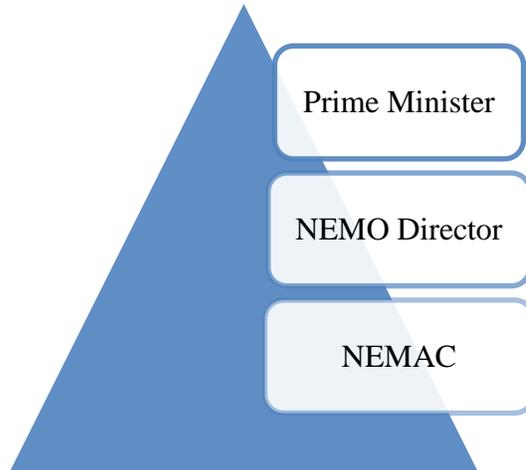


Figure 3. NEMAC Structure: Preparedness Stage

Although three distinct authoritative figures emerge in this structure, they work together to accomplish the network's goals. Collaborative discussions occur among the active participants, and many NEMAC members claimed both the Prime Minister and NEMO Director were open to and influenced by the group's consensus on disaster management issues. Several participants, however, stressed the Prime Minister has the final say. These discussions assist NEMAC with what Crosby and Bryson (2005) refer to as a progression of shared power: first, goals must be shared and, then, informal coordination can be established. The interviewees understand fully the goals of NEMAC. They recognize the impact of disaster management issues on Saint Lucia and share concerns regarding the destruction disasters could cause. They have also agreed to the coordination system. However, some members have yet to commit to involvement in the network. Their reluctance is discussed below in the section on coordination and communication during the preparedness stage. Nonetheless, for the well being of their island state regarding disaster management, most members have accepted they need to cooperate with one another because they "have a stake in producing better outcomes" (Crosby & Bryson, 2005, p. 184). Several interviewees (#20009, #200011, #20014, #20015, #20020, #20029) declared it their national duty to volunteer their time and to collaborate with other agencies to prepare Saint Lucia for any type of disaster it may encounter.

Preparedness Stage: Governance and Functions

Network governance describes NEMAC actions to coordinate and ensure collaboration among otherwise autonomous members. NEMAC's main purpose, through its plans and activities, is to prepare the vast majority of public and private sector organizations as well as local communities in Saint Lucia to respond effectively and efficiently to disaster situations. According to Provan and Kenis (2007), "For goal-directed organizational networks with a distinct identity, however, some form of governance is necessary to ensure that participants engage in collective and mutually supportive action" (p. 231).

NEMAC assumes broad responsibility for the nation's state of readiness. During the preparedness stage, the governance and functions of NEMAC reflect what Bryson, Crosby, and Stone (2006) list as significant for network formation and continuation; they discuss the importance of membership and configuration to structure and governance (pp. 48-49). NEMAC has incorporated numerous stakeholders, through an extended committee structure, to develop and implement plans for disaster management: government agencies, businesses, non-governmental organizations (NGOs), and individual citizens.

In the preparedness stage, however, the governance of the loosely-based hierarchical structure mainly lies with NEMO. Many NEMAC members declared they relied profoundly on NEMO to guide the planning process. Such reliance places NEMO in a central position within the network, influencing its structure and member relations. It also allows NEMO the opportunity to dictate network priorities unless members become more involved and press their own claims independently. The comments below underscore how NEMO carries much of the responsibility for getting NEMAC members to develop and implement their sector disaster management plans.

Interviewee #20027

We didn't have a well established disaster procedure or protocol ...and NEMO's very influential and that's developing and coming up with an established set of protocol for risk management, disaster management. ...I think the NEMO guide, there was one established from the NEMO's office was a very good guide. Without that, I think we'd be lost. I mean, there's so many types of disasters and how to treat them, what to do.

Interviewee #20019

NEMO is very instrumental in getting the necessary organizations to plan and to stick to the plan and to review audit proceedings. They've received, their personnel have received extensive training in that regard. And I think that they are very instrumental in getting other agencies to do some things that are expected of them. ...So, I would say NEMO would be at the center of the whole NEMAC team.

NEMO, as the central member guiding the overall network activities during the preparedness stage, has attempted to make the planning process as thorough, yet straightforward as possible for all NEMAC members. This central network player has offered to draft documents for some National Committees that have made little progress and has devised several templates or model plans, such as one for evacuations, for example, for the District Committees to tailor to conditions in their communities.

However, a few members depend heavily on NEMO not only to steer them in planning, but also to push them to accept and follow through with their responsibilities as network participants. One respondent (#20012) even declared that NEMAC would cease to function without NEMO. As such, NEMO might be considered a network administrative organization (NAO), but it is not. Instead, the majority of participants regard NEMO as an equal member of the network since it does not have formal hierarchical authority over any NEMAC member. NEMO supports NEMAC members in their leadership roles as well as exercises leadership and provides services, differentiating itself from a NAO (Provan, Fish & Sydow, 2007, p. 504). In its supporting role, NEMO arranges National Committee meetings, sends a staff member to take the meeting minutes, and assists members with drafting disaster plans for their sectors. It provides leadership by providing and interpreting regional and international disaster management situations. It also generally directs the course of the network. As a service provider, the NEMO Director engages in public relations efforts and provides training opportunities for some network members as well as conducts most of the training for community volunteers.

Additionally, several NEMAC members who serve as National Committee Chairpersons take the lead on their specific issues. They and the volunteers within their group meet periodically during this stage to ensure their assigned tasks can be accomplished during a disaster and make decisions on behalf of NEMAC for that functional area. NEMAC evidences elements of all three governance structures—self-governance, lead organization, and NAO—that Bryson,

Crosby, and Stone (2006) discuss. NEMAC's National Committees, at times, serve as self-governing structures. NEMO serves as the lead organization in its coordinating capacity during the preparedness stage and takes on the characteristics of a NAO when it oversees most of NEMAC's functions and tracks member progress on their disaster-related responsibilities.

NEMAC members have differing views of the network's significant functions. The majority of respondents discussed the preparedness and response stages since most network activities focus on response planning. Ten participants (44%) claimed NEMAC's main function is planning and/or preparation. Two interviewees (#20018 and #20020) specifically discussed continuity plans for businesses and government and indicated NEMO as the main force behind this concerted effort to develop such plans. These same two participants also cited assessment and policy guidance as significant NEMAC functions. One interviewee (#20014) emphasized the importance of preparedness training, while another respondent (#20013) explained the significance of keeping the committees active. The following statements indicate NEMAC, with NEMO leading the way, is active during this stage: network members concentrate on preparing for response by reviewing plans, updating guidelines, and conducting simulations:

Interviewee #20009

Well, the hard bit of the whole thing is really the NEMO Office. That's where everything is coordinated. That's where we get tremendous support ... If I want to convene a meeting, if I want to recommend training, it is all through NEMO's Office. They do the bulk of the legwork in terms of coordinating, facilitating the logistics, contacting everybody, updating the information.

Interviewee #20028

They [NEMAC] play a key role in ensuring that the plans are prepared in a way that they're supposed to be prepared and ratified and accepted by Cabinet and Ministers because, I think, it goes through NEMAC to be verified before it gets to Cabinet and Ministers.

The respondents' comments reinforce the overall view of the network as a loosely-based hierarchical structure. Although NEMO manages the network's day-to-day activities as well as its planning processes and the Prime Minister and Cabinet approve the final disaster management documents, other NEMAC members play equally important leadership roles. They not only create and endorse response plans, but also are expected as leaders within their home

organizations to inform their staff of these disaster management plans and to implement them effectively when necessary.

NEMAC has been concerned lately with business continuity as indicated by the following statements:

Interviewee #20018

NEMAC is expected to guide the whole operations before a disaster so to create clear policy and guidelines on disaster management as well as to ensure business continuity after disaster. So, when we meet at such a high level, it's really to guide all of the operations and to set in motion everything that is required to manage a disaster in the event that it occurs.

Interviewee #20020

There's been a focus on continuity—what was it now—business continuity. ...They [NEMO] worked with the private sector first and actually had an officer working directly with the private sector. But, then, they have been trying to put it also in the public sector as well because it's so very important that, if government goes down, then everything gets out of whack.

These statements also highlight the network's current focus. When the Corporate Planning Officer was first loaned to NEMO, the officer worked almost exclusively with companies outside of NEMAC to assist them with creating strategic plans for business continuity. Although the officer contacted the Chamber of Commerce to discuss how to reach more local companies, the Chamber of Commerce's response was and still is rather weak. This officer has recently started working more with the government ministries on this process.

The Ministry of Tourism serves as a successful example of what other ministries can accomplish to prepare their constituents on disaster management issues. The Ministry of Tourism representative worked with NEMO to create a plan to establish the following: Hospitality Industry Crisis Management Committee; Hospitality Industry Crisis Management Centre that will house a crisis management unit and communications unit; operational guidelines for these two units; and procedures for hotels and ground handlers for interacting with visitors during a disaster. The Hospitality Industry Crisis Management Committee consists of 11 individuals that meet twice yearly, in January to review last year's operations and in April to plan for hurricane season. The guidelines focus on each phase of the hurricane warning system: advisory, watch, and warning, while the procedures outline planning measures that hotels should take in an

emergency. Both of these documents explain the roles and responsibilities of committee members and key hotel personnel, respectively. The Saint Lucia Cabinet approved *The Hospitality Industry Crisis Management Plan* in 1996 and its revision in 1997. The Deputy Permanent Secretary of Tourism is responsible for informing staff of these plans and keeping disaster management issues on the Ministry's meeting agendas.

To achieve its goals, NEMAC has designed itself so that its structure shifts according to circumstances, changing its governance particularly in the disaster response stage. For stability, however, NEMO remains the primary governing body in the preparedness stage, but steps aside during the response stage to allow those members with relevant expertise to oversee NEMAC's functions as appropriate. Thus, NEMO and the National Committee Chairpersons serve in leadership capacities in different ways and at different times in the disaster management process.

Preparedness Stage: Coordination and Communication Systems

NEMAC members stated meetings (19 interviewees or 83%) and e-mails (14 interviewees or 61%) were the main coordination and communication mechanisms during the preparedness stage. Several NEMAC members who listed meetings talked specifically about the annual meeting. Four interviewees (#20008, #20012, #20020, #20028) pointed to the vast number of e-mails received from NEMO. Five participants (#20008, #20011, #20020, #20027, #20028) suggested e-mails are mainly one way—from NEMO staff to NEMAC members—and are generally triggered by an event or a specific issue. The statements below offer contradictory examples of the respondents' experiences with the network's coordination and communication systems.

Some participants indicated meetings were numerous and the number of e-mails could, at times, be overwhelming. Two representative statements follow:

Interviewee #20028

I'm not sure that there's much communication. I get a lot of e-mails. I guess that's how they do it via e-mails. And it's mostly one way ...from the National Disaster Office to all members of NEMAC. But, you hardly see anything coming back from the members of NEMAC. The fact that all the plans come, you're supposed to read the plans and to say whether you support the document as is. But, hardly anybody responds. Some people don't even read it, I suspect.

Interviewee #20027

Normally operations outside of the disaster period, we normally receive a lot of e-mails from the NEMO office informing us of the meetings they've had and what's on the agenda, what's coming up, you know, some of the issues, some of the concerns.

Clearly, these individuals indicated they were being kept informed of network activities. Yet, *Interviewee #20028* pointed out a major challenge for the NEMAC: getting members to respond to requests to approve policies and plans that need to be sent to Cabinet for approval. If participants are not reading the proposed documents, this raises a concern about their knowledge of the overall disaster management framework for Saint Lucia. Are they familiar with other sectors' plans and responsibilities? Will they know how to coordinate with other participants during a disaster if they are unfamiliar with members' network roles? Will they be able to follow procedures accurately and quickly?

In contrast to the representatives above, some participants stated communication and meetings were severely limited:

Interviewee #20010

I say there's not been a NEMAC meeting. So, they do not really meet on a regular basis. Hence, the reason I thought NEMO would be the best organization because they are the ones ...doing most of the work. Yes, the Secretariat and not NEMAC, per se. NEMAC is ...not very active. They are not an active body.

Interviewee #20020

We don't. I mean, it's when something happens like a circular e-mail goes around and you also have the Secretary of NEMO calling. But, to say that we, on a regular basis, we keep up with it, something must happen to trigger it. And then NEMO will trigger it by e-mail, a circular e-mail to everybody and then the secretary would follow up and find out whether or not we received the e-mail, the letter, that sort of thing, inviting us to a meeting or whatever the issue is. But, the liaison officer in each ministry, I won't say that we have any kind of thing in place for us to keep together.

These comments reinforce the concern regarding participants' knowledge of network roles and responsibilities. Is meeting once a year to review the nation's state of readiness enough? Based on the disaster management and network literatures, it is not. A yearly meeting is unlikely to trigger the needed reminders to NEMAC members to place disaster management as a high

priority within their organizations. It is also insufficient to generate stronger relationships among group members.

The respondents who listed meetings as a coordination and/or communication mechanism were inconsistent on the number of times NEMAC meetings were held. Some participants talked about how few gatherings occur (with the exception of the annual meeting), while others stressed numerous meetings are scheduled. To ensure the interviewees were clear that the question focused on NEMAC and not their subcommittees, the question was rephrased and repeated. Yet, the answers remained the same. All agreed these meetings were ad hoc rather than regularly scheduled. The last three quotations above indicate a one-way communication system, providing more evidence of NEMAC's semi-open character.

Two participants (#20010 and #20012) claimed some meetings were held without their knowledge or smaller groups met without informing the larger network. A few interviewees (#20014, #20016, #20019) indirectly explained this inconsistency pertaining to the frequency of meetings. It seems smaller gatherings are called for crises that are not considered national issues. For instance, neither the Prime Minister nor NEMO had declared the H1N1 crisis a national issue. NEMO apparently called a meeting for NEMAC members directly related to the H1N1 outbreak to discuss the situation. However, NEMAC members who may have to take the lead on an issue can alert NEMO that a meeting should be scheduled. For H1N1, both the Ministry of Education and Ministry of Health could have requested a meeting of relevant players or the entire NEMAC. But, respondents disagreed over how to categorize this particular H1N1 meeting. One respondent described it as a general NEMAC meeting, whereas a few others claimed no such gathering took place. This confusion over meetings—formal NEMAC meetings or informal core group gatherings—has led the uninvited and uninformed members to feel disconnected from the network, affecting participant relations. If some members believe they are being left out of significant activities, intentionally or not, they may be disinclined to participate in other meetings, limiting the opportunities to form constructive relationships with other network members.

Nonetheless, a yearly meeting is scheduled usually in April or May. Eighteen interviewees (78%) stated meetings, in particular, the annual gathering, have generally addressed institutional preparedness and disaster response capabilities, most typically, for hurricanes. Two interviewees (#20013 and #20016) noted that this meeting's discussions often focused

specifically on challenges that members and/or committees were experiencing. Four participants could not answer the question since they had not attended a NEMAC meeting; two of these four individuals have attended National Committee meetings of which they are members. One respondent (#20022) admitted she/he usually sends a representative and has not participated in a gathering recently.

The annual meeting (or meetings depending on which interviewee is explaining the schedule) provides time not only to discuss plans and needed resources, but also to consider other related issues (#20026) as well as to introduce new representatives and update contact information (#20009). The following statements describe a typical meeting:

Interviewee #20029

That was supposed to be an annual planning meeting where every committee would inform the entire group of their plans, of their preparedness plans for an impending disaster. And that meeting was chaired by the Prime Minister. ...We went on for about 4, it started about 3, 3.30 and went on to 7, 7.30. Time was not well managed. I think a lot of the committees were not prepared. So, there was an issue of preparedness on the part of the committees. There were issues of committees not functioning properly because, I guess, again, people not volunteering or attending meetings. Some committees seem to have, they seem to be more active than others, a lot more active where others just seem to fall behind. ...I think part of the thing was they were probably not able to mobilize their members. And it could be an issue that, maybe, certain chairs need to go.

Interviewee #20019

A typical meeting, 2 hours, 2 to 3 hours. ...If you're planning for a major simulation or if there's going to be something happening. You really discuss each agency's response to find out what everybody's going to do. Everybody has a plan. But, then sometimes you need to make sure that because the continuity. Sometimes, whoever was there last month when we were discussing this has been transferred or moved on to another department or maybe just has a situation where the boss knows, the lesser ones don't know.

Interviewee #20014

You invite people from the various district committees, persons who head different sections of different organizations. ...And then we coordinate and plan. ...Oh, the NEMAC meetings are—what you call—all the power. Those who have the final say, so to say. It's the head of government.

Interviewee #20029 provided an account of her/his first NEMAC meeting. She/he expressed disapproval of unprepared attendees and District Committee Chairpersons who appeared less than qualified for their leadership positions. This respondent, as a new participant, suggested

several areas for improvement. If new members leave these meetings with the impression that such gatherings are mismanaged and unproductive, they most likely will not become active network participants.

As indicated above, these (few or many) meetings are not without their challenges. Interviewees expressed their dissatisfaction stemmed from several reasons:

- Meeting duration (#20016, #20019, #20020, #20029);
- New participants attend due to political changes who are unaware of procedures and their roles within the network (#20011 and #20013); and
- Too many members attending unprepared and/or participants not attending or sending different lower ranking representatives (#20019 and #20029);
- Members attending only when they know the Prime Minister will be chairing the meeting (#20012 and #20019);
- Attendees challenging other members concerning their state of readiness (#20028).

The following comments offer examples of each of these five difficulties with NEMAC meetings which, according to the network literature (Agranoff, 2007; Child & Faulkner, 1998), are common challenges within inter-organizational networks. Several respondents had concerns with meeting duration and attendees who lacked sufficient information and/or background to participate productively in meetings:

Interviewee #20020

The meeting could have just really taken an hour or an hour and a half, and you still see it stretching out three hours ...Yes, you'll have contending ideas and so on and so forth. But, in the end, let's make a decision and move forward and not be quibbling over the same thing, coming back to another meeting and saying, "Well, you know, I did say this at the last meeting and I don't think it's being taken up." You know, I don't think, you know, we have time for that kind of thing, particularly in a crisis situation. We've got to come to some sort of common ground and move on. So, not to the point, I haven't seen it create a difficulty that nothing happens. It's just that sometimes it lengthens the process.

Interviewee #20011

What I find is a problem, sometimes, as I indicate, sometimes, whenever there's a change of political or ministerial duties, you always find it takes persons, meetings go, meetings get to be a teaching experience rather than getting stuff done, specifically done.

These interviewees emphasized time mismanagement. These respondents indicated repetition occurred often at meetings. Is this a case of updating the new attendees, as *Interview #20011* suggested, or of individuals ensuring their voices are heard? Do members who continually discuss certain subjects expect their issues to become the network's priorities or do they offer their views out of genuine concern for improving NEMAC? Although the length of meeting times is a cause of frustration, these general gatherings offer the one setting where all attendees can have a voice in the discussions. It is possible the length of meetings could be reduced if members would commit to attend more than one meeting a year as well as to read and respond to e-mails between gatherings. In collaborations like NEMAC, however, balancing the need for quick decision making with participatory inclusiveness can be difficult.

Other respondents expressed concern about members' capabilities as well as motivations for attending NEMAC gatherings:

Interviewee #20029

Some of the heads, they were not too sure of what it is they were supposed to do. That's unfortunate. ...They [attendees] had been informed and they should have been aware that these meetings are coming on. And it was felt that persons need to take this thing more seriously. ...He [Prime Minister] was not very pleased. But, he did offer suggestions as to what can be done to improve on the meetings. ...In some of the instances where you had committees who were not getting, who claim that their members were not active enough, he gave ideas as to who, maybe, in the various communities that they can source, which persons they can get to help them in ensuring the committees are vibrant and that they meet the mandate of NEMAC.

Interviewee #20018

There are times when, I suppose, in the presence of the Prime Minister, which is not a usual thing, persons may have the tendency to outshine others. So, to me, at that time, it's not about outshining, but, we have a purpose in mind, and we have to remain focused on what we are supposed to do.

The Prime Minister figures prominently in both statements above. According to *Interviewee #20018*, the Prime Minister is the reason that individuals attend meetings; these volunteers are eager to make a good impression on their nation's leader. However, the interviewee suggested such behaviors are not viewed favorably by some network members. Is this creating unnecessary tension within the collaboration? Also, the comment by *Interviewee #20029* indicates the Prime Minister not only is willing to rise above his frustration to offer support to unprepared attendees,

but also has a vast knowledge of the island state's citizens and which residents may be helpful in motivating volunteers in specific communities.

Another challenge and potential source of tension at meetings occurs when members challenge other participants:

Interviewee #20028

Sometimes, you have other agencies challenging what you've said. ...For example, the water sector. ...you have disruptions in the water sector. And, sometimes, you have that for a number of days. So, when the water sector might say, "We have lots of pipes on hand. Within four days, we might everything back on track." And, persons might say, "Well, from Hurricane Dean, you took too long. What makes you think that you will be able to get all of this done in quick time if anything were to happen?" So, these kinds of discussions create tensions sometimes. But, I think they are healthy discussions. It gets you thinking as to how, what are your plans and how you put your plans in place.

This respondent made a valid point about members confronting one another. If network participants respectfully confront potential difficulties, such discussions might generate new ideas, change attitudes toward the importance of disaster management activities, and increase motivation to improve plans and processes.

Even though NEMO attempts to prepare members by sending relevant background information for decision making via e-mail before meetings, some members still attend unprepared. This results in other members being disappointed or annoyed that these unprepared attendees demonstrate lack of respect for everyone's time and lack of commitment to the importance of disaster management.

Two participants made interesting comments when explaining these meetings. One respondent was concerned that some participants do not seem to grasp the significance of reporting on time:

Interviewee #20013

If something happens, there is a time when the reports will reach the Prime Minister and then he will have to forward it as an application for assistance to the international agencies. If reports don't come in time, the true scope probably is not represented in the request.

This comment confirms some members either do not understand their roles, the network's procedures or the impact of their assignments for overall disaster response. This lack of

understanding certainly may impede network effectiveness. The other interviewee (#20016) was the sole member to discuss social get-togethers after meetings. She/he asserted the best ideas about solving problems were shared during these gatherings. This is likely a product of this individual commenting earlier in the interview that she/he was an active participant and believed she/he was well informed about NEMAC activities and meetings. It is unclear from this interviewee whether these social gatherings are standard after meetings. However, they would be excellent venues for building social capital within the group.

Another representative in the network made a key point about broader network dynamics:

Interviewee #20013

When people move on and new persons replace them, there tends to be a lack of continuity. It's almost like the person replacing has to start all over again from scratch because information sharing doesn't seem to be a priority or understood. ... Well, the biggest struggle, I think, is getting everybody on board and to meetings at the same time because it requires a lot of interagency dialogue. And there is a tendency, or maybe it was, I don't know if it still exists, for everybody to hang on to their little piece of turf and information. And NEMO and NEMAC has worked hard at getting everybody to cooperate so that information is shared among the various agencies and not just stored in one area or, even, in actions that they are not duplicated.

Although NEMAC and NEMO have encouraged members to share information, this is a difficult endeavor when new persons repeatedly attend meetings. Sending different representatives to gatherings without decision-making authority creates a situation resembling turnover in organizations. Ring and Van de Ven (1994) have claimed, “turnover has the effect of restarting the clock on the psychological contracts which will define many of the processes of governance of the cooperative IOR [inter-organizational relationships]” (p. 104). In other words, members go back to square one in assessing this representative’s competence, knowledge, and “fit” in the group. As such, changing attendees makes it more difficult to form any meaningful, long-term relationships within the network.

The statement above raises a question about the larger context: how are those members who are sending others on their behalf actually incorporating disaster management issues into their own organization? Based on the interviews, it appears that members whose professional jobs include disaster management are the ones who actively communicate the issues to their organizational staff. They regularly place disaster management topics on their internal meeting

agendas. Those who believe they have indirect or no connection to disaster management either disseminate information when an e-mail or telephone call prompts the occasion or do not make any effort on behalf of the network. In contrast, the original idea for NEMAC was to include high ranking individuals from the stakeholder groups to make decisions and implement plans in their home organizations, producing a ripple effect throughout government, corporations, and civil society. Sporadic or indirect engagement among key participants curtails the flow of information and sends a message that certain official NEMAC members do not deem disaster management important.

Nevertheless, as the statements below demonstrate, some interviewees (#20008, #20015, #20017, #20020, #20026, #20029) believe these challenges and the tension that they produce are just part of human nature and generally dissipate when conditions permit or attendees work them out to a satisfactory end.

Interviewee #20020

Despite tensions and so on that will obviously be created, people still get on and do what they have to do. And, I can think of one person who heads a subcommittee, he can, sometimes, rub you up the wrong way, but, at the same time, he does it in a humorous kind of way and so, he's still able to get people to do what they have to do and people say, "That's just his way of doing things" and that sort of thing.

Interviewee #20029

When comments were made which may not have been positive comments, they took it in a very good light. And, so, it has a way of helping them develop and they didn't take it in any form of negative criticism or anything to take them down. So, that surely would help move the group once you accept that this is a situation and this is what you need to do.

Interviewee #20026

They talk—well, sometimes that's putting it mildly—it out. So far. Members have been in the business for a long time. They can deal with any tensions. ... There's a saying, "It's not what you say, it's how you say it." And, sometimes, in the effort to get the message across, they [one specific organization] can be a bit blunt. And, that's not always appreciated, the way it's said. It's not that they've said anything wrong, what they've said is absolutely bang out. It's just that sometimes the way it's put over.

These statements suggest a few members' personalities and communication styles are creating some tension at meetings, underscoring the significance of individual character and behavior in group dynamics. Yet, they also signify the professionalism of attendees. As *Interviewee #20029*

claimed, members accepted the comments as a means to improve the existing situation. The interviewees indicated that, at least, conversations occur to attempt to settle any disputes or tensions between members that may be affecting the group.

Although differences exist among network members, if dialogue occurs and the appropriate attitude is taken regarding the seriousness of disaster management, inter-organizational relationships may become stronger and network efforts may improve as those concerns are addressed. These observations also imply more time together is needed for members to understand better others' personality traits and what each member—veterans and novices alike—has to offer to the network.

NEMAC's meetings—the annual meeting, committee meetings, and small “core issue” gatherings—serve as forums and arenas, settings that Crosby and Bryson (2005) have asserted are necessary for engaging in the policy change cycle. As one participant stated,

Interviewee #20024

NEMAC is a forum for problem solving, a forum for sharing ideas and selecting best approaches to individuals. I think it's a really wonderful way to mobilize community support.

These forums provide a space for members to voice their views and hear alternative perspectives on issues and challenges. Thus, members can discuss present and potential challenges, debate possible solutions, and develop policy and plans for implementing those options. *Interviewee #20024* also highlighted an important feature of team leadership and organizational leadership described by Crosby and Bryson (2005). For teams and organizations, leaders must recognize the strengths and weaknesses of those with whom they work while also communicating effectively with those individuals. By establishing positive internal relationships, leaders and their staff are able to create a productive atmosphere and forge strong relations with key external stakeholders.

At some of these meetings, NEMAC members—chiefly NEMO, the first-responders and National Committees—engage in evaluation of training initiatives, simulation exercises, and disaster responses. NEMAC committees are mandated to review their respective plans throughout the year and make adjustments where appropriate. Crosby and Bryson (2005) highlight the value of network members evaluating plans to make modifications as needed. Crosby and Bryson (2005) also argue arenas are critical during policy adoption and

implementation. The annual meeting can be considered an arena. NEMAC was itself designed as an arena: official NEMAC members are decision makers within their home organizations, streamlining policy creation, adoption, and implementation processes. Although many members routinely fail to respond to e-mails, a case can still be made that NEMO is utilizing e-mail similarly to how arenas are used; some of these messages request member approval of plans to establish disaster management policy. Several members, unfortunately, have not grasped the import of viewing this communication vehicle as an arena.

Six interviewees (#20008, #20016, #20017, #20020, #20027, #20028) broached another communication issue related to the disaster preparedness stage. They all declared communication to the public has improved greatly since NEMO and NEMAC were formed, but argued there was still a lack of understanding within the populace and/or apathy among some of the districts concerning preparedness. The following two statements encapsulate the general consensus:

Interviewee #20027

They have been on various, and I'm talking about the NEMO management office, on the various talk shows, in the media, both print and speaking of disaster issues and how we should treat with those, we should be more, pay more consideration and attention, right, to disasters, when we're planning, building our homes, you know, all parts of life and what not. We should set aside something for disasters. We should prioritize disaster plan more higher up in our order of life. And, they have really been going out and putting the word out there. ...But, for some reason, I don't think, and that's the way it is, they have been unable really to convince community at large how important that is.

Interviewee #20028

I think NEMO has difficulty in ensuring that persons, to put it very simply, that persons get the message. They're always on the television and on the radio, always in people's faces to say what to do, what not to do. But, it doesn't get through ...It's a struggle that we've had for quite some time ...Even with the St. Jude's fire that we had not too long ago, you hear the remarks, "NEMO needs to do more in terms of education as to how to deal with fires." But, NEMO is there doing it all the time. NEMO does come and tell you to do a fire drill every three weeks. NEMO tells you when you're supposed to do it. NEMO talks about ensuring that you do your drills. NEMO talks about business continuity and evacuation planning. And, we don't get it. They're just not hearing it.

Many interviewees repeatedly observed NEMO was constantly on television or radio stations informing the public of current disaster management issues, particularly before hurricane season.

On these occasions, the NEMO Director has encouraged the public to be prepared and reviewed the actions audience members could take to be ready for hurricane events.

These comments echo the disaster management literature: the general public as well as organizations (public and private) pay slight attention to messages on the importance of preparedness (Berke & Campanella, 2006; Dynes, 1978; Mileti, 1999). The public appears willing to take the risk. As one respondent suggested, Saint Lucians mirror the rest of the world; as *Interviewee #20008* stated, they are thinking, “*It’s not going to happen to us.*” Nevertheless, it may be advantageous if NEMO alerted not only NEMAC members, but also the District Committees to these publicity engagements. With prior notice, NEMAC representatives and District Committee volunteers in the local information sub-groups could reinforce NEMO’s televised and on-air messages with their respective stakeholders.

Regarding the network’s coordination and communication systems, NEMO evidently keeps members informed on most issues, whether through meetings or e-mails, and acts as the network’s “linking pin.” Through these communication mechanisms, NEMO has tried to hold members accountable; deadlines are set for e-mail round robins (#20026) and checklists are reviewed at meetings (#20020). E-mails dominate as the main communication device since meeting attendance in the past has been typically low and several official NEMAC members are not presently actively involved. These uninvolved participants have chosen to devote no time or effort to NEMAC or have decided to send representatives on their behalf. Crosby and Bryson (2005) stress the importance of leader participation—of decision makers—in network discussions, particularly in arenas. When lower-ranking organizational representatives attend or when members come unprepared, the general atmosphere becomes one of unconcern for disaster management issues. Also, when participants vie for the Prime Minister’s attention, they are indicating concern for themselves and/or their home organizations and not the public more generally. These types of behaviors affect member relations as well as network effectiveness.

Preparedness Stage: Member Positions and Member Relations

NEMO is unmistakably the central network member with the most direct linkages to other members. Consequently, nine participants (39%) discussed their close relationship to NEMO or their perception of other members’ close bonds to that office. Four interviewees

(#20013, #20014, #20019, #20022) asserted they had good relations with both fire and police, while two respondents (#20016 and #20018) reported they had strong relationships with the police. The following comments illustrate these bonds:

Interviewee #20020

I know for sure that over the last five years, the Ministry of Tourism certainly forged a stronger bond than what was there initially. That's what I was told. ...I know certainly Education, a very strong bond with Education. I really can't speak for the private sector. But, Education, I know, I mean, that person would always be there. So, that was good in terms of any kind of information that needed to get out to the schools and so on. Physical Development, I know they had very close bonds with them. ...They have a very close bond with Home Affairs—fire service and police—very, very close. They work very well whether it was disaster or whether it was just events that were taking place.

Interviewee #20019

Some agencies tend to work a lot more often with each other. ...we seem to be talking to NEMO, and fire, and police and Health a little more often than, maybe, some of the other agencies.

Interviewee #20029

Those committees who were very well organized, they seemed to have a very good link with the head office. So, that was obvious there that somehow the support was there. And apparently those who didn't seem to be doing too well had this sort of distance and the communication was not all there. You know, this sort of thing I observed. In fact, one of the groups that stood out in terms of their mobilization and their organization, I mean, they were very well known at the head office. They call each other one on one when there's an issue. Apparently, communication with the head office clearly—well, not clearly—does seem to have some kind of relationship to how well the committees work.

These observations indicate stronger ties among members who are government ministry representatives. None of the interviewees mentioned network representatives from business or the NGO in this context. This implies that, at least initially, having a similar professional background may assist in forming ties with like members. These statements also reveal that network participants who have established strong bonds with the central member and other participants in leadership roles have benefitted from those ties. Based on the interviews, these members have been quite productive, creating their disaster management plans and obtaining the appropriate training.

Dense connections exist among two specific groups in the network: first responders and some of the National Committee Chairpersons. To clarify, first responders refer to protective services, particularly the fire and police divisions. Other first responder NEMAC members (Ministry of Communication and Works and the Saint Lucia Red Cross Society), but, they were not mentioned in this regard. Respondents offered several reasons why stronger bonds existed between first responders and the various Committee Chairpersons; however, the main explanation offered was both groups communicated often outside of the preparedness and response stages. First responders train together throughout the year and some National Committee Chairpersons invite other Chairpersons to their meetings, keeping informed of their shared activities. Continuous communication results in these groups learning more about each other. Both the disaster management literature (Benson, Twigg & Myers, 2001; Coppola, 2007; Green, 1977) and network literature (Agranoff, 2007; Agranoff & McGuire, 2003; Chisholm, 1989; Ehin, 2004; Kenis & Provan, 2006; Linden, 2002; Rhodes, 2003; Thompson, 2003), respectively, contend training together and constant communication assist groups in developing some degree of trust among members in order to form professional and even personal relationships.

Three participants claimed bonds existed among all NEMAC members. Their reasons included the following:

- Most members are from government and, therefore, think similarly about disaster management issues (#20021);
- A common purpose naturally leads to solidarity (#20024); and
- Everyone knows everyone on a small island (#20014).

These three respondents appear to be relying on individuals' similar backgrounds, interests or surroundings to form a connection to others. Even though the bonds are weak, such commonalities draw people together and can serve as a foundation for building stronger relationships.

Nonetheless, as one individual pointed out, when official representatives are absent from meetings, strong bonds are difficult to form among members:

Interviewee #20028

My former PS always sent me to the NEMAC meetings. Everything that has to do with disaster management, [my boss] said, "Well, you go." So, I don't think the closeness in terms of the relationship between NEMAC and the national disaster office is strong enough to provide the kind of support that NEMO needs to make an even greater impact on the Saint Lucian society.

This statement suggests that without direct ties among members, NEMAC effectively weakens its central member, NEMO. NEMAC's goals may be jeopardized if NEMO's efforts should fall short because members do not offer necessary support or embrace unreasonable expectations.

In contrast to the majority of interviewees, one participant (#20027) declared no strong bonds existed among members because regular meetings were not held; this individual claimed NEMAC members rarely communicated unless there was an impending disaster. *Interviewee #20027* asserted she/he believes more meetings are necessary to get members to communicate more often. She/he recognizes that "*it's natural that human instinct, we don't move until there's a disaster, pending disaster.*" Yet, this participant also questioned whether, without communication among members, the network could be effective? The network literature (Agranoff, 2007; Agranoff & McGuire, 2003; Chisholm, 1989; Ehin, 2004; Kenis & Provan, 2006; Linden, 2002; Rhodes, 2003; Thompson, 2003) too emphasizes the importance of face-to-face contact in developing links among members and establishing trust within the group.

Huxham and Vangen (2000) have argued member positions and member relations affect structure. In NEMAC's case, NEMO is the central participant during the preparedness stage. As for member relations, eighteen interviewees (78%) claimed strong bonds existed within the network, yet there was considerable variation among the organizations involved. Several NEMAC members proclaimed they had strong relations with NEMO, confirming NEMO's status as the central network member. Density exists among first responders and some Chairpersons. Otherwise, participants indicated they did not communicate or rarely interacted with other network members.

Structure: Preparedness Stage Summary

As argued above, NEMAC's governance structure operates as a loosely-based hierarchy. The Prime Minister, NEMO, and NEMAC serve in leadership roles directing the functions of the

network. NEMO is the central member coordinating activities. Several participants have strong connections to NEMO, while linkages among other members are much weaker. Instead, network participants usually consult their plans and/or NEMO instead of each other to make progress with their own home organizations' preparedness activities and with their responsibilities to NEMAC. However, the National Committees are active and ensure plans are reviewed and executed during a disaster.

Outside of the annual and committee meetings, NEMAC members rarely communicate with each other. They rely on NEMO to manage communication. This limited interaction among principals is preventing strong member bonds from developing. As discussed in the literature review, coordination and communication difficulties can hinder disaster response efforts as well as affect member relations. Based on interviewee statements, NEMAC is experiencing several of these challenges: one-way communication, limited meetings, gatherings held without all participants being informed or invited, official members sending proxies to meetings in their stead, and official members choosing not to be involved. Because of one or more of these issues, several respondents declared other network members were unclear about their roles and responsibilities and suggested that fact creates tensions within the group. This undercurrent of strain may also affect member positions and member relationships.

The location of members within a group and member ties affect structure. As noted, NEMO is the central network member. However, two groups—first responders and National Committee Chairpersons—have acquired influential positions and developed stronger bonds among themselves. The density in these specific groups has helped to strengthen the network overall. They serve in leadership positions and communicate regularly with each other. Such relationships are beneficial to NEMAC since both groups assume even more responsibility during the response stage.

Structure: Response Stage

NEMAC's structure shifts during the response stage into a combination of a tighter hierarchical yet simultaneously network focused structure: NEMAC becomes the Emergency Operating Center (EOC) and its members adhere to the protocols of the Incident Command System (ICS).

In the standard ICS model, the Command leader(s) oversees four main sections: Operations, Planning, Logistics, and Finance/Administration (see Figure 4):

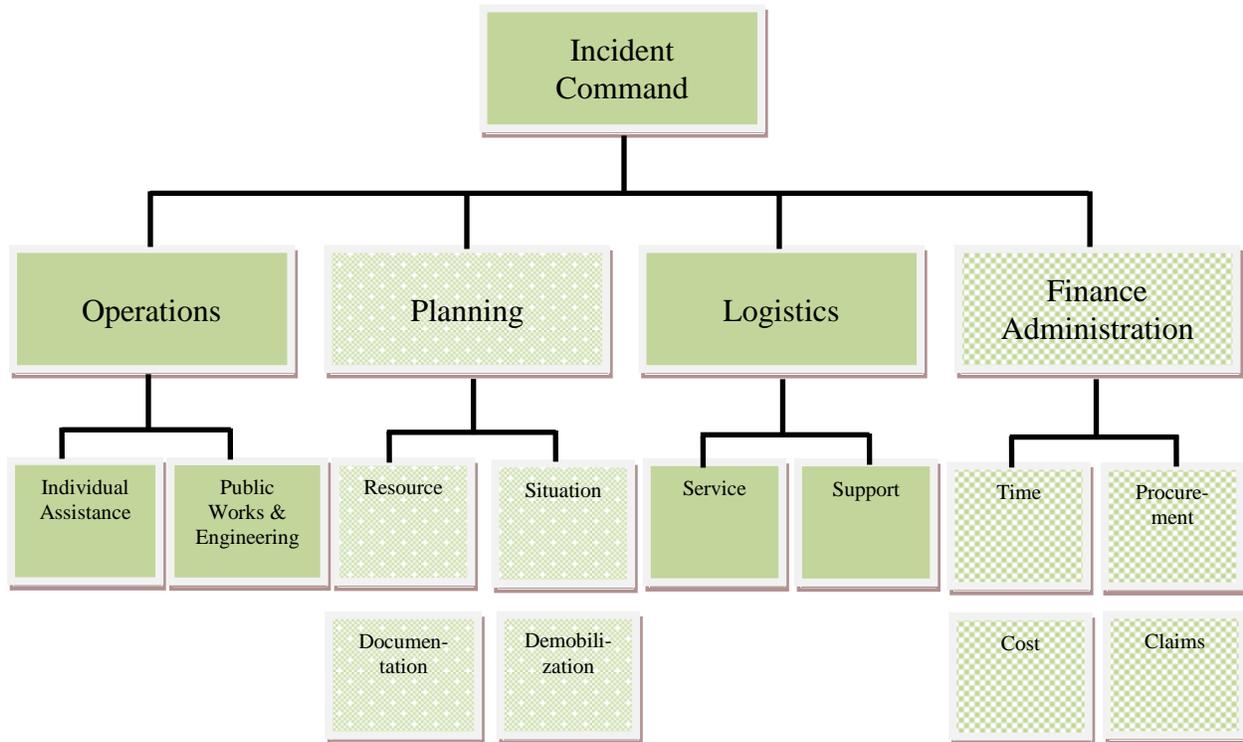


Figure 4. Standard Model of Incident Command System

Each primary functional unit consists of specific sub-units necessary to respond to crises. The Operations Section includes two functions: Individual Assistance (temporary housing and mass care) and Public Works and Engineering (potable water and debris). The Planning Section generally manages four units:

- Resources (anticipates resource needs and tracks the status of goods and services committed to the emergency);
- Situation (collects and analyzes incident status information);
- Documentation (collects and safeguards all incident-related documents); and
- Demobilization (organizes the release of resources).

The Logistics Section has two components. The Service entity handles communications, food services, and medical units for triage and treatment. The Support function supervises facilities, transportation, and equipment/supplies for response personnel. The fourth section, Finance/Administration, incorporates four units: Procurement (matters related to vendor contracts); Time (records time for incident personnel and hired equipment); Cost (tracks and analyzes costs, makes cost estimates, and recommends cost-saving measures); and Compensation/Claims (property damage, injuries, or fatalities at the incident).

From the interviews, it was unclear whether the EOC employed this standard model in full. However, the interviewee statements below briefly describe how this structure works for NEMAC:

Interviewee #20016

Because we have done the ICS in Saint Lucia, the Incident Command System, we have been able to, what I would say, under the unified command system, know when to switch agency command.

Interviewee #20011

It is made after the incident command. For example, if it's a fire matter, the lead on that matter would be fire. If it's a security matter, the person, it would be security police. If it's a national disaster, then the lead person would more than likely be [the NEMO Director]. If it's, for example, if prior to a strike or hurricane strike, you'd have the Met Officer bringing us up to date as to what is expected, wave levels, winds, and all these things. It depends on what scenario is unfolding.

Interviewee #20019

You really don't want to put any organization way ahead of the other. It all depends on the situation. So, for example, if you're going to be dealing with the hurricane season, an impending hurricane or approaching storm, the Met Service has a very key role to advise and give us timely information. And, I would not put them before the police. But, then once we go into the response mode, then the police has the key role of keeping people indoors. And then NEMO has the important role of giving, say, the "All Clear." ...So, the role would be dependent upon the timing in the event that you are managing.

With the ICS, various NEMAC members assume, at times simultaneously, leadership roles during the response stage (see Figure 5).

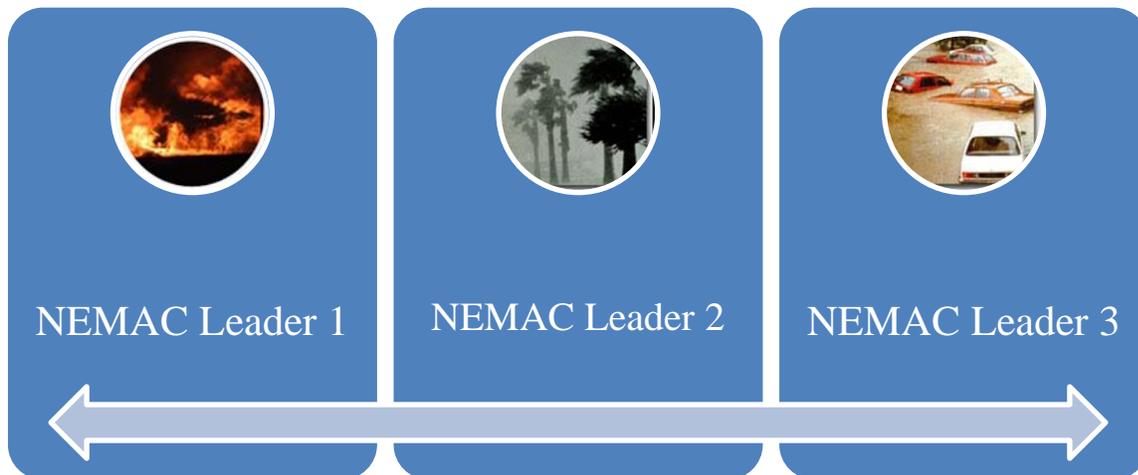


Figure 5. NEMAC Structure: Response Stage

As described by the interviewees, the ICS is an example of situational leadership (i.e., the circumstances determine the type of leadership needed). In the ICS, leaders change based on the situation or they rotate according to the skills needed to guide the activities to address an incident. As a result, leaders' actions adapt to suit the context. The system, therefore, also represents a model of adaptive leadership. Heifetz (1994) has claimed adaptive leaders identify and diagnose situations and then ask questions to allow those principally engaged to generate possible solutions (p. 127). In disaster situations utilizing the ICS, leaders at headquarters expect those on the ground to develop appropriate solutions based on group analysis and consensus concerning the particular challenges being faced.

NEMAC incorporates both vertical and horizontal coordination and communication arrangements. The network has established a chain of command reporting structure intended to assist with information flow down from NEMAC and up from the District Committees. The District Committees send reports to the National Committees, the National Committee Chairpersons update NEMAC on activities at the district and national levels, and a designated NEMAC member or the NEMO Director informs the Prime Minister of all activities. A reverse flow of information also occurs with the goal of ensuring all involved have as much information as possible to make appropriate and timely assessments. Additionally, parallel communication among the National Committees is necessary to coordinate response efforts efficiently and effectively.

According to Bigley and Roberts (2001), organizations utilizing the ICS,

appear able to structure and restructure themselves on a moment-to-moment basis and to provide members with means to oscillate effectively between various preplanned organizational solutions to the more predictable aspects of a disaster circumstance and improvised approaches for the unforeseen and novel complications that often arise in such situations (p. 1282).

Although the disaster management literature (Canton, 2007; Coppola, 2007; Green, 1977; Skeet, 1977) mainly advocates the use of a hierarchical structure, two network scholars (Agranoff, 2007; McGuire, 2006) promote the use of a dual system, recognizing the advantages of order provided by hierarchies and flexibility provided by networks. In disaster situations, the majority of NEMAC members accept the ICS as an appropriate disaster response mechanism because of its structure and adaptability. A few interviewees (#20011, #20016, #20022) discussed the St. Jude's Hospital fire that occurred in September 2009 as a recent successful example of the ICS: the fire service, police, and Ministry of Health rotated and shared leadership during that crisis. Three interviewees (#20022, #20027, #20029) cited the recent H1N1 crisis as another example of successful collaborative work, particularly how the Ministry of Education and Ministry of Health handled the situation together.

Response Stage: Governance and Functions

The authority for a disaster response rests with the entire network. NEMAC uses the EOC within the ICS as the main decision-making arena within which members contribute their specialized skills. NEMAC members serving as leaders of the National Committees take charge in the EOC. Other participants assume leadership roles for their home organizations and report back to the EOC. Thus, shared governance occurs during the response stage. One respondent stressed that NEMO ensures all functions are coordinated properly and communicated in a timely manner:

Interviewee #20015

Before NEMO was introduced, it was all people doing what they want. You know, it [disaster response] was not properly managed. ...Now, with NEMO, we all come together under one head ...very well, very well, because no one can do it alone anytime there is a disaster—no organization.

Prior to the formation of NEMO and NEMAC, Saint Lucia's disaster preparedness and response efforts were ad hoc and rather chaotic. With the official establishment of the network, disaster management has assumed a more coherent and collaborative character.

This turn illustrates Bryson and Crosby's (2005) idea of a world of shared power. During the disaster response stage, members share resources, activities, power, and authority. They act as a self-governing collaboration. It is also during this stage that members recognize their interdependence and the populace recognizes NEMAC's public value. The scholarly literature (Agranoff & McGuire, 2003; Bryson, Crosby & Stone, 2006; Goldsmith & Eggers, 2004; Simo & Bies, 2007) emphasizes the need for networks to tackle public issues to demonstrate their value. Bryson, Crosby, and Stone (2006) also contend networks must demonstrate public value to survive. In the successful collaborative efforts of the St. Jude Hospital fire and the H1N1 crisis, NEMAC demonstrated its benefit to the public at large.

The Information National Committee is responsible for informing the public on disaster situations. This committee, chaired by a private citizen, developed its *Information Management in Emergencies and Disasters* document based on models from Jamaica and Anguilla. This report outlines issues of authority regarding the national media plan, four risk communication theoretical models (risk perception, mental noise, negative dominance, and trust determination), committee membership, as well as activation and information dissemination procedures. It provides the course of action to be taken if the infrastructure is overwhelmed and information dissemination has to be handled at the district level. It also includes examples of news releases, a media contact list, and recommendations for how to work effectively with the media. The Saint Lucia Cabinet approved the document on 18 May 2009.

Although eight interviewees (35%) stated NEMAC's most significant function is disaster management—the integration and coordination of all stages and all stakeholders—the respondents' main focus was disaster response. The following comments illustrate their concentration on response efforts:

Interviewee #20011

NEMAC consists of both political and nonpolitical agencies ...so the coordination of all agencies is one of the main or the key factors in operation, any operation response.

Interviewee #20027

I know the primary responsibility is to ensure that all agencies and all sectors in society are fully aware of disaster measures, both the public and the private sector and that they play the lead role in terms of dissemination of information on various types of disasters, how to manage those disasters in terms of preparation for the disaster, if they're known disasters, for instance, hurricanes ...and, how the private sector, the business places, the government and how service people of the community should prepare.

Interviewee #20008

NEMAC is essentially to ensure that we do not end up with two disasters: the actual disaster and the disaster in reacting to after a disaster. I think what NEMAC has attempted to do is to manage, so we are responding to and not reacting because of the lack of the predetermined plan. ...So, NEMAC through NEMO has really assisted in developing a kind of management culture for dealing with disasters, not only after action, but preparation, sensitization, awareness that, I think, in some measure, made us better prepared and brought about mitigation action, and, in some cases, reducing vulnerability because of that level of awareness.

NEMAC aims to act proactively to ensure disaster response is effective. For example, since information management tools are rather limited, the members have decided to use two systems. They utilize the Logistics Support System that includes networked and enterprise configurations as well as allows users to customize menus and execute flexible reports. Network participants also work with the Relief Supplies Tracking System. This information management tool records information on needs, requests, pledges, dispatches, and receipts. By employing both systems, the network should be able to minimize duplication and improve response.

In general, NEMO and the National Committee Chairpersons supervise the EOC and the other members, particularly the first responders, take charge of the ICS. According to several authors in the collaborative leadership literature (Alexander *et al.*, 2001; Bryson & Crosby, 1992; Chrislip & Larson, 1994; Crosby & Bryson, 2005; Friedrich *et al.*, 2009; Luke, 1998; Pearce & Conger, 2003), multiple leaders are necessary for an inter-organizational network to function well. NEMAC appears to function in just such a fashion. Several network members assume leadership roles during this stage and share governance responsibilities.

Response Stage: Coordination and Communication Systems

During the response stage, NEMO and the National Committee Chairpersons manage the majority of the coordination and communication at the national level through the EOC. Other NEMAC members (or their organizational representatives) serve as leaders and direct the coordination and communication in the field and report back to headquarters. Although this system has been in place for several years, some respondents argued they are still experiencing challenges related to coordination and communication during response:

- Lack of involvement with the EOC (#20019, #20026, #20028);
- Lack of overall member contribution, lack of performance/capacity and/or lack of understanding of roles and procedures (#20011, #20016, #20019, #20024);
- Difficulty in producing timely, accurate information (#20009);
- Members acting outside of assigned functions (#20010, #20012, #20018); and
- Lack of proper communication equipment (#20015, #20016, #20018, #20019, #20020, #20021).

The statements below are representative of these five specific challenges:

Interviewee #20026

We have been lucky, so far, in that we have not had a scenario like what happened in Grenada. The events we have had have been mild. So, we've been able to respond on almost remotely. But, if we had to have a scenario of Ivan, the system would be severely tested because the majority of NEMAC members don't come to the EOC.

The interviewees made clear that when NEMAC members do not attend meetings or show up at the EOC, their absences cause disruptions and/or gaps in coordination and communication efforts. Without a recent disaster to test the system, a few members seemed uncertain as to the network's capability to manage a major catastrophe. These endeavors become even more difficult when some participants do not understand the importance of their specific roles and adhering to those assignments as well as of providing (or obtaining) timely and accurate information.

Interviewee #20011

It's coordination and the other members of the team to understand, to understand the critical role you play at a particular time in a response.

Interviewee #20009

One of the key challenges would be getting information in a timely manner and ensuring that it is as accurate as possible given the constraints of the situation that you have at hand. ...I've called, especially some of the private sector agencies, and there's a bit of frustration from them because, "Somebody just called me about this thing, you're calling me again. I already sent it." So, the whole central depository of the information, even if somebody records it, even though they are not there, but there is a common place where we go to see what has been recorded, what information has come, so, we don't keep calling the same persons.

Information is key to performing well in these circumstances. Thus, when participants are duplicating efforts, operations become inefficient. Also, when members act outside of their responsibilities, this can cause confusion. It may cause some members to second guess their assigned functions or to dispute which responders should address what tasks. In crisis situations, hesitations and unnecessary disagreements result in time ill spent and negatively affect response efforts. It may also cause strained relations among network members, as indicated by the following comment:

Interviewee #20018

There are also tensions, I believe, when some agencies act out of turn. And in that regard, sometimes NEMO can act out of turn. For example, we consider the Meteorological Office as the official informant on an approaching storm not NEMO. OK. But, sometimes, even when the Meteorological Office has not yet made a signal, NEMO creates some undue expectation that ought not to be. So, in terms of that, I believe there are these types of tensions. They are more interpersonal more than they are systemic.

According to this individual, acting out of turn seems to be based on personalities rather than a problem with disaster response processes. In other words, this participant believes the system works and there is no need for members to go beyond their assigned tasks. However, this interviewee asserted some members apparently believe they are better equipped to handle the task than the individual assigned to do so.

Another difficulty has been limited communication and coordination, which can cause unnecessary hardship for the group and its response efforts.

Interviewee #20019

One of the things that prevents them from working well together, again, is the equipment, the communication equipment. So, because of the communication equipment is not really linked and we do not have all of the resources you want in terms of computers and putting information in and what not, you find that a lot of heads have to be talking to the people on the ground to get information. Then, it has to come back to the command center and then you have to put it together. So, it does not in that system, because of the absence of the proper equipment, it does not allow you to really work closely together.

NEMAC members have often discussed the need for improved, inter-operable communication equipment, including hand radios with multiple frequencies: finances seem, thus far, to have prohibited this particular expenditure.

These five challenges have caused difficulties for NEMAC. However, several network scholars (Agranoff, 2007; Agranoff & McGuire, 2003; Chisholm, 1989; Ehin, 2004; Kenis & Provan, 2006; Linden, 2002; Rhodes, 2003; Thompson, 2003) have argued some of these concerns may be mitigated by increasing dialogue among network members. For disaster management networks, this may be accomplished by meeting more often, getting the appropriate people to the meetings, and training together.

Most participants asserted that although challenges exist with coordination and communication, NEMO has worked diligently to improve response efforts and that these are now markedly improved. The three statements below are representative of participants' sentiments concerning NEMO in this regard:

Interviewee #20019

I think we've seen significant improvement. And, I think we have to give praise to NEMO for that.

Interviewee #20028

NEMO has been able to restructure disaster management. We do have district disaster committees in every region now. So, we have 18 district disaster committees. And, I think that I know that that's a success. We have a number of plans that have been developed. That is also a tribute to our success and a tribute to NEMO.

Interviewee #20016

I think through NEMO getting a whole lot of people trained in disaster management and incident command system because a lot of us, now, you see, ...we would not have the capacity to do it. We are not given the budget or mandate to do it. And that has been achieved through the umbrella agency.

NEMO has been instrumental in bringing key stakeholders together and assisting network members with formulating disaster management plans for Saint Lucia's public, private, and third sectors.

For disaster situations, NEMAC has opted to utilize the ICS to coordinate its response efforts. According to the majority of respondents, NEMO has done a good job of distributing information and pushing members to accept and act on their assigned responsibilities. But, as with any disaster scenario, challenges arise. In NEMAC's case, those challenges include lack of resources, lack of commitment from members, and lack of participant understanding of their roles and/or protocols. As discussed in the literature review, the disaster management and network literatures contend these are common network challenges.

Response Stage: Member Positions and Member Relations

Fourteen interviewees (61%) declared their organization's position within NEMAC as significant (other terms used were "crucial," "very critical," "important," "key," "central"). Four of these 14 respondents qualified their statements: three respondents (#20009, #20021, #20023) considered their organizations more important during the recovery stage, while one interviewee (#20017) stated her/his organization focused as much on mitigation as response. The participants gave a range of answers (number of times mentioned appears in parentheses) when discussing which organization was central to NEMAC during the response stage:

- Fire (14)
- Police (14)
- Ministry of Communication and Works (7)
- Committees (5)
- Ministry of Health (5)
- All members are key (3)
- NEMO (3)
- Prime Minister (3)
- External/Foreign Affairs (2)

- Ministry of Finance (2)
- Saint Lucia Red Cross Society (2)
- Search and Rescue (2)
- Saint Lucia Air & Sea Ports Authority (2)
- Chamber of Commerce (1)
- Community Groups (1)
- Fisheries (1)
- Ministry of Public Service (1)
- Ministry of Social Transformation (1)

NEMAC reflects standard expectations concerning key roles. A number of disaster management scholars (Canton, 2007; Coppola, 2007) have claimed that given typical disaster scenarios, the top ranking positions within any disaster response system tend to be fire and police at the onset of a disaster situation. However, some analysts (Canton, 2007, p. 205; Coppola, 2007, p. 279; Skeet, 1977, p. 13) have suggested leadership by the highest ranking country officials is significant during response. Thus, it is interesting few participants cited the Prime Minister. From the interviews, it seems many network members had a strong tie, professionally and personally, to the former Prime Minister. Interviewees did not discuss the current Prime Minister in the same terms. This may be one reason that few interviewees did not discuss the Prime Minister as a central player in the response stage. Another reason may be that this Prime Minister is relatively new to the position and may not yet have had the opportunity or time needed to form relationships with many of the members.

Regarding member relations during this stage, as with the preparedness stage, stronger bonds exist among first responders and among some National Committee Chairpersons. The comments below describe the ties among the National Committees.

Interviewee #20014

The key persons I would always say are the Chairpersons, the Chairpersons of the different committees. I mean, those persons really work closely together and ...you really find that the other groupings really assist.

Interviewee #20026

Transportation and supplies management, they are usually here [at the EOC] and they bond very well. Supplies management cannot function very well without transportation.

Interviewee #20010

There will always be cross-cutting issues which would bring numbers of the different committees together. ...So, we would have all the relevant information that we need to execute whatever plan that we have to.

The year-round meetings and other forms of communication help build vital connections among first responders and active committees. These two groups within the network keep in contact more frequently than the other members because of their leading roles in response; they must ensure they can meet their NEMAC responsibilities when reacting to a disaster situation.

Seventeen interviewees (74%) stated NEMAC members worked well or fairly well together during a disaster response. They offered several reasons for that success:

- Clear structure, procedures, and plans (#20008, #20010, #20013, #20014, #20015, #20016, #20018, #20019, #20020, #20022, #20027, #20029);
- Stability of Committee Chairpersons over the years (#20020);
- Those engaged realizing the import of collaborating in the interest of Saint Lucia (#20017, #20022, #20024);
- Majority of members working in government service (#20021); and
- Everyone knowing everyone else on a small island (#20011).

To underscore their point, some respondents cited the recent St. Jude's Hospital fire in Vieux Fort or the recent H1N1 outbreak in the public school system as examples of successful collaboration. When in response mode, most participants indicated any differences or disagreements between members were set aside to focus on targeted needs or concerns. It should be noted that one interviewee spoke off record about issues that have led to intense negative feelings. Considering the remarks made during this interview, this tension is more likely the result of personality differences rather than professional competencies. This episode underscores once more the importance of personalities in the development and evolution of group dynamics. This interview also indirectly highlighted the need for NEMAC principals to communicate more

often throughout the year so that when a disaster occurs, personalities are not the cause for unnecessary difficulties. Nonetheless, these demonstrations of competence build a case for NEMAC's public value.

Challenges—beyond those mentioned earlier related to coordination and communication issues—still exist even though most members agree the system works well for them. Some respondents claimed the following two challenges particularly affected member relations: philosophical differences between government agencies and the NGO as well as incidents of members making decisions without consulting others. These two issues are treated below, respectively.

One respondent claimed that some tension has been caused among members by the network's NGO member:

Interviewee #20008

There is also the issue of organizational philosophy. I mean, the way that the Red Cross approaches issues are [sic] different from the way the fire service would approach the issue. It would be different from what the police would do. And sometimes that organizational, cultural clash can hinder things. ... You find either they are disregarded, they are not given the kind of attention that they require or deserve and they have their own mandate that can create a bit of [difficulty].

This participant indicated the Saint Lucia Red Cross Society is not given its due respect, but that its own mandate may be one of the explanations for this situation. It is unclear how the NGO's mission and activities have had an adverse affect on the NGO in this predicament. It is also unclear how many NEMAC members view this philosophical difference as a difficulty for themselves, their organizations or the network.

The disaster and NGO management scholars have also addressed the issue of philosophical differences. Analysts (Anheier & Cunningham, 1994; Berke & Beatley, 1997; Coppola, 2007; Kapucu, 2005; Pipa, 2006; Smillie & Minear, 2004; Waugh, 2000) have highlighted the tension that typically exists between government and NGOs. The philosophical differences are just one reason for potential strain in relationships between these two entities. Of course, it is possible that instead of being detrimental, philosophical differences might serve to challenge potential "group think" and enhance network innovation. Both literatures (Alexander, 1997; Chandra & Acosta, 2009; Schumer, 2008; Skeet, 1977; Smillie, 1995) suggest that as

NGOs become more involved in disaster management decisions and activities, government agencies and others will understand better the vital role they play in disaster response. Within NEMAC, two interviewees (#20008 and #20021) noted the important role the Saint Lucia Red Cross Society serves in the network.

The decision-making process was another key network challenge suggested by respondents:

Interviewee #20020

In a crisis, sometimes, people just have to make the decisions and so on. And some people may not necessarily feel it's been done in a, as diplomatic fashion as it should be. But, you know, sometimes, under crisis situations, people tend to get a little hot headed and want to get things done and, maybe, feel that other agencies are not moving as swiftly. So, therefore, I think that that's where the tension's coming. And, sometimes, when there is a crisis, politicians may get involved in what should be deemed as something that is being done for the country and, therefore, like, if there is any kind of relief that is being given and so on, they may come in and create difficulties for the work to move as smoothly as it should and so on. So, that can create tensions for the organization because while you don't want to, you don't want to upset any politician and so on and so forth, but, at the same time, if certain things have been put in place to ensure that everybody will see it, and then, you have somebody coming in and, you know, muddying the waters. Sometimes, it can prove difficult to get things done as quickly and efficiently as you would like to. So, it does raise temperatures.

This individual stressed an important point regarding situation assessment. Although network members would prefer to be included in all decisions, during a disaster event, time may not allow for this to occur. Responders must trust other network experts to make appropriate choices based on the circumstances. Additionally, *Interviewee #20020* called attention to how politicians' choices can affect disaster response efforts.

Politicians are another cause of tension for NEMAC in the disaster decision-making process. Four participants (#20008, #20011, #20013, #20020) viewed politicians as one of the network's main challenges during disaster response. On several occasions, politicians have tried to divert resources to their particular community during disaster response instead of allowing NEMAC to distribute materials and aid to those most in need. Although this is expected behavior from politicians, the interviewees stated it caused unnecessary strain on relief distribution efforts and diverted attention away from the network's critical tasks. Several scholars in the network literature (Chisholm, 1989; Kenis & Provan, 2006; O'Toole, 2005; Termeer & Koppenjan, 1997;

Van de Ven & Walker, 1984) and collaborative leadership literature (Alexander *et al.*, 2001; Bryson & Crosby, 1992; Chrislip & Larson, 1994; Luke, 1998) have recommended groups make the effort to ensure their members understand, accept, and adhere to formal and informal protocols and norms developed jointly to alleviate troubles associated with making decisions. This includes dealing with political figures.

Two other interviewees broached the subject of politicians' roles in disaster management. *Interviewee #20027* mentioned the significance of political support and turning politicians into advocates for disaster management legislation. And, *Interviewee #20024* discussed the importance of including leaders of all political parties in the network. NEMAC and particularly the District Committees were intended to be "above the political fray."

Interviewee #20024

The basic idea of creating NEMAC was to ensure that disaster management and response was totally removed from partisan warfare. In other words, we felt at the time that it was so very important to strip it of partisan politics and to imbue it with confidence among all sectors of society. We wanted to ensure that the usual political passions associated with political rivalry were completely removed from the operations of NEMO. And, that the community could work together to ensure that not only preparations were made to mitigate disasters, but in the aftermath of disasters that people could get together without rancor. So, against that kind of background, we encouraged the involvement of the then opposition in NEMAC and the decision-making processes associated with disaster management and disaster response.

As a result and by design, NEMAC membership includes the political party leaders. Thus, the two major political parties—the Saint Lucia Labour Party and United Workers Party—and the minor political party, the Organization for National Empowerment, are represented. In consequence, it seems fair to say all major partisan groups have an opportunity to mold the nation's disaster management legislation, policies, and plans. The goal of including them was to remove the network from "partisan warfare."

Ideally, NEMAC's use of the ICS should minimize conflict since clear roles and expectations for that mobilization have been outlined and broadly accepted. Shared decision making should also enhance group unity. However, with some members choosing not to participate in the EOC, sending representatives without decision-making authority and some participating with little knowledge of the ICS or overstepping their designated roles, tensions have arisen. But, one respondent claimed conflicts were usually resolved through conversations:

Interviewee #20012

Sometimes, I don't speak for myself, sometimes, if we think that things are not going or there's a misunderstanding in our roles, we'll take it up with whichever member it is and we'd sit down and discuss it. But, I won't call it tension or such. There are discussions in defining our roles, making sure that nobody comes in and takes over your role or steps too far into your responsibilities. So, we sit down and we iron things out.

Within an ICS, “social sanctions on freelancing and cognition management methods help insure improvisation is performed with an understanding of, respect for, and deference to the objectives and structure of the extant activity system” (Bigley & Roberts, 2001, p. 1295). Since some NEMAC members have stepped outside of their response roles, this behavior strains the structure, coordination, and relations among members. The example cited earlier of NEMO alerting others to an approaching disaster before the Meteorologist has made an official announcement is one example of this “rogue” behavior that can cause unwarranted confusion.

Regardless of ongoing challenges and tensions, the majority of NEMAC members claim they work well together. This is, in large measure, due to their embrace of the ICS. Because the ICS is both ordered and flexible, according to most participants, it provides the necessary structure for responding to crises effectively and efficiently.

Structure: Response Stage Summary

Overall, NEMAC members confirm an improved response system is in place for Saint Lucia. With the ICS, members have particular roles to play and have adopted specific expectations for themselves. The dual structure of the ICS allows for “both discipline (structure, doctrine, and process) and agility (creativity, improvisation, and adaptability)” necessary for responding to a disaster situation (Harrald, 2006, p. 257). NEMAC members have endorsed this structure as their best option for coordinating and communicating when they are in response mode. The structure allows for shared governance and leadership; NEMAC members assume leadership roles when their expertise is needed.

NEMAC, however, experiences similar frustrations as other networks: limited resources, uninvolved members, obtaining accurate information, “rogue” members. The relative lack of official NEMAC members participating in meetings has placed strain on the network. On many

occasions, over 50% of the attendees are not official network participants. As such, they are unable to make decisions on behalf of their organization, delaying the progress of the meeting and the network. One interviewee articulated this particular response stage problem well:

Interviewee #20028

My PS who is really the NEMAC rep asks me to go to the meeting. But, the difficulty with that is I cannot take a decision on my own. So, it means when they come for [my organization] to make a decision, I have to call [her/him]. [My PS is] really the one who's supposed to be there, so [she/he] can give the directive and get things moving. So, that can be a challenge if you have that happening and they can have serious, rather serious consequences.

Because of the voluntary nature of NEMAC, most members are attempting to find a balance between their home organization and their NEMAC responsibilities. This appears especially difficult for participants when their home organizational duties are not daily directly related to disaster management. For example, business leaders are more concerned with making a profit than with disaster preparedness. Volunteers who are private citizens may be more focused on their immediate family situations than on long-term disaster management planning. Thus, it is important not only for NEMAC to dedicate time to improving its communication system and continuing to inform its members of the importance of their network roles, but also for members individually to undertake a concentrated effort to establish closer ties to other members besides NEMO.

Structure: Recovery and Mitigation Stages

NEMAC spends the least amount of time and attention on the recovery and mitigation stages. According to the disaster management literature (Alexander, 1997; Burby, 2003), this is typical of the vast majority of organizations and individuals. Of the interviewees, three representatives (#20009, #20021, #20023) declared their organizations played a significant function in the recovery stage, while one network member (#20017) discussed her/his organization's important function in the mitigation stage. All four of these participants, plus four other interviewees (#20008, #20014, #20024, #20028) emphasized NEMAC and/or NEMO bear a responsibility to promote mitigation measures throughout Saint Lucia.

During the recovery and mitigation stages, in general, NEMAC resembles a typical network (see Figure 6). It has a central organization—NEMO—managing activities. It has clusters that have ties based on the nature of their network work: the first-responders and National Committee Chairpersons. It also has members who place themselves outside of the main group. NEMAC has, at least, three identified isolates. Two members stated their home organizations as well as other members did not seem to recognize their contributions to the group:

Interviewee #20013

Well, we have the role of being responsible for [certain resources] which is very important to the island, but maybe not seen to be that important because it's almost like an invisible resource. ...I don't think it [my work] gets the prominence as it should. ... It's almost like an afterthought.

Interviewee #20021

[My organization's] main emphasis is on revenue generation. Hence, there is not a total emphasis as far as [my work in disaster management] is concerned which, in turn, affects our ability to respond adequately [within NEMAC].

These two members are group-imposed isolates (yellow dots in Figure 6).

Another participant stated she/he did not make the time to get involved in the group:

Interviewee #20025

When it comes to dealing with NEMO and NEMAC, that aspect of it, I've not had time to get involved, to be honest, because my job is extremely demanding.

This inactive member is a self-imposed isolate (orange dot in Figure 6).

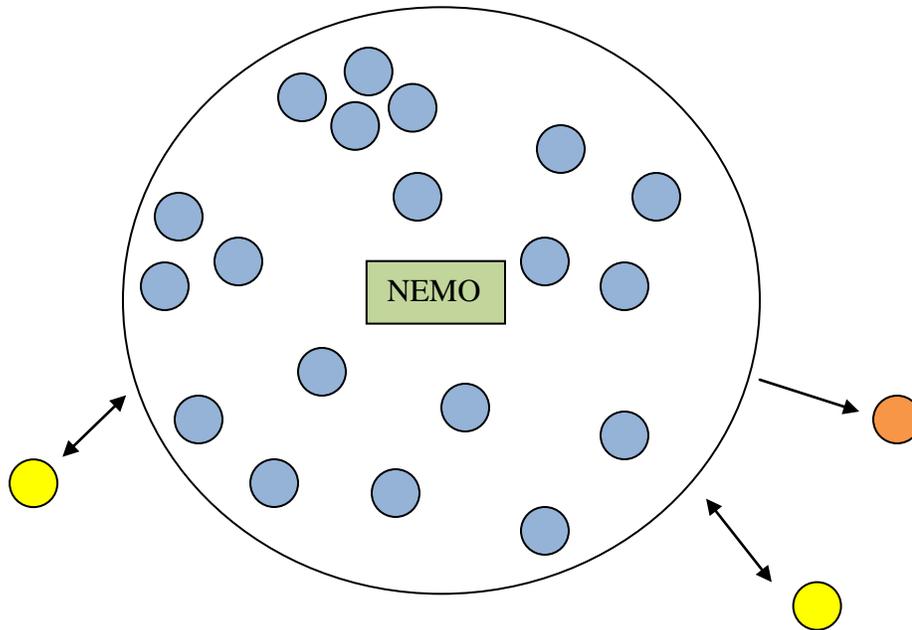


Figure 6. NEMAC Structure: Recovery and Mitigation Stages

Some NEMAC members suggested three to four other official network members were also inactive. Nevertheless, based on the interviews, for the majority of the year, NEMAC’s structure appears to resemble a fairly unified, clearly defined network with only a few isolates.

Recovery and Mitigation Stages: Governance and Functions

NEMO serves as the “linking pin,” managing network functions. Some tasks, however, are divided among members, specifically the committees. The National Committees do much of the work outside of the main NEMAC meeting(s) with strong assistance from NEMO. The District Committees also assume some mitigation activities, such as tree trimming discussed in Chapter 4.

During the recovery and mitigation stages, as NEMO undertakes most activities, other members appear to pay more attention to their home organization responsibilities. Ten interviewees (#20008, #20009, #20010, #20011, #20013, #20018, #20019, #20020, #20024, #20029) offered one primary explanation for lack of member involvement: being a participant in NEMAC is additional, time-consuming work. The statements below reflect participants’ views concerning this voluntary position:

Interviewee #20008

Some people would rather not be there and see this as an additional burden that they could well do without and that kind of mentality would affect their approach to the whole thing. ...My challenge is to ensure that, because of my national responsibilities, that I don't get bogged down too much in terms of here [at my organization] and try to delegate some of my responsibilities internally so that I am able to deal with the national coordination.

Interviewee #20009

I think while not everybody's enthusiastic about the whole thing, but I think, generally, persons do what they have to do. ...Sometimes, while the private sector, they have to continue doing what they have to do for their bread and butter issues, they also have to realize it's important that they participate and respond and make a bit of a sacrifice because it has national implications.

Interviewee #20019

Our responsibilities here [home organization] are more, we are more intense. We have more to do. We are responsible for a lot more. And it is more demanding ...Disaster management is very time consuming thing. To balance other work schedules and manage disaster and to get people to come together and have meetings and work on projects, work on things, can be very time consuming, very intensive, very difficult thing to manage.

These participants emphasized it is difficult to motivate people to do voluntary work (#20008, #20009, #20018, #20024), to maintain enthusiasm because individuals “burn out” since they may “wear too many hats” (#20020 and #20013), and to convince individuals of the importance of volunteerism in the abstract (#20029). The respondents stressed the difficulty implicit in performing their responsibilities at their home organizations and for NEMAC. This type of balancing act may be one reason that some network members are disengaged. They have not found a way to divide their attention, especially during emergency situations when they must be fully alert to their duties. Also, *Interviewee #20009* implied that the private sector has not been participating or demonstrating its commitment to disaster management and NEMAC. This may put undue pressure on other network members to compensate for what businesses are perceived not to be doing.

Although the statements above may reflect attitudes linked to preparedness and response efforts, most interviewees expressed these concerns when discussing the response and mitigation stages. This may be because the majority of participants are more involved in preparedness and response issues relative to recovery and mitigation ones.

However, NEMAC has evidenced some recognition for the importance of mitigation. The Saint Lucia Cabinet approved the *Natural Hazard Mitigation Plan* in 2006. NEMAC members were compelled to create this document following the “wave” or tsunami-like event on October 26, 1996 that caused significant damage in the districts of Anse la Raye and Soufriere. This occurrence shifted the network’s focus to coastal and marine mitigation efforts for a time. The Mitigation Plan discusses hazards most common to Saint Lucia, vulnerability assessment, mitigation state goals and objectives, and territorial planning, to name a few. The effort’s main goal is to protect the island state from social, environmental, economic, and physical disturbance and destruction. Although a national plan is in place, only the Ministry of Communication and Works has drafted its own organizational version.

During the recovery and mitigation stages, network governance falls primarily to NEMO. With limited involvement among many NEMAC members, NEMO makes most of the decisions that determine the network’s direction. Several participants noted the time-consuming nature of this voluntary work, offering another explanation why NEMO leads most of the network’s activities.

Recovery and Mitigation Stages: Coordination and Communication Systems

During recovery and mitigation, as with the other stages, NEMO acts as the catalyst for coordinating activities and communicating information. To improve upon these efforts, three interviewees (#20020, #20027, #20028) suggested more meetings should be scheduled. The following comment explains the necessity of high attendance at more regularly scheduled meetings:

Interviewee #20020

I know that everybody has their busy schedules and so on. But, I think, at least, once a quarter, we should be meeting and indicating what some of our issues are and what are some of the priorities we need to make. ...we meet once a year and say what the weakness are of our each, talk about our strengths, what we’ve put in place, and we know that’s there and we know that that’s sufficient food. And we know that there’s enough medical supplies and so on and so forth. ...if we meet more regularly and keep on, you know, bringing this forward in terms of when our budgetary period comes in and so on, at least, over time, different groups would get the things that they really ... We come and we say what each person is doing, but what are our priorities? And we need to meet more

regularly in order for us to zero in on that so that over time, year after year, we begin to put things in place that can be there in case of a disaster.

This individual acknowledged that NEMAC members have demanding agendas. Yet, she/he expressed the need to meet, at least, four times a year to set priorities and to keep those aims at the top of members' budgetary lists. In this way, network members assist their home organizations and NEMAC in acquiring needed resources for disaster management. It also demonstrates to organizational staff their leaders' commitment to disaster management. Staff, in turn, may spend more time on such issues as they relate to their assignments.

The three interviewees echo recommendations found in the network literature; both Agranoff (2007) and Chisholm (1989) claim regular formal meetings can become tools to motivate members, develop relations among members, promote norms of behavior, and generate synergies within networks. NEMO scheduled more formal meetings in the past without success; most official NEMAC members chose not to attend, thus, NEMO reduced the number of gatherings. Obtaining dedicated involvement of official representatives may continue to prove challenging.

Nevertheless, a few respondents offered reasons why members should become more involved in the group. The comments below outline some of those benefits, which include attaining a larger perspective of disaster management issues affecting Saint Lucia.

Interviewee #20020

It's [being involved in NEMAC] given me a better appreciation of what's happening throughout the entire service because, sometimes, you can stay in your little microcosm here, doing your own little thing, and not seeing how it, what's happening, and how, you know, everybody can fit together, the synergies and so on. So, meeting up with the other people, certainly, when we have these larger meetings and so on, a kind of contributory understanding what's happening in other people's, the difficulties and so on that other ministries and agencies have.

Interviewee #20012

As long as you perform to expected standards, you will benefit. People will look at you differently. They will look at you, you know, in a more favorable light. So, I think, we have benefited in that area because, like I said, the Prime Minister is the chairman of NEMAC and he's also the Minister of Finance. So, when we ever need anything in [our organization], we have to turn to the Prime Minister for approval. So, if we perform well, the Prime Minister will remember that. And when your proposal comes to him, he might give it a green light, you know.

Interviewee #20009

It helps when you get the support that you need when you get the requisite training. I guess, it's also secondary benefit of professional development that comes from it. And, I guess, commendation helps in terms of keeping enthusiasm and, ...the point I was going to make previously in terms of accountability, is that when it fails, then the public holds you accountable. The whole ensuring that we're not the subject of public bashing helps agencies, especially an event that is specific or identified with a particular agency.

According to these respondents, collaborating voluntarily on disaster management can be beneficial to network members. They may gain a better understanding of Saint Lucia's overall disaster management framework and their critical role in it. This may lead to more participation in the network as members recognize the significance of their responsibilities. As *Interviewee #20012* indicated, another advantage is members have a direct connection to the Prime Minister who controls finances. This respondent clearly believes good performance would lead to an increased budget for her/his own organization. However, no other evidence from the interviews exists to support this claim. And, since NEMAC is quite visible in its efforts during the response stage and NEMO keeps the general public informed throughout all stages of disaster management, member participation may be extremely valuable to members individually and organizationally. Some members may be able to establish or maintain connections to high-level public officials and private organizations. Members may obtain needed training and other support. They may even gain the public's recognition for competency and commitment to the island state's citizenry, especially since no organization wants to be singled out for "public bashing" for not performing well during disaster response.

Throughout the interviews, most participants focused on the preparedness and response stages and acknowledged the importance of effective, efficient coordination and communication mechanisms. Few participants discussed the need for continued communication throughout the year regardless of the disaster management stage. Many interviewees did not express the same urgency for recovery and mitigation issues that they did for preparedness and response. In this regard, NEMAC not only epitomizes the general attitude of Saint Lucians, but also of the general public worldwide. According to the disaster management literature (Alexander, 1997; Burby, 2003), both the public and government officials pay scant attention to the mitigation stage. The

costs and time associated with mitigation efforts deter many individuals and organizations from investing in long-term efforts to improve resilience to disasters.

Recovery and Mitigation Stages: Member Positions and Member Relations

NEMO serves as the network's central organization during the recovery and mitigation stages. It is the one member constantly focused on disaster management issues and attempting to maintain ties to other participants. NEMO plays the role of lead coordinator during these stages. Other members' positions change slightly: some National Committees may be more active than others during these disaster phases, depending on circumstances.

During these two stages, five interviewees (#20010, #20015, #20017, #20019, #20021) mentioned competition for resources (mainly finances and equipment) affects member relations to some extent. Some members become frustrated if resources are allocated to some committees and not to their functional area. These three brief interviewee comments describe this situation:

Interviewee #20017

Sometimes, what you might want to do, you don't have the funds to do it. Then, it gets deferred into the next year. Next year come around, and it gets deferred to the following year and so forth and so forth until you might eventually get it done. It all comes back to the whole question of finance and how much money do you have available.

Interviewee #20015

I think the whole thrust, the excuses they come up with, is finance because they complain that the donor countries are not giving us what they used to give before, and that is the problem—finance. Finance.

Interviewee #20010

Most of us are on the ground jostling for monies in a little space, you know, and the scope is not grand. So, then, you [are] going to have ...problems.

Even though finances are a concern during the preparedness and response stages, interviewees claimed it was easier to locate funds for these two stages and much more difficult to do so to address the disaster recovery and mitigation stages. Regional and international organizations are still quite focused on preparedness and response training. Financial institutions have taken some interest in the recovery stage. But, finances for the mitigation stage are far from abundant.

A few disaster management scholars (Kiefer & Montjoy, 2006; Luna, 2001) have suggested resources are a continuing hindrance in securing more adequate mitigation strategies and measures. Additionally, if countries had not previously designated adequate funding for preparation, costs can be especially high for response and recovery efforts. More generally, many network scholars (Chisholm, 1989; Goldsmith & Eggers, 2004; Kenis & Provan, 2006; Linden, 2002; Provan *et al.*, 2005; Rhodes, 2003) have suggested that many networks have not succeeded because proper resources were not devoted to their operations from the outset.

Provan, Fish, and Sydow (2007) have contended, for example, “Resource availability also strongly influences the ability to gain legitimacy and facilitate network development” (p. 503). In the case of NEMAC, legitimacy does not appear to be an issue. Bryson, Crosby and Stone (2006) argue network legitimacy is based on three issues: form (attracts internal and external support); entity (recognized by insiders and outsiders); and interaction (trust among members) (p. 47). To varying degrees, NEMAC has addressed all three types of concerns successfully. But, the lack of resources noted above may be hindering the network’s development into a more densely interconnected form. Funds, for instance, are not available for group bonding experiences, such as the FA HUM training exercise described below by *Interviewee #20026*.

Since these two stages involve fewer network activities, members rarely communicate with each other. Limited face-to-face interaction makes it difficult to form trusting relationships. McGuire (2006) has argued, “The more points of contact among network members...the better the communication and the greater the trust” (p. 38). Based on this argument, NEMAC network members would evidence a low level of trust in the network.

Yet, 14 interviewees (61%) discussed the issue of trust, and 13 of them declared trust existed among members. One interviewee (#20024) was undecided: this individual had never thought about the issue because no single incident had raised the question of trust. Later in the interview with this same participant, however, she/he described an example of lack of trust regarding vehicles (discussed below). Participants offered various reasons why and how trust developed within the group:

- Trust builds over time and bonds among co-workers form accordingly (#20012, #20014, #20016, #20019, #20020, #20026);

- People do what they are supposed to do (#20010, #20013, #20015, #20017, #20018);
- People seem to cooperate, so trust must exist (#20022); and
- Trust apparently is there since “you get the support you need” (#20009).

The following statements are illustrative of members’ notion of trust within NEMAC:

Interviewee #20026

They know each other now. I will give you an example, though. Sixteen of us went to Honduras for FA HUM—it’s a Spanish acronym, but it basically is humanitarian assistance. We went to run an EOC in, I think, 2000. That “gelled” the group. We were together all of the time and there was nowhere else to go. They still talk about that experience. They really came back solid. Now, because of finances, three people go to conferences. We try to send someone from national, district, and NEMO and they always come back energized.

Interviewee #20016

When you have worked long periods with people, you develop certain bonds. When you have limited resources in a small country like Saint Lucia where everybody knows everybody, when you are in a position, you dare not not perform. If you understand how I put that because it will be visible.

Interviewee #20020

Is it because over time this group of people that has worked together under crisis situation have just, you know, bonded together over time realize, hey, this is a national situation, we’ve got to trust each other if we’re going to get this thing going? ...maybe, over time what has happened, people have learned to work together.

These interviewees acknowledge it takes time and a reasonable level of membership stability for trust to form. Since several members have worked together for years, they are aware of each other’s strengths and weaknesses and know when additional assistance will be needed. This type of knowledge and trust is necessary to perform well under extreme conditions. Some respondents emphasized that everyone knows everyone. This seems to alleviate any initial distrustful reaction. That is, network members appear to trust first until an individual acts in a way that may cause doubts. Interviewees expected the Prime Minister to appoint knowledgeable, capable members to the network. Also, a group bonding experience appears to have heightened trust among those particular members. NEMAC, unfortunately, does not have the funds to replicate this sort of effort often.

Other participants emphasized performance and respect lead to trust, as indicated in the two statements below:

Interviewee #20019

I think that the members, once they respect the, what each member brings, I think they trust each other. Because if you come and you don't know what you're doing and don't know what you're about, then I'm not going to trust you. You understand? ...I think most of the people that are on the committee are seasoned people, people who've been in departments for a long period of time who have the background, who have the knowledge. So, generally, they are trusted.

Interviewee #20012

I think, trust, in our case, is based on performance because we have been faced with emergencies before and your performance will be evaluated officially or unofficially, the ability to take a critical look at how you perform. And then, I think, trust will be built on that. If you perform badly, people will not trust you. If you perform well and you continue to perform well, I think, people will trust you.

Thus, members should want to perform their best since everyone in the network will see their capabilities or lack thereof. *Interviewee #20019* stressed trust emerges once respect is earned by what people bring to the network via demonstrated competence. For NEMAC members, this may take more time than usual since the group seldom meets. How are members to know what resources and skills others possess if they meet only once a year? Even at the annual meeting, discussions center around organizational preparedness, not individual performances. This leaves little time for members to get acquainted on a personal or professional level.

However, during the interviews, some participants discussed specific situations where trust was lacking. For example, one NEMAC member mentioned she/he did not trust certain members enough to perform a particular task and, therefore, her/his organization generally would carry out that task separately. Five other interviewees (*#20009, #20013, #20014, #20018, #20024*) stated that organizations would not provide their vehicles to NEMO for use during disaster response even though national disaster protocol dictates this should be done. All five respondents claimed that if they “loaned” NEMO their vehicles, their organizations would be unable to respond adequately themselves. As one respondent explained:

Interviewee #20013

After a disaster, there is definitely a need for vehicles. But, as it stands now, every agency has their vehicles and there is a reluctance to hand them over to NEMO at the appointed time. ...Well, there's the concern that the vehicles will be driven recklessly by non-agency staff. ...Because after a disaster, you still have your work to do. And if your vehicles are destroyed, you cannot do your work. And you don't know when you'll get a replacement. So, agencies tend to be reluctant to relinquish their vehicles to NEMO.

This indicates a lack of organizational trust as well as lack of trust of volunteers who may be assisting NEMO in its response efforts.

Nevertheless, several participants indicated trust resulted mainly from performance. Members, “officially or unofficially,” evaluate others’ performance over time; they trust those who exhibit skill and knowledge and execute their tasks well. Also, some rely on the assumption that individuals will perform because “everyone knows everyone” on a small island state. This dimension of trust is more about reputation based on professional capabilities and “weak ties” and less on direct personal relationships.

Structure: Recovery and Mitigation Stages Summary

NEMO assumes an active role during the recovery and mitigation stages to keep the work of the network moving forward. Most NEMAC members expect NEMO to carry out functions as well as to update them on relevant information. NEMAC members, as a result, delegate more responsibility to NEMO.

During these two stages, interaction among members appears limited. Communication is usually through e-mails sent by NEMO, unless the National Committees decide to meet. Even though meetings seldom occur, most participants claim trust exists within the network. The issue of trust for NEMAC is rather complicated. The interviewees assert trust is based on performance or professional reputation rather than personal relationships. Several respondents stated trust is developed over time as members evaluate each others’ skills and actions. If members “perform well” on a continuous basis, they will most likely be trusted. Additionally, some participants indicated trust visibly existed between first responders and some National Committee Chairpersons. These specific groups are made up of long-term network members. This coincides with Agranoff’s (2007) argument: trust forms more readily among network members who have

known each other “for a number of years” and who have shared experiences “outside of the network itself” (p. 120). For NEMAC, based on actions (or inaction), many members have already determined which participants they believe are sincere about their involvement in NEMAC and are dedicated to its goals. On the other hand, trust is also built at the personal level. It is certainly possible trust exists among NEMAC participants not only based on performance, but also because “everyone knows everyone.” They may trust members because they know an individual who knows this member. Trust then may be based on connections, but connections outside of NEMAC.

Chapter Summary

The network literature (Castells 2000; Huxham & Vangen, 2000) argues structure influences member relations and member relations reciprocally also shapes structure. Network structure determines members’ positions and which members have enough clout to sway decisions (Huxham & Vangen, 2000). NEMAC shifts its structure based on the disaster management stage, but members’ positions are altered only slightly with those changes. Members with leadership roles within NEMAC maintain those roles throughout. It is their level of leadership activities that actually changes depending on the circumstances. And, Linden (2002) has stressed an important factor of successful collaborations is “continuity of leadership” (p. 187).

All members have the capacity to influence network structure and direction should they become active participants. Yet, most members have ceded some degree of authority to NEMO. They seem to have accepted that the daily governance of NEMAC lies mostly with NEMO. Bryson, Crosby, and Stone (2006) have emphasized, “governance as a set of coordinating and monitoring activities must occur in order for collaborations to survive” (p. 49). NEMO certainly acts in the capacity of coordinator and monitor. This is particularly the case for three disaster management stages: preparedness, recovery, and mitigation. NEMO clearly stands at the network’s center, serving as facilitator, gatekeeper, “linking pin.” According to Vigoda-Gadot (2003), public network managers must serve in these roles (p. 68). Due to its central position and role as lead organization, NEMO has the most linkages within the network as well as directs almost all communication.

Some members appear completely reliant on NEMO to perform the bulk of the work: drafting their home organizations' plans, developing the network's procedures, locating resources, arranging for training, and coordinating most disaster management efforts. NEMAC members, as a result, have allocated substantial control to NEMO. On the other hand, during the response stage, several members direct activities. They play key authoritative roles at headquarters (the EOC) and in the field. Even though members focus on their assigned tasks, they update the EOC of progress or setbacks. In response mode, all NEMAC members are responsible for coordination and communication efforts. Diffusion of information is two-way unlike in the other three stages. The ICS gives NEMAC the structure and general rules for response, providing the network with the capability for coordination. This shared governance, however, occurs most during the response stage. Members work strategically and operationally together to make decisions and take actions.

Viewed as a whole, NEMAC members have not become completely interdependent; though, several interviewees emphasized the importance of the group's collective efforts. Agranoff and McGuire (2003) have argued "Interdependence induces an increase in the frequency and intensity of communication among these organizations" (p. 35). With the exception of the response stage, interaction among these network members, however, is low. Thus, linkages among most members are weak. Several members, however, have strong connections to NEMO. These participants perhaps have the highest incentives for such engagement: members with the closest ties to NEMO appear to be the ones benefitting the most from their involvement with the network. These same members—first responders and some National Committee Chairpersons—are the ones that have formed the densest linkages with one another. The network's structure has basically been built upon the density of these two groups and NEMO's central position. These members constitute NEMAC's core. They have multiple connections and stronger bonds. They "drive how the network develops and/or evolves" (Provan, Fish & Sydow, 2007, p. 502). As a result, NEMAC's structure has affected interdependence, centrality and internal ties and, in turn, as these factors change, the network's structure has been altered.

Presently, NEMAC is experiencing some challenges. Two issues, according to Coppola (2007) and Drabek *et al.* (1981) are universal: inefficient and ineffective coordination and communication. Several respondents emphasized these issues would mostly be resolved if

members had the proper communication equipment, while a few interviewees recognized the benefits of scheduling more formal meetings. Other challenges include, but are not limited to, the following: official members' lack of involvement; members' lack of understanding of network protocols; and members' stepping outside of their appointed roles. Many participants referred to certain members' lack of involvement and discussed the adverse effects on the network. These challenges may be hindering NEMAC from becoming a "dense" network. The network literature claims the tighter the bonds among members, the higher the trust level within the group, increasing network productivity. Another probable obstacle relates to leadership roles in NEMAC. According to Bryson, Crosby, and Stone (2006), "The parceling out of formal leadership positions has implications for the level of buy-in among the collaborating partners" (p. 47). It is possible some of the uninvolved members have not been given leadership roles; therefore, they are not invested in the network.

In spite of these challenges, a variably high level of trust exists within NEMAC. Network participants evidence varying degrees of trust. For several members, trust automatically exists; they assume members are competent and knowledgeable since the Prime Minister appointed them. This, however, is a low level of trust. The majority of interviewees stated they assess members' performance over time. Stephenson (2005) has referred to this type of trust as "competence" based (p. 345). "Sharing information and knowledge and demonstrating competency, good intentions, and follow-through" build trust within collaborations (Bryson, Crosby & Stone, 2006, p. 48). Another mid-level trust exists surrounding the idea of "everybody knows everybody." Several members trust others because of the intimacy of a small island; they believe members will surely perform their best. They claim reputation, more professionally than personally, is important. At the other end of the scale, long-term members who have repeatedly worked with each other have established high levels of trust. The advantage of that experience is most long-term members occupy leadership roles within NEMAC.

CHAPTER 6

FINDINGS AND ANALYSIS: MEMBER ROLES AND LEADERSHIP STYLES

This chapter presents findings on member roles and leadership styles. It focuses on the third objective of this study by addressing two research questions:

- What roles do members play in national disaster networks?
- What leadership styles emerge from those roles within national disaster networks?

The chapter first analyzes information related to member roles within NEMAC. It discusses the primary functions in the network as indicated by the interviewees and examines the roles the literature indicates are typically found in network structures and how these specific functions correlate with the interviewees' self-proclaimed roles in NEMAC as well as functions and responsibilities that members have ascribed to other participants. Further, the chapter analyzes whether these particular functions assumed by network members are independent or interdependent. Following assessment of member roles, the chapter next examines the leadership styles evident in the network and then analyzes the leadership styles that members indicated they employed.

Formal Member Roles

According to Selznick (1957), in general, “*a role is a way of behaving associated with a defined position in a social system*” (pp. 82-83). Members of an inter-organizational disaster network system may assume one or more roles and may do so unofficially or officially. The Prime Minister assigns formal roles within NEMAC via approved policies and procedures or endorses the selected candidate of National Committee members for those formal functions. For example, NEMAC members have prescribed leadership roles: they are National Committee Chairpersons and/or first-responders when they re-arrange themselves into the Incident Command System (ICS). Several respondents described other member roles based on formal network positions, such as the Prime Minister as NEMAC Chairperson, the Permanent

Secretaries of the participating ministries, and the National Committee Chairpersons (See Table 2).

NEMAC Member	Interviewees who Discussed the Formal Role of the NEMAC Member within the Network
DANA Committee Chairperson	#20009
Emergency Works Committee Chairperson	#20017
Fire Services	#20008, #20009, #20011, #20012, #20023
Meteorological Services Director	#20011, #20012, #20018, #20019
Ministry of Agriculture	#20009, #20013, #20016
Ministry of Communication & Works	#20008, #20009, #20011, #20015
Ministry of External Affairs	#20020, #20028
Ministry of Health	#20008, #20009, #20011, #20012, #20023
Oil Spills Committee Chairperson	#20013, #20015, #20021
Police	#20009, #20012, #20023, #20024
Prime Minister	All interviewees (except two: #20015, #20025)
Saint Lucia Air and Sea Ports Authority	#20019, #20021, #20027, #20028
Saint Lucia Red Cross Society	#20008, #20010, #20014, #20021
Supplies Management Committee Chairperson	#20009, #20010, #20011, #20014, #20020, #20024, #20026
Transportation Committee Chairperson	#20011, #20014, #20017, #20020, #20024, #20026

Table 2. Formal NEMAC Member Roles

The interviewees listed in Table 2 specifically discussed NEMAC members taking on formal leadership roles during the response stage. Participants assume leadership roles within NEMAC based on their relevant knowledge and skills rather than their external organizational leadership roles. Selznick (1957) claimed, “roles are shaped by capability” and when roles are assigned during the initial formation of a network, “institutional leadership is of little significance” because the expertise of the members ultimately determines leadership (p. 88). This is precisely the case with the ICS, which NEMAC employs for response efforts.

The following four participants, however, expressed concern about certain NEMAC members’ capabilities to fulfill commitments associated with their formal roles:

- *Interviewee #20024* questioned whether the police had ample capacity. The police force has approximately 800 officers. Yet, this respondent claimed the department

needs nearly 1,400 to be at full strength. So, do the police have enough officers to respond to a major disaster?

- *Interviewee #20008* was unsure if the Ministry of Communication and Works had enough up-to-date equipment for clearing debris. This individual suggested the Ministry does not own most of the necessary equipment it requires. As a result, it must rely on private contractors.
- *Interviewee #20014* declared the Saint Lucia Red Cross Society did not have sufficient resources, particularly personnel, to respond to a crisis, especially a large disaster situation. The NGO, therefore, must rely heavily on NEMAC assistance.
- *Interviewee #20016* stated the Ministry of Agriculture should take on a larger role. She/he proclaimed this Ministry should be assigned the mitigation task of tree trimming since trees cause many problems during hurricanes, wind storms, and flooding. Other members are already responsible for tree trimming; this interviewee claimed the Ministry of Agriculture, given its organizational mandates, should also be highly involved in this particular activity.

These respondents did not intend their statements as criticisms, merely observations. As several disaster management scholars (Beristain, 1999; Canton, 2007; Coppola, 2007; Drabek *et al.*, 1981; Dynes, 1978; Green, 1977; McDonald, 1985; Mileti, 1999; Minear, 1999; Schumer, 2008; Smillie, 1995; Smillie & Minear, 2004) and network researchers (Agranoff & McGuire, 2003; Child & Faulkner, 1998; Chisholm, 1989; Kapucu, 2006; Linden, 2002; Milward & Provan, 2006; Simo & Bies, 2007) have pointed out, collaborations are often formed because a single organization cannot combat a complex public issue by itself—such as disaster events. Effective disaster management demands that numerous stakeholders come together and join their varied skills and resources to address shared concerns.

Additionally, all respondents commented on NEMO, claiming it served various network roles, which are discussed further below. Several interviewees (*#20008*, *#20014*, *#20015*, *#20017*, *#20020*, *#20021*, *#20024*, *#20028*), however, declared NEMO did not have capacity to fulfill its official directives, referring mainly to scarce resources. One of the participants aptly summed up this issue:

Interviewee #20028

NEMO does not have the resources that it needs, not in terms of staff or in terms of financial resources to do the work, to carry out its mandate and to carry that out well.

NEMO employs six staff members to oversee Saint Lucia's disaster management issues, with one individual—the Corporate Planning Officer—on temporary assignment from a ministry. The NEMO Director has submitted several budgetary requests to the Office of the Prime Minister for four additional staff positions: Training and Education Officer, Geographic Information Systems Officer, Safety Officer for Mass Crowd Events, and Office Clerk to manage accounts.

When asked which members served in leadership roles outside of the response stage, respondents presented a range of answers. Thirteen interviewees (57%) provided one response to the question (number of interviewees):

- All NEMAC members (3)
- NEMO Director (3)
- Prime Minister (3)
- All Chairpersons: National and District Committees (1)
- Leaders are dependent upon the disaster cycle (1)
- Ministry of Health (1)
- National Committee Chairpersons (1)

Eight interviewees (35%) offered multiple answers (number of times mentioned):

- NEMO Director (5)
- Prime Minister (4)
- Committee Chairpersons (2)
- Cabinet Secretary, to an extent (1)
- Chief Education Officer (1)
- District Committee Chair, specific individual named (1)
- District Committee Volunteers (1)
- Fire Chief (1)

- Members who are enthusiastic and demonstrate interest (1)
- Meteorological Services Director (1)
- NEMO (1)
- Permanent Secretaries (1)
- Physical Development, to an extent (1)
- Police Chief (1)

One participant did not provide a response; this individual stated she/he could not answer because she/he had never attended a meeting. Another participant spoke off record about one individual who assumes a leadership role in the network, but does so in a reputedly antagonistic manner.

Several interviewees suggested NEMO assumes a leadership role to keep the network moving toward its goals and objectives. Other representatives mentioned the Prime Minister not only as Chairperson of NEMAC, but also as the nation's highest office-holder. The comments below highlight the roles of the Prime Minister and NEMO Director, while some participants emphasized either the Committee Chairpersons or all members as leaders in NEMAC:

Interviewee #20016

The way we are formed, we are in a hierarchical system of management in most of the agencies. So, it is not a difficult process to identify the leaders. ...because don't forget in Saint Lucia, NEMAC, the head of NEMAC, is the Prime Minister.

Interviewee #20012

Obviously, the final word has to come from the chairman of NEMAC who is the Prime Minister. The Prime Minister has to sign off on everything. But, apart from the Prime Minister, I would say the NEMO headquarters, the director of NEMO, also plays a critical role because she's the one keeping the whole thing together.

Interviewee #20028

Well, the Prime Minister heads NEMAC. So, he's the leader. ...you know, in actual response situations you do have various agencies playing lead roles. Say, for example, if you have an oil spill, it would be the Air and Seaport Authority would play the lead role. So, I think agencies do have what is required to play a lead role in NEMAC. I find that that's a good idea. That's something we should consider is a rotation of the leadership of NEMAC and see how that goes.

These comments demonstrate the majority of members' notion of leadership requires a title. They also reveal most participants are accustomed to working within a hierarchy, pushing the network structure toward a more vertically oriented authority arrangement. Interestingly, however, while discussing NEMAC leadership, *Interviewee #20028* began to consider a new idea: rotating the leadership of the network. Although an intriguing possibility, would other members accept the additional responsibility? Since the majority of representatives rely on NEMO, would this arrangement simply add to this central member's workload? This same representative emphasized that all members may take on leadership roles depending on the circumstances. This correlates well to two leadership theories.

Northouse (2001) has claimed contingency theory and situational theory are "predictive of leadership effectiveness" and that these approaches "set forth a clear set of prescriptions for how leaders should act if they want to enhance their leadership effectiveness" (pp. 86, 71). With their collective experiences, NEMAC members should be aware of their leadership skills, their organizational situation, and possess the ability to determine the alignment between themselves and their contexts. In this way, the network positions the most appropriate NEMAC member to supervise activities to address a particular challenge. Although the scenario did not require full response mode, NEMAC put situational leadership into practice for the H1N1 outbreak within the school system. The network members looked to the Ministry of Health and the Ministry of Education to oversee the process jointly; both ministries possessed the knowledge and skills needed to address the crisis.

Nine participants (or 39%) viewed the NEMO Director as a leader in the network. This response should be expected since this individual serves as the Director of the central agency within the network.

Interviewee #20019

There are some people that just stand out in your mind. So, I go back to her [NEMO Director] again. Sometimes, she pisses me off 'cause she's always talking something on radio and on TV. So, I'm tired of seeing her. On the other hand, when you really think of it, she's really on top of her game, you know. She is, I think, she knows exactly what she's supposed to do. And she goes all out. She's not afraid to use the media. I think everybody in Saint Lucia should know [the NEMO Director] by now. ...I think she stands out.

Although this respondent expressed her/his annoyance at the number of times the Director has been engaged in public relations activities, she/he did so with laughter. This participant declared she/he understood the importance of keeping the public informed of disaster management issues and recognized the knowledge and skills that the NEMO Director brings to the network. Nonetheless, she/he questioned whether having more than one face for disaster management announcements would be beneficial and if too many announcements could lead to the public becoming “immune” to the Director’s communications. In other words, as soon as the Director is on the air, the general public may tune out the messages and actually miss an essential one.

Some representatives claimed those serving as National and District Chairpersons were network leaders outside of the response stage.

Interviewee #20017

Well, by right, all subcommittees do have a chairperson and really each person is supposed to be a leader for that group because you have to spur on or guide the rest of your committee as to what needs to be done. So, I would say everybody has to be leaders or do show some signs of good leadership.

Interviewee #20009

I think in terms of the Chairmanship of the various subcommittees, I think that’s where that leadership quality would be key.

Interviewee #20011

We all are. As I indicated previously, all of us come with some skill, some managerial skills, into the NEMAC. So, when we discuss, we are speaking from knowledge base.

National and District Committee Chairpersons hold formal leadership positions. Network members, as a result, expect them to guide the committees to improve their response capabilities and other critical tasks. It is the Chairpersons’ responsibility to call meetings, train volunteers, and ensure their committees are prepared should a disaster occur.

The interviewees’ answers regarding leadership roles appear to be predicated mainly on titled positions in the network structure. On the other hand, as *Interviewee #20011* noted, all official network members given their positions within their organizations and communities are leaders in their own right. The Prime Minister appointed these individuals to NEMAC because of their leadership positions and the skills and resources their organizations bring to disaster management for Saint Lucia. The official members are Permanent Secretaries, two business

executives, one non-governmental organization (NGO) leader, and one private citizen considered a community leader. As such, network members, if they so desired, could serve as champions and catalysts in their organizations and communities for disaster issues. If all network members took this approach and became active leaders of disaster management, the results throughout Saint Lucia could be profound.

During the preparedness, recovery, and mitigation stages, several members of NEMAC hold leadership positions as National Committee Chairpersons. During the response stage, multiple leaders emerge through the ICS. Although hierarchical in structure, the ICS actually produces an environment conducive to collaborative leadership within NEMAC. Friedrich *et al.* (2009) contend having multiple leaders in collaborations is beneficial as it enhances team performance (p. 934). The ICS allows for needed flexibility in rotating leadership roles and encourages information sharing and appropriate resource allocation. Thus, the ICS incorporates several elements of a network structure into its ordered system.

Informal Member Roles

Network members may assume informal leadership roles, consciously or not. Informal roles are functions necessary to keep the network operating properly, but are not officially assigned to any member. Such informal roles may include organizers, facilitators, coaches, and strategists. Often within collaborations, several members may undertake various responsibilities simultaneously. Interviewees identified fifteen informal roles for themselves. The number of interviewees who suggested each role follows:

- Coach (16)
- Coordinator/Organizer (13)
- Analyzer/Evaluator/Problem Solver (9)
- Visionary (7)
- Strategist (7)
- Change Agent (7)
- Politician (5)
- Fundraiser (4)

- Multi-Tasker/Juggler (4)
- Facilitator/Harmonizer/Mediator (3)
- Follower (2)
- Informer (1)
- Questioner (1)
- Supporter (1)
- Worrier (1)

Members used most of these terms when discussing disaster response stage activities. Several (10 interviewees or 44%) assigned themselves more than one of the above roles. One respondent stated she/he did not serve a role in NEMAC. This participant's Deputy Permanent Secretary sent her/him to meetings without authority to make decisions; she/he only reported back to the organization on what took place at the gatherings.

Coaches

When sixteen participants (70%) described their behaviors in NEMAC or related to network activities, they outlined the coach role. They proclaimed themselves, directly or indirectly, to be good listeners, motivators, teachers, and/or advisors. A representative statement follows.

One network member explained the significance of working as a team.

Interviewee #20018

I believe I bring to the table leadership skills and the ability also to engender that type of team spirit which causes us to go out, rally together, in order to respond during the time of disaster. ...I like to make people believe in themselves. I believe that there is something in everyone. And I have set myself certain standards. The [organization] itself has its own standards. So, I try to get persons to come up to these standards. I believe in rewarding where reward is due, but I also believe in sanctions. So, persons know where I stand.

This individual claimed developing a team atmosphere within the organization was one of her/his main priorities and that great strides had been made toward this goal. She/he asserted staff members were demonstrating more loyalty to the organization since she/he had commenced

work in her/his position. When Bryson and Crosby (1992) explain team leadership, they too effectively outline the roles of coaches—individuals who comprehend the significance of shared responsibility.

Several respondents (as discussed in Chapter 5) expressed the importance of shared responsibility and shared leadership within NEMAC, particularly during the response stage. As such, those interviewees promoting group work seemed also to embrace collaborative leadership. Shared leadership encourages commitment and learning. It pushes group participants to listen to different viewpoints and to recognize various methods to tackle an issue. In shared leadership situations, Heifetz (1994) has claimed “leadership may more often emerge from the foot of the table” (p. 184). This is exactly what NEMAC members expect: they have trained volunteers to serve in the National and District Committees and to assume informal leadership roles. Thus, NEMAC members must have the resources to support those emerging leaders, or as Heifetz (1994) has termed them—leaders without authority.

Most network members proclaimed themselves to be motivators. Coaches assume this as well as other roles, such as listener and advisor, which may—like motivators—help encourage others to perform their assigned tasks and believe in themselves and the organizational vision.

Interviewee #20012

I think I'm also a very good listener.

Interviewee #20016

I like to go on scene because it provides moral support for my men.

Interviewee #20020

I think my role has a lot to do with trying to encourage others to do their little bit.

Interviewee #20023

I see myself as just being able to give the advice that my training and experience has allowed me ...and, you know, encourage people, other members of that body to look at things in a structured way.

These participants emphasized the critical act of supporting staff members. Such assistance can be provided in a variety of ways, including taking time to hear employees' concerns or learning about their situations and being on the scene of a disaster should advice or assistance be needed.

Other respondents focused on the ability to motivate others, as indicated in the following statements:

Interviewee #20015

You must have the skills to motivate persons, you know, have persons to have confidence in you to work with you.

Interviewee #20017

You have to be a motivational kind of person. You have to know when to be firm and you have to be able to know when to be flexible and accommodating. You have to learn, know how to deal with persons' egos and their characters because no two persons are alike. But, at the same time, you have to be sensitive to their needs. You be there to support them, to coach them on to move forward.

As *Interviewee #20017* stressed, leaders need to know their staff members' sensitivities and personalities. By doing so, leaders are better able to relate to their employees and, in turn, determine ways to engage staff in key organizational goals and objectives. Servant leadership (Frick & Spears, 1996, p. 4) and adaptive leadership (Heifetz & Linsky, 2002, p. 233) stress the importance for leaders to be aware of the needs of and to empathize with their followers.

Three interviewees (#20024, #20026, #20029) viewed NEMO and/or the NEMO Director as an advisor, displaying one of the characteristics of a coach. *Interviewee #20026* mentioned NEMO guided the network's strategic direction, while two other respondents stated the general public is beginning to turn to NEMO for advice and assistance regarding disaster management issues. For example, after the St. Jude's hospital fire, a concern regarding asbestos in part of the hospital made the news. As a result, numerous businesses and individuals called NEMO to discuss "how best to dispose of asbestos and what procedures should be employed" to replace that material (#20024).

Clearly, most participants viewed themselves as possessing characteristics of a coach. Some declared by being motivational, they were able to "make things happen." Others claimed listening, teaching or developing others' capacities were means to accomplishing the work. Such statements are evidence that participants realize good rapport with others or "people skills" may earn loyalty from those they support as well as assist in goal attainment. As Friedrich *et al.*

(2009) have stressed, “Leaders are expected to provide direction and to motivate followers” (p. 948).

Coordinators

More than half (13 interviewees or 57%) of those responding identified themselves as coordinators and/or organizers for the network. They presented several examples, such as coordination of committee volunteers and home organization’s staff for response as well as of other volunteers on the ground. A few comments describing their role as coordinators follow:

Interviewee #20009

...coordinate and design your own agency mechanisms to be able to respond to NEMAC without doing double work.

Interviewee #20017

I have to ...coordinate all of the technical activities.

Interviewee #20020

I was used as a coordinator to get people to come to meetings and do things whenever it was needed.

Interviewee #20028

My personal role, well, I coordinate the activities of the officers on the ground.

These participants emphasized the importance of well-organized response efforts. They recognized the need for coordinating through NEMAC and their home organizations. As a result, they are also better able to guide their home organizations’ tasks and to rank order priorities based on changing conditions during an unfolding response to a disaster. This type of collaborative effort allows responding organizations in the network access to needed resources to combat an emergency.

Analyzers

Nine interviewees (39%) described their role as analyzers, evaluators or problem solvers. Participants discussed analyzing data coming into the EOC and attempting to eliminate obstacles to effective response, as indicated in the following statements:

Interviewee #20009

You need somebody able to, he may not be an expert in every area, would be able to make sense out of the information.

Interviewee #20011

The needs list has to be prepared, and from the needs list, we dispatch to the necessary committees.

Interviewee #20023

We will try to clear the hassles, clear the hurdles, the administrative hurdles that may be associated with a timely response, an effective response to an emergency.

Representatives understand their analyses of the situation and the probable needs of those affected by the crisis as well as their recommended actions will affect how the emergency is immediately handled by those on the ground. As problem solvers, individuals usually tap “the talents of followers yet still [maintain] control over the process and the end result” (Beck & Yeager, 2001, p. 67).

In addition, three interviewees (#20012, #20015, #20017) underscored the importance of evaluating their performances for both simulations and actual crises. One participant (#20023) stressed how critical it is for members to prepare carefully the numerous documents before NEMAC submits them to Cabinet. Another respondent (#20013) emphasized solving the problem of duplication of effort is vital and can be accomplished if NEMAC members would communicate more with each other.

Visionaries

Seven interviewees (#20008, #20010, #20011, #20012, #20019, #20024, #20027) declared they possessed characteristics associated with visionaries. They discussed how critical it

was for them to “lead by example.” The following comments illustrate how they view themselves as visionaries, highlighting planning for the future and inspiring people to execute their job well.

Interviewee #20008

It's about building an organization for the future.

Interviewee #20012

You should be an example to other people.

Interviewee #20010

We have the experience ...we have the foresight, too.

Interviewee #20019

[A leader] has to have the foresight to see. He has to be visionary, you know, in the sense that to be able to do all the planning and what not. ...You really have to be on top on things, know what's going on. ...A good leader has to have the knowledge. He has to know, first and foremost, what he is about. Not just for him to be effective, but also so that he can provide that kind of guidance for the members he's responsible for.

All seven interviewees stressed leaders must try to understand what concerns, events or trends may affect their organizations in the future. One representative (#20008) talked about her/his continued efforts to improve technology and hire better qualified personnel to be able to anticipate and manage upcoming issues and developments.

As *Interviewee #20019* pointed out, to be successful as a visionary, a leader must be self aware. According to Dym and Hutson (2005), “effective leadership is highly correlated with self-awareness” (p. 147). Thus, leaders should become more effective as their self-awareness grows. Knowing oneself helps a leader be more intuitive about her/his surroundings and how she/he fits into that specific environment.

According to Chrislip and Larson (1994), “Greenleaf views the central ethic of leadership as foresight—the ability to see how things might be in the future and to act now to move in that direction” (p. 142). With foresight and imagination, visionaries have the potential to bring people together, serving as facilitators to help others understand the importance of the vision and serving as role models to demonstrate their own belief in that vision. Crosby and Bryson (2005)

contend “visionary leadership” is about effective communication; therefore, visionaries need to be persuasive and inspirational.

One of these participants also described the NEMO Director as an inspirational member:

Interviewee #20024

She’s on top of disaster management issues. And, I think, her own efforts inspired a lot of people in NEMAC.

Based on the majority of interviews, the NEMO Director not only is knowledgeable, but also quite persistent. The Director exhibits a strong determination to ensure national policies and sector disaster management plans are created and tasks are accomplished through NEMAC.

These respondents demonstrated they understand effective leaders must “know how to influence others” (Linden, 2002, p. 155). Moreover, four participants recognized how their work connects to NEMAC and its larger aims in disaster management. The comment about the NEMO Director suggested that NEMAC reflects one of Crosby and Bryson’s arguments; those authors contend visionary leadership is necessary to bring stakeholders together and to create prudent policy proposals. According to *Interviewee #20024*, the NEMO Director has encouraged network members to become more knowledgeable about disaster management issues and more engaged in NEMAC activities.

Strategists

Seven interviewees (#20008, #20015, #20017, #20018, #20019, #20020, #20023) described themselves indirectly as strategists. The following statements illustrate their grasp of the significance of “forward planning” and self awareness:

Interviewee #20023

We can also be forward looking and proactive and try to implement measures that will help mitigate on certain types of disasters or emergencies by training human behavior or human activities, especially, in the area of land development.

Interviewee #20017

We try to do a lot of preventive maintenance and forward planning.

Interviewee #20018

I bring together more of the systems we have in place.

Interviewee #20019

You have to be able to plan because if you don't have a plan, you're really in a lot of trouble.

As these interviewees pointed out, leaders must incorporate mitigation procedures into their strategic plans. Some of these processes include changing the mindsets and behaviors of individuals toward disaster preparedness and mitigation issues. On Saint Lucia, the Ministry of Communication and Works has increased its efforts to educate the public on housing regulations to withstand hurricane force winds. The Ministry of Agriculture has also started to turn more attention to coastal development, pushing for a balance between conservation measures and economic growth.

Interestingly, none of these respondents was actually discussing their network roles when referring to plans. They were explaining their home organization roles. Yet, they understood how their organizational work linked with their involvement in NEMAC. Although members talked about disaster management plans a great deal, few described the network's strategies in detail. Also, when encouraged to discuss any members who may be strategists for the group, one interviewee (#20021) mentioned the NEMO Director as understanding the “*bigger picture.*”

Effective strategists create plans aimed at accomplishing explicit goals. They view multiple dimensions of a situation, including relevant past occurrences as well as future possibilities. In other words, strategists comprehend the larger canvas of a situation. Crosby and Bryson (2005) explain this role when discussing “leadership in context.” The authors stress leaders as strategists must recognize their own strengths and limitations. Such self-awareness allows leaders to anticipate when they should take the reins and when they should delegate tasks.

The statements on planning suggested participants are aware of the importance of mitigation. As part of disaster management, risk assessments should be conducted and appropriate plans implemented by all network members. But, the majority of NEMAC participants, including NEMO, are chiefly focused on preparedness and response efforts.

Change Agents

Two interviewees (#20008 and #20018) suggested they were change agents in their home organizations. By changing their own organizations, they claimed they were better able to assist NEMAC. Both were referring to disaster response efforts.

Seven other interviewees (#20015, #20016, #20019, #20020, #20023, #20024, #20028) asserted NEMO was acting as a change agent. These participants stressed disaster management efforts had become increasingly sophisticated because of NEMO (#20024). NEMO has been responsible for improved disaster management coordination, response skills, and knowledge (mainly through training). It has also pushed improvements by becoming more “proactive.” Their statements below indicate their reliance on NEMO:

Interviewee #20020

It [disaster management] has improved from what it used to be. There’s no doubt about that ...because we have the leadership at NEMO right now.

Interviewee #20023

As the years go by, I have seen it [NEMO] move from just information to one of the agencies being proactive.

Interviewee #20024

It’s really the fine tuning of disaster and responses, the speed with which people are able to move to implement their responsibilities. They have performed so well that they have been able to inspire commitment from the public.

For Crosby and Bryson (2005), entrepreneurs (or change agents) comprehend how the various pieces of a situation connect to one another. Entrepreneurs, seeking to make a difference, may serve as catalysts. In this leadership role, entrepreneurs—like visionaries—should act as role models by displaying appropriate behaviors to manage change.

The NEMO Director and a few other network members appear to be engaged in catalytic leadership. NEMAC includes various stakeholders in the network. With its National and District Committees, the network encourages the participation of businesses, NGOs, and private citizens in disaster management efforts. Based on the interviews, the NEMO Director has worked diligently to keep the network focused and increase public awareness on disaster management

issues. Luke (1998) has asserted catalytic leaders must involve key stakeholders and sustain their actions as well as engage in strategic thinking and group facilitation work. Luke (1998) also declared catalytic leadership is about revealing the interconnectedness of disaster management issues to other issues of interest. In Saint Lucia's case, a connection could be made between preparedness and mitigation issues and improved social transformation and national financial system. NEMAC, most likely through NEMO, can enhance the quality of public dialogue and change the way the public discusses the issues.

NEMO obviously has served as a catalyst. It has brought about disaster management improvement for Saint Lucia by creating preparedness and response plans, training volunteers, and informing the general public on disaster issues. It has sought not only to develop NEMAC's capacities, but also to change the attitude of Saint Lucians toward disaster preparedness. According to Heikkila and Islett (2004), "entrepreneurs can take a role in promoting stability by identifying strategies that may be more congruent with the norms and strategies of others in a choice situation" (p. 10). Thus, it may be advantageous if NEMO's leader understood better how NEMAC members are incorporating disaster management into their home organizations, particularly since some participants' organizations have internal disaster teams.

Politicians

Five interviewees (#20010, #20015, #20016, #20017, #20021) described their roles as resembling those of politicians. Politicians, embodying the shrewd diplomat, possess an acute ability to perceive the practicality of their present circumstances as well as hidden meanings in messages and behaviors of others. Politicians (or diplomats) recognize the value of forming and maintaining strategic internal and external relationships. Such ties, managed well, may allow such officials to build broad networks of supporters and to learn information not easily obtained from public sources. Therefore, politicians must become "boundary spanners."

Representatives presented examples emphasizing external links; their connections were related to either international training or national contractors. Those who spoke about training connections portrayed them as short-term or weak relations. Participants who collaborated with national groups had developed stronger links. From these connections, members have brought their newly-acquired knowledge and skills into NEMAC.

Two interviewees (#20012 and #20027) emphasized the significance and benefits of key relationships, as indicated in the representative statement that follows:

Interviewee #20027

If we have to make a critical decision in terms of shutting down agencies, that I'm in the know, I have the connections with the key players in government I can call on. To be knowledgeable of the staff orders, the constitution that governs the public service. I think from that perspective I'm beneficial to the group.

This individual not only serves in the role of politician, but also as a boundary spanner. She/he has formed relationships with government officials outside of NEMAC and her/his home organization. The respondent has willingly drawn on these connections to NEMAC's benefit. For instance, she/he spent time with Senate and House of Assembly representatives and other key contacts explaining the disaster management policy documents and plans that NEMAC had submitted to Cabinet for approval just weeks prior to participating in this study.

Another participant discussed the art of diplomacy which is a critical skill of successful politicians:

Interviewee #20013

There's definitely a gain in the art of being diplomatic because at times it's very trying... But, then—let me see how do I put that without—see, I'm trying to be diplomatic again. There are instances where there's a lot of passing of the buck. People have their responsibilities and there's always the 'It's not my call, it's your call' kind of thing until you have to show them where they are legislated to respond to that. They are the appropriate agency. What I find, there is a lot of, they know they are responsible. They want to know they are responsible. But, then, action wise, they always prefer somebody else take the action.

Interviewee #20013, however, revealed an apparent challenge confronting the network. It seems some members refuse to accept their disaster management responsibilities until reminded of legislation dictating their role. Even then, some participants would rather have another member or organization take the lead on any action necessary to address the challenge. This type of behavior—should it continue—has the potential to undermine the reasons for initially creating the collaboration: including various stakeholders because of their special skills or knowledge to augment preparedness and response capacities.

From external connections, some members have been able to improve their response abilities which, in turn, increase the chances for NEMAC to enhance its efforts. Other members have developed connections on a national level which should assist in making those particular individuals more aware of disaster issues and processes. The comments on relationships suggest participants are acting as shrewd politicians; they have made an effort to establish high-level connections. As a result, they have obtained needed information and/or resources. All eight respondents have formed their own networks of support.

Additionally, Crosby and Bryson (2005) claim political leadership comes into play in the middle of the leadership cycle they posit and is needed to secure policy adoption. Although none of the participants mentioned the NEMO Director in the role of politician, she has the necessary connections—a direct link to the Prime Minister and Cabinet Secretary—to obtain Cabinet approval of NEMAC disaster plans and protocols.

Fundraisers

Four interviewees (#20010, #20017, #20020, #20027) discussed their roles as fundraisers. Fundraisers or “resource suppliers” provide members not only with finances, but also with training, equipment, and/or personnel. Locating financial support appears to be another part of their responsibility in order to perform their assigned network roles. They explained obtaining funds nationally was difficult because “the scope is not grand.” However, one participant stated her/his organization would support other members as best it could in the circumstances:

Interviewee #20020

I get a broader perspective at the NEMAC level as to what the strengths and weaknesses are of the various agencies and then I can see from that angle what we can do from here to try and leverage some sort of assistance, technical, human or otherwise to assist other agencies.

Although comprehending the overall picture is mainly described as critical in the role of visionary and strategist, it is also key in fundraising. Knowing the larger landscape can help to obtain appropriate resources for priority disaster management activities.

Four respondents (#20015, #20016, #20019, #20020) asserted NEMO or the NEMO Director raised funds to operate NEMAC. They specifically referred to NEMO obtaining funds

for training committee volunteers or organizational staff. One participant honored NEMO for such actions; as this individual stressed,

Interviewee #20016

Very likely if we had to stay by our own resources, we probably would not have sought the amount of personnel that we have trained.

These participants—as well as others—seemed to expect NEMO to finance or locate other organizations to support most of their preparedness activities and response efforts. However, the respondents who declared their assigned roles occurred either during the recovery or mitigation stages did not appear to rely on NEMO for financial assistance.

Crosby and Bryson (2005) incorporate this role in their description of “organizational leadership”; leaders are responsible for acquiring resources for network members to be successful and achieve agreed-upon goals. One network participant made an observation that neatly captured the issue of finances:

Interviewee #20026

It's always finance. Finances, you know. You don't get stuff done if you don't have the money. Whereas you may do something in the immediacy of the response, at some point, you're going to have to pay the bill. So, definitely, finance. ... Well, you never have enough regardless of the size of the nation. You never have enough.

Funding is essential in disaster management. A few participants realized they have to fundraise independently as organizations to execute their network roles. Others depend on NEMO to locate resources for their use in the network.

Multi-Taskers

As with the majority of disaster management issues, particularly during the response stage, leaders must juggle multiple tasks concurrently. Four interviewees (#20008, #20009, #20010, #20019) explained roles that could be labeled “multi-taskers.” They managed numerous assignments at their home organizations and for NEMAC. The level of activity increases tremendously during a crisis situation. The members, however, are also quite busy during the

preparedness stage. They emphasized the difficulty of addressing their voluntary work for NEMAC along with their other responsibilities. As one participant stated,

Interviewee #20008

You try to deal with one issue. By the time you grapple with it, a new emerging issue is there to deal with.

For other NEMAC members not mentioned here, it seemed when disaster management was not part of their home organizations' responsibilities, they either had difficulty finding time for NEMAC work or had opted not to devote any time to their network tasks. One participant observed,

Interviewee #20028

Some of them who don't really see a very tangible role for them, they kind of stay behind.

That is, members without definitive roles have chosen to remain at a distance from the network. Beck and Yeager (2001) have contended such participants are not motivated to be actively involved because they lack interest and/or their organizational goals do not align with the network's goals (p. 137). In the case of NEMAC, these inactive members may not have discovered a suitable balance between their home organization responsibilities and their network activities as discussed in Chapter 5.

Facilitators

As for facilitators/harmonizers/mediators, three interviewees (#20014, #20020, #20029) declared they carried out this role. One participant focused on maintaining calm in a crisis:

Interviewee #20020

Being able to bring people together and when the tensions are rising, I think I have some negotiating skills as well and so on to make people understand, you know, that we're all in this together and it's no point bickering and things. We've got to come to some common ground in order to for us to deal with the particular situation is at hand.

The two other respondents who commented on this role (#20014 and #20020) talked about “people skills”—how they sought to bring “harmony, camaraderie, friendship” to NEMAC. All three individuals claimed they wanted more NEMAC members to view activities as a group effort.

Followers

Interviewee #20011 and *Interviewee #20012* claimed they assumed, on many occasions, the role of follower. They tried to carry out whatever instructions the EOC issued. Both agreed the EOC possesses the latest information on a disaster situation and is better able, therefore, to make an informed decision concerning the actions that their organizations and/or committees should take.

This role also aptly applies to many of the volunteers in the National and District Committees. NEMAC members expect the committees to follow their lead. Yet, at the same time, they also expect committee participants to assume leadership roles. This can create a delicate situation within the expanded structure. When those at the grassroots struggle to gain influence in the network and become more than followers, Avolio (2005) has claimed “it affects very directly the leadership social system and culture that exists within the organization and ultimately the relationships ...It means that the total social system must become more transparent, that it must become more collaborative and it must adopt more of a shared leadership paradigm” (p. 145). Collaborative work should encourage information sharing and lead to empowerment of the group. NEMAC has struggled with communication issues, but, according to the interviewees, the National and District Committees have indeed been given the power necessary to make decisions related to their committee work and their communities, respectively.

Individual Roles: Informer, Questioner, Supporter, and Worrier

Four participants described themselves individually as an informer, questioner, supporter, and worrier.

- As an informer, *Interviewee #20012* claimed it was her/his duty to “*provide information and advice.*”
- In the role of questioner, *Interviewee #20022* emphasized it was vital to question any advice given by network members, especially if her/his organization had to take the lead role in a disaster situation. This individual stated she/he must “*weigh the pros and cons*” before making a decision.
- One participant described herself/himself in the role of a supporter:

Interviewee #20020

My personal role is to try and assist NEMO in bringing on board more people who would assist with volunteering because what happens is, sometimes, tensions arise because people are getting burnt out. They're constantly being asked to push themselves and do things. ...So, I think that a part of my role is to ensure that you bring more people on and make them understand how important it is for their role in their own communities.

- In the role of worrier (and implementer), another NEMAC member stated,

Interviewee #20017

I'm the one to take all of the worries and the stress and the qualms and everything and to see how best to get things done.”

These four roles are necessary to ensure well-informed decisions are made and volunteers understand their significance in preparedness and response processes.

Such self-proclaimed roles add value to NEMAC. As they address these responsibilities there, interviewees actually serve as catalysts; they may improve network coordination efforts and possibly reduce impediments to performance. With numerous coordinators, NEMAC should have its system processes in place. But, respondents indicate these coordinators should communicate with each other more often to improve their efforts. Additionally, nine interviewees claimed to be evaluators or problem solvers. This was a positive indication that participants may manage better the challenges faced by the network. Multi-taskers represented most participants who were trying to balance home organization duties with network tasks. The

harmonizers and followers have attempted to ensure members get along and make progress on plans and projects. The remaining roles—informer, questioner, supporter, and worrier—have aided NEMAC in enhancing its overall performance. “Especially relevant here is that role-taking connotes an adaptive process, a mode of unconscious self-structuring” (Selznick, 1957, p. 83). These respondents have self selected to assume these particular roles. They have come to judgments framing what NEMAC needs and have utilized their skills to ensure those perceived imperatives are met.

Furthermore, the majority of participants assigned NEMO and/or the NEMO Director several roles. At times, some interviewees gave the impression they did not distinguish between the organization and the Director: NEMO is the Director and the Director is NEMO. Those roles, in their own words, are the following (number of interviewees who mentioned the role appears in parentheses):

- Manager/Overseer (11)
- Coordinator/Organizer (10)
- Informer (10)
- Assessor/Evaluator (5)
- Supporter (5)
- Influencer (4)
- Partner (2)
- Arbiter (1)
- Delegator (1)

One respondent (#20010), however, challenged the notion that NEMO served an informer role. This individual had heard NEMO called several meetings to discuss the H1N1 crisis as well as the Vieux Fort fire situation, but she/he declared, “*We were not invited to those meetings.*” Five other interviewees (#20008, #20016, #20017, #20027, #20028) observed even though NEMO informed the general public on disaster management issues, NEMO had been unable to convince island residents how vital preparedness measures are, specifically for hurricanes.

Clearly, NEMO is managing and coordinating NEMAC's activities. Although the network literature (Agranoff & McGuire, 2003) asserts organizations such as NEMO seldom have "real authority," that does not appear to be the case with NEMO and its Director. Most NEMAC members have conferred a great deal of authority on NEMO and its leader. Of course, several participants pointed out their involvement in NEMAC is voluntary and, therefore, they expected NEMO to oversee most of the network's responsibilities. Additionally, most participants stated they looked to NEMO and/or its Director to take on the role of "sense maker." They expected NEMO to explain any impending disaster situation and how NEMAC might respond. Plowman *et al.* (2007) contend, "This sensemaking role is particularly important in dynamic systems where change is emerging through actions not necessarily intended by the leaders" (p. 351). Leaders are expected to interpret events or problems (Friedrich *et al.*, 2009, p. 948; Plowman *et al.*, 2007, p. 345). Many members, consequently, rely on NEMO and/or its Director to guide them in disaster planning and other crisis management activities.

Member Roles: Summary

NEMAC participants, first and foremost, viewed member roles based on formal positions, generally applying this perspective to the disaster response stage. This should be expected since most network members represent government agencies. They are used to operating within a hierarchical structure. However, several interviewees acknowledged the collaborative efforts of NEMAC members and anticipated shared responsibilities and shared leadership in the network. As noted above, recent research from both the disaster management and network literatures has highlighted the benefits of several leaders cooperating to handle a disaster situation.

The most oft-cited leadership roles needed in a network or collaboration are the following: visionaries, strategists, politicians, fundraisers, coaches, and change agents. Based on the interview responses, NEMAC reflects the literature's theories (Hudson, 2005; Nanus & Dobbs, 1999) on necessary roles in collaborations and several network members have carried out these specific roles. Overwhelmingly, participants suggested they served as coaches. Their comments revealed they believe in motivating and supporting other network members as well as their home organization staff. As coaches, they suggested they are most focused on their

organizations' internal dynamics and NEMAC's current activities. As visionaries, respondents recognized leaders must be farsighted; yet, they emphasized the significance of persuasion. In this role, participants appeared to spend time looking outside their organizations to calculate future opportunities or threats. Several interviewees described their roles as strategists. But, they did so in relation to their home organizations and explained how those roles connected to NEMAC. In this role, a few participants apparently looked for possibilities beyond the network to improve their own capacities which, in turn, could enhance NEMAC's functions. In these various responsibility mixes, network members seek to persuade others to implement agreed-upon plans and to utilize external connections to acquire needed resources. As a result, positive changes are most likely to occur both inside and outside of NEMAC during the disaster management cycle.

Yet, few participants have operated on behalf of NEMAC as boundary spanners (politicians), fundraisers or change agents. In these particular roles, building relationships is vital. Internal and external relationships are important factors for effective collaborations (Linden, 2002, p. 164; Plowman *et al.*, 2007, p. 351). Instead, several interviewees assigned these responsibilities to NEMO. For NEMO to assume those roles effectively, its Director and staff must understand the network's internal and external environments as well as current and future activities. Such linkages produce new knowledge, creativity, adaptability, and potential resource suppliers. The internal and external relations that some respondents have indicated they have developed are generally weak. It is, therefore, important for more NEMAC members to become forgers of strong relationships among all disaster management stakeholders. Importantly, NEMAC members should consider themselves change agents. All are in positions in their home organizations as well as in NEMAC to push for necessary changes regarding disaster management issues. Based on their influence, they have the capacity not only to encourage their organizational staff members' interest in disaster management, but also to assist NEMO in altering the general public's attitudes.

In their self-designated functions or stances, NEMAC members are taking on several roles that the leadership literature terms "managerial" rather than leadership-like in character. In most of these functions, members are not only "steering" the direction of NEMAC's efforts, but also into the "nuts and bolts" of the work. As coordinators, analyzers, and multi-taskers, some participants have sought to synchronize their home organization tasks with their NEMAC

responsibilities, thereby, expanding response efforts and purportedly enhancing coordination. They are aware of the protocols and response systems and evaluate evolving disaster situations accordingly. The mediators and followers have tried to generate and maintain positive network dynamics. In both roles, participants are dedicated to ensuring NEMAC's goals are achieved. Those playing the remaining four roles—informer, questioner, supporter, and worrier—have sought to improve the overall actions of NEMAC. In most of these roles, too, participants could serve as catalysts. But, none of the interviewees proclaimed themselves as engaged in such behavior. Instead, they have turned to NEMO to be the proactive member when they are in positions to be catalysts for change regarding disaster management. Additionally, in these particular roles, communication among members should be abundant. Yet, the interviews suggested otherwise. Nonetheless, research has shown the “benefits of the diverse expertise were even greater with increased collaborative behaviors and accurate information exchange among team members” (Friedrich *et al.*, 2009, p. 935).

Participants assigned multiple roles to NEMO and/or the NEMO Director, confirming this organization's central position in the network. The majority view NEMO as the key manager and coordinator of network activities. This is to be expected given NEMAC's structure. Nonetheless, respondents have also accepted shared leadership and responsibilities within NEMAC, predominantly in the response stage.

Leadership Styles

Leadership may generally be defined as “a process of social influence in which one person is able to enlist the aid and support of others in the accomplishment of a common task (Chemers, 1997, p. 1). To persuade others to work toward a specific goal, leaders may need to adjust their leadership styles. Leadership styles are combinations of individuals' behaviors, skills, and traits. Leadership styles are important. If the appropriate style is employed, they can establish cooperation and cohesiveness among diverse stakeholders. They can encourage innovation and creativity. They can improve coordination and communication. They can develop stakeholders' skills and grow organizations. Crosby and Bryson (2005) have argued effective leaders adapt their styles based on the situations they confront and may combine or actually switch styles to address multiple stakeholders on an issue.

NEMAC's Styles

NEMAC has generated its own leadership style based on how members function together and how they engage in the decision-making process. Because of its shifting structure and the various personalities and experience levels of network members, NEMAC exhibits a combination of three leadership styles: participatory, delegative, and directive.

Participatory Style

Five interviewees (#20014, #20015, #20017, #20019, #20024) asserted decisions within the network were made in a participatory manner. They noted NEMAC meetings were where “power brokers” gathered to make collective decisions. A participatory leadership style encourages open discussion with stakeholders to try to find consensus. It is about consulting with all members of the collaboration so the most effective coordination and communication mechanisms can be determined for the group.

The following three participants’ comments nicely conveyed this style:

Interviewee #20015

We sit there and then we thrash it out at the table and then we come to a decision. It's not one person who says, "We should go that way." Yes. Fine. Any other options? "No, I think we should do that." And then we start to thrash out of the lot.

Interviewee #20024

No person was treated as if they had exclusive control or jurisdiction of their particular domain. ...it was a very participatory approach, all individuals representing the various sectors contributed. And, it really wasn't confined to its very narrow terms of issuing instructions solely to the unit affected. Everybody contributed to the process. It's a remarkable amount of openness, a remarkable degree of sharing, a remarkable degree of cooperation. And, I think people understood that they were all cogs of a sophisticated piece of machinery. And, the very function of NEMAC depended heavily on solidarity and cooperation because it's pointless that you prepare supplies for distribution and you don't have a transport sector supporting you for the distribution of supplies. So, people understood performance affected efficient, overall efficiency of the organization. I thought it was a wonderful spirit.

Interviewee #20019

Based on our state of readiness, and that is based on the reports that have come in, we'll collectively make decisions. ...it is not a matter of the Prime Minister making the decision or NEMO. It's a collective decision-making process. Everybody has their opinions, their views. We collectively, sometimes we vote or, it's a collective process.

From these descriptions, all members have the opportunity to be involved in the network's decision-making process. In this way, NEMAC may be said to be using meetings for team building.

Delegative Style

Nine interviewees (#20008, #20010, #20011, #20012, #20016, #20020, #20026, #20027, #20029), on the other hand, described the decision-making process for disaster issues as delegative. A delegative leadership style means stakeholders recognize leaders as the final authority. But, those same leaders may delegate tasks to stakeholders and allow them the freedom to make decisions on how to complete them. This, in some fashion, describes the ICS; NEMAC members have assigned responsibilities and are expected to carry out those roles by choosing the best options for their circumstances:

Interviewee #20012

There is a national plan that defines the roles of everybody. And within our services, we also have our own plan which is in sync with the national plan. So, everybody's role is clearly defined. And you know what your role is whenever there is an emergency. Everybody is clear on that because of the plans in place.

However, the disaster response process and delegative leadership style are complicated. As several participants discussed, response decisions must be made rapidly which may result in some individuals' perspectives being overlooked. Additionally, a delegative approach assumes some risk in crisis situations: leaders entrust tasks to individuals they assume can manage the circumstances appropriately. Occasionally, this may not be the case and that, in turn, possibly results in loss of life during emergencies. Below is a statement that illustrates this complexity:

Interviewee #20020

I think basically by consensus. We, everybody puts their heads together. And, you know, there will always be dissenting voices and so on, but usually it's by consensus that we, this is the route that we are going. Because that is why they try as far as possible to have people higher up in the service so that they can make those decisions because sometimes the decisions have to be made right away. You can't go back and forth asking. And she always, too, the director of NEMO also has to clear final things with the Prime Minister who is the head of disaster management in the country. So, while we make decisions at our level, the final process, she still has to run it by the Prime Minister to make sure that he's happy with what the collective has agreed upon.

Unlike the participatory leadership style, these statements reveal several network members prefer a bit more structure in the decision-making process, especially during the response stage. A delegative style acknowledges the need for group discussion, but also the necessity of a final arbiter. For NEMAC, the Prime Minister is the ultimate authority.

With the ICS, members should know which agency will take the lead, streamlining the decision-making process. Additionally, two of the interviewees (#20010 and #20026) claimed that although NEMO guided the strategic direction of NEMAC, the National Committees decide how to implement the plans. For instance, the Transport National Committee determines the transportation needs for stranded and injured survivors and routes for supply distribution. Thus, delegative leaders “don't *abdicate* responsibility; they merely empower others who share their vision to orchestrate the realization of that vision. They find others who are ready and able to run with the ball and let them run, always continuing, however, to keep an eye on the ball as well” (Beck & Yeager, 2001, p. 94).

Directive Style

Five interviewees (#20009, #20013, #20018, #20021, #20028) highlighted the authority of the Prime Minister. Using a directive leadership style, leaders inform stakeholders of the expectations and, if necessary, clarify their roles for them and delegate assignments. These three comments describe the directive style within NEMAC:

Interviewee #20009

Persons may obviously have a bias towards their roles. I think he [Prime Minister] now has to sift through all of that discussion and ideas and more or less come up with a plan

of action, come up with priorities and what obstructions there are to those things happening which is what is my assessment it is so far, what he has been doing and assigning responsibilities accordingly.

Interviewee #20018

Usually persons make suggestions and it's cleared with the Prime Minister. Then, the decision is made. But, there is a collaborative approach, so to speak, in doing that. However, there are some decisions that are made in a dictatorial fashion. Not in a negative way. But, there are some things that just have to be done. So, there is very little consultation on it.

Interviewee #20028

I'm smiling because I remember an incident, and again it was for Hurricane Dean, and we went into NEMAC meeting, prestrike meeting, and we were speaking about the homeless. Well, who's responsible for the homeless? We need to get them off the streets. And, the Prime Minister just turned around and said, "Social Transformation. You get them off the streets."

From these statements, it is clear the Prime Minister has sometimes used a directive leadership style to ensure decisions are made and actions are taken. The Emergency Powers (Disaster) Act No. 5 of 1995 reflects this directive authority. That Act gives the Prime Minister the power to requisition any equipment needed in a national crisis and to commandeer or demolish buildings for the safety of the island state.

A combination of leadership styles has emerged within NEMAC. As a group, members turn most often to three styles: participatory, delegative, and directive. Overall, members are a part of the decision-making process: they are usually consulted on issues when the group meets or are given authority to make decisions when utilizing the ICS. By exhibiting three leadership styles, the network's membership demonstrates its flexibility. And, "organizational adaptability can be an important attenuator in extreme contexts" (Hannah *et al.*, 2009, p. 910).

Members' Styles

NEMAC's leadership style as a collaborative group has much to do with the individual styles of its members. Most participants offered a definition of leadership. They also made other comments during their interviews that described their individual styles. Based on this

information, transformational leadership styles appeared more prevalent than transactional leadership approaches among interviewees.

Leadership style is extremely important in collaborative settings. Collaborations are generally formed to address a common concern. Network members, therefore, have the same general goal, but they may not have the same idea about how to attain that end. Thus, collaborative leaders must know what style is valued by the stakeholders. In this way, leaders may employ different leadership styles that align best with certain stakeholders to gain consensus on how to achieve their generally shared aspiration.

Transactional Leadership

Nine respondents (39%) gave descriptions of three transactional leadership styles: directive, delegative, and inspirational. Transactional leaders provide a vision and direction and attempt to motivate people in exchange for their best work to achieve the organizational vision and goals. These leaders seek to provide stakeholders with necessary information and support in order to complete their assignments effectively and efficiently. They prefer stable working conditions: this allows stakeholders a predictable environment in which to perform well and allows leaders the time to refine their organizational system. Transactional leaders also generally have direct influence on stakeholders.

Directive Style

Five interviewees (#20011, #20016, #20020, #20023, #20027) described their leadership styles as directive. They discussed commanding respect, making decisions, and providing clear standards and instructions. According to Beck and Yeager (2001), directive leaders tend to give information “about what to do, how to do it, and why it should be done” (p. 25). Below are representative statements:

Interviewee #20011

Generally, one who can command the respect of the persons working under them and can get the task at a particular time, a specific task done within a timeframe. ... As long as I say, “Go,” everybody’s there. Sometimes they are there even before me.

Interviewee #20016

For me, I see leadership as the capacity to assess an incident, ok, and analyze it correctly, and make the appropriate decision, ok, to manage the incident.

Interviewee #20027

Someone of an organization that can define a set of procedures or policies or recommendations, how well they articulate that, how well they can convince or they can persuade an organization to move in one particular direction as opposed to another by showing the cost of benefits and what not.

These leaders apparently have informed their staff of their expectations and the direction they should go. The disadvantage of this style is that leaders reduce their options for solving problems because they are relying on their own knowledge and experience (Beck & Yeager, 2001, p. 48). Nevertheless, in a disaster situation, this style is common. As Hannah *et al.* (2009) have observed, “leadership during actual extreme events normally becomes more directive and transactional” (p. 905).

Delegative Style

According to two participants, a delegative style is needed to carry out plans so leaders themselves are not inundated with tasks. The following interviewees suggested they employed a delegative leadership style:

Interviewee #20019

A good leader has to learn to listen. You have to be a very good listener. Because you don't necessarily as a good leader know it all, you know. So, sometimes it's important that you have good listening skills. ...You then have to assign responsibilities and to coordinate and to get different people to be doing different things. So, you have a lot of coordination to do. If not, then you'll be micro-managing and doing a lot of it yourself.

Interviewee #20026

I give you a task and I let you run with it. If you have a problem, I expect you to come back to me and say, “I have a problem with this.” You give me the deadline. We discuss a deadline. And this is whether this is with my staff or with a volunteer who's doing something or we're in crisis mode. I bring you in and say this is what I need done, take a look at it, and tell me when you think you can get it done. Or if I'm on a deadline, I'll say, “Look, this is the deadline. Do you think you can make it?” And then I leave it to you.

The next time I hear from you, either you have a challenge so you're coming back to me with it or it's done. I'm not going to be over your shoulder. You know, every so often, I'll say, you know, "How's it going? Everything OK?" But, to be over your shoulder, micromanaging you, I'm not like that. So, I leave it to the experts to get done.

When employing this style, leaders allocate tasks to others and allow them to decide how to accomplish those assignments. By giving people leeway to make decisions, leaders as delegators show respect for followers' decision-making capabilities (Beck & Yeager, 2001, p. 93).

This style has been used often by NEMAC with the National Committees as discussed earlier as well as by the National Committees with the District Committees. The National Committees provide national plans and procedures and expect the District Committees to determine how to carry out those plans. For example, the District Committees customize the template provided by NEMAC for an evacuation and are responsible for executing their individualized plans for their communities.

Inspirational Style

Inspirational leaders try to kindle people's imaginations and motivate them "to perform to their best." This leadership style focuses on intellectual stimulation to prompt stakeholder action. The two participants below gave definitions indicating they prefer an inspirational leadership style:

Interviewee #20008

I think it is the ability to inspire people to do not just what they're paid to do, but to motivate them and in the case of a disaster situation to get up and do more in a difficult situation and not turning around and saying, "I'm not getting paid to do that."

Interviewee #20012

To me leadership is two critical areas. One, inspiring people to perform to their best. And, I think, apart from administration and organizing, you have to lead like the cliché goes, you lead by example. ...And, you should have a lot of interpersonal skills, you know, being able to relate to people. I think these are some key leadership qualities.

These leaders strive to generate momentum among stakeholders in order to progress toward intended goals. They accomplish this by setting an example, understanding individuals' needs, and relating to employees professionally and personally.

Transactional leaders may change their leadership styles to encourage followers to be more committed to the organization and its vision. They typically do not spend much time on people's needs or development unless they are essential to accomplishing goals. In other words, leaders who have directive, delegative and/or inspirational leadership styles are most concerned with the organization, whereas transformational leaders direct more attention to people rather than organizations and tasks.

Transformational Leadership

Eleven interviewees' (48%) leadership styles may be classified as transformational. These network members understand the importance of building positive rapport with stakeholders, engaging in frequent two-way communication and involving stakeholders in decision-making. The more involved stakeholders are, the more committed they usually are in following through with group decisions. These leaders urge people to value the team and team work. In contrast to transactional leaders, transformational leaders try to influence stakeholders more indirectly, using symbolic and consultative processes. They also embrace unstable conditions and view these as opportunities for change.

Avolio (2005) has claimed transformational leaders are "highly trusted, inspiring, intellectually stimulating, and oriented toward developing followers to their full potential" (p. 118). Transformational leaders, as a result, are conscientious about people's needs and developing their skills and talents not only for the benefit of the organization, but also for the individual and society. The interviewees discussed three overall transformational styles: achievement-oriented, supportive, and participatory.

Achievement-oriented Style

An achievement-oriented leadership style seeks to develop others' abilities and to encourage team work. Teams can be motivational mechanisms. Achievement-oriented leaders

are not the only ones to challenge others to give their best work. Team members may be able to persuade other members to perform well to solidify the team and achieve success as a group. The three NEMAC representatives below depicted an achievement-oriented leadership style:

Interviewee #20009

I think it has to do with, in terms of making things happen and, also, motivating others whether by your own professional skills or whether by other softer methods in terms of, to make things happen and be efficient and effective.

Interviewee #20013

Leadership is being able to work with people and to develop their capacity to perform their duties as required.

Interviewee #20024

For me, all leaders need a direct, clear vision of what it is that they want to achieve and how they are going to achieve it. Leaders have to be goal oriented, dedicated, committed. Leaders have to be mobilizers. Leaders have to be able to inspire loyalty and commitment. Leaders also have to be able to encourage people to work together even in the face of disagreements. A leader is someone that can weld together different points of view and earn the loyalty of all concerned towards implementation of the specific decision that has been taken.

These respondents stressed the importance of obtaining employees' commitment, whether through professional development, teams or other means of motivation. Such leaders seek to inspire others to work together toward shared goals. According to Avolio (2005), achievement-oriented transformational leaders are "usually able to get others to come along with them on a journey toward achieving the vision. They are persistent, focused, and aligned around a common purpose, which they work to get others excited about and energized toward achieving" (p. 196).

Additionally, *Interviewee #20024* hinted at catalytic leadership; this individual discussed how leaders connect various viewpoints in such a way as to gain commitment from stakeholders. Catalytic leaders "think systemically and strategically about short- and long-term actions and their impacts." (Luke, 1998, p. 4). They are able to connect the dots for stakeholders. So too must achievement-oriented leaders. They must show how different aspects of a situation affect each other as well as stakeholders, organization, and society.

Supportive Style

Supportive leaders strive to accommodate the needs of those working with them. The following three participants indicated they employ a supportive leadership style:

Interviewee #20017

In disasters, you find persons tend to change, at times, especially if they've lost their belongings, personal belongings, that is. So, persons go into a totally different mindset and you have to try to work with them 'cause I remember when I worked in Grenada in the water sector, I had workers who lost everything in terms of their homes, their personal belongings and everything. And these are the same guys who you have to call out to come and work and restore the water supply to the island. And they would be coming out with little to eat and things of that sort. And, yet, you're required to make sure that they work as speedy as they can throughout the day to get things done. But, at the same time, you have to be sensitive to their needs in the fact that, you know, they might be operating on an empty stomach or things of that sort. Food may be in short supply for them and their family. So, you have to be accommodating and flexible and caring and to see after their welfare also. Because if you don't take care of them, they will not take care of you in return because an empty back cannot stand. So, these are the kind of things that you have to do. And be motivational for them at all times. Be that shoulder for them to lean up against at times, you know, that they figure they're tired and they can't go any further. ...You have to be accommodating. You have to have that soft spot in your heart, at times, and look on the flip side of things in order to come up with effective decisions.

This particular representative claimed leaders must be especially concerned with stakeholder considerations during a disaster situation. In this individual's experience, disaster workers' attitudes may change if they, along with other survivors, have lost family members, their homes, and personal belongings. She/he asserted leaders must be sensitive to workers' situations and accommodate them if one expects the work to be done.

The two other interviewees who suggested they employ a supportive style pointed out it involves empathy and persuasiveness:

Interviewee #20028

I think leadership has to do with being able to manage or being able to provide the requisite assistance that is required by members of your team to be able to move from one point to another. I think it speaks to how you are able to motivate your team members to work along with you to meet your desired objective or the objective of the group.

Interviewee #20022

A great leader is somebody who serves other people. So, I mean, to go all the way out to make the people feel comfortable as much as possible and to try put that leader to put himself in the other people's shoes, and, to look at the overall picture, the mental, physical, social ...I would be very understanding in trying to cooperate with the people under me. And, in my opinion and from my experiences, when you keep the people happy, you're getting more out of them than if you are very, very stern and harsh with them. So, there are many leaders who don't get the maximum out of whoever is working under them just because they don't treat them right.

These comments demonstrated that leaders should make every effort to be understanding and compassionate and provide stakeholders with whatever assistance is needed to inspire them to accomplish the tasks at hand. Avolio (2005) has asserted, supportive leaders are “sensitive to the needs of others, but also challenging, to get others to not accept where they are but to question where they can go in terms of their full development” (p. 197).

Both *Interviewee #20017* and *Interviewee #20022*, in essence, described servant leadership. Servant leaders show genuine concern for individuals. They assist stakeholders as much as possible. They exhibit empathy and awareness because they listen to others (Frick & Spears, 1996, p. 4). Both supportive leaders and servant leaders are typically viewed as open-minded and accessible.

Participatory Style

Five interviewees (*#20010*, *#20014*, *#20015*, *#20018*, *#20021*) portrayed their leadership styles as participative. They mentioned how critical it is for leaders to motivate people to work together. The following statements explain this orientation:

Interviewee #20018

For leadership, I see it more as steering an organization, not necessarily managing it in terms of putting on the nuts and bolts, but really getting individuals to work along with you and leading these individuals in a particular direction. ...In times of emergency, these persons [staff] are coming in at their own risk to form that team to go out and respond. So, the qualities that I would have had to, one of the skills I need is ensuring that on a daily basis, we operate as a team and that persons are dedicated and committed to work. So that even outside of these substantive duties, in times of high risk, they are still there.

Interviewee #20010

We have shared responsibility. ...There's nothing as, "I am the boss." I mean, we have no boss here. Everybody has their responsibilities. If one person is not around, everybody knows what's happening. Everybody knows what's going. And if I'm not there, everybody else knows in an event of an emergency what to do, who to call. OK. So, we share responsibility. We share leadership.

Interviewee #20014

To me, we work so much like a group that there's not much thought about. Well, I feel personally I've given my best and I do the best that I can. I have a lot of support from the entire groupings. So, it's more or less a group effort more or less than. I don't see things being individual. I'm seeing everything being a group effort.

Participative leaders include others in their decision-making processes, which assists them in gaining “buy in” from stakeholders. They view sharing responsibilities as a means of motivation and team work as central to operations. These interviewees indicated they promote team work and engage in collaborative leadership.

One of the reasons that NEMAC selected the ICS was because it is a model of shared leadership. The ICS supports a vertical structure that incorporates the capability and mechanisms for distributed leadership. By utilizing the ICS, NEMAC members have combined “top-down” and “bottom-up” leadership in disaster situations. As such, NEMAC has worked to enhance the skills and knowledge of stakeholders in a collaborative setting and to develop committee volunteers to be able to self manage their community disaster management activities. NEMAC, however, has yet to provide many opportunities for committee members at all levels to interact. Thus, it is vital for the National and District Committees to meet as often as they deem necessary to allow committee participants to form ties.

Transformational leaders purposefully set out to establish meaningful connections to others. They use motivational techniques to reveal to stakeholders how they relate to the organization and its vision. They may act symbolically to demonstrate their own loyalty to followers and the organization. When leaders use their persuasive abilities to be heard by stakeholders and to urge them to work “beyond job descriptions,” they are able to build up individuals as well as their organization. In this way, transformational leaders may change systems and mindsets.

Leadership Styles: Summary

NEMAC members bring several leadership styles to the network. Due to these various styles, the network itself incorporates a combination of three principal styles into its decision-making process: participatory, delegative, and directive. As with the network structure, NEMAC participants employ leadership styles to accommodate their circumstances. When assessing plans and activities, NEMAC members utilize a participatory leadership style. This occurs most during the preparedness stage and, to a lesser extent, the recovery and mitigation stages. On the other hand, when decisions need to be made rapidly or specific actions must be assigned during the response stage, the Prime Minister uses a directive leadership style, while members rely on a more delegative style.

Individual members employ differing leadership styles. Participants taking transactional approaches—directive, delegative, and inspirational—indicated their main focus was on achieving organizational goals. They indicated their directive and delegative styles were used most during the disaster response stage. According to disaster management and collaborative leadership scholars (Hannah *et al.*, 2009; Yukl, 2006), these styles are used quite often in extreme events. In disaster situations, making timely decisions is critical. Additionally, participants using transformational approaches—achievement-oriented, supportive, and participative—placed their emphasis on people in order to reach network goals. They stated they wanted others to work with them as a team and indicated they tried to motivate others as well to pay attention to their individual needs. NEMAC and its members exhibit all of these leadership styles during the disaster management cycle.

Chapter Summary

Several NEMAC members have assumed formal and informal network roles. These functions assist the group in planning efforts, forming external relationships, obtaining resources, motivating volunteers, and making needed changes. Multiple leadership roles imbue the network with a collaborative environment. Most notably in the ICS, NEMAC operates as a team; the ICS offers both predictability and flexibility. According to Beck and Yeager (2001), “Team leaders

and team members perform better when they have some degree of predictability to guide their interactions” (p. 125).

According to the interviewees, their primary roles in NEMAC were as coaches and coordinators. In both roles, leaders are building teams. And, communication is a key factor for teams (Bryson & Crosby, 1992, p. 36; Friedrich *et al.*, 2009, p. 938). Coaches must communicate effectively to engender a “team spirit” among members and coordinators must communicate to ensure systems and procedures are managed efficiently. If coaches and coordinators interact with members often and tailor their messages appropriately, they should establish an atmosphere of trust within the group (Bryson & Crosby, 1992, p. 38).

Additionally, several respondents viewed NEMO in complex terms and accorded it three main roles: manager, coordinator, and informer. As such, NEMO occupies a central position in the network. As one participant noted,

Interviewee #20011

On a day-to-day basis when we're not in an emergency role, they [NEMO] carry out all the other functions. They see to it that training is organized. They see to it that warehouses are equipped and all these stuff. So, when we are in a disaster mode, they actually fall into the various committees and assist.

NEMO fulfills these responsibilities—and others, such as acting as a change agent—throughout most of the disaster management cycle.

The leadership styles found in NEMAC reflect the network’s structural adaptations. The primary style in the preparedness stage was participatory. During the response stage, members employed three styles: participatory, delegative, and directive. In the recovery and mitigation stages, NEMAC participants mainly used delegative and directive leadership styles because meetings occurred infrequently. Instead, NEMO staff, particularly the NEMO Director, guide activities and make many decisions. Regardless of the disaster management stage, members acknowledged the Prime Minister as the final arbiter of decision making. In most circumstances, however, members deliberate together on decisions, whether in a group setting or via e-mail.

Individual members, on the other hand, have their own leadership styles. Most members described themselves as having either a directive or participatory style which aligned well with NEMAC’s overall leadership needs. These styles seem to complement each other in the disaster context. In pressure situations, people expect leaders to become “assertive, directive, and

decisive” (Yukl, 2006, p. 38). Additionally, participatory or shared leadership is necessary in a disaster situation where leaders are likely to change as well as to work simultaneously. These collaborative leaders encourage others to share information and responsibilities. Both leadership styles focus on motivating stakeholders to achieve shared goals. They accomplish this aim, however, by using different motivational techniques.

Some NEMAC participants are engaged in collaborative work and are willing to give up a measure of their individual authority during disaster response to empower the network to respond effectively. Many interviewees expressed a desire to improve Saint Lucia’s disaster management capacities. And, they employ the leadership style that works best for them to handle a situation decisively or to motivate others to enhance their abilities to respond to a disaster. According to Chemers (1997),

Effective leaders must accomplish three functions:

- Leaders must project an image of competence and trustworthiness. They accomplish that projection by matching their behavior to commonly held prototypes.
- Leaders must establish a relationship with followers that guides, develops, and inspires them to make meaningful contributions to group goals and the organizational mission. Such relationships must match the needs and expectations of followers, which leaders discern through nondefensive judgments.
- Leaders must mobilize and deploy the collective resources of self and team to the organizational mission by matching operational strategy to the characteristics of the environment (pp. 172-173).

The interviews suggest several NEMAC members have already carefully aligned their leadership styles to their perceptions of strategic requirements, motivated others to be prepared for disasters, and developed plans to support the network’s disaster management strategies for Saint Lucia.

CHAPTER 7

DISCUSSION AND CONCLUSIONS

This study has analyzed the dynamics of a government-led disaster management network. It has investigated network structure and member relations, providing the groundwork for understanding better member roles and leadership styles emerging within the collaborative arrangement. When members assume leadership roles in the network, it is important to understand the styles that they employ as they do so: leadership styles have the potential to affect network structure, member interactions, and direction. Interviews conducted with NEMAC participants provided insights into the leadership aspects of a national inter-organizational disaster management network in the Caribbean.

Discussion of Research Findings

Five key findings emerged from the research. One was the type of network system that Saint Lucia has established. NEMAC, in practice, is a semi-open collaborative structure. On this subject, the network literature was lacking; no research describing networks as semi-open systems seems to exist. Scholars have claimed networks are either fully open (Agranoff, 2007; Castells, 2000; Chisholm, 1989; Harrald, 2006) or closed structures (Harrald, 2006; Thompson, 2003). This research was unable to place NEMAC in either category; the network sits in the middle of the scale depicting open and closed systems.

NEMAC's boundaries have remained relatively stable for the past several years, unlike those of an open system, in which structural boundaries shift constantly. Three main factors have kept the network's borders steady. First, few participants have used their external connections for the direct benefit of NEMAC and its members. Those who have extended their reach beyond the network have done so mostly to secure training in disaster response skills. Their acquired capacities, in turn, may improve NEMAC's overall disaster response efforts. Yet, it is unclear if those participating individuals who received training taught other network members the new skills and knowledge, instructed their home organizational staff or were the sole beneficiaries of the capacity building in which they participated. Second, several members—particularly the National Committee Chairpersons—have been participants in the national disaster organization

for at least five years or more. Furthermore, several interviewees said the District Committees' membership has also remained constant. In fact, in its current structure, NEMAC may be too stable. With relatively impermeable boundaries and low volunteer turn-over, is the network embracing and testing new ideas? Is it receiving sufficient information regarding novel disaster management ideas or processes? Is the structure promoting or hindering innovation within the group? These questions warrant further exploration. However, NEMO is the network's central repository of information, which leads to a third factor that has shaped network dynamics in recent years. NEMAC's communication system is mainly one-way and through e-mails. NEMO sends numerous e-mails requesting members' input on proposed policies and plans, routinely updates participants on relevant activities, and encourages members to develop and implement disaster management plans for their specific sector. Additionally, group meetings are only occasionally held. NEMO typically schedules meetings when an issue or event triggers the need for members to gather for discussion. Otherwise, communication among members is limited. The exception is during a disaster response when participants must constantly communicate to ensure accurate information is being relayed quickly. These three factors have rendered the network less open to outside influences and possibly impaired its capacity to adopt innovations as a result. Nevertheless, the slight turnover among members, a few participants serving as boundary spanners for NEMAC, and the efforts to increase the number and diversity of volunteers in the National and District Committees have kept the network open to some degree.

A second key finding was related to NEMAC's composition, which may be aptly described as an example of a hybrid governance network. It has combined elements typical of a network (flexibility) and of a more traditional bureaucracy (hierarchic command-and-control) to create a structure that appears to align well with Saint Lucia's circumstances. According to the limited research in the network (Agranoff, 2007; McGuire, 2006) and disaster management literatures (Bigley & Roberts, 2001), both of these organizing attributes or characteristics are necessary for inter-organizational collaborations focused on complex public issues to succeed. By incorporating vertical and horizontal lines of authority in different conditions, network members allow the situation to determine the form of organization on which the collaboration will rely. This research, therefore, has raised the question of whether disaster management networks, in practice, utilize hybrid governance models rather than pure forms of hierarchy or of network governance. More deeply, this finding suggests not only that networks may employ

differentiated decision processes depending upon the circumstances in play, but also that how such choices should be characterized must be disaggregated and re-conceptualized as a spectrum, rather than a dichotomy.

Although some scholars promote a network form of collaboration as an ideal for practice, such a structure not only may not always be suitable, it is difficult to maintain in practice. Presently, NEMAC leans toward a more hierarchical arrangement. Interviewees frequently referred to the network's formal leaders: the Prime Minister as Chair, NEMO and its Director as manager, and the National Committee Chairpersons as coordinators. Participants appeared quite conscious of and aimed to abide by the established chain of command, especially during disaster response. They recognize designated leaders may formally need to take charge in crisis situations. During a response, however, all group members assume responsibility for NEMAC's effectiveness. Shared governance and shared leadership occur most at this time. Nevertheless, members still reported to NEMO on their activities and expected NEMO to distribute their information to the rest of the group. Yet, it does not appear that NEMAC deliberately developed its structure in this way. Instead, network composition seems to have evolved in this manner based on circumstances and members' predominant leadership styles and their reading of how to respond to changing circumstances. Several participants claimed to employ a participatory approach to leadership, while almost as many described their leadership style as directive or delegative. NEMAC members rely on all three leadership styles, creating a governance structure that merges hierarchical and network features.

Nonetheless, this network configuration has resulted in NEMO as the central member with two groups with high density operating alongside that organization—the first responders and National Committee Chairpersons. Consequently, NEMO has relationships with all other members. NEMAC can be described as a “star” network—one in which an organization is the central member with direct ties to all other participants. However, some other members have established direct ties to the two high density groups. These two groups and NEMO, with their numerous strong connections, form the backbone of the network structure used during disaster response and seem also together to steer NEMAC's direction. This finding aligns with the network literature: “a dominant core within the network may drive how the network develops and/or evolves” (Provan, Fish, & Sydow, 2007, pp. 502-503). Based on the interviews, the first responders and National Committee Chairpersons are the most energetic members and are

heavily involved in disaster management issues. They interact with each other outside of network functions and outside of the disaster response stage through training exercises, simulations, face-to-face meetings, and social gatherings. As a result, they have ample opportunity to communicate often and work together in various capacities as well as to form opinions of each other professionally and personally that apparently have led to stronger bonds.

Yet, the high density that exists among some of the first responders and National Committee Chairpersons is less about social cohesion than about occupying similar roles in the network (Kilduff & Tsai, 2003, pp. 58-59). Most of these members have comparable professional experiences with disasters and have been long-term NEMAC members. These individuals understand how they affect each other's work. As a group, these participants have made a concerted effort to keep abreast of each other's progress and obstacles in disaster-related activities. This degree of interaction has led to their appreciation of the strengths and accommodation of the weaknesses of each other's organizations. Most interviewees acknowledged their respect for these members and looked to them for guidance during response. Since NEMO and the two high density groups occupy key positions in the network's structure, it is unclear how other NEMAC participants and the character of the network overall would respond to changes in these members' roles and relations.

A third key finding pertained to member relationships and trust. Network density is generally low, apart from those members already identified. Most participants have weak ties and have not established relations with other members, besides NEMO, even if those organizations are strategic to their network role. Their low level of interaction contradicts the common recommendation of the disaster management literature: to improve network operations, frequent communication should occur among network members and regular meetings should be scheduled to provide space for members to get acquainted and to keep the network's goals in the forefront of their daily work. In contrast, in this "star" network, most NEMAC participants instead rely on NEMO to serve as a broker for them. This overreliance on NEMO may lead to challenges in the future. One participant highlighted this concern well:

Interviewee #20028

I think I want to touch on the, I'm trying to choose my words carefully here ... I don't see direct involvement of NEMAC. I think if NEMAC were to be a little closer to the disaster office in terms of, I mean, not to be meddling in what they do, but to provide a little more support to the national disaster office. I think that's not there. I think that's one of the weaknesses. NEMAC is like an agency that is aloof.

This aloofness from network operations on the part of many network participants mirrors their detachment from each other, affecting member relations. If success of networks requires frequent face-to-face communication, member commitment, and strong bonds among participants as the network and disaster management literatures indicate, then one may predict NEMAC may face difficulties linked to member relations. One likely challenge regards the communication mechanisms now used. Another test is most official members do not participate and some send rotating representatives to meetings in their stead. This lack of involvement among appropriate responsible officials has consequences for the relationships formed in NEMAC. How can members develop strong bonds when meeting attendees often vary? These practices both reduce the overall density of the network and ensure that it remains lower than it otherwise might be.

Without close ties, it is possible members may be less willing to accept accountability and/or responsibility. A few interviewees discussed other members' efforts to gain more power in or more benefits from the network, specifically through their ties to NEMO. These members have had discussions outside of NEMAC meetings to seek specific advantages. Such actions have caused some participants to be quite cautious before agreeing to participate in network activities. It has led one member, for example, to refuse to engage in a particular network function as well as to scrutinize others' motives carefully before becoming involved in other activities.

Also, as a government-led network, public officials within it can make decisions without consulting other group participants. One interviewee offered an example of this when describing the Prime Minister's decision to delegate a task to a specific member without broader discussion. According to Provan, Fish, and Sydow (2007), this sort of unilateral action raises questions about the role that government may play in "shaping and constraining the structure of relationships within interorganizational networks" (p. 507). This is a legitimate question to ask regarding NEMO. How have the Prime Minister and NEMO, the central member, affected participant

relationships by taking such actions? Closer study of the roles played by these two government officials specifically would be necessary to address these concerns.

A third challenge, in addition to communication concerns and members' lack of involvement, is members' heavy reliance on NEMO. If for any reason NEMO could not act, the collaboration would very likely operate much less effectively or perhaps even cease to function. Without NEMO, the majority of members would be disconnected from each other and from the information and resources that organization typically supplies. Another effect of such a turn would likely be the unraveling of many disaster committee activities since the National Committees depend upon NEMO to organize and help to follow through on many of their functions.

One might assume these challenges are actively impeding the formation of trusting relationships across the network. Interestingly, 61% of participants claimed a moderate degree of trust exists within NEMAC. But, many interviewees repeatedly discussed the strain on the group due to members' lack of involvement, particularly in the Emergency Operating Center. How can trust form on a professional or personal level when members do not contribute to shared discussions and activities? Who is giving trust to whom in a network in which public and political responsibilities compete? Moreover, it may matter who actually participates since responsible officials so often do not engage. On the other hand, NEMAC members do not seem to need a personal relationship with other participants to confer at least a modicum of trust.

This apparently anomalous finding can be explained. It appears network participants have developed two forms of trust: competence and reputational. This study's findings echo two conclusions regarding trust often reported in the network literature. One, trust within collaborations occurs in part due to a shared a priori belief in the professionalism among members of all those engaged in the network. This is the case with NEMAC. Two, trust is also possible when members either know individuals who know a network member or when participants trust a leader. During the interviews, several respondents indicated they assumed the Prime Minister has appointed capable members. They also pointed to the small geographic size of Saint Lucia as a factor that helped to encourage trust within the group. Because of the intimacy of the small island state, it seems everyone knows everyone else or, at least, the concept of "six degrees of separation" can be appropriately applied. Some interviewees declared members would obviously perform their network duties professionally since their actions would

be visible to a wide array of people. As such, it seems, in addition to a belief in the professionalism of their peers, many NEMAC members often extended trust based on the assumption that people are concerned with maintaining a reputation for being a good performer, a team player, a person dedicated to the nation. Of course, that trust is weakened or lost when someone does not undertake their tasks responsibly or does not perform well.

Notwithstanding this apparent trust among network members, interviewees discussed examples which revealed important tensions in the group, including members' lack of commitment to their network roles as well as some participants going "rogue." The extent to which structure and/or specific member relationships introduced these tensions is unknown. Further investigation is necessary to understand fully these internal pressures. Regardless, several interviewees deemed such stresses to be part and parcel of organizational dynamics. As a result, they expressed no concern about these matters, which may prove problematic in the future. If members do not address these causes for concern, including some participants' lack of understanding of their network roles, member relations most likely will become increasingly strained, diminishing the effectiveness and progress of NEMAC.

A fourth key finding of this study was that network members assume specific roles within NEMAC. While this analysis supports the idea found in the network and collaborative leadership literatures that certain leadership roles are needed in inter-organizational collaborations, this study's findings did not exactly echo the literature. For example, both literatures claim visionaries and strategists will occupy important network positions. Although several interviewees described themselves as playing such roles, they did so when discussing their formal organizational leadership posts, not their network responsibilities. Their leadership positions within their home organizations require them to assume these two roles. However, they seem to depend on NEMO to outline strategies and future path, obviating the need for other network participants to play visioning or strategic roles.

This study, on the other hand, does support the network and collaborative leadership literatures regarding the role of coach in collaborations. The majority of interviewees described themselves as emulating the characteristics of a coach; they perceived themselves as advisors, motivators, listeners, and teachers. They were concerned with developing others' capacities and encouraging a team atmosphere. This analysis also reflects relevant literature regarding the roles of politician, fundraiser, and change agent. Only a small number of network participants claimed

to undertake these functions on behalf of NEMAC. Instead, most assigned the role of fundraiser and change agent to NEMO, along with several other functions, underscoring that public agency's central network position.

Many network members also served as coordinators. The network literature had little to say about this role: it addresses managerial roles and skills in the context of the network manager, not on behalf of the entire collaboration membership. The literature concentrates on the formal network leader and does not discuss the informal leaders' function as coordinator. When interviewees discussed the role of coordinator and the significance of well-organized response efforts, they were depicting what the leadership literature classifies as managerial tasks. Since they perceived their network roles as more managerial in nature, this suggests a tension that they must face—leadership roles in their home organizations versus managerial roles in the network. It also may be one reason why official members are uninvolved in NEMAC; they lack the time or interest to undertake administrative tasks for the network. Yet, instead of considering network engagement as a managerial role, participants could view the collaboration as a leadership responsibility instead—the role of boundary spanner. One of the members' chief aims is to manage communication and activities between their home organizations and NEMAC. Both roles require specific leadership abilities to ensure stakeholders are informed, understand their tasks, and work together. According to Agranoff (2007), “This boundary-spanning aspect of communication is essential because one must regularly interact at home to be an effective bridge between home organization and the network” (p. 105). Thus, this role serves a vital function. If more NEMAC members became champions within their home organizations for disaster management issues, they might find staff members willing to assist them voluntarily in their network-related managerial tasks. Regardless, participants apparently are not aggressively utilizing their coaching and coordinating skills to create a team atmosphere in NEMAC to encourage stronger bonds among members.

Additionally, four interviewees explained their individual roles as facilitator, informer, questioner, and worrier. The network and leadership literatures highlight the importance of facilitation and communication skills. These literatures, however, rarely address the role of questioner and do not discuss the role of worrier. Both functions are significant. Members who question others' actions may encourage new ideas and perceptions. Those participants who

worry about collaboration effectiveness and efficiency may encourage more responsible member behavior and a willingness to test new systems. Both functions could have profound impacts.

A fifth key finding from this study suggests multiple leadership styles are needed in a disaster management context. The results also indicate NEMAC members' styles mirror the network's structure. By mostly employing participatory, delegative, and directive leadership approaches, NEMAC participants have created a structure in which hierarchical and network features may co-exist. Members have embraced a chain-of-command style, particularly during the response stage, where clear roles have been assigned and procedures put in place. Their delegative and directive leadership styles seem to have led members to form direct ties to NEMO as the central member that distributes tasks and information. That fact, however, appears to have come at the cost of hindering group participants from establishing closer bonds. NEMAC members have embraced the collaborative manner in which decisions generally are made throughout the disaster management stages just as they have accepted more directed reporting relations during crises. The active participants understand their interdependence. As a result, the participatory leadership style has allowed participants to have candid discussions during meetings. As one participant claimed,

Interviewee #20013

More people have come to realize that the organization is very fluid and not that the Director of NEMO has to do it all or the Prime Minister has to do it all. But, it's a collective effort by everyone so that things are achieved on time and that the true picture is communicated to the persons responsible in a timely manner so that the response can be adequate or the request can be accurate.

Consequently, most members have recognized a collective effort can be accommodated effectively by a hierarchical structure during a disaster situation.

A central tension, however, exists regarding how these leaders navigate a collaboration in which two different leadership styles coexist uneasily. Network members must be able to find and maintain a balance between following an authoritative chain-of-command ladder and encouraging collaborative efforts among, at times, competing members. The designated network coordinator especially must address the challenge of this duality successfully. A hierarchical structure allows a few individuals to make final decisions, while a participatory decision-making process recognizes each member's right to offer his or her views. This has broader portent. More

research is needed to understand better how to manage the interweaving relationships and shared understandings necessary among participating principals to sustain a hybrid governance network.

Conclusions and Implications

By employing Crosby and Bryson's (2005) *Leadership for the Common Good* framework as a guide for this research, it was possible to provide a clearer picture of NEMAC's dynamics. This study was informed by all four components of the framework. First, the model emphasizes the need for collaborations to address complex social issues. Although it does not focus on disaster management, the framework mirrors the claims made in that literature. During the urgent and crisis atmosphere that attends disaster response and recovery, stakeholders are more aware of the need to share power and authority to secure desired outcomes. Collaborations permit key actors to widen their access to information and resources. This joint work requires shared responsibilities. Crosby and Bryson (2005) stress the importance of shared leadership as well as the inevitability of multiple leaders in just such scenarios. In disaster response, several leaders must act, usually at the same time, to assess and respond to crises. This study expected to find multiple leaders within NEMAC and, as a result, incorporated questions that asked interviewees to discuss their leadership roles and those of other members whom they viewed as leaders within the group. The findings revealed few members—the central member and the two high-density groups—engaged in active leadership roles.

Second, the framework was especially useful regarding leadership capabilities desirable for collaborative efforts. It includes eight skills: the capacity for systemic thinking, reflective thinking, problem solving, creating a sense of community, meaning making, boundary spanning, empathizing, and bringing about needed change, all of which coincide with characteristics most discussed in the NGO leadership literature. These eight competencies are vital for disaster management network leaders. The research set out to discover interviewees' specific proficiencies to determine what leadership capacities they may be utilizing in NEMAC and how those might be affecting member relationships and roles. The study's findings revealed members assumed several roles related to those in the framework: strategists, coaches, visionaries, politicians, and change agents. As noted above, they mainly exercised those functions in their home organizations. Their role as coach, however, did seem to influence network relations,

especially in the National Committees whose members sought to generate a team atmosphere. Moreover, some interviewees discussed what Crosby and Bryson term, “personal leadership” and “organizational leadership.” Personal leadership centers on understanding self and showing an openness to test fresh ideas. One interviewee (#20008) explained her/his desire to create a new organizational culture and was actively experimenting with innovative decision processes, while recognizing her/his limitations with new technologies; as a result, this individual has handed over certain tasks to other staff members in her/his home organization. Organizational leadership focuses on establishing a sense of community. One respondent (#20018) shared how important it was for her/him to establish that collective understanding within her/his organization. This individual underscored the significance of teamwork and declared that such an orientation helped to create a productive work environment.

Notably, the Crosby and Bryson (2005) framework incorporates ethical leadership; however, it takes a different perspective than the researcher on the topic. Crosby and Bryson (2005) define ethical leaders as those who inform stakeholders about laws, requisite behaviors, and constitutional issues. These leaders urge others to adhere to legal boundaries. This certainly should be expected of leaders. Yet, the authors discuss ethical leadership in terms of professional rather than personal character. At times, these may be one in the same. But, if an individual performs within the established boundaries, it does not necessarily mean that individual is acting for a greater good. Personal character should be considered in a collaborative setting since it may affect member relations. Leaders should be honest and compassionate. Luke (1998) has claimed that collaborative leaders should be role models and should demonstrate a sense of morality as well as a profound desire to improve society. In this study, several interviewees expressed their desire to improve Saint Lucia by ensuring it was prepared for disasters. Ethical leadership should be given further scholarly attention since ethical behavior typically generates trust among stakeholders. Thus, public policy network members should maintain high ethical standards to gain and maintain the public’s trust. How that ought properly to be considered and insured in disaster-oriented efforts merits further investigation.

Third, the framework helped to analyze NEMAC’s various roles by describing three settings—forums, arenas, and courts—where stakeholders deliberate over public policy issues. It also pointed up specific leadership capabilities employed in those settings. The network serves as both a forum and an arena. As a forum, NEMAC functions as a venue in which group members

come to decisions on priorities and potential challenges. It serves in this capacity generally during the response stage. Bryson and Crosby (1992) have claimed visionary leadership is needed in this setting. And, even though few interviewees assigned NEMO the role of visionary, the agency serves in that capacity because its leader plays a key role in setting NEMAC's future course. In the preparedness stage, in particular, NEMAC serves as an arena where group participants determine disaster management policy. Bryson and Crosby (1992) have asserted political leadership is employed most in arenas. Again, a small number of interviewees viewed NEMO in the role of politician. The bulk of the responsibility to ensure effective liaison with elected leaders lies with NEMO which forms relationships with Cabinet members to make certain that policies are adopted. The third setting, predominantly the court of public opinion, resonated with several interviewees. According to Crosby and Bryson (2005), ethical leadership is important in courts. The general public expects public policy networks, like NEMAC, to abide by national laws and follow agreed-upon procedures during disaster events. During the interviews, some respondents declared they did not want the public assigning blame to their organizations in times of crisis. As a result, they sought to perform their organizational and network tasks effectively and efficiently.

Regarding the fourth component, the framework described which leadership capacities that prevail during certain phases of a policy cycle. Crosby and Bryson (2005) have claimed visionary and political leadership dominate in the early phases. During that stage, a champion of the issue is vital. For NEMAC, the interviewees stated the former Prime Minister served as that champion. According to several interviewees, this previous Head of Government actively pursued financial, political, and public support for the creation of the national disaster organization. This individual was able to garner commitment to comprehensive disaster management from key stakeholders. On the other hand, for NEMAC members, the role of political leadership highlights the duality of leadership styles. The majority of interviewees seemed to understand the Prime Minister's function: to employ a command-and-control approach or a participatory style appropriately, depending on the disaster management stage and policy phase. Crosby and Bryson (2005) also stressed that shared leadership is needed throughout the policy cycle. NEMAC members clearly understand disaster management requires them to share responsibilities and to allow several network leaders to exercise authority. Nevertheless, it seems few network members actually assume active leadership roles.

One conclusion to be drawn from this study is more representatives from the private and third sectors as well as private citizens should be included in NEMAC. The network's official membership consists overwhelmingly of government officials with only two businesses, one private citizen, and one NGO formally represented. NEMAC includes numerous NGOs and businesses on its National Committees and private citizens serve on the various District Committees; these volunteers are considered leaders in their organizations and their communities, respectively. Through this extensive committee structure, the Saint Lucian government has access to expertise and resources at the national level and to planning and needed response capacity at the local level. But, the expectation of this research was that NGOs particularly and businesses generally would have much larger roles and more leadership positions in NEMAC, especially since NGOs and businesses have the potential to reach deep into communities to deliver services and/or products. With few official members representing non-governmental organizations, this implies a significant opportunity cost for disaster mitigation planning and response efforts. For example, interviewees often praised NEMO's attempts to change the attitudes of Saint Lucians concerning the importance of disaster preparedness. However, most interviewees quickly added that although great improvements have been made since the formation of NEMAC and NEMO, these entities lack resources and have been unable, through NEMO, to change the mindset of the general public regarding disaster management issues. One concern related to communication is the lack of funding and demand for broadcast and print in Creole. According to *Interviewee #20012*, a significant percentage of older Saint Lucians and of residents living in rural areas speak only Creole. This issue may hamper NEMAC's efforts to update and involve Creole-speaking residents in disaster management plans and activities. Local NGOs and businesses are potential channels to assist with this concern and others and this suggests a way in which their increased involvement might prove productive in disaster mitigation and response.

Changing public attitudes represents a difficult challenge. What actions might assist NEMO in such a monumental effort? First, internal changes to NEMAC should be considered. Network members could become more involved in the collaboration. Their increased participation could strengthen the network's functions and member relations. Second, more group participants could become champions of disaster management issues in their home organizations, committing to informing their staff on a regular basis about disaster management

concerns and the role their organization plays in NEMAC. They could update their staff regarding NEMAC participants' disaster preparedness, response, recovery, and mitigation plans. Such dedication may eventually have contagion ripple effects throughout their organizations as well as in communities. And, third, NEMAC and NEMO could engage NGOs and businesses more in their outreach and communication strategies. With NGOs and businesses assisting at the community level, it is likely local citizens would be better informed and possibly more likely, as a result, to engage in disaster management efforts. Longitudinal research would be needed to capture the efficacy of such outreach efforts.

To strengthen communities and increase their resilience to disasters, citizens must be informed, engaged, and provided with resources (Kapucu, 2006; Özerdem & Jacoby, 2006; Paton & Johnston, 2006). And, they should be represented at all levels of the decision-making process. This begs the question: with government leading the way, does NEMAC's membership represent its society? The official NEMAC members do not appear to reflect Saint Lucian society. The National and District Committees, in contrast, do seem to represent the island's population more effectively. But, caution is appropriate here. Many interviewees explained all volunteers were considered leaders. Are these leaders ensuring the voices of vulnerable populations are being heard in the disaster management policy network—the participatory governance arrangement that is NEMAC? Is information from the grassroots level making its way up through the District Committees to the National Committees to NEMAC?

Evidence surfaced during this study that, to some degree, addresses the latter question. Two interviewees provided contradictory explanations of how two separate National Committees function. One interviewee (#20010) stated all members' suggestions from a particular National Committee were taken directly to NEMAC where the meeting attendees vetted those ideas. Another respondent (#20011) described a different process for a separate National Committee. In that instance, the committee chairperson filtered members' suggestions before submitting them to the NEMO Director who then further reduced those ideas and selected a smaller number to recommend to NEMAC members for discussion. With any committee structure, it is difficult to establish clear channels for all viewpoints to be heard at a higher level. In NEMAC's case, one National Committee appears to give voice to its members, while another National Committee seems to limit that possibility fairly severely. This may indicate a larger problem with stakeholder representation at the national level.

Democracy requires citizen engagement: “A duty of democratic governance is to consult citizens and involve them in decisions and plans that will affect them” (Berke & Campanella, 2006, p. 199). As such, governments in general have turned to businesses and NGOs to address complicated public issues at the local level, evolving into so-called “new governance” arrangements. This form of shared responsibility for governance has expanded the boundaries of government; public sector boundaries now overlap with for-profit and third sector borders (Rhodes, 2003, p. 61). This governance form requires appropriate procedures and mechanisms to ensure participatory possibilities for citizens. These means and methods, referred to by Bingham, Nabatchi, and O’Leary (2005) as “quasi-legislative processes,” include citizens juries, citizens panels, e-democracy, public conversations, focus groups, and collaborative policy making. According to Hendriks (2009), networks especially have an “increasing role in governing policy issues and delivering public services” (p. 709). NEMAC is such a network. It is potentially at least a form and forum for participatory democracy. The Saint Lucian government has endeavored to engage citizens in disaster management issues and the policy-making process by establishing NEMAC and its National and District Committees. The government has also made a good faith effort to educate the general public on preparedness issues and on initiatives to train volunteers in response skills and procedures.

Including grassroots voices in disaster management decision-making processes requires decentralization, a difficult task for government. NEMAC has done a good job of decentralized planning, but, as indicated above, the committee structure can either promote or repress voice. The committees have variable democratic permeability. There are few active players who appear essential to expanding the nominally open “star” network and changing an issue’s prominence on a disaster management stage. As previously discussed, the mitigation stage basically is overlooked in policy and planning discussions. From a top-down perspective, how are NEMAC members or the NEMO Director specifically working to increase the importance of disaster management issues in the District Committees? In general, how do “new governance” processes and instruments “affect the discretion, power, and control of administrators and other public decision makers?” (Bingham, Nabatchi & O’Leary, 2005, p. 555). From a bottom-up view, the committees may be mechanisms for participatory democracy, yet, one may question whether they are apparatuses for representative democracy. Do those at the grassroots have the potential to change the frame through which disaster management issues are considered? Such questions

merit exploration of the island state's grassroots capabilities and of the broader engagement of civil society.

These concerns also raise the matter of accountability. In this study, eleven interviewees (48%) briefly discussed the subject. Three respondents (#20010, #20015, #20018) declared there were no accountability mechanisms in place. Eight interviewees (#20009, #20011, #20013, #20014, #20016, #20017, #20019, #20020) claimed accountability was measured based on performing tasks, submitting reports to NEMO and/or their home organization's highest official, and enduring the general public's scrutiny and judgment. These eight participants talked about accountability related more to the National Committees rather than to NEMAC or NEMO. But, if official members are uninvolved, who is holding them responsible for undertaking their assigned network tasks? In the National Committees, if members do not perform their assigned tasks, there are no systems to ensure their work gets done. As one participant (#20010) explained, for one particular National Committee, when members do not complete their assignments, "We all pull it together to respond." Because participation in NEMAC is voluntary, are the members answerable to anyone? Even though NEMO serves as the group's central coordinator, its leader has no authority over any of the members. How then can volunteers be held accountable? Agranoff and McGuire (2003) have claimed collaborations "shift our concern away from hierarchical accountability to notions of responsibility, responsiveness, and the fostering of democratic ideals" (p. 189).

Even so, from a broader perspective, how can accountability be defined when some network members are non-government entities? Even with a relatively inclusive committee structure, several questions surface about democratic accountability. Should network members be held responsible if government does not supply adequate resources to address the concern? Who is ultimately liable if the collaboration struggles with capacity issues? In some instances, network members may not perceive themselves as accountable to the public. Most businesses, for instance, typically believe they are accountable only to their investors. How much influence does the court of public opinion have in this case? Further, who decides whether the collaboration is responsive or fosters democratic ideals? In other words, who is overseeing these voluntary members to ensure they are focused on the collective good rather than their own interests? With regard to NEMAC, is the network or its central member, NEMO, attempting to build a culture for broader accountability and responsibility? If so, how influential are these

entities in changing the larger political culture? Hendriks (2009) has argued that governance networks should not be expected to “replicate the kind of representation and accountability we associate with electoral democracy” (p. 710). These questions and Hendriks’ statement suggest further study is needed to ascertain the mechanisms of, implications for, and definition of accountability in a disaster planning collaboration of the sort NEMAC represents.

On the other hand, engagement of civil society and citizens can assist communities (at all scales) in envisioning their future, explaining their policy preferences, attaining consensus on policy proposals and plans, and securing the possibility for public dialogue (Bingham, Nabatchi, & O’Leary, 2005, p. 551). Should such actions be taken, a connection between participatory democracy and representative democracy can occur. However, leadership must be firmly established in communities to ensure effective representation. NEMAC’s District Committees have the potential to expand and work toward improved democratic representation.

Another observation from this research is that leadership styles affect network structure, functions—particularly the decision-making process—and member relations. This finding emphasizes the importance of leadership within hybrid governance networks. This study also found members’ leadership in their participating organizations to be vital not only to network operations, but also to extending the collaboration’s reach. This analysis underscored how important it was for network participants to become champions of disaster management issues in their home organizations. Thus, exploration of leadership beyond NEMAC is needed. How does leadership emerge within the National and District Committees? What leadership styles do leaders of those efforts employ and why? At least three leadership frameworks could be considered for such exploratory research. Each is described briefly below:

- Friedrich *et al.* (2009) have presented a framework for understanding collective leadership centered on four factors: key leadership constructs (e.g. leader-team exchange, communication, team affective climate); base-line leadership and team processes (e.g., leader skills, team processes); outcomes; and the setting in which the process occurs. The framework attempts to understand how collective leadership occurs within a team environment.
- Uhl-Bien, Marion and McKelvey (2007) have developed a model to analyze leadership in situations of complexity by examining three forms: adaptive,

- administrative, and enabling leadership. Their framework takes into account the relationship between bureaucratic functions and informal complex adaptive systems.
- Plowman *et al.* (2007) discuss leadership in emergent organizations, but their analysis could readily be applied to purposefully established networks. They have identified three primary leadership functions: disrupting existing patterns; encouraging novelty; and acting as sensemakers. The authors propose that leaders within network settings are enablers or “tags.” In other words, leaders catalyze possibilities.

Depending on the research context, these approaches may help analysts to understand leadership within diffuse governance networks that include grassroots entities. Another context that should be a focus for future research is analysis of network governance dynamics at the regional level.

This study’s findings also have implications for the Caribbean region. The area has a long history of working to address disaster planning and response via complex governance networks. Since its inception, CARICOM has sought to join the island states economically, socially, and culturally. CDEMA has worked to bring Caribbean nations together to ensure the region is developing relevant disaster management expertise and processes and is preparing adequately for disasters. These two regional organizations may benefit from understanding the leadership styles and member roles prevalent in the national disaster organizations (NDOs); such knowledge would permit these entities to assist NDO leaders in adapting their strategies to the network’s reigning strategic and operating environmental contexts. They may also be able to encourage NDO leaders to foster shared leadership within their networks as well as within and among the committees and/or task forces operating under the NDOs’ umbrella. These regional organizations may want to look more closely at structure and how to include a broader array of NGOs, businesses, and private citizens in these national NDO collaborations. CDEMA recognizes the value of adding these constituencies and, therefore, should actively encourage its NDOs to give further consideration to including these target groups and individuals as official network members. However, before expanding any NDO membership, CDEMA and the individual NDOs should carefully review the communication mechanisms used in these networks since this analysis found that interaction problems are a major impediment to the development of member relations and of several other important network functions.

From a regional perspective, more data on the other Caribbean NDOs should be pursued. It would be beneficial to know if and how other national disaster management networks in CDEMA are engaging the for-profit sector, the third sector, and private citizens. From this study, the planning process, governance structure, and training programs seem well developed. However, the communication system, processes for increasing member engagement, and member leadership roles are underdeveloped. Thus, it would be useful to discover how other NDOs are managing these issues. Compiling this type of data may offer insights into ways to enhance community capacity and build stronger network systems. Understanding how NDOs operate may also open two small windows to potentially broader trends afoot in these island states. Examining additional Caribbean governance network structures, dynamics, and operations in some detail may provide a glimpse into how the island states' social systems work. It might also reveal whether the Caribbean region is indeed shifting from vertical democracy to horizontal democracy through its increasingly extensive use of networks.

NEMAC has the potential to have strategic, far-reaching impacts through its endeavors on Saint Lucia. Through the committee structure, NEMAC and similarly situated NDOs in other nations can play important roles in democratic governance in the island states. Collaboration among Caribbean NDOs could have significant influence on disaster management issues for the region. Collaborative decision-making that occurs in networks, such as NEMAC, gives stakeholders an opportunity to deliberate on issues with national implications. Their work can build local and regional capacity, influence the political process, and allow more effective coordination of relief efforts in the wake of disasters. Although collaborative decision-making may not be the most efficient method of choice making, it may be the most effective (Agranoff & McGuire, 2003, p. 191). Most importantly, disaster management networks engage governments, businesses, NGOs, and private citizens in decision processes that strive for a common good: improved resilience to natural disasters.

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APPENDIX A

INTERVIEW QUESTIONS

Background Questions

1. What are your specific responsibilities at your home organization?
2. How and why did your organization become involved in the NDO?

Structure Questions

3. How is the NDO organized? (i.e., staff, governing body, standing committees) [For Mgr]
 - a. How are members determined? [For Mgr]
 - b. Did prior relationships exist between any members before the NDO was formed?
4. What would you say are the most significant activities of the NDO?
 - a. What struggles has the NDO faced?
5. How do members typically stay in touch and coordinate activities when the NDO is dealing with planning and mitigation? Can you give an example for both situations?
 - a. What is a typical meeting of the NDO?

Member Relations Questions

6. How do members work together during a disaster, both the response and recovery phases? Please provide an example of a particular disaster or situation.
 - a. Do any members have particularly strong relations between them?
 - b. Are there any tensions between members?
 - c. Have any cliques seemed to form?
 - d. How have these relations, tensions, cliques affected the NDO's performance?
7. How do you view your organization's position in the NDO as well as your own personal role as a member of the NDO?
 - a. How would you describe other members' positions in the NDO?
 - b. Which organizations or members do you believe are central to the NDO?
 - c. What skills and resources do the other members bring to the NDO?
 - d. What skills and resources do you bring to the NDO?

Leadership Questions

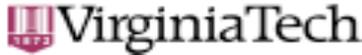
8. How would you define leadership?
9. How are decisions made regarding the critical tasks of the NDO?
10. Which members do you consider leaders within the NDO? How and when did they become leaders?
 - a. Do opportunities exist for all members to take a leadership role?
11. What skills and behaviors do they display that seem to help or to hinder the NDO's progress? Can you provide an example?

Concluding Question

12. How has your participation affected your own organization's efforts in any of the stages of disaster management?

APPENDIX B

VIRGINIA TECH INSTITUTIONAL REVIEW BOARD APPROVAL LETTER



Office of Research Compliance
Institutional Review Board
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FWA0000572 expires 1/20/2010
IRB # is IRB0000067

DATE: July 17, 2009

MEMORANDUM

TO: Max O. Stephenson
Tracy Cooper

FROM: David M. Moore 

Approval date: 7/17/2009
Continuing Review Due Date: 7/2/2010
Expiration Date: 7/16/2010

SUBJECT: IRB Expedited Approval: "The Role of Nongovernmental Organizations in their National Disaster Organizational Network in the Caribbean: An Analytical Case Study", IRB # 09-613

This memo is regarding the above-mentioned protocol. The proposed research is eligible for expedited review according to the specifications authorized by 45 CFR 46.110 and 21 CFR 56.110. As Chair of the Virginia Tech Institutional Review Board, I have granted approval to the study for a period of 12 months, effective July 17, 2009.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.
3. Report promptly to the IRB of the study's closing (i.e., data collecting and data analysis complete at Virginia Tech). If the study is to continue past the expiration date (listed above), investigators must submit a request for continuing review prior to the continuing review due date (listed above). It is the researcher's responsibility to obtain re-approval from the IRB before the study's expiration date.
4. If re-approval is not obtained (unless the study has been reported to the IRB as closed) prior to the expiration date, all activities involving human subjects and data analysis must cease immediately, except where necessary to eliminate apparent immediate hazards to the subjects.

Important:

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APPENDIX D

FAIR USE ANALYZER: Graphic Maps

VT Fair Use Analysis Results

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Draft 09/01/2009

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Virginia Tech ETD Fair Use Analysis Results

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APPENDIX E

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