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Challenges to Disaster Risk Management in The Gambia: A Preliminary Investigation of the Disaster Management System's Structure

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Abstract: The alarming increase in the scale and incidence of disasters around the world has been largely attributed to global climate change. Africa like other continents have also experienced its share of disaster, though not on the same scale as countries in Asia. while the scale of disasters in Africa is smaller, the effects on the population is devastating due in large part to the high level of vulnerability in African countries. The Gambia is no exception and is also prone to numerous hazardous events that are exacerbated by lack of capacity in implementing disaster risk reduction measures. The Gambia is in a position to decentralize the government in addition to implement newly created developmental goals. One of these goals is to enhance the nation's disaster risk management system. As such, this paper provides the results of a preliminary investigation of The Gambia's disaster risk management system, with a focus on its organizational structure. Using an action research approach and through the analysis of an online survey and semi-structured interviews with disaster management leadership, this study finds that the current institutional structure of the National Disaster Management Agency (NDMA) should be enhanced to promote more efficient and effective management practices. As a result, a new national institutional structure is proposed that reduces political and administrative inefficiencies at the same time as pursuing the nation's new developmental goals and vision.

Keywords: disaster risk management; The Gambia; organizational structure; disaster management challenges; sub-Saharan Africa

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Over the last twenty years, global disaster events have placed a heightened emphasis on disaster risk management (DRM). The reason for this emphasis is based in the expanding frequency and scope of disaster events throughout the world (Hewitt 2013); however, the situation has become ever more important in sub-Saharan Africa (SSA). The importance of disaster risk management and planning in SSA is more pressing than in other regions of the world because the nations that compose this geographic area are typically more limited in their ability to dedicate resources to disaster management functions in comparison to other nations throughout the world (UNISDR 2011; Childs 2013). Although this phenomenon is true in many countries in SSA, it is particularly the case in The Gambia. Moreover, Bamutaze (2015) maintains that issues associated with the capacity of nations throughout this region of the world

to deal with future disaster situations will only become more complicated, which can be partially attributed to changes in climate and variability in the types of disaster this region experiences.

A number of studies have investigated the frequency and impact of various disasters throughout SSA as a basis for understanding nations' capacity for dealing with hazards (Spiegel et al. 2007; Zogning et al. 2007; Bussell 2014; Bamutaze 2015). Specifically, this research highlights that there are a number of factors that relate to the persistence and effect of disasters, which include weak government capacities at the national and local levels, a lack of effective national institutions, in addition to a reliance on vulnerable natural environments. Although disaster risk management is a priority in SSA, in addition to other vulnerable regions throughout the world (Tall et al. 2013), the goals of effective DRM that are set forth by the Hyogo Framework for Action (HFA) 2005 – 2015 and the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015 - 2030, which involve understanding processes that generate vulnerability and reduce resilience to disasters (Manyena et al. 2013; UNISDR 2015) as a means of reducing harm to life, property, and the environment (Coppola 2011; UNISDR 2015), have been difficult to achieve due to issues associated with political will and capacity. As a result, reducing disaster vulnerability and enhancing disaster response is a byproduct of political actions (Hufschmidt and Glade 2010; Higgitt 2010; UNISDR 2015). Moreover, as Rivera (2016) argues, the administrative and or institutional structure of disaster management is extremely important for successfully pursuing programmatic goals.

However, before a government can begin developing or enhancing a DRM framework in line with the HFA and the SFDRR it needs to have the political will and capacity to do so. As a result, understanding the needs of a particular national disaster management system is a first step to reducing vulnerability. To date, there is only one academic assessment of The Gambia's

DRM system (Agnihorti et al. 2014). Although this baseline research provides needed information on how the system is structured, data used to develop assessments of the effectiveness of the systems structure in addition to the capacity of the government to respond to disasters was based on limited quantitative data partly generated through interviews with Gambian government personnel. However, since the assessment relied predominately on interviews with government DRM representatives during a time when the nation was under an authoritarian political regime, the data generated through interviews may not necessarily provide the most accurate perspectives on the effectiveness of government programs because of potential fear of political persecution on the behalf of respondents (Clark 2006). However, after twenty-two years of rule, the sitting president was defeated in open elections in 2016, which has resulted in government employees and officials being more open to discussing and assessing the effectiveness of programs that were implemented under the old political regime (Sillah and Ceesay 2018).

Subsequent to the political regime change, in January 2018 the new government developed the *National Development Plan (NDP), 2018-2021* (Republic of The Gambia 2018), through a consultative process with citizens and other key stakeholders. This plan currently serves as the guiding framework with the specific goal and interest of recovering from the twenty-two years authoritarian regime. Within the NDP, disaster risk management is identified as one of seven “critical enablers” that will facilitate the achievement of the nation’s strategic priorities that are focused on delivering good governance and accountability, social cohesion, national reconsolidation and revitalization, and transforming the national economy (Republic of The Gambia 2018). Figure 1 visualizes how the vision, goals, priorities, and enablers of the NDP work together to accomplish these goals.

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*****Figure 1 Here*****

As Figure 1 depicts, the seven enablers are meant to serve as the activities that support the implementation and achievement of the strategic goals and vision. Although disaster risk management is not specifically mentioned in the figure, it is conceptually situated within the “Environment, Natural Resources, and Climate Change Land use Planning” enabler.

Among the seven enablers, the national government has identified the need to promote environmental sustainability, climate resilient communities and appropriate land use. Along these lines, one of the ways in which the government seeks to measure its success in pursuance of this objective is through strengthening emergency and disaster risk reduction and response at all governmental levels (Republic of The Gambia 2018, p. 121). The expressed interest to “...strengthen coordination at all levels to deepen understanding and collaboration of community action plans and national and regional contingency plans...(Republic of The Gambia 2018, p. 121)”, is due to the current disaster risk reduction system’s lack of attention to food security and flooding hazards. With specific reference to flooding, Jaiteh and Sarr (2010, viii) observed that

Inadequate storm water management systems and lack of adherence to land use zoning regulations have increased the frequency and severity of flooding in urban areas and the resulting loss of human life and property damage they cause. Although catastrophic seasonal floods are rare in the Gambia, the risks of are nevertheless present. As extreme weather events become more frequent due to climate change... Because The Gambia has about 30 % of the country at or below 10 m above sea level, such floods would be cataclysmic of unimagined consequences.

Although these observations were made in 2010, little change occurred with the national disaster risk management system, which was made more relevant with the server flooding that occurred through the nation in 2017 (UNESCO 2018).

As a result of these new social and political developments in The Gambia, in addition to the growing need to understand disaster risk management in general, but specifically in SSA, this paper explores the challenges posed to disaster management in The Gambia. Through the

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analysis of a survey with disaster management officials responsible for national and regional operations in The Gambia that took place between December 2017 and February 2018, this research finds that issues associated with disaster management training, organizational capacity, and domestic political interference pose challenges to effectively managing disasters. As a result, recommendations for future research are provided as a means of expanding our understanding of disaster management in The Gambia. Finally, policy recommendations are provided as a means of enhancing the nations' ability to deal with future disaster scenarios.

Challenges to Disaster Risk Management: Structure and Governance in The Gambia

Within the realm of disaster risk management, there are a number of factors that pose governance challenges to reducing risk and vulnerability, in addition to responding to natural disasters themselves. Along these lines various authors have highlighted the influences of perceived risk (Holloway 2003; Bankoff and Hilhorst 2009; Fatti and Patel 2013), a nation's economic conditions (Tierney 2012; Neumayer 2014), level of democratic development and electoral incentives (Reeves 2011; Scott and Tarazona 2011; Sainz- Santamaria and Anderson 2013), the strength of civil society (Allen 2006; MacLean 2011; Brass 2012), international actors (Brass 2012; Agnihorti et al. 2014), legal and institutional confines (GRCS 2016), in addition to a number of other factors that relate to how and to what extent nations and other levels of government manage disaster risk. Moreover, most of these factors are not mutually exclusive. In other words, many of these factors interact with one another, subsequently affecting the relative influence of the others in this realm of governance.

However, according to Rivera (2016) although there are a number of factors that contribute to emergency management organizations' governance and planning decisions, the organizational structure of an agency has profound implications on what programmatic goals are

prioritized, in addition to the way in which goals are achieved (see also Egeberg, 2003; Ferlie et al. 2005; Kettl, 2006). The current conceptualization of disaster risk management involves the inclusion of a number of different actors with varying roles and interests that include a respective central government, local government, civil society, the scientific community, and law-making bodies. As a result, organizational structures that have developed or have been created to deal with disaster management must do so in both horizontal and vertical contexts (McGuire, 2006). In this environment organizational decision-makers are involved in managing across governmental, organizational, and sectoral boundaries, and through formal contractual obligations all at the same time. Therefore, in order to effectively and efficiently deal with disaster situations, governments must have an organizational structure.

In The Gambian context, the government has developed an institutional structure in which responsibilities of various actors is well defined. The National Disaster Management Agency (NDMA) of The Gambia was created in 2008 through the passage of the National Disaster Management Act. The is based on the concepts of the HFA that specifically calls for institutions and policy frameworks that are dedicated to disaster response. This framework and institutional structure was developed between 2005 and 2008 with the aid of the United Nations Development Programme. The agency has the authority to engage in planning, coordination and implementation activities related to disaster risk reduction at both the national and local levels. According to Agnihorti et al. (2014), the framework that structures the NDMA emphasizes disaster risk reduction through planning as opposed to disaster response.

Based on the developed framework, the NDMA reports directly to the Office of the Vice President; however, the agency is responsible for managing and accomplishing routine activities in addition to implementing disaster management policies throughout the nation and working

with NGOs and civil society. Although the agency reports directly to the VP, the framework has also created a National Disaster Management Council (NDMC) that operates as a technical advisory group to the VP that is also chaired by the VP. This council is composed of secretaries from six different national departments, the Attorney General, the National Search and Rescue Mission Coordinator of the National Search and Rescue Council, and the Executive Director of the National Disaster Management Agency. In addition to operating as an advisory group to the VP, the council is also tasked with soliciting civil society groups and organizations, NGOs and other experts for feedback. Figure 2 illustrates the structure of disaster management in The Gambia.

*****Figure 2 Here*****

Within Figure 2, the legally codified structure of the disaster management system highlights a framework that appears to be inclusive of a variety of actors, both within government and outside. These relationships are highlighted in Figure 1 by the solid arrows. This is especially true with the way NGO and civil society organizations are theorized to operate within the system. However, NGO and civil society's role in the framework appears to be one in which they work more directly with the NDMA for developing and implementing plans, as opposed to their role in contributing to helping to prioritize disaster management alongside other national interests. This more tentative relationship is illustrated by the dotted lines in Figure 1 that highlight how the NDMC can solicit information from them; however, the relationship is not necessarily reciprocal. Additionally, since the National Disaster Management Council is composed of a variety of government representatives, decisions made by the VP that are directly informed from the NDMA can be couched within the context of other national interests. Therefore, the Gambian disaster management framework is horizontally specialized - placing

disaster management policies, programs and budget allocations in competition with other national agencies (Egeberg, 2003; Gulick, 1937) at the same time as discouraging organizations that do not have the mission of disaster management to engage in collaboration and cross-sector relationships (Agranoff, 2006). A report by the Gambian Red Cross Society (2016) also highlights the legal complications of this relationship by stating that the institutional and legal context is both fragmented and nonconductive to efficient organizational decision-making. As a result, the disaster management system may not work as effectively as it could if it were structured in a different way.

Vulnerability to Hazards in The Gambia

The Sendai Framework for Disaster Risk Reduction 2015-2030, along with its predecessor, the Yokohama Strategy and the Hyogo Framework for Disaster Risk Reduction have all put an emphasis on managing risk instead of disasters (CIMA, UNISDR, 2018). The Sendai Framework further outlines four key priorities for action – (i) understanding disaster risk, (ii) strengthening disaster risk governance to manage disaster risk, (iii) investing in disaster risk reduction for resilience, and (iv) enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction. Understanding the risk profile of a nation is key before the development or enhancement of any DRM system.

Encompassing an area of 11,300 square kilometers, The Gambia is geographically the smallest nation in SSA. The country is surrounded to the north, south, and east by Senegal, and is boarded to the west by the Atlantic Ocean where its capital city, Banjul, is located. Geographically, the entire nation is situated in the Gambia River flood plain, which makes the country vulnerable to seasonal flooding. The nation’s entire population numbers under 2.1 million people, 57 percent of which are twenty-four years of age or younger (Central Intelligence

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Agency 2019). The country's main economy is predominately reliant on the agricultural industry based that is supported by the Gambia River flood plain. The agricultural industry contributes about 32 percent of the gross national product, and 70 percent of the nation's foreign exchange earnings. Moreover, 80 percent of the national population depend on the agricultural sector as a source of cash income (Access Gambia 2019).

Because most of the country is situated within a flood plain, a majority of the country is composed of wetlands, although there are various areas that are vulnerable to drought. The nation experiences seasonal rainfall and flooding between June and October, which is the predominate natural disaster that is experienced (Prevention Web 2014). Flooding and subsequent economic and physical losses throughout the country are stimulated by heavy rains that cause overflow of various bodies of water, which is exacerbated by deforestation to supply land to the expanding agricultural sector in addition to official urbanization and temporary settlement development in natural wetlands and drainage areas. According to UNESCO (2018), more than 49,000 people have been affected by flooding disasters throughout the county since 2015, with 28,472 individuals being affected in 2017 alone. Prior to this time period, in 2010 flash flooding affected about 35,000 people throughout the country. However, as a result of coastal erosion and sea-level rise the number of people that have the potential to be affected by flooding is estimated to increase in coming years, especially in the capital region (Agnihorti et al. 2014). As a result, understanding the nation's challenges to mitigating and dealing with disaster risk is of growing importance.

The country comprises of two municipalities and five administrative regions. This includes Banjul City Council and Kanifing municipality, West Coast, Lower River, North Bank, Central River, and Upper River regions. The flat topography of the country means that no

location is 90m above sea level. Furthermore, the country is seriously affected by land degradation with a rate of erosion of the coastline estimated at 1-2 meters per year. While at varying levels, this makes the whole country prone to climate and environmental disasters. As reported in the Gambia National Adaption Programme of Action (NAPA) on Climate Change 2007 report, this equates to nearly 50 percent of the total land under 20 meters above sea level, 1/3 at or below 10 meters above sea level, and 10 to 20 percent seasonally or diurnally flooded. An example, being the City of Banjul, which is located on one of the lowest elevations experiencing a significant risk from sea level rise. It is important to note that being a small country by synoptic standards, it can be viewed as a single climate zone without the need to refute the existence of small-scale heterogeneities (NAPA, 2007).

This goes to say that, while there is variance in which each region gets impacted by incidences of disaster, they all suffer from the overarching characteristics of climate and environmental disasters that the country is prone to. Some of these key characteristics includes climate change and variability in the amount of rain across the country placing tremendous pressure on natural resources and ecosystems (NAPA, 2007). This is further exacerbated by rapid urbanization (GBOS, 2013). Deforestation for agricultural and commercial logging for timber and fuelwood are amongst some of the other triggers of disasters. It is therefore fair to say that climate hazards in the form of torrential rainfall, storms, droughts, cold spells, heat waves, along with challenging environment and human settlement on wetland communities, and deforestation amongst other factors, have the potential of impacting any region of the country.

Methods

As a means of better understanding the specific challenges to disaster management that are present with the context of The Gambia, this research used an action research approach. This

approach was chosen as a framework of investigation because it provides researchers the ability to better understand participants' individual perspectives, develop a better understanding of participants' practices, and ultimately alter the conditions or ways in which participants practice what they do (McTaggart et al. 2017). Although action research has the potential to generate findings that can be used to enhance administrative and professional practices, the findings can also be manipulated by the respondents that the approach relies on (Brown and Tandon 1983). Specifically, knowing that the research that respondents participate in is intended to change practices, there is a potential that respondents will provide data that is not totally accurate as a means of pursuing their own personal agendas of change (Pasmore and Friedlander 1982). However, despite this potential limitation, the approach is appropriate for developing an understanding of situations and conditions in which people operate, as a means of building a baseline for comparison in the future.

In order to collect data for this research, a multi-modal cross-sectional survey was used. First, an online survey instrument was developed to explore potential challenges associated with disaster management that previous literature has indicated are common among SSA counties. The survey was developed and administered through the use of *Qualtrics*, which is an electronic survey software, and was administered to all NDMA staff. The survey was designed in an online format as a means of increasing the accessibility of the instrument, in addition to allowing respondents the ability to complete the questionnaire at their convenience (Evans and Mathur 2005; Shine and Dulisse 2012). As such, potential NDMA respondents were sent an initial email explaining the intention of the study, which was followed with a separate email that contained a link to the online instrument. Email reminders were sent to individuals that had not completed the survey every week on the same day and time of each week asking them to complete the survey.

This process occurred between November and December 2017, at which time the survey was taken out the field.

The purposive sample of NDMA staff was used because it included all supervisory, mid-level and program coordinators listed on the The Gambia's National Disaster Management Agency's (NDMA) website in November 2017. It should be noted that these seventeen people comprise the totality of disaster management leadership for the country. These individuals were chosen to be included because of their experiential knowledge of the county's natural disaster management programs and processes (Bernard 2002; Creswell and Plano Clark 2011; Rivera 2018), which is similar to other sampling frames that have been used to assess disaster management practices in Africa (see Olu et al. 2016). Many of these individuals are responsible for directing and/or managing disaster management programs and operations at various federal and province levels. As such, all of the individuals have knowledge of disaster management processes as they function at the national, regional, and local levels. However, when the online survey was taken out of the field in mid-December 2017, only three individuals had completed the instrument. As a result of such a low response rate, the researchers devised a second mode to the survey's administration.

Along these lines, face-to-face interviews were attempted with the remaining fourteen individuals that had not completed the online survey. Interviews were conducted using the same questionnaire that was used online; however, the face-to-face interviews provided respondents with a personalized experience that enhanced trust in the research process among respondents, which subsequently incentivized them to participate (Aberbach and Rockman 2002; Clark 2006; Shine and Dulisse 2012). Face-to-face interviews were conducted at The Gambia National Disaster Management Agency where the majority of potential respondents are physically located.

Interviews were conducted with the Executive Director, the Deputy Executive Director, and the Director of Operations, in addition to other regional disaster managers. The interviews were conducted between January and February 2018. Respondents were given the option of being tape recorded; however, when respondents declined to be recorded, interviewers documented respondents' answers to close-ended questions, in addition to taking detailed notes on responses to open-ended questions. After each interview was completed, responses were inputted and transcribed into *Qualtrics* for analysis.. Subsequent to this second round of survey administration, eight of the total seventeen potential respondents completed the study, amounting to a response rate of 47 percent. Those that did not participate, did not respond to inquiries about the study either by email nor by phone. As a result, the forthcoming discussion of findings highlights data gathered from a combination of online survey and face-to-face survey responses from disaster management staff working for the NDMA. Table 1 illustrates descriptive characteristics of the sample used in the forthcoming analysis.

*****Table 1 Here*****

Table 1 indicates that the majority of respondents (75 percent) have been serving within the field of disaster management for at least five years. Moreover, 12 percent have been serving within the field for more than ten years. As such, the majority of respondents within this sample were serving within the field of disaster management in The Gambia during the past political regime, which provides the majority of participants to assess the differences between disaster management practices before and after the political regime change. Additionally, Table 1 also indicates that the majority of regions throughout The Gambia are represented by their chief disaster administrator. However, two regions, the North Bank and the Upper River regions, are not represented in this sample. Finally, for all the regions that are represented in this sample,

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there is at least one respondent whose office is physically located within the region in which they are responsible for overseeing.

Results

As previously indicated, this project sought to develop a preliminary baseline for assessing the challenges indicative to disaster management within the context of The Gambia. In order to achieve this, respondents were asked a series of questions related to their perceptions about the nation's ability to respond to natural disasters, in addition to various questions aimed at understanding what challenges managers face in managing disaster activities (see Appendix A). A descriptive analysis of quantitative data was performed in order to build a preliminary understanding of the dynamics of disaster management in conjunction with a framework analysis of qualitative data (Ritchie and Spencer 2002). Along these lines, respondents were initially asked to rate the nation's ability to effectively respond to natural disasters. To this question, 50 percent of respondents indicated that the nation was only "Moderately Effective" at responding to natural disasters, with an additional 50 percent of the sample indicating that the nation was either "Slightly Effective" or "Not Effective at All".

In addition to rating the effectiveness of disaster response at the national level, respondents were asked to rate the effectiveness of each of the countries' regions along the same lines. Figure 3 highlights the results of this questions.

Figure 3 Here

Similar to the responses to perceptions on the effectiveness of national disaster response, no respondent indicated that any of the regions were either "Very" or "Extremely Effective" at disaster response in any region of the county. As Figure 1 illustrates, the majority of respondents rated all of the regions to be only "Slightly Effective" at responding to natural disasters;

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however, about 43 percent of respondents rated regions such as the Upper River, North Bank, and Banjul as being “Moderately Effective”.

After asking about managers’ perceptions of disaster response effectiveness throughout the county, respondents were then asked whether they believed the current administrative structure of the National Disaster Management Agency (NDMA) is effective at carrying out disaster operations. In response to this question, 50 percent indicated that the structure “Probably” was effective. However, about 25 percent of respondents indicated that the current structure probably is not or is “Definitely Not” effective. Only 12.5 percent (1 respondent) indicated that the current structure is effective for carrying out disaster operations. As a follow-up to this question, respondents were asked, “If you could change the administrative structure of the NDMA, in what way would you change it to make it more effective?” To this 25 percent of respondents indicated that the agency should be more autonomous from the central government. For example, one respondent indicated,

I would make the agency more independent, less dependent on the central government and improve accountability and transparency practices.

Additionally, another commented

An agency with fully autonomous status without political interference especially when it comes to response. To avoid too much of bureaucracy in dealing with disasters/emergencies.

Moreover, another respondent indicated that the agency should be more engaged in developing and expanding working relationships with “other governmental sectors”, but in ways that will limit other sectors’ “influence and interference” in disaster response activities.

Continuing along the lines of administrative and organizational structure, respondents were asked whether the current administrative structure of disaster and emergency management of the NDMA was effective for working with local government jurisdictions in disaster

situations. To this question, 100 percent of respondents indicated that the current structure was “Probably” or “Definitely” effective for working with local jurisdictions. However, despite this positive assessment of the organizational structure in relation to working with local jurisdictions, several respondents indicated that the structure could use improvement. For example, on individual indicated,

The local jurisdiction system would work will if decentralized structures are empowered with more human and financial resources. The current setup lack such, and it becomes difficult for one person to be the judge, jury and executor [all at the same time].

Moreover, another respondent commented, “I [would] appoint district coordinators for each district in The Gambia and also add support staff to the office of the regional coordinator.”

In addition to assessing the effectiveness of the organizational structure of the NDMA to responds to natural disasters, respondents were asked to comment on the extent to which the national government involves non-governmental organizations in disaster planning. To this question, 100 percent of respondents indicated that the government engages non-governmental organizations in disaster planning either “A lot” or “A Great Deal”. Additionally, respondents were also asked to indicate the extent of this non-governmental organizational involvement in disaster planning across the various regions of the country. Figure 4 illustrates the response to this question.

*****Figure 4 Here*****

As Figure 4 indicates, although there is a great deal of non-governmental organizational involvement in disaster planning at the national level, the perception of the extent of this involvement varies across the regions of the nation. For example, although many of the regions are perceived to involve non-governmental organizations in planning about 12 percent of the

sample indicated that the Upper River and Central River regions only engage in this activity “A little.”

Similar to the engagement of non-governmental actors in disaster planning, respondents were also asked to comment on the extent to which they believed the national government involved faith-based organizations in disaster planning. To this question, about 37 percent of respondents indicated that the national government only involved faith-based organizations “A Little” in disaster planning, followed by 25 percent that indicated that the national government respectively involved these organizations in planning “A Moderate Amount” or “A Lot”. Again, respondents were asked to comment on this issue in relation to each respective region of the nation. Figure 5 highlights how the respondents perceive the extent to which faith-based organizations are engaged in disaster planning across regions.

*****Figure 5 Here*****

As Figure 5 illustrates, although the majority of regions throughout the country are perceived to engaged faith-based organizations in disaster planning, the extent of this involvement varies. However, the majority of respondents indicate that, comparatively, regions typically only engage with faith-based organizations in disaster planning “A Little”.

Finally, because this research is specifically interested in developing a baseline of the challenges indicative to disaster risk management in The Gambia, respondents were asked to indicate what they thought was the greatest challenge the nation faces in this respect. To this question, about 87 percent of the respondents indicated that human resources were one of the greatest challenges that the nation faces in respect to disaster management. Along these lines, although there was an expressed need for personnel in general, respondents stressed the importance of “trained human resources”. Specifically, among the individuals that expressed

human resource needs, 71 percent of them indicated that there is a severe lack of training among the personnel that they currently have, let alone among individuals that they might employ. As such, when asked how this challenge might be addressed, half of respondents indicated that “staff and volunteer training” would help enhance the agency’s ability to meet its goals.

In addition to human resource needs, the second most common challenge mentioned by respondents was financial resources. Specifically, one respondent summed up their colleagues’ statements by saying,

Financially, the agency depends on the government, UN bodies and non-government for its disaster response and response plans. The National Disaster Management Agency is a very [financially] poor agency.

When asked how the agency might be able to address this challenge, the general sentiment of respondents indicated that the national government should better prioritize disaster response within the budgetary appropriation process. However, several appeared to not be optimistic of this occurring. As a result, some indicated that the agency should make a better effort of developing better relationships with the national government and other stakeholders with the specific aim of enhancing the agency’s financial capacity. As one respondent stated, “Promote public-private partnerships in disaster risk reduction for resource mobilization.” Moreover, another respondent indicated that a “vigorous...dialogue and greater involvement of stakeholders” is needed to overcome these challenges.

In addition to asking respondents about challenges at the national level, they were also asked to comment on what were the greatest challenges within the regions of the country that they were responsible for overseeing. In response to this question, the same challenges that were mentioned to be problematic at the national level were repeated (i.e. human and financial resources). However, outside of these two challenges, respondents also indicated that political

issues were a challenge in disaster response regionally. Specifically, respondents indicated that in some regions of the nation, disaster management and its efficiency is affected by political interference of local public officials. Not only did this relate to the way in which resources might be distributed in the aftermath of disasters, but also in relation to the way disaster management and the reduction of vulnerability is prioritized. For example, and in relation to political interference within the scope of disaster response, half of respondents indicated that transparency and accountability of public officials that function in the disaster management context was needed. Additionally, respondents also stated that “political awareness and commitment to disaster [management]” was needed as a way of enhancing disaster activities and planning across all regions of the nation, which respondents viewed as a function of the lack of stakeholder involvement in addition to the limited partnerships across governmental agencies, levels and officials.

Discussion

This study sought to develop a better understanding of disaster risk management in a Sub-Saharan African nation, The Gambia. As a byproduct of online and in-person surveys with disaster management personnel at the NDMA, various challenges to managing response and recovery operations were identified. Among the challenges pointed out by respondents, organizational capacity, disaster management training, and political will/commitment by the national government were reported to be problematic. Although each one of these factors is exclusively important to the effective functioning of a disaster management system, they are also mutually reliant on one another. For example, organizational capacity, which in this context was predominately discussed as organizational resources, is entirely dependent on the political will and prioritization of disaster management within the national government. As such, the

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relatively lower level of political prioritization of disaster management in comparison to other national interests results in relatively low budgetary investment in the NDMA, which has a detrimental effect on the organization's ability to effectively provide up-to-date training to their current personnel, let alone other actors that have vital complementary roles in disaster response operations across various regions of the country.

This finding focused on political prioritization is consistent with a PreventionWeb (2015) report documenting The Gambia's progress toward implementing the Hyogo Framework for Action. Within the PreventionWeb report, authors indicated that in order to achieve a more enhanced disaster management system, The Gambian government needs to provide a higher level of political commitment to disaster risk reduction by strengthening the NDMA so that it can leverage its priorities alongside local and federal level economic and social planning processes (pp. 41-42). Moreover, PreventionWeb also indicates that this strengthening of the institution, in addition to providing broader political support would also help to enhance the NDMA's ability to engage in training of its personnel, in addition to complimentary agencies. As such, although political prioritization was not something we were specifically looking to observe as a challenge to the disaster management system in this study, its presence seems to be an ongoing challenge based on past research.

However, the issue of prioritizing disaster risk management among an ever-growing arena of other national interests is not unique to The Gambia. Many other nations throughout the world continually grapple with the question of budgetary investment in disaster management infrastructure, preparedness, and various types of mitigation projects despite the development of various national legislation and programs designed to deal with these issues (UNISDR 2011; Childs 2013). However, unlike most nations in which organizational structures are extremely

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difficult to alter, due to path dependence and positive feedback (Rivera 2014), The Gambia, due to its recent political regime change, has an opportunity to alter its current institutional structure in an effort to both potentially enhance its prioritization of disaster management at the national level, at the same time reduce political interference by other national actors when disasters occur.

As previously discussed, the NDMA operates in an institutional structure that reports directly to the Vice President. This position should mitigate the encroachment of political interests from other governmental agencies getting in the way of the agency performing its specialized functions. However, according to respondents of this study, this does not seem to be the case. In the current institutional and legal structure, the voice of the NDMA is drowned out by an advisory council to the Vice President that may or may not have interests in enhancing the capacity and effectiveness of the NDMA initiatives throughout the various phases of disaster management (i.e. mitigation, preparedness, response and recovery), which is also consistent with previous research (GRCS 2016). As such, the Vice President has the potential to receive contradicting priorities from members of the advisory council, which subsequently results in a deprioritization of disaster risk management initiatives. Along these lines, although NDMA operates as a specialized semi-autonomous unit on paper, which would theoretically afford it the ability to better accomplish its goals, it actually operates in a larger institutional arrangement that increases complexity. This complexity results in a political competition between the NDMA and other governmental agencies for resources, which subsequently affects the organization's ability to function and complete its mission (Agranoff 2007; McGuire and Silvia 2010). This situation is further complicated by the seeming lack of formal horizontal relationships (McGuire 2006) indicative to the NDMA within the current institutional structure, which does not seem to necessitate intergovernmental cooperation in the disaster risk management system, but does

directly outline the NDMA's relationship with nongovernmental organizations and other civil society organizations. This may be one reason why respondents in this study indicated relatively positive relationships and cooperation with nongovernmental institutions as opposed to other government entities.

Therefore, and as a byproduct of what was observed through interviews with NDMA personnel, we recommend that the institutional structure of disaster management in The Gambia be altered. Figure 6 illustrates, organizationally, how this alteration may look.

*****Figure 6 Here*****

In this this new disaster management framework, the NDMA still reports directly to the Vice President. Additionally, the national disaster management council also continues to informally solicit information and input from NGOs and other civil society organizations. Moreover, the NDMA also continues to directly interact with nongovernmental and civil society organizations. However, in this new rendition of the framework, the advisory council reports directly to the NDMA, as opposed to the Vice President. By reporting directly to the NDMA, the agency formally works directly with other governmental organizations in the development of policies, programs, and response plans; thereby incorporating their individual interests in the more specific functions of disaster risk management. Through the formal inclusion of the council in NDMA operations, the agencies have the opportunity, through deliberation and participatory policy making, to be on the same page prior to providing the Vice President with recommendations on enhancing disaster risk management.

Alternatively, in the current system, recommendations provided by the NDMA to the Vice President have the potential of being marginalized by the council, to which the NDMA has no direct connection with. Although this would not fully mitigate the effects of political

competition among and between the governmental organizations and the NDMA for budgetary rewards, it would provide an environment where the agencies can better understand each other's interests in relation to one another, as opposed to operating from solely their own vantage points, which has detrimentally affected disaster management systems in other national contexts (Schneider 2011). Moreover, through this more formal cooperative governmental framework, organizations have the opportunity to develop partnerships within one another along the lines of disaster risk management that might also have beneficial spillover effects to other departments (Drabek 2003; Mandell 2004; Kapucu et al. 2009).

Conclusion

Based on both the observations made through the completion of a survey, a new disaster management institutional structure has been proposed here. However, the limitations of this study should be acknowledged. First, the response rate of the survey instrument was relatively low, and NDMA staff responsible for two of the nations' regions were unresponsive to participation requests. As a result, the observations made here might not truly reflect the perceptions of all NDMA staff. Second, because project participation was completely voluntary, issues related to self-selective response bias may have been introduced. Not only could this have been a function of the modes in which survey data was collected, but also because of the participatory-action approach taken by the authors. As such, individuals that self-selected to participate may had an interest in overstating the impact of various challenges to the disaster management system. Although these limitations raise potential data quality and validity issues, these were mitigated through conversations with NDMA leadership. Additionally, as previously indicated, several of this study's main findings confirm various findings and conclusions from previous UNISRD and PreventionWeb reports.

Despite these limitations the new institutional framework proposed here will not stem interagency competition in the pursuit of disaster management, none does. However, this new framework specifically aligns with the county's NDP. Along these lines, the government of The Gambia envisions a "New Gambia" that promotes the environment, natural resources, climate change, and land use planning as critical enablers that will help transform the country. Even though, the NDP does not set out specific targets and indicators that will serve to encourage political commitment and financial resources, with this new framework the NDMA can be more involved in setting the targets and indicators through more collaborative, transparent and accountable means. Subsequently, this new strategy not only has the potential to enhance disaster management in The Gambia, but also enhance democratic practices in general.

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Author Credit Statement

All authors that are associated with this manuscript contributed equal work and credit.

Sincerely,

Jason Rivera

Journal Pre-proof

Conflict of Interest

August 5, 2019

To Whom It May Concern,

This memo is sent concerning the manuscript, *Challenges to Disaster Risk Management in The Gambia: A Preliminary Investigation of the Disaster Management System's Structure*. There is no conflict of interest for this project.

Please let us know if there is any other information you need in this regard.

Sincerely,

Jason Rivera

Figure 1: National Development Plan Framework

Source: Ministry of Finance and Economic Affairs (2019).

Figure 2: Gambian Disaster Management Framework

Figure 3: Perceptions of Regional Disaster Response Effectiveness

Figure 4: Extent to which Non-Governmental Organizations are Included in Disaster Planning

Figure 5: Extent to which Faith-Based Organizations are Included in Disaster Planning

Figure 6: Proposed Alteration to the Gambian Disaster Management Framework

| <i>Variable</i> | Percent of Sample | <i>Variable</i> | Percent of Sample |
|--|--------------------------|--|--------------------------|
| <i>Length of Time in Disaster Management</i> | | <i>Region in which Manager is Physically Located</i> | |
| Between 1 and 3 Years | 25.0 | Banjul | 50.0 |
| Between 3 and 5 Years | 0 | Central River | 12.5 |
| Between 5 and 10 Years | 62.5 | Lower River | 12.5 |
| More than 10 Years | 12.5 | North Bank | 0 |
| <i>Country Regions Managed</i> | | Upper River | 0 |
| Banjul | 12.5 | Western | 25.0 |
| Central River | 12.5 | | |
| Lower River | 12.5 | | |
| North Bank | 0 | | |
| Upper River | 0 | | |
| Western | 12.5 | | |
| Entire Nation | 50.0 | | |

Table 1: Characteristics of Respondents (n=8)

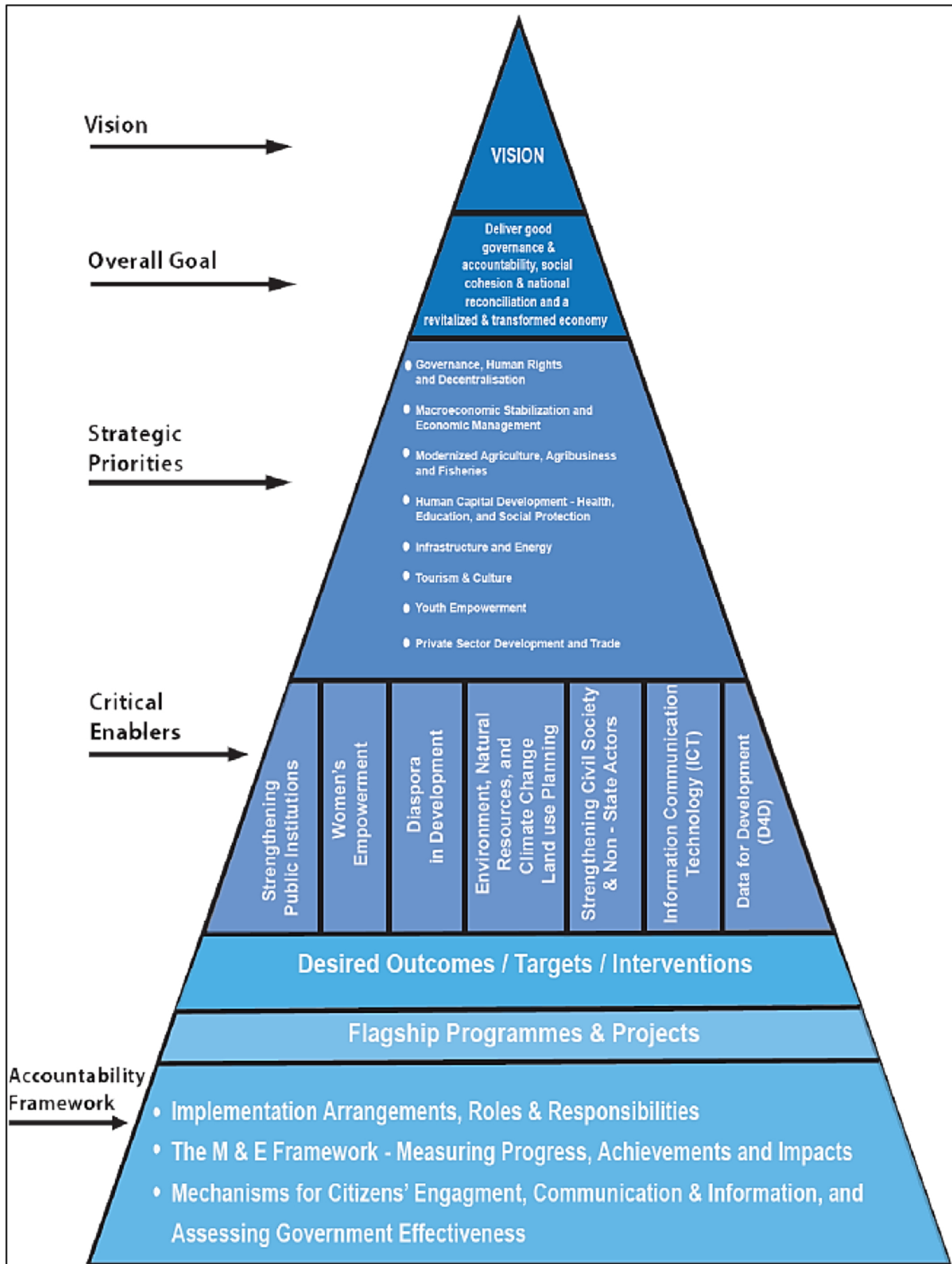


Figure 1

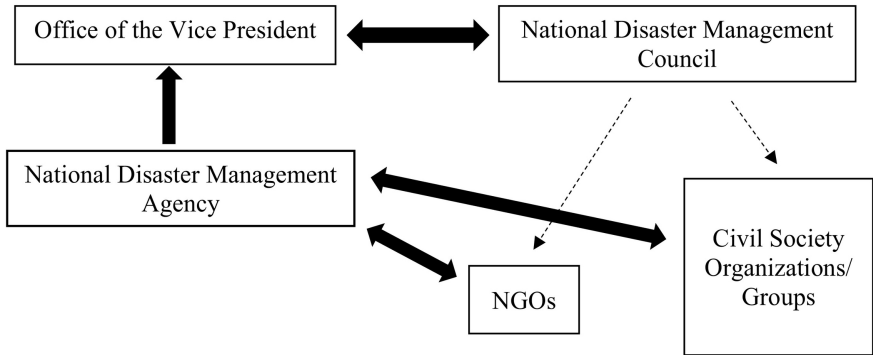


Figure 2

Western Upper River North Bank Lower River Central River Banjul

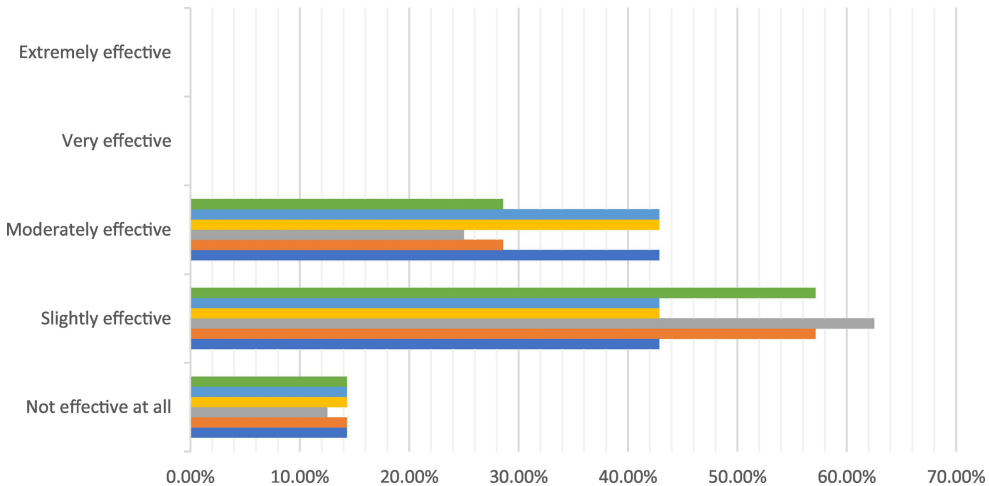


Figure 3

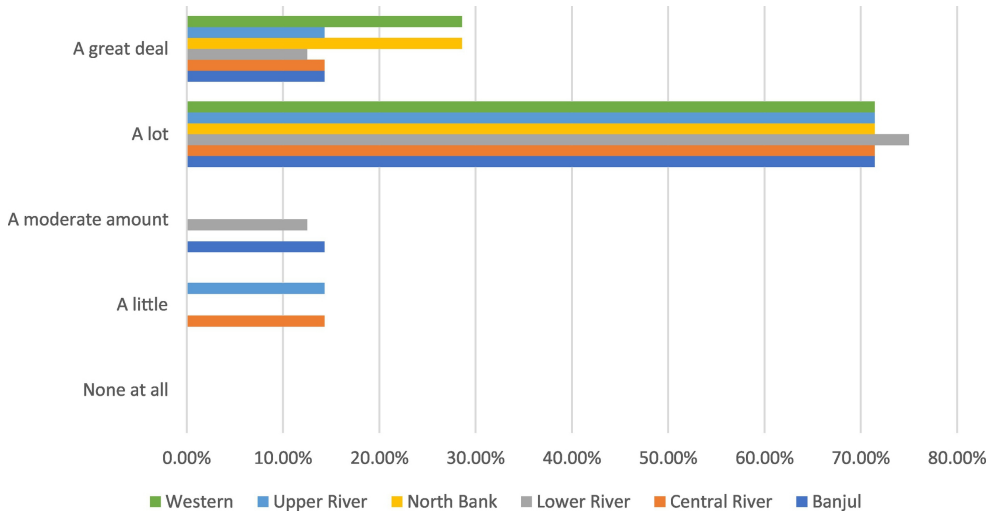


Figure 4

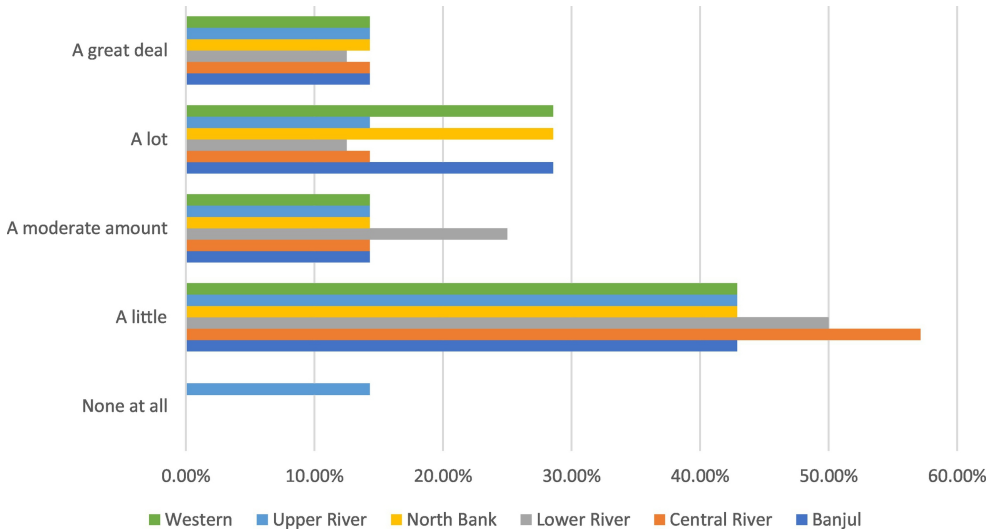


Figure 5

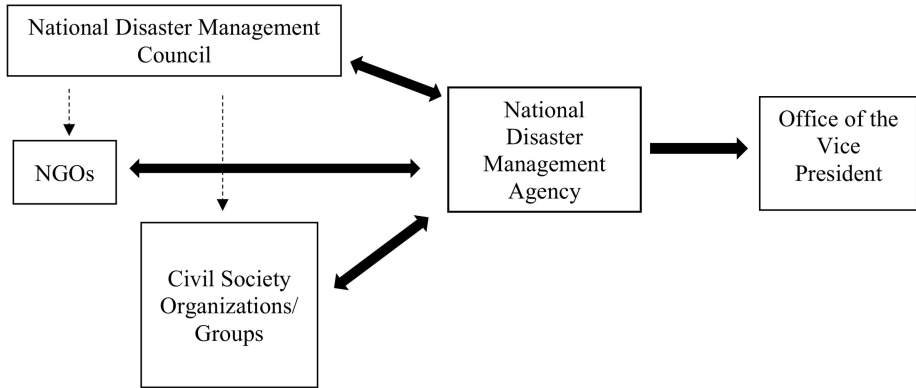


Figure 6