



Disaster Risk Management: The Exercise of Power, Legitimacy and Urgency in Stakeholder Role in Ghana

Esther Owusu¹, James Antwi^{2*} and Stephen B. Kendie¹

¹*Department of Integrated Development Studies, School for Development Studies, University of Cape Coast, Ghana.*

²*Centre for Health and Social Policy Research, West End University College, Accra, Ghana.*

Authors' contributions

This work was carried out in collaboration among all authors. Author EO designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors JA and SBK managed the literature searches of the study. All authors read and approved the final manuscript.

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ABSTRACT

Aim: Disasters continue to wreck both developed and developing countries, causing high mortality and suffering and damage to local economies and also impede development. Ghana is exposed to natural hazards, and the country's susceptibility to these disasters has increased in both frequency and complexity over the years. This requires an understanding of disaster planning and resource allocation, legitimised in stakeholders who exercise power and urgency to manage and mitigate external uncertainties and internal complexities. The study aimed to examine the exercise of power, legitimacy, and urgency of stakeholders in disaster risk management in the Accra Metropolitan Area.

Study Design: Qualitative case study design involving respondents purposively selected from Accra Metropolitan Area and local communities was employed. We used in-depth interviews and desk reviews of policy documents to assess stakeholder role in disaster risk management. We

*Corresponding author: E-mail: jantwi2327@gmail.com;

analysed the data using the Interpretative Phenomenological Analysis technique based on three principles of the stakeholder theory; power, legitimacy, and urgency, to advance our discussions on stakeholder role in disaster risk management.

Results: The findings show that central government exercises high effective power, which serves as a strong basis for policy decisions but low precision and low urgency in responding to disaster risk management. At the local government level, the exercise of power and urgency to act appear ineffective despite a strong policy framework to guide disaster management. In addition, the exercise of power and legitimacy role appears low in the local communities. Conversely, urgency in addressing disaster risk management appears to be high among community members.

Conclusion: This study contributes to the existing literature by suggesting structural and administrative reforms to stakeholder role in the management of disasters; central government remains a dominant stakeholder; local government agencies restructured to have a definitive role and the communities maintain their demanding role to hold local government agencies accountable. These reforms will establish a sharp, clear roadmap for the future and set into motion scenario planning for unanticipated disasters.

Keywords: Disaster risk management; stakeholder theory; planning; local government agencies.

1. INTRODUCTION

Disasters continue to be one of the major problems facing both developed and developing countries, as they cause high mortality and suffering, damage to local economies and impede development [1]. The United Nations Office of Disaster Risk Reduction [UNDRR] describes disasters as severe disruptions of the functioning of a society, causing widespread human, material, or environmental losses, which exceed the ability of the affected society to cope using only its resources [2]. This means that managing disasters transcends beyond specific community efforts to a broader stakeholder collaboration. Ironically, communities are frequently exposed to severe disaster risks of varying kinds, making them vulnerable and less able to cope with substantial economic and social implications. For example, the UNDRR reported that between 2008 and 2012, disasters displaced 144 million people in Africa alone, and the total economic and financial loss was more than \$1.3 trillion [3]. Again, between 2005 and 2015, over 700,000 people lost their lives, with over 1.4 million injured and approximately 23 million made homeless because of disasters in Sub-Saharan Africa [3]. Moreover, between 2010 and 2018, Africa alone recorded 47,543 deaths from natural disasters [4]. Out of these disasters, technological hazards led to 15,173 deaths, epidemics contributed to 37,418 deaths and 6,468 deaths resulted from floods, while landslides resulted in 2,055 deaths [4].

In low-middle income countries (LMIC), disasters continue to increase in both frequency and complexity. The reasons assigned for the

increase include uncontrolled land use development [5], rapid urbanisation, climate change, population increase, and environmental degradation, among others [6]. Ghana, like many low-middle-income countries, is exposed to natural hazards such as earthquakes, floods, coastal erosion, droughts, tropical storms, and wildfires[7], and flooding alone has affected over 4 million people with loss of lives and economic damages of approximately US\$ 780,500,000 over the last two decades [8]. There is, therefore, the need for low-middle income countries (LMIC) to institute appropriate measures for Disaster Risk Management (DRM) to prevent or control disasters when they occur. This, however, involves the implementation of public policies and strategies in the areas of; risk identification, risk reduction, risk transference, and disaster management to help reduce the risk of disasters, prevent new disasters from occurring, and increase community resilience and responses to disasters whenever they happen [2, 3, 4]. These diverse policy areas in disaster management require collective efforts involving different actors. Indeed, several stakeholders have a role to play in disaster risk management – yet the evidence provides a high inclination towards central governments, local government agencies, international agencies, community members, security services, and local NGOs as the major stakeholders involved in DRM in low-middle income countries [9, 10].

The literature stresses the significance of local government planning as a key initiative in managing and implementing disaster risk measures[11], and the planning process demands the need to define the scope of

operations of stakeholders involved in disaster risk management and their responsibilities at the planning and implementation stages. It is pointless to assume that all stakeholders involved in disaster risk management have the same ability in their role relations to ensure effective disaster risk management. This is because role is an aspect of a stakeholder function that the stakeholder would have to play in a given situation – and the ability to perform such roles has implications on the effectiveness of stakeholder relations. Indeed, the question of who should be considered a stakeholder in disaster risk management in LMIC is not a concern [9] but the degree to which each of the stakeholders exercise their role functions remains a major concern for policy makers. This requires an understanding of stakeholder attributes – which of them possess power, legitimacy, and urgency to manage and mitigate external uncertainties and optimize internal complexities. Clearly, studies have shown that local government agencies, non-governmental organizations (NGOs), and local citizens can collaborate in several ways to manage disasters in communities [9, 10]. However, the success of such collaborations has often relied on the way their respective roles have been managed [10]. This paper argues that the role of stakeholders in DRM depends significantly on the extent to which stakeholders can exercise their power, legitimacy and urgency functions in DRM.

Undoubtedly, the extent of exercising power, legitimacy, and urgency roles presents other underlying factors that need to be examined. The literature provides several factors; conceptual understanding of disasters, resource constraints; capacity of stakeholders; political will, and role conflicts as potential barriers that can impede effective stakeholder roles in DRM [8, 12-16]. Yet stakeholder roles in DRM in Ghana have been understudied and their potential effectiveness in terms of the exercise of power, legitimacy, and urgency has not been adequately examined. This has affected successful implementation of interventions to reduce disaster risk factors in Ghana – a trend which is similar in many countries [12, 13]. Therefore, we investigated these problems, aiming to examine the exercise of power, legitimacy, and urgency in stakeholder role at the Accra Metropolitan Area (AMA).

1.1 Theoretical Framework

The study adopts the stakeholder theory to analyze and discuss how stakeholders involved

in disaster risk management carry out their functions. Richard Edward Freeman, who is credited for popularizing the concept of stakeholder theory in the 1980s, posited that the continued existence of institutions greatly depends on their stakeholders. The central idea of stakeholder theory is that there exist some groups in every organization called stakeholders, who possess a legitimate interest, power, and some urgency, and the organization has responsibilities to all these groups [17]. The effectiveness of their role functions has a significant effect on the performance of the organization. Therefore the stakeholder role has been advanced in the stakeholder theory based on stakeholder legitimacy, power, and urgency by some scholars [18]. These three principles of the stakeholder theory, although interrelated, are quite distinct; they involve different types of evidence and argument and have different implications. The reason for adopting these three principles in this study is to identify who among the stakeholders exercise high power, legitimacy, and urgency in solving disaster management issues at the AMA?

The application of the three principles of the stakeholder theory in identifying stakeholder relevance and the degree to which they exercise their role functions has been deployed with some successes in businesses to a large extent[19]. In disaster management, the ability to strengthen; power, legitimacy, and urgency roles is essential for reducing disaster's devastating impacts[20]. Power enables stakeholders to use their social and political forces in times of disasters, whereas legitimacy allows local authorities to abide by beneficial or harmful risks pertinent to disaster issues while urgency ensures that local authorities coordinate immediate response and recovery during and after disasters[20].

This study builds on the three principles applied in stakeholder theory and further links those principles to the attributes of stakeholders postulated by Mitchell, Agle, and Wood[18] to describe the role dynamics of stakeholders in disaster risk management at the AMA. Mitchell, Agle, and Wood [18] indicated that stakeholders might possess some characteristics labelled as "stakeholder typology"; dominant, dangerous, definitive, dependent, demanding, dormant and discretionary. They suggested that whereas some stakeholders may possess only one characteristic – high power (dormant stakeholders), high urgency (demanding stakeholders), or high legitimacy (discretionary

stakeholders), others can have two or three of the characteristics. The principles show that stakeholders with high power and high legitimacy are the dominant stakeholders, those with high legitimacy and high urgency are the dependent stakeholders, and stakeholders with high power and high urgency are dangerous stakeholders [18]. Those who combine all the three characteristics, high urgency, high legitimacy, and high power, are definitive stakeholders. Their role in any organization is critical in decision-making and overall organizational growth [18].

2. MATERIALS AND METHODS

2.1 Research Design

The study employed a qualitative case study design using the Interpretative Phenomenological Analysis (IPA) technique. The study aimed at understanding the lived experiences of stakeholders involved in the planning of disaster risk management, their roles, and their scope of operations. Hence the IPA was considered the most appropriate technique since it is concerned with meanings people give to situations they have experienced [21, 22].

2.2 Study Setting

The target participants were staff from the AMA and the local communities. The researchers selected a local government agency and community members for this study because local government agencies, NGOs, and citizens have been identified as important stakeholders for sustainable development in local communities [23,24]. Five workers were purposively selected from the AMA, one from the Ghana National Fire Service, and three community leaders from the surrounding communities of AMA (Old Dansoman, North Kaneshie, and James Town). The smaller sample size for the study was appropriate because using smaller samples is in line with similar phenomenological studies that have yielded cogent results and are widely accepted [25]. In a phenomenological study, a sample size ranging between one and ten is sufficient to gather data that can adequately articulate in detail the lived experiences of participants [21].

This study focused on the Accra Metropolitan Area (AMA) - one of the 254 local assemblies in the Greater Accra region of Ghana, with a population of 1.6 million people (representing 42% of the total population of the Greater Accra Region). The reason for selecting AMA was the frequent rate of disasters the Accra Metropolitan

has experienced in recent times compared to other areas in the country. The AMA experiences many disasters, including hydro-meteorological (fires, floods, and coastal erosion), geological (earth tremors and landslides), and biological (cholera outbreak that threatens public health). In 2010, NADMO reported that 366,823 residents in informal settlements which formed about 22.2% of the total population, lived within unapproved flood zones in Accra and were therefore vulnerable to flood hazards[26]. In recent time, the AMA has recorded significant fire outbreaks in markets including Kantamanto, Makola, PWD, Agboghloshie, Adabraka, Salaga and Odawna as well as the Kwame Nkrumah interchange, as illustrated in Fig. 1.

2.2.1 Recruitment of participants

The researchers' criteria for recruiting participants for the study included; first, participants should be senior staff of AMA or leaders in selected communities; second, participants might have served in AMA or lived in the local communities for at least three years; third, participants might have had an experience with any kind of disaster; fourth, participants should have interest in the study, and finally, participants should agree to participate in the study by signing a consent form.

2.2.2 Demography of participants

All nine participants aged between 29-50 years participated in the study. They included five officials from the AMA (two females and three males), one male fire officer from the GNFS, and three community members (two males and one female). The five officials from AMA included three from NADMO and two from the AMA planning unit. The three community members included one assemblyman, one property owner otherwise known as landlord and one traditional leader.

2.3 Data Collection Procedures

The researchers used in-depth interviews to solicit for lived experiences of the participants. The in-depth interviews enabled the establishment of rapport, trust, and intimacy with each person – these are key issues commonly found in qualitative research [21]. The interviews were mainly on experiences of participants' who have witnessed the occurrence of disasters over the years. A semi-structured interview guide was developed for the interviews due to its appropriateness in the phenomenological study.

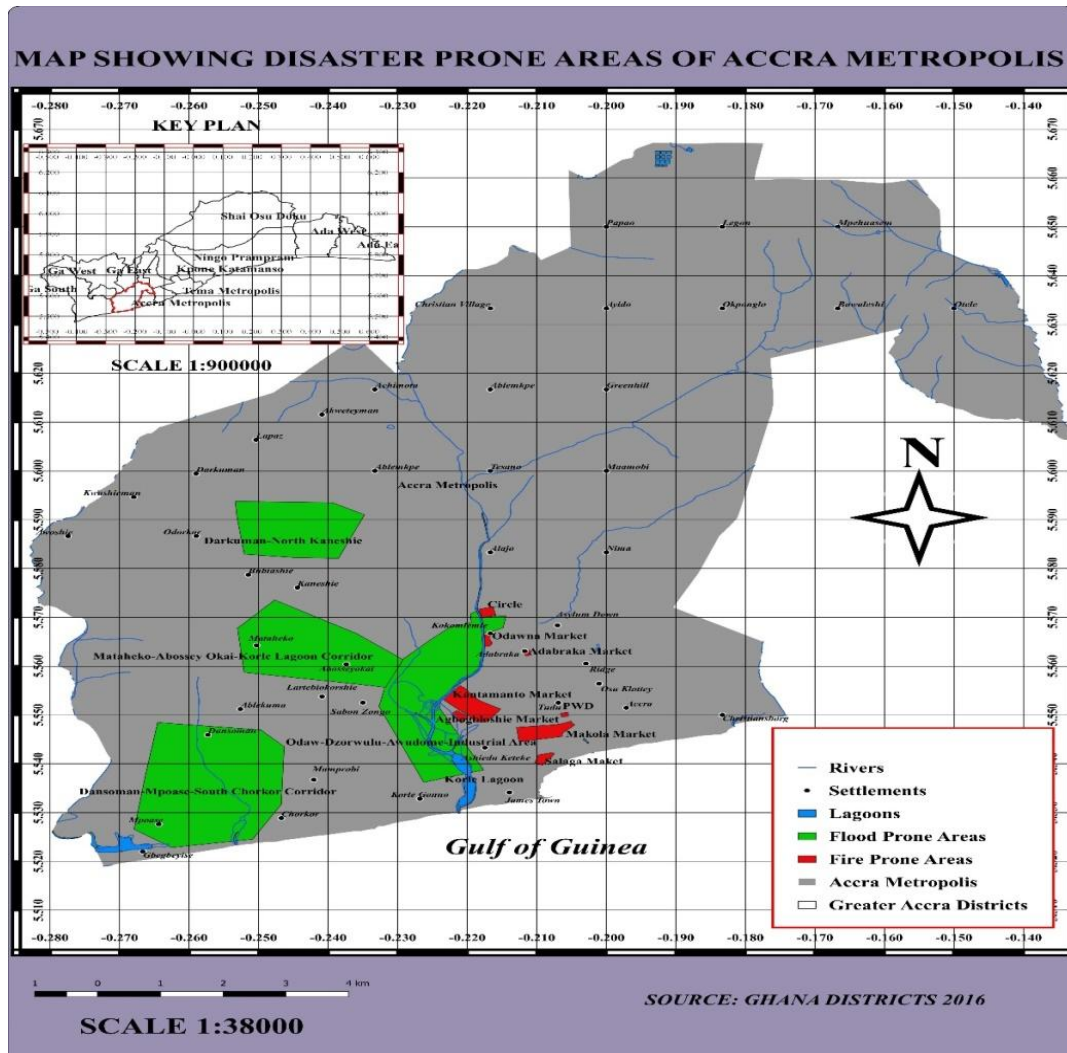


Fig. 1. Map showing disaster prone areas of Accra Metropolis

Source: Ghana Districts 2016; retrieved from AMA

It allowed follow-up or probing questions to be asked and therefore enabled clarification of lived experiences.

2.4 Data Analysis

The data were analyzed per the IPA guidelines [21,22] by following three main steps: First, the authors read through the transcribed texts severally and recorded notes and comments that reflected participants' initial thoughts and observations. Second, the authors identified and recorded common occurrences from the transcripts. Third, the authors assigned themes to the common features that occurred. The authors developed a structure for the data

analysis by identifying themes that formed a natural cluster related to one another. A summary table of the structured themes was produced with quotations from the data that illustrate each theme.

2.5 Data Credibility

Due to the interpretive approach, this study leans itself to issues of biases and reliability. To ensure credible data, the authors adopted member checking and rich, thick descriptions to measure data quality and establish the research trustworthiness. This procedure allowed the researchers to search for convergence among multiple and different sources of information to form themes or categories in the study.

2.5.1 Member checking

The authors reviewed transcripts, conducted member checks, and used the emerging data to form themes for the analysis. This was done by allowing participants to review the transcripts to ensure that the data captured were the true reflection of participants' views. This was followed by further discussions of the thematic areas with the lead researcher. The reason for this exercise was to enable clarification on issues that were not clearly defined or explained during the interviews and to determine the accuracy of the data [27].

2.5.2 Rich and thick description

To add to the credibility of the research, we used rich and thick descriptions to convey the findings. This was done by providing many perspectives to the themes and thus enabled the results to become richer and realistic [28]. It also provided a clearer setting and directive for discussion of shared experiences.

3. RESULTS AND ANALYSIS

3.1 The Role of Central Government

The 1992 Constitution of the Republic of Ghana mandates the central government to support the management of disasters by providing logistical and financial support to local government institutions and communities affected by disasters. The declaration of disasters is also backed by the Emergency Power Act (Emergency Power Act, 1994, Act 472) [29]. Although the Act does not contain guidelines specific to a disaster-induced emergency, the Act empowers the President to make emergency regulations to protect lives and properties during disasters. Thus, whenever an emergency proclamation is made, it specifies matters that may be provided for emergency regulation. Our desk reviews showed that the Government of Ghana [GoG] has been supporting disaster activities through the NADMO Head Office and other ministries by approving local government budgets and mobilizing resources for institutions during disasters. This includes all matters related to disaster response, preparedness, prevention, mitigation, and capacity building. This claim was affirmed during an interview with a NADMO official in a quote below:

"...the GoG supports every activity we do in NADMO...it is the main sponsor of all the

programs and activities we carry out...we get most of our relief supports from GoG as well as our annual budgets" (Respondent One).

Officials from the local government agencies linked the ultimate authority to make crucial decisions during disasters to the central government. They attributed this authority to political powers held by the political party in government at a particular time and demonstrated that this kind of power is given by an authority that is the constitution. Although the respondents did not link power to personalities, they expressed power as commitment, capability, and financing as stated in the quote by a senior official at AMA below:

"during disasters, the central government becomes the final decision maker because the constitution allows that.....and this authority gives them the power which is expressed by their level of commitment to mobilizing resources and the capacity to control and manage disasters effectively (Respondent Two).

Again, the desk reviews revealed that the central government exercises its role in DRM by appointing the MMDCEs as chair of the District Disaster Management Committees. The Chair for the Committee being the central government representative is the final decision maker in DRM issues at the local level. This implies that the central government still controls decisions of DRM at the local level and gives guidelines to DRM agencies on how to manage disasters locally. Two types of attributes were strongly identified to be associated with the central government role in DRM. These were the exercise of power and legitimacy, which were observed to be informed by central government activities in policy formulation with high uncertainty of bottom-up feedback, enactment of laws, funding mechanisms, and authority for key decisions.

3.2 The Role of Local Government Agencies in DRM

The agencies identified at the local government level to play specific roles in DRM during our desk review include the National Disaster Management Organisation (NADMO), Ghana National Fire Service (GNFS), Development Planning Unit (DPU) of AMA, and Physical Planning Department (PPD) of the AMA. The desk reviews showed that Act 517 of 1996

established NADMO to coordinate disaster management in the country. However, the Parliament of Ghana amended Act 517 of 1996 in 2016 and replaced it with the NADMO Act, Act 927 of 2016. The Act broadly spells out the organization's mandate with decentralize authority to manage disasters and validates the legitimacy role of NADMO in disaster risk management. The interview with senior officials confirmed the various local government agencies involved in DRM and showed clearly that specifically, NADMO coordinates the activities of all those agencies:

""Depending on the type of disaster that happens, NADMO calls in the appropriate agency to attend to it while it coordinates their activities. When there is a fire, it falls within the services of the GNFS. If it is flooding, it falls within the Hydro Department of the ministry of works and housing. The Drains Unit is also a department of the AMA; they take care of drains and ensure these drains can hold water with the right capacity. The outbreak of epidemic falls under the Ghana Health Service, while the Ghana Police Service comes in when there is a riot. The Military is called in during building collapse to assist in search and rescue while the Ambulance Service attend to the injured and dead victims and convey them to the hospitals"" (Respondent One).

The desk reviews also showed that other security agencies such as the Police, the Army, the Navy, the Air Force support NADMO in disaster response and management, as alluded to by Respondent One above. Other para-governmental organizations such as the Ghana Red Cross Society and the Ambulance service provide health and relief services during disasters. In addition, several international and local organizations, and NGOs, respond to disasters as and when they happen (UNDP/NADMO, 2016). Civil society groups operating within the area of impact may also respond depending on their mandate and capacity. NADMO is supposed to play a coordinating role, and their activities, as elaborated by the NADMO official below, are in line with the NADMO Act 927 of 2016.

""There is a Disaster Management Committee at the AMA chaired by the MCE, and NADMO Director is the secretary. All the agencies in disaster management are members of the committee. However, MPs

for the affected disaster areas are co-opted members of the committee. The committee comes out with a plan, which emanates from all the agencies. These plans are coordinated and implemented by NADMO"" (Respondent One).

Again, NADMO is required by law (NADMO Act 927 of 2016) to collaborate with relevant institutions to educate communities to build resilience against disasters. Nonetheless, the NADMO official indicated in the interview that the collaboration with other agencies to undertake those specified activities is not so strong due to financial and logistical challenges as indicated in the quote below;

""...Well our collaboration with other agencies is not so strong because we do not have enough funds and logistics to organize regular meetings for the Disaster Management Committee...that is the platform that allows us to meet with other agencies to plan for disaster activities..."" (Respondent Three)

This is perhaps why it appears that coordination of activities during disasters is weak. During a disaster, various agencies are often seen to be working in isolation without any proper coordination. The literature on disaster risk management has demonstrated that non-coordination among state agencies frequently leads to poor implementation, mistrust, duplication of roles, and blame game among the various actors - thus creating ownership and responsibility challenges during disasters[23].

Response and recovery are critical in disaster risk management as timely response contributes significantly to the ability to save lives and property.. The ability of any institution to respond to disasters in a faster and responsive manner defines the extent of urgency that the institution attaches to mitigating disasters. Furthermore, a quick recovery rate of disaster victims enhances their capacity to build back better and reintegrate into society. NADMO is mandated by the NADMO Act 927 of 2016 to provide response and recovery relief to affected people in times of disaster. However, the finding revealed that the organization at the local level does not have the requisite expertise to provide response and recovery relief to affected individuals during disasters. The official of NADMO at the AMA remarked:

"Anytime there is an emergency, and we are called upon to respond, we have to call on our head office and wait for their instruction and assistance before we can go to the disaster scene. This is because we are not trained like they are to respond to such disasters. Again, we do not have the equipment that is required to combat some of these disasters. Meanwhile, these disasters happen within our jurisdiction, and we have the mandate to attend to them, but because everything is centered at the head office, we have to always sit down and fold our arms until they come to our aid, this sometimes makes the public think we do not know what we are about" (Respondent Two).

The desk reviews indicated that the AMA does not often have relief items and logistics and has to wait for items from the head office or donor agencies for onward distribution to victims. Indeed, AMA struggles to execute its projects and activities due to inadequate finance, logistics, and technical capacity, and this limitation can affect the urgency to respond to disasters as two NADMO officials indicated:

"Most often, when you request for the items, it takes a longer time for them to be delivered because the head office has to serve all the other DAs. Even when the items are delivered, they are woefully inadequate to cater for all the victims. This puts us in a very uncomfortable situation as victims keep coming to the office to demand their share of the items. Some even rain insults on us when they fail to get anything. Meanwhile, everything has to come from our head office, and there is nothing we can do from our end here to help" (Respondent One).

"My office is cash trapped because there are no funds to support the activities we plan to carry out...Everything is determined at the head office and what we receive here is woefully inadequate to see us through even the first quarter. We have not received any impress for the year 2020 and only live on the benevolence of the Metropolitan Assembly... I will say this for a fact that NADMO has no money; the organization is under-resourced... The percentage that the DACF is supposed to give to the organisation goes to the head office so you can imagine how much comes to us here..."

We are not able to carry out our mandates due to lack of funds" (Respondent Three).

The assertion by the NADMO official confirms the findings of previous studies that Metropolitan, Municipal, and District Assemblies (MMDAs) in Ghana and other low-middle income countries do not have the needed funding and logistics to embark on their activities[8, 12, 13,16].

Other units and departments within the MMDAs, as mentioned earlier, provide support in diverse ways to NADMO. The reviews pointed out clearly that the Development Planning Unit (DPU) of the AMA is one of the units mandated to provide guidelines on the development of the Metropolis. This includes preparing and implementing an integrated development plan, popularly referred to as the Medium Term Development Plan (MTDP). This plan covers all sectors of the Metropolis and includes the goals and objectives of most of the departments and agencies under the local government. Concerning DRM, the DPU is to collaborate with NADMO to prepare and implement a disaster management plan in the Metropolis. This is per section 112-115 of the Local Government Act (LGA) 936 of 2016, which mandates MMDAs to prepare a response plan and make by-laws necessary for disaster prevention. This role is to equip the MMDAs to be able to prevent disasters and position well to respond urgently to disasters when they occur as indicated by a representative of the Unit:

"the department collaborates with NADMO and the GNFS of the AMA to design by-laws to manage disaster risks especially flooding and fires. These by-laws ensure that people do not build in waterways or put up structures in unauthorized areas. Again, the Metropolis provides that proper electrical connections, as well as certified electrical companies, are contracted by property owners during the wiring of structures to prevent fire disasters (Respondent Five).

The desk reviews again revealed that other preventive measures by which the AMA manages the risk of disasters; engaging in education and sensitization programs; redevelopment of slum areas and decongestion and demarcation of areas liable to disasters. Education and sensitization help the public to understand the available hazards and risks that are likely to cause disasters and the need to prevent them as stated by an officer of the Unit below:

"redevelopment of the slum areas helps to prevent reoccurrence of disasters which are prevalent in these areas. Also, decongestion exercise is carried out regularly to eject people who reside in unauthorized structures or areas" (Respondent Four).

The AMA enforces these measures through periodic monitoring, arresting, and prosecuting defaulters; payment of penalties; sanctions; and demolition of unauthorized structures. This enforcement is done by a task force that is within the Assembly to bring perpetrators to book. A representative of the Unit indicated that;

"the taskforce is backed by law, and they carry out their activities within the laws". However, there are excesses sometimes from a higher political level which the Metropolis will have to deal withwhich might not be per the laws, and this prevents the AMA from acting swiftly when there is a disaster (Respondent Four).

The above preventive measures and enforcements show that the AMA is aware of the various disaster risks in the Metropolis and makes efforts to prevent them from becoming disasters. Yet, the continuous recurrence of disasters, especially flooding and fires, leave room to doubt the effectiveness of these measures and enforcements in preventing disasters. Again, it appears that higher political pressures sometimes influence the ability of the AMA to act urgently to disasters when they occur.

One other stakeholder identified to play a significant role in DRM was the GNFS. The Ghana National Fire Service's (GNFS) objective is to prevent and manage undesired fire outbreaks. The organization undertakes this exercise by organizing public fire education programs to create and sustain awareness of fire hazards and heighten the role of the individual in the prevention of fire. This role was elaborated by a senior official in the quote below:

"Our role is to prevent and, where necessary manage fire outbreaks from escalating...At the communities and markets, we target the leaders of the various groups so that they can also disseminate the information to their members... sometimes we use the community information centers to sensitize the public" (Respondent Three).

However, the GNFS is plagued with several challenges which perhaps have serious implications on their operations, as indicated by one official below:

"...AMA does not have the requisite tools and equipment to help carry out operations to prevent disasters and respond as well...the agencies that we coordinate with do not also have adequate logistics...the GNFS sometimes has to rely on the Assembly for fuel for their cars when there is a fire disaster... they do not even have enough fire tenders...you can imagine the stress in getting to a disaster scene with limited resources...NADMO too does not have the requisite expertise, tools, and equipment, so it becomes difficult addressing disaster issues holistically in the Metropolis..." (Respondent Five).

The statement above shows that the officials of AMA play their role by liaising with other agencies to prevent and manage disasters. Regrettably, it appears that AMA is often faced with inadequate expertise in DRM and limited resources such as funding, tools, and equipment to implement and monitor their activities. Two other officials reechoed these findings:

"The planning department is supposed to conduct monitoring exercises to ensure people are complying with the planning standards and obtaining a permit before undertaking any physical development, but because of lack of logistics, we are not able to carry out this exercise. Technically, the Department does not have adequate staff to carry out its functions" (Respondent Three):

"This department requires technical personnel to help with the drafting of necessary plans, architectural and engineering works...but we are very few and not able to cover all areas in the Metropolis since we cannot be everywhere at the same time...this affects our work" (Respondent Two).

Our desk reviews showed that the Physical Planning Department is supposed to assist in the approval of building permits to improve and enhance organized human settlement. These roles of the department give it control over physical development in the Metropolis. Thus, the department is supposed to ensure an organized spatial development where

development activities are properly directed to avert disasters. This is achieved through the preparation of land use and spatial plans. Every physical development that is carried out in the Metropolis must conform to these plans. In line with this, the department is supposed to issue a building permit to all developers and ensure that physical developments are carried out under the required planning standards. Thus, the role the Physical Planning Department plays in the management of disaster risks in the Metropolis are in line with their mandates as provided by law.

From the above analysis, it is clear that all the DRM agencies at the AMA mainly center on the implementation of laws and the initiation of processes that lead to the identification of priorities. Where policies emanate from outside the AMA, officials at the DRM agencies at the AMA have the additional responsibility of clarifying the intent of the policy and helping in defining implementation guidelines. These constitute stakeholder legitimacy emanated from the various laws and state policies. However, as shown above, the agencies have several challenges in executing their legitimate role and those challenges reduce their power in terms of resource mobilization, delegated authority from central government, and urgency in implementing disaster risk interventions. The exercise of power within the DRM agencies appears diffused, with respondents not being very clear about the extent to which they exercise power beyond facilitating the process and making adjustments within specified budgets:

"Everything is centered at the head office, and we only receive instructions on what to do...when a disaster occurs, and it requires the use of tools and equipment we have to rely on the head office to respond" (Respondent One).

Officeholders within the DRM agencies seem to exercise moderate power through facilitation and the provision of guidance in a process that leads to the identification rather than the setting of priorities, although the process may be initiated at this level as indicated in the quote below:

"...the AMA has by-laws and prescribed sanctions for defaulters, but we do not have the power to carry it through since that mandate rest with the Central Government" (Respondent Two).

3.3 The Role of Communities in Disaster Risk management

Our desk reviews showed that multiple stakeholders are involved in DRM at the community level. They include; the Disaster Voluntary Groups (DVGs), Opinion Leaders, Assemblymen, Chiefs, and Property Owners otherwise known as Landlords. On the availability of disaster voluntary groups, interviews with the Assemblyman, Traditional Leader, and the Landlord in the three selected communities revealed that there were no volunteer squads in their communities.

"...We do not have any disaster volunteers in our communities, we mobilise young and energetic men as soon as we hear of a disaster and quickly rush to the scene to assist in evacuating victims while calling on the relevant institution to come to our aid..." (Assemblyman, AMA).

"...There is nothing like a recognised volunteer group in this community, when there is a disaster, everyone in the community comes out in their numbers to help assist victims by doing every little thing to calm the situation as we try to get help from the Fire Service, NADMO or the Ambulance Service..." (Landlord, AMA).

"...We do not have a disaster volunteer group in the community, but there are these young men who quickly mobilise themselves whenever there is a disaster, whether flooding, fire, accident, or collapse of a building. These youths go in to evacuate victims and try to assist them to a safer place while trying to contact the security services to give professional assistance" (Traditional Leader, AMA).

Again, the Traditional Leader and the Assemblyman indicated that they do not receive any training from the GNFS and mostly rely on their ingenuity to attend to fires while they wait on the fire service to come in to help.

"We do not receive training in any form from the Fire Service or any agency...the community goes to fire scenes with buckets of water and sand to quench fires while we try to bring out victims to safety" (Traditional Leader).

"...We hardly see the Fire Service around when there are no incidents of fires...they only come in after we have tried to calm the fires...we do not receive any training or public sensitization from them, so we do not even know that there are types of fires and different approaches to fighting them..." (Assemblyman, AMA).

"The Fire Service comes in when there is a fire outbreak...even with that, we will call them several times before they will respond and move in...sometimes, they even come in with an empty car and have to go back or call for reinforcement to quench the fires. We do not get any training from them on how to attend to fires when they occur, so we rely on our way of throwing sand and water into the fires until they settle while we try to bring out victims and properties" (Traditional Leader).

Another challenge outlined by the officer at the PPD is the negative attitude of citizens and political interference in enforcing the measures. According to the officer, community members are very difficult to deal with since they do not want to change their old way of doing things. Meanwhile, political interference makes it difficult to sanction them sometimes. He lamented that:

"The members in the communities make our work very difficult as they do not comply to lay down rules and regulations...they always want to practice the old way of doing things...when you complain they say it's their own land, therefore, they can do what they like with it without any interference. Educating them to do the right thing by acquiring the right documents for their developments have not been easy...the worst part is when you want to sanction them and some powers that be will call you to stand down...this is very worrying to the execution of our mandate" (Respondent Four).

The sense of urgency was noticed to be the cardinal feature or attribute towards disaster risk management of almost all the stakeholders in the three selected communities. This was evident in the quotations by a Traditional Leader, Assemblyman and a Landlord below:

"Before the rains set in, we try to desilt the drains to allow free flow of the water. After flooding occurs or if there is any disaster, we mobilize ourselves to get people to safer

places and also evacuate those who are trap in their houses before the authorities come in" (Traditional Leader).

"Because we know flooding is the major disaster when the rains start, we organize ourselves to clean the choked gutters and renovate the cracked houses when we enter the raining seasons...when the flooding eventually occurs, we mobilize our men to go from house to house to bring people and their properties to safety" (Assemblyman, AMA)

"Since flooding is one of the major disasters in this community, we come together to desilt our gutters and weed our surroundings before the rains set in. We do this to try and prevent the flooding, but when it occurs, we quickly mobilise to get children and women out to a safe places while we try to save their properties before external help comes" (Landlord, AMA).

Again, the relationship between stakeholders at the community level in decision-making about disaster management is primarily influenced by those who possess a legitimacy role. This is critical to influencing power since power is exercised through this means in setting local policy by adapting and striking a balance between policy intent and realities on the ground, including available resources;

"... We only allow the communities to make suggestions and not decisions...if we allow them to make decisions, we will be overwhelmed because of inadequate resources..." (Respondent One)

The analyses on the role of communities show that the exercise of power in disaster management is low while the legitimacy role is also low in the communities. However, the issue of urgency in addressing disaster risk management appears to be high among community members. This is because the communities are hardest hit when there is a disaster, so they try to use their ingenuity to mitigate its effects.

3.3.1 Summary of emerging issues

Table 1 provides a summary of issues emerging from the analysis of the findings related to each stakeholder group and each attribute of stakeholder role.

Table 1. Analysis of stakeholder roles showing the exercise of power, legitimacy, and urgency in the management of Disaster Risk at AMA

Stakeholders	Exercise of power	Legitimacy role	Exercise of urgency
Central Government	Exercise of power is highly effective	<ul style="list-style-type: none"> National Laws and policies on Disaster Management Strong basis for policy decision High targeting of policies but low precision Feedback from communities into policy review uncertain 	Low urgency in responding to disaster risk management
DRM Agencies	Exercise of decentralized power appears ineffective	<ul style="list-style-type: none"> High legitimacy Strong policy framework to guide disaster management 	<ul style="list-style-type: none"> Low, predictable outcomes Low systemic commitment to deal with disaster issues High implementation challenges
Communities	Low exercise of power	<ul style="list-style-type: none"> Moderately low legitimacy Low involvement in policy review 	High urgency in responding to disasters

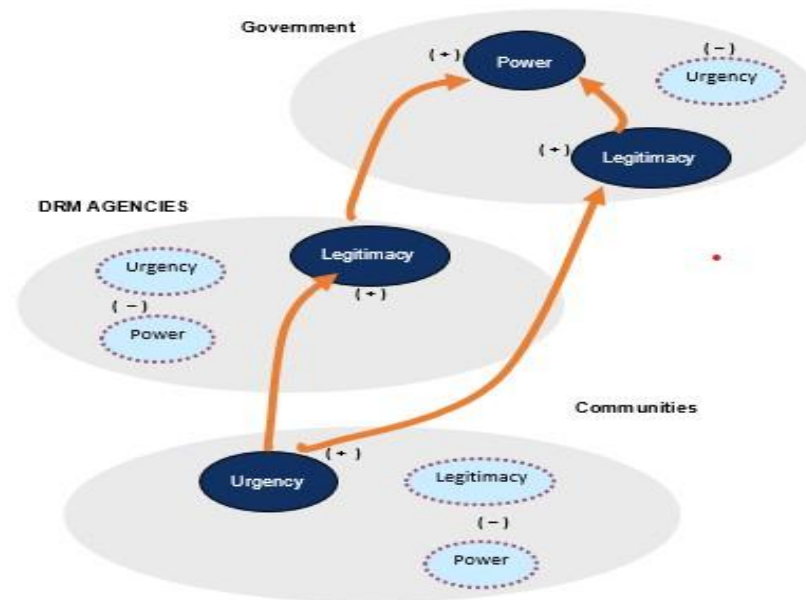


Fig. 2. Analytical framework for discussions
 Source: Author's construct, 2021

4. DISCUSSIONS

The researchers' adapted Mitchell, Agle, and Wood's [19] stakeholder matrix and developed a framework shown in Fig. 2 to guide the discussions. Figure 2 provides three sets of stakeholders, each demonstrating peculiar characteristics and their linkages. From the figure, the central government, the DRM agencies, and communities constitute the major stakeholders in disaster risk management. In addition, the figure demonstrates the degree or ability of the stakeholder to play their role with the use of minus (low degree) and plus (high degree) signs. The figure shows that the central government presents with two characteristics that have a higher or positive effect on (power and legitimacy) roles. The DRM agencies show a higher legitimacy effect while the communities demonstrate a higher urgency role.

From Fig. 1, the various stakeholders involved in disaster management at AMA constitute different fields within which their role attributes - power, legitimacy, and urgency are exercised. These fields represent the organizational space and define the forces that determine how the three concepts are exercised. Specifically, the fields provide a structure for which the policy operatives and implementing agencies are reproduced and how their decisions impact disaster risk management.

In terms of legitimacy, the findings show that the central government has a high legitimacy interest in the management of disasters. The AMA and other agencies also have the legitimacy to address disaster issues, while the local communities have little legitimacy in disaster management. The findings present AMA as the local government institution supported by other state agencies with legitimacy for ensuring that people in positions of authority exert their influence in setting the policy agenda on DRM through defined channels. However, these departments and agencies have less power to exercise this legitimacy role. This suggests that although the institutions have legitimate rights to manage disasters at the local level, they are not empowered to carry out their mandates as power is still centralized. Again, the findings show that the AMA has challenges mobilizing resources and expertise to respond to disaster issues; hence their sense of urgency in disasters appears to be weakened by lack of resources and capacity.

The analysis supports earlier studies showing that some causal factors can hinder the successful and effective implementation of DRM by agencies mandated to manage disasters at the local government level [8, 12-16]. This further suggests that though local government institutions have the legitimacy to operate yet they lack the driving force to respond to disasters due to the inability to take urgent decisions to deal with disasters or interventions for disaster prevention. Even though new legislations have been enacted under policy reforms to strengthen agency role in disaster management, agencies such as NADMO had not been effective to influence their degree of autonomy on disaster risk management. The findings from this study appear to attribute this challenge to the level of bureaucracy in formal government structures. This precisely specifies which organizations enjoy privileged access to decision-making through the formalized structures. These formalized structures seem to offer some form of "protection" to people in authority but appears to be weakened at the decentralized level and thus explains the low degree of exercise of power in the form of capacity and authority within the DRM agencies as shown in the analysis.

Our findings again show that the central government controls the high exercise of power in disaster management with the moderate low exercise of power falling under the DRM agencies, while the communities have extremely low exercise of power in the management of disaster risk issues. This shows that the central government is the dominant player in the exercise of power in disaster risk management. These findings support earlier studies showing that central governments often retain power over disaster management in most developing countries [13,14,30,31,32]. Although Ghana operates a decentralized government system with metropolitan, municipal and district assemblies (MMDAs) representing central governments at the community level, it appears that the central government has not fully devolved power to the local assemblies. This is because the central government still makes certain decisions for the local governments. For example, the central government is the main appointing authority for most of the positions at the local government level and also serves as the major economic power for the MMDAs. The literature has shown that centralized disaster management hampers efforts by international communities to decentralize DRM [13,14] In the exercise of power, the forces that operate within

central government in terms of disaster management are similar to those that define the decision-making process within local government agencies. This is to be expected, as decision-making is an essential component of the exercise of power. Although the boundaries may not be very distinct, it is possible to group these structures under the framework of Mitchell, Agle, and Wood[18].

A blend of models when it comes to the exercise of power is observed, with pluralism being an overarching model while corporatism, professionalism, and technocracy show up as "sub-models" at different stages in disaster risk management. These sub-models appear stronger in the exercise of power by the structuring effects of Mitchell, Agle, and Wood[18]. Therefore, power could be effectively applied if the decentralization concept is to be fully implemented, albeit the challenges with implementing the decentralization concept in Ghana. To ensure effective decentralization of DRM in Ghana, the national government must ensure that local assemblies are empowered and economically well-resourced in finance, logistics, and technical know-how to take charge of disaster management at the local level [33-36]. This will also minimize bottlenecks in disaster management at the local government level.

At the community level, there appears to be a supportive environment for role change, which stems out of the relations between the various stakeholders in communities, and this should be utilized. The observed lack of clarity about power to achieve results within the DRM agencies and communities appears to be the result of the solid legitimating influence of the central government. At this level, strong interest groups influence the policy process and ensure that their interests are considered. Therefore, the facilitation process seems to be a mechanism for guaranteeing consensus, and this role that is already legitimized in NADMO should be enforced to the letter. The analyses show that the urgency role of central government and local government institutions to manage disasters in communities appears to be low. However, the communities play a high urgency role in managing disasters.

Although communities may not possess much power and legitimacy in disaster risk management, they have a sense of urgency which is a potential for response and recovery. Since they are in the localities, they sometimes have the urgency of attending to disasters and

mitigate their effects before calling for external help. There is a growing realization that people at the community level can meet their specific local needs, resources, and capacities in managing disasters [2,3,37,38] and this study has confirmed this believe. Therefore it is imperative for DRM institutions to harness the urgency potential and empower communities by organizing and training community members in disaster management to strengthen their level of urgency. The findings revealed that some communities have set up DVGs to help manage disasters. However, these groups are not functioning as they are supposed to do due to lack of funds to sponsor their activities. As a basis for strengthening communities involvement in DRM, there is the need to enhance their capacity to build a resilient communities[2,4]. The implementation of the NADMO Act, 927 of 2016, section 3 (k), can empower Disaster Volunteer Groups (DVGs) in disaster management and income generation activities at the community level. Within community leadership role, it has to be noted that people in authority are not often among the known technocrats. The nature of non-technical players in the communities and the extent to which those stakeholders feel directly responsible for the outcome of decisions lead to the urgency role they can play in disaster management.

4.1 Administrative and Structural Reforms in Stakeholder Roles

According to the stakeholder theory, when stakeholders are able to define their level of power, legitimacy, and urgency roles, they can manage and coordinate their functions effectively. In DRM, there is the need for stakeholder management in terms of risk identification, reduction and quick responses to disasters. Drawing from Mitchell, Agle, and Wood [18] model and deducing from the above discussions, this study argues that for effective disaster risk management, there should be administrative and structural reforms in the roles of the key stakeholders concerned with the management of disasters in the AMA.

The central government should continue to exercise high attributes of power and legitimacy. This will place them in the dominant position as the dominant stakeholder in disaster risk management. In the case of the DRM agencies which NADMO is coordinating, the study suggests that high exercise of power through total devolution within the decentralized

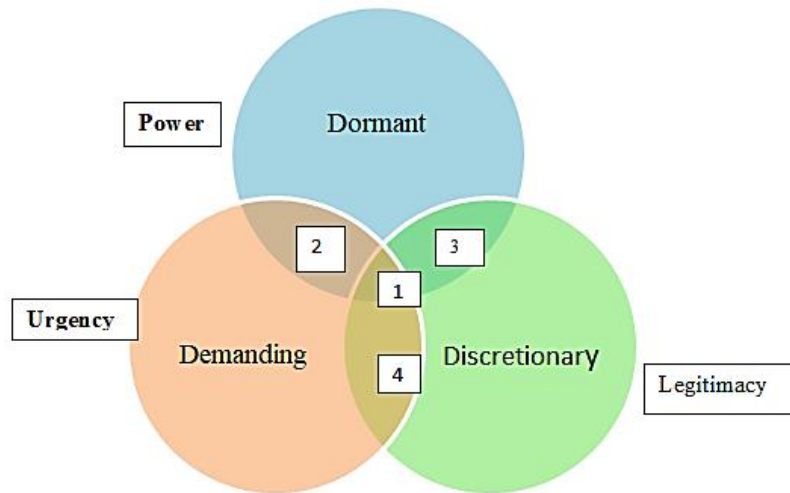


Fig. 3. Defining the new stakeholder roles of Agencies and Institutions for Disaster Risk Management at AMA

Source, Authors construct; Key: 1=definitive stakeholder, 2=dangerous stakeholder, 3=dominant stakeholder, 4=dependent stakeholder

structures be given to the local government institutions within the Metropolitan, Municipal and District Assemblies (MMDAs); high urgency and high legitimacy roles are needed within the MMDAs to facilitate the process of defining and identifying disaster risk issues at the decentralized levels. This restructuring is likely to make those institutions the definitive stakeholders while communities should continue to have high urgency roles to be demanding to play responsive roles during disasters and hold the DRM agencies and central government accountable in disaster risk management. In conclusion, the authors argue that when disaster management agencies can identify their level of power, legitimacy, and urgency roles, they would be effective in their functions. Fig. 3 describes the proposed restructuring of stakeholder roles to ensure efficient and effective management of disasters at the AMA - with the potential of being replicated in other geographical areas of the country.

5. CONCLUSION

Several state institutions have roles to play in disaster management according to the laws that established them. These roles cover all the stages of DRM, thus, prevention, response, recovery, and reconstruction. Previous studies attributed the inability of those state institutions to effectively manage disaster risk to resource constraints and lack of political will. This study builds on those

findings and argues that understanding role attributes in terms of the exercise of power, legitimacy, and urgency by major stakeholders can effectively enhance their capability to contribute to disaster risk management in communities.

The study argues that the exercise of power by stakeholders in DRM in Ghana demonstrates the relationships between the structural characteristics of authority at various levels of the decentralized system and the patterns of transactions that lead to policy decisions. The structuring effect of the power attributes within the DRM agencies follows a similar principle at the community level. It also explains the level of role conflict in the exercise of power at the community level in managing disasters. Therefore, there is the need to restructure the role of local government agencies to have a high power role in disaster management. This, in a way, will make local government agencies autonomous, thus confirming Mitchell, Agle, and Wood's observation in stakeholder role and making local government agencies emerge as an identifiable force in disaster risk management. The study contributes to the existing literature by suggesting structural reforms to the current stakeholder role in the management of disasters. The authors suggest that; central government remains a dominant stakeholder; DRM agencies should be restructured to have a definitive role but how this should be done needs further research. The local communities should be

encouraged to maintain their demanding role to hold central government and DRMs accountable in DRM.

CONSENT

Participants were provided with a written consent before the start of the face-to-face interview after the researchers had explained to them the purpose of the study and the benefits they would gain from the study. They were constantly reminded during the interview that their participation was voluntary and that they had the option to quit at any point in time if they were not comfortable with the line of questioning. Names of the respondents were not included in the study report. To conceal the identity of the participants, symbols like an officer, respondent, official, opinion leader, community leader, landlord and assemblyman were used to represent the names of participants' identities throughout the study. All information gathered from study participants was treated confidentially.

ETHICAL APPROVAL

Before data collection, ethical clearance was obtained from the University of Cape Coast Ethical Review Board to ensure and safeguard every ethical consideration of the participants. Permission was also sought from the AMA for the study, and leaders of each of the three communities selected also granted permission for the researchers to collect data.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Al-Nammari F, Alzaghal M. Towards local disaster risk reduction in developing countries: Challenges from Jordan. *Int J Disaster Risk Reduct.* 2015;12:34–41.
2. United Nations International Strategy for Disaster Reduction [UNISDR]. *Local Governments and Disaster Risk Reduction: Good Practices and Lessons Learned.* In Geneva: UNISDR;2010.
3. UNISDR. Sendai framework for disaster risk reduction 2015–2030. In: *Proceedings of the 3rd United Nations World Conference on DRR.* Sendai, Japan: UNISDR. 2015;14–8.
4. United Nations Office for Disaster Risk Reduction [UNDRR]. *Highlights: Africa Regional Assessment Report 2020;2020.*
5. Amoako C, Inkoom DKB. The production of flood vulnerability in Accra, Ghana: Rethinking flooding and informal urbanization. *Urban Stud.* 2018;55(13):2903–22.
6. Intergovernmental Panel on Climate Change [IPCC]. *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation.* In: Field et. CB, editor. *A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change.* Cambridge, UK and New York, NY, USA. New York: Cambridge University Press; 2012.
7. UNDP/NADMO. *Mainstreaming Disaster Risk Reduction-A Short Course for Practitioners in Ghana.* Discussion Version. 2016.
8. Asumadu-Sarkodie S, Owusu PA, Jayaweera M. Flood risk management in Ghana: A case study in Accra. *Advances in Applied Science Research.* 2015;6(4):196–201.
9. Rudeberg C, Leeb S. *Stakeholder Collaboration in a Sustainable City.* Lund University; 2014.
10. McEntire D. *Disaster Response and Recovery: Strategies and Tactics for Resilience.* New Jersey: Wiley; 2015.
11. Kusumasari B, Alam Q. Bridging the gaps: the role of local government capability and the management of a natural disaster in Bantul, Indonesia. *Nat Hazards (Dordr).* 2012;60(2):761–79.
12. Atuguba RA, Amuzu TE. Report on climate change and flooding in Alajo, Accra. In Ghana: Accra; 2006.
13. Manyena SB. Rural local authorities and disaster resilience in Zimbabwe. *Emerald Insight, Disaster Prevention, and Management.* 2006;15(5):810–820.
14. Col J-M. Managing disasters: The role of local government. *Public Adm Rev.* 2007;67:114–24.
15. Niekerk D. *Local government disaster risk management.* Waldt G, editor. Cape Town: Juta and Company Ltd; 2007.
16. Scott Z, Tarazona M. Study on disaster risk reduction, decentralization, and political economy. ISDR, UNDP, OPM; 2011.
17. Crane A, Matten D. *Business ethics: Managing corporate citizenship and sustainability in the age of globalization.* 3rd ed. Oxford: University Press; 2010.

18. Mitchell RK, Agle BR, Wood DJ. Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Acad Manage Rev.* 1997;22(4):853.
19. Bammer G. Key issues in co-creation with stakeholders when research problems are complex. *Evid Policy.* 2019;15(3):423–35.
20. Mojtahedi M, Oo BL. The impact of stakeholder attributes on performance of disaster recovery projects: The case of transport infrastructure. *Int J Project Manage.* 2017;35(5):841–52.
21. Osborn M, Smith JA. The fearfulness of chronic pain and the centrality of the therapeutic relationship in containing it: An interpretative phenomenological analysis. *Qual Res Psychol.* 2008;5(4):276–88.
22. Starks H, Trinidad SB. Choose your method: a comparison of phenomenology, discourse analysis, and grounded theory. *Qual Health Res.* 2007;17(10):1372–80.
23. UNISDR. How to make cities more resilient: a handbook for local government leaders. 2012.
24. Khare A, Beckman T, Crouse N. Cities addressing climate change: Introducing a tripartite model for sustainable partnership. *Sustain Cities Soc.* 2011;1(4):227–35.
25. Nicholls AR, Holt NL, Polman RCJ. A phenomenological analysis of coping effectiveness in golf. *Sport Psychol.* 2005;19(2):111–30.
26. National Disaster Management Organisation [NADMO]. National Disaster Management Plan;2010.
27. Thomas SP, Thompson C, Pollio HR, Greenberg K, Conwill W, Sall A, et al. Experiences of struggling African American students at a predominantly White university. *Research in the Schools.* 2007;2007;14(2):1-7.
28. Denham MA, Onwuegbuzie AJ. Beyond words: Using nonverbal communication data in research to enhance thick description and interpretation. *Int J Qual Methods.* 2013;12(1):670–96.
29. Parliament of Ghana, Emergency Power Act, 1994, Act 472. Government of Ghana., Accra;1994.
30. Ahrens J, Rudolph PM. The importance of governance in risk reduction and disaster management. *J Contingencies Crisis Manag.* 2006;14(4):207–20.
31. Chamindi M, Dilanthi A, Chaminda P. Role of the local governments in disaster risk reduction. In Paris: RICS COBRA; 2010.
32. Almoradie A, Brito MM, Evers M, Bossa A, Lumor M, Norman C, et al. Current flood risk management practices in Ghana: Gaps and opportunities for improving resilience. *J Flood Risk Manag [Internet].* 2020;13(4). Available:<http://dx.doi.org/10.1111/jfr3.12664>
33. Abeka E, Asante FA, Laube W, Codjoe SNA. Contested causes of flooding in poor urban areas in Accra, Ghana: an actor-oriented perspective. *Environ Dev Sustain.* 2020;22(4):3033–49.
34. Oteng-Ababio M. "Prevention is better than cure": assessing Ghana's preparedness (capacity) for disaster management. *Jamba Journal of Disaster Risk Studies.* 2013;5(2):1–11.
35. Amoako C, Frimpong Boamah E. The three-dimensional causes of flooding in Accra, Ghana. *Int J Urban Sustain Dev.* 2015;7(1):109–29.
36. Korah PI, Cobbinah PB. Institutional responses to climate change adaptation: Flood management at the metropolitan level in Accra, Ghana. In: *The Geography of Climate Change Adaptation in Urban Africa.* Cham: Springer International Publishing; 2019. p. 451–78.
37. Bendimerad F. Disaster risk reduction and sustainable development. In Istanbul, Turkey: World Bank; 2003;57–75.
38. Lin Moe T, Pathranarakul P. An integrated approach to natural disaster management: public project management and its critical success factors. *Disaster Prevention and Management An International Journal.* 2006;15(3):396–413.

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