



**COLLEGE OF ARTS AND SOCIAL SCIENCES CENTRE FOR  
CONFLICT MANAGEMENT**

**THE ROLE OF RWANDA DEFENCE FORCE (RDF) IN DISASTER  
MANAGEMENT: A CASE OF NYARUGENGE DISTRICT**

*A dissertation submitted to the University of Rwanda in partial fulfillment of the requirements for  
the award of MA degree in Security Studies*

**Submitted by:**

**GASASIRA HIGIRO Geoffrey**

**Student Reg No: 220016961**

**Supervisor: Dr Peter J MUGUME**

Nyakinama, 15May, 2020

## DECLARATION

I, Geoffrey HIGIRO GASASIRA, do here by affirm that this thesis entitled **THE ROLE OF RWANDA DEFENCE FORCE (RDF) IN DISASTER MANAGEMENT: A CASE OF NYARUGENGE DISTRICT** is entirely is my own work and contains no any other material published previous by another researcher or material submitted for the award of any degree or its equivalent at the University of Rwanda or any other high learning institution elsewhere except where due references have been made.

Signed by: ..... Date: 15 May, 2020

## **DEDICATION**

This thesis is dedicated to:

My lovely wife: Hyacinthe Anatory, thanks for being a responsible caring mother; a supportive wife and partner who assumed family responsibility during my studies

To my children: Isaro Gasasira Pretah, Ishema Gasasira Powell and Imena Gasasira Patton. Thanks for being good to daddy during the past whole year of my absence as I pursued this program. You are source of my strength and courage.

To my family members: Daddy, Mummy, Brothers and Sisters.

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## ACRONYMS

CMR: Civil Military Relationship.

DCS: Disaster Communication System.

DDMC: District Disaster Management Committee.

DDMC: District Disaster Management Technical Committee

DRC: Democratic Republic of Congo.

DRM: Disaster Risk Management.

DRR: Disaster Risk Reduction.

EAC: East African Community.

GIS: Geographic Information System.

GoR: Government of Rwanda.

HFA: Hyogo Framework for Action.

ISDR: International Strategy for Disaster Reduction.

JIMC: Joint Intervention Management Committee.

MEDVAC: Medical evacuation.

MIDMAR: Ministry of Disaster Management and Refugees Affairs.

MINEMA: Ministry of Emergence Management

NDMEC: National Disaster Management Executive Committee.

NDMP: National Disaster Management Policy.

NDMTC: National Disaster Management Technical Committee

NGO: Non-Government Organization.

NPDRR: National Policy on Disaster Risk Management.

RDF: Rwanda Defence Forces.

REMA: Rwanda Environmental Management Authority.

RNP: Rwanda National Police.

RNRA: Rwanda National Resources Authority.

Rwf: Rwandan francs.

UNDP: United Nations Development Programme.

UNISDR: United Nations. International Strategy for Disaster Reduction.

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## ABSTRACT

The objective of this study is to understand the role and involvement of Rwanda Defence Force (RDF) in disaster management in Nyarugenge district, City of Kigali (CoK). Identify any challenges encountered by the RDF in the process of managing disasters and suggest the way forward on how to better manage disasters as a future enduring solution. Disasters have proven to be a hindrance to regional and national developments where the frequency and severity have significantly increased toll of human casualties as well as economic and environment losses. Disaster management in Rwanda involves RDF and other stakeholders however it remains challenging at different levels based on played roles by each stakeholder.

In order to achieve the objectives of this research, relevant international literature were reviewed and compared with that of Rwanda. The evaluation of roles and involvement of RDF and other actors in disaster management was done using guided interviews and surveys. Our results showed that the effort of the RDF in enhancing the response of the military to emergency situation still needed. As the performance of RDF in disaster management whether natural or manmade could have been effective but hindered by lack of capabilities in terms of equipment and budget at both tactical and operational level.

It came to the researcher attention that different actors contributing in the disasters management services were not aware of the law that governing disaster management as most of them claim that they collide with lack of disaster management funds. This study submits that besides insufficiency of funds allocated to the disaster management, the RDF encounters other challenges that are associated with people who need rescue after the disaster. The military relief efforts are sometimes hampered by the limited mindset of disaster victims which makes them be adamant to shift from their location. This has a nexus to the economic category these large families pertain to. It is also identified that disasters affect the poor more than the well to do persons in society.

## CHAPTER ONE: GENERAL INTRODUCTION

The objective of this study is to explore the role of RDF in disaster management in Nyarugenge district, CoK. Identify any challenges encountered by the RDF in the process of managing disasters and suggest the way forward on how to better manage disasters as a future enduring solution. The chapter also gives an overall description about the research structure starting with a background, research problem, general objective and specific objectives, research questions, significance of the research, delimitations and structure of the work.

### 1.1. Background

From the global perspective, in 2006, the UN launched a consultative process to consider practical ways to strengthen the International Strategy for Disaster Reduction (ISDR) system and better support governments to meet their commitment to implement the Hygo Framework for Action (Olowu, D., 2010). It designed to become the main global forum for all parties involved in disaster risk reduction including governments, United Nations Agencies, international financial institutions, regional bodies, civil society, the private sector, scientific and academic communities. The Governments adopted the Hygo Framework for Action 2005-2015, which emphasizes that Disaster Risk Reduction (DRR) must be addressed in the context of socioeconomic development, and mainstreamed into development planning and actions.

Besides, Hyogo framework, Sendai framework (2005-2015) Global Targets, addresses the disaster risk reduction substantially as follows:

- a) Reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rate in the decade 2020–2030 compared to the period 2005–2015.
- b) Reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020–2030 compared to the period 2005–2015.
- c) Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.

d) Reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.

e) Increase the number of countries with national and local disaster risk reduction strategies by 2020.

f) Enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.

g) Increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030 (United Nations, 2015).

Also internationally, the military may be involved in developing man-made disaster contingency plan, establish an effective monitoring, and provide training to its entire staff on disaster management to ensure effective utilization of resources (Van Wassenhove, L.N., 2006). Introduce a policy to map out disaster - prone areas, the possible damage and loss as well as establish risk communication system, develop contingency plan of its risk reduction and management activities (Cavallo ., 2013). During emergency response, the army ensures continuous liaison with other actors. Furthermore it also ensures appropriate preparedness along with the necessary equipment of para-military and humanitarian services, to extend all supports required with regards to the security, evacuation, and rescue purposes of the people in prone areas before the start of the disaster (Heaslip., 2014). In order to respond to disaster emergencies, it can develop a plan and ensure that it keeps budgetary provision for disaster preparedness and management affairs such as safety and security of installations, personnel, equipment and resources.

Regionally, the East African Community (EAC) recognizes the interaction between hazards and conflict in accordance to the EAC's Disaster Risk Reduction and Management Strategy 2012–2016 (Peters, K., 2019). The EAC act calls for a legal framework for the intervention and assistance for people affected by climate change and natural related hazards and to protect the natural environment through integration of comprehensive disaster risk reduction and management practices in the EAC Region (Jarso, J.F., 2012). EAC, Risk Reduction and Management Bill, 2013 (art.10) provides that (Mercer, J., 2010.): (1) where in-situ adaptation and risk reduction measures are not sufficient to protect persons at risk, the Partner State concerned shall facilitate such persons

to depart from the danger zone. (2) In instances where persons at risk cannot leave on their own, the Partner State concerned shall ensure their evacuation from the danger zone. (3) Persons unwilling to leave shall not be evacuated against their will unless such forced evacuation is provided otherwise by law.

Rwanda is a small landlocked country in East Africa. It is bordered by the Democratic Republic of Congo (DRC) to the West, Tanzania to the East, Uganda to the North, and Burundi to the South. The 2012 Population and Housing Census put the population of Rwanda to 10.5 million residents' and 11.78 million (World Bank, 2013) of which 52% are women. Along with rehabilitation and economic development, the Government of Rwanda (GoR) has focused much of its effort on addressing the consequences of the genocide against the Tutsi and the institutional problems that were deemed responsible for the genocide that took place back in 1994 mainly on unity and reconciliation, security, justice and economy where disaster eventualities were not a priority. However today it's becoming a national issue (National institute of statistics of Rwanda, 2018).

It has areas that are prone to disasters especially north and western parts of the country (Bizimana, J.P. and Schilling, M., 2009). It has been experiencing natural hazards in the past years with high trends of floods, drought, landslides, storm and earthquakes currently (RNRA 2016). The projections are that the frequency and intensity of sudden – onset EL NINO related disasters particularly flooding, storms droughts, earthquakes, fire and landslides will increase in the future it is likely that disaster will affect more people and cause great damage (MIDMAR, 2018).

Disaster risk reduction (DRR) strategies are the cornerstone of formalized action for reducing natural hazard-related disaster ('disaster') risk and setting the strategic direction for a district, country or region to become more resilient to disasters (Peters, K., 2019). Disaster risk reduction strategies: navigating conflict contexts. DRR strategies 'define goals and objectives across different timescales and with concrete targets, indicators and timeframes. In line with the Sendai Framework for Disaster Risk Reduction 2015–2030, local to regional strategies should aim to prevent the creation of disaster risk, reduce existing risk and strengthen 'economic, social, health and environmental resilience'. National DRR strategies provide a means for governments to articulate their intentions to protect citizens against current and future disaster risk, and act as an instrument through which civil society can hold governments accountable for those actions (Peters, K., 2019).



Rwanda like other African countries and in the whole sphere, faces natural and manmade disasters which are causing deaths, injuries and other different losses on human and environment (MINEMA, 2019). The disaster risks are multiplying on daily basis due to some critical seasonal conditions and climate change (hydro-meteorological conditions) (Herman, K., 2014). These could cause an extreme wide range of weather hazards including floods, landslides, severe storms, drought, fires, thunder, storms, earthquakes, volcanic eruptions that can trigger widespread of other related risks and devastations. Rwanda is also prone to human epidemics, animal and plant diseases that require preparedness and intervention mechanisms and appropriate operations during emergencies as well (Herman, K., 2014). Similarly, our shared borders in the whole region of Africa and in the world present both natural and human induced cross boundary risks, as well as humanitarian assistance obligations in times of emergency.

Recently, a risk assessment study which was conducted by MIDIMAR (2017), confirmed that the country is highly prone to drought, landslide, flood and windstorms. Because of its geographical features (the relief is hilly and mountainous with an average altitude of 1,700 meters) and climatic profile. According to a MIDIMAR study in 2015, the main cause of flooding across the thirty districts is climate change which results in heavy rain and flash flooding through overflowing of Rwanda's rivers. Around 40% of the country's population is estimated to be exposed to landslide at moderate to very high slope susceptibility with 14% of the exposed population being children below 20 years and old people aged above 64 years (Anderson, 2019). In all, over 1.6 million poor Rwandans (about 15% of the total population) are estimated to be exposed to landslides. Around 40% of Rwanda's land is classified as being under a "very high risk zone" (Anderson, E.R., 2019).

The study seeks to explore, as it will be discussed in details below, how RDF manage the disasters in Nyarugenge District and new strategies that can be adopted for the betterment of subsequent disaster management.

## **1.2. Research problem**

The Rwandese population can be described as vulnerable to some hazards that are at the center of triggering disasters. The prevailing hazards in Rwanda include floods, landslides, droughts, earthquakes, various storms (windstorms, rainstorms and thunderstorms), wildfires, traffic accidents, diseases and epidemics that disrupt people's livelihood. In the planning phase, a linkage between activities implemented during disaster response and those related to disaster mitigation and development is importantly considered. The RDF provides some support for domestic emergencies, specifically on natural disasters and civil disturbances without affecting primary mission but with the current effects of climatic change that has of recent given rise to human insecurity due to floods, erosion, landslides and ultimately loss of lives (World Health Organization, 2014).

In 2012, the Disaster management policy was reviewed and approved to link the DM framework with the main strategic document (Vision 2020, EDPRS, 7YGP) and to provide general guidance for interveners in disaster crises in Rwanda.

In 2013, the National Disaster Risk Management Plan (NDRMP, 2013) was published to provide strategic guidance and define more specifically roles and responsibilities of each institution with disaster management linkage during crises. And also in the same year, the contingency plans were developed and validated (so far earthquake, fire incidents, floods and landslides, human epidemics, mass movement and population influx, droughts,) (Nsengiyumva, J.B., 2018). From 2014-2015 other different contingency plans were developed to operationalize technological and industrial disasters, crops, animal disease and famine, volcanic eruption, terrorism effects, and storms contingency plans (Nsengiyumva, J.B, P., 2018).

Also from late 2019, Rwanda increasingly experienced heavy rainfall which affected several parts of the country. Ministry of Emergency Management (MINEMA) and Rwanda Red Cross Society (RRCS) on 7-9 December 2019, conducted initial assessment which estimated that approximately 1,072 households have been affected as a result of these floods, sixteen people died and thirty three injured (IFRC, 2020). Further, a total of 1,016 hectares of crops grown up in the marshlands and the swamps near the rivers were damaged and, in most cases, completely destroyed (IFRC, 2020). Additionally in a related development, Nyarugenge district was hit by floods and landslides which destroyed a number of infrastructures that include seven

bridges that were connecting cells and sectors, serious flooding at Kanogo high way and Nyarurenzi feeder road in Mageragere sector. Additionally water drainage systems were damaged in Nyabugogo main car park and that approximately 100 houses have been wrecked since December 2019 (IFRC, 2020).

In the aftermath of these disasters, when local government institutions and civilian capacity has been exceeded or requires immediate action calls RDF for intervention. During such interventions RDF uses its Reservist Corps of Engineers, Engineering Brigade, Airforce and Marine in different disaster management responses (MINEMA, 2019). The RDF is mandated by its statutes to collaborate with other security organs in safe-guarding public order and enforcement of law, participate in humanitarian activities in case of disasters, contribute to the development of the country, and participate in international peace-keeping missions, humanitarian assistance and training (Article 10 of LAW N°10/2011). With this secondary mandate on disaster management, RDF plays a big role in disaster management in addition to its doctrine that facilitates it to respond/intervene quickly on any request of security concern. The current capacity of RDF if enhanced and supported can help CoK and Nyarugenge district in particular in managing the disasters.

Today, disaster management framework is coordinated by MINEMA through National Disaster Operation center, but although the DRR has been integrated into sustainable policies and plans, several districts have no adequate capacities to plan for disasters and the most of their disaster committees have not been trained (Rugigana, E.,2013). Well as key foundations for disaster resilience was put in place through establishment of law, policy and disaster management systems but there are still limited and weak capacity within MINEMA and other relevant institutions of the Government to advance and operationalize the disaster management. Additionally, there is still inadequate disaster risk knowledge at all levels and lack of public awareness of disasters and the corresponding risks (Okhrimenko, A., 2017). The absence of an end-to-end Early Warning Systems and disaster preparedness capacities at all levels are yet lingering areas which require equal priority and attention if the country is to achieve resilience and aim for reduction of risks (Van Niekerk, D., 2019). The continued participation of military forces in disaster management is brought by the increasing number of disasters growing pressure for response and a complex world of humanitarian assistance. Once these snags are not duly addressed, Rwanda is likely to undergo

further losses in human lives and other material assets. Therefore, RDF requires to have availability of equipment, knowledge and skilled personnel on disaster management to be able to provide high value service to the Rwandan natural hazards responsiveness systems.

It is against this background that this study intends to understand the role of involvement of RDF in disaster management of floods and landslides in Nyarugenge district. Therefore the research problem to be answered by this research study goes “What are the challenges encountered by the RDF in the process of disaster management? Which strategies can be done by RDF and other actors to effectively manage disasters in Nyarugenge district? Therefore the study will suggest new strategies that can help the district, RDF and other stakeholders in effectively managing disasters in Nyarugenge district.

### **1.3. Objectives of the Study**

The objectives of this research will focus on general and specific objectives.

#### **1.3.1. General objective**

The general objective of this study is sought to understand the role of RDF in disaster management in Nyarugenge district.

#### **1.3.2. Specific objectives**

The specific objectives of this study include the following;

- a. Find out how RDF manages floods and landslides disasters in Nyarugenge district.
- b. Establish the challenges encountered by the RDF in the process of managing disasters.
- c. Suggest new strategies that can help the district, RDF and other stakeholders in effectively managing disasters in Nyarugenge district.

### **1.4. Research questions**

This research intends to answer the following questions:

How does RDF manage floods and landslides disasters in CoK particularly in Nyarugenge district?

What are the challenges encountered by the RDF in the process of disaster management?

Which strategies can be done by RDF and other actors like MINEMA, RNP, MoH, and MINALOC to effectively manage disaster management in Nyarugenge district?

### **1.5. Significance of the research**

This research seeks to investigate how RDF responds to floods and landslides related disasters in Nyarugenge district. The importance of the study is as follows:

To assist the disaster management department within City of Kigali to function effectively and efficiently by applying new systematic strategies in disaster risk reduction;

To add value to the little existing knowledge as there are limited pieces of research conducted in disaster management in Rwanda.

### **1.6. Delimitations**

The study on role of RDF in disaster management is based in Nyarugenge District. The focus of the study is confined to the assessment of role and involvement of RDF and other stakeholders in curbing floods and landslides related disasters in Nyarugenge district as one of the prone areas hit by disasters in the recent years.

### **1.7. Structure of the work**

This study comprises of 5 chapters. This chapter has the general introduction highlighting mainly the background of the study, the problem statement and research objectives. Chapter two introduces some definitions of key concepts in disaster management and displays independent and dependent variables. Chapter three embodies research methodology which includes research design, study area/location and sample population, Data collection (methods and techniques) and ethical issues. Chapter four discusses the data provided by respondents and presents the views and challenges as expressed by the respondents. It winds up portraying way forward and what should be done. Chapter five makes a flashback into the objective and analyses the extent to which the research overall objectives have been achieved. It finally draws the general conclusion and recommendation.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1. Introduction**

In order to have historical and background information related to disaster management such as floods and landslides in the area of study, some existing published materials were read to get familiar with the variables in the study according to scholars. This was aimed at helping the researcher define the key concepts and definitions, classification and occurrence of disasters, disaster management in Rwanda, military involvement in disaster management, role of Rwanda Defence Force in disaster management, civil-military coordination in disaster management, situational description of disasters under scrutiny (floods and landslides) and conclusion.

### **2.2. Key concepts and Definitions**

This sub-section presents basic definitions and major concepts, other concepts in this chapter will be used to illustrate points which were given attention to be explained so that scholarly ideas can be gathered to make the study flow well and clearly articulated even in the subsequent chapters to help the readers to grasp the content of the subject.

#### **2.2.1. Hazard**

A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage (Gasper, R.,2011). Such hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination and they are described quantitatively by the likely frequency of occurrence of different intensities for different areas, as determined from historical data or scientific analysis (Aitsi-Selmi, A., 2015).

#### **2.2.2. Disaster**

Disaster is an abrupt, calamitous phase causing great harm, loss, and destruction and devastation to life and property (Sinha, P.C., 1998). Fritz defines the terms disaster as an event that occurs in a destructive manner in both time and space and affecting a section of society thereby leading to destabilization of the lives and social structure where the society is circumvented from normal and routine functioning (Ronald, W, P, 2017).

### **2.2.3. Disaster management**

Disaster management can mean a science of dealing with and avoiding risks. It is a discipline that involves preparing, supporting, and rebuilding society when natural or human-made disasters occur. The progression of vulnerability presents a worst case scenario of extreme vulnerability to disaster. The implications of the progression of vulnerability are that the objectives of disaster management go well beyond the belief that disasters will occur and there is nothing that can be done except respond to the event once it has occurred and try to minimise as much as possible the suffering and loss of the affected population. Therefore it is the distribution, coordination and effective utilization of resources and responsibilities of all stakeholders in cases of emergency to respond to disasters and they comprise response, rebuild and recover from disasters in a society or an area which has been hit by the disaster and all are aimed at decreasing the impact of disasters. It is hence the way governments and stakeholders respond in case of disasters (Harsh K Gupta, 2003).

### **2.2.4. Preparedness**

This refers to the knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions. According to Carter (2008), preparedness includes all measures facilitating governments, rescue organizations and the society as a whole to be able to respond efficiently and effectively in case a disaster strikes. Therefore, disaster Preparedness may also mean activities and measures taken in advance to ensure effective response to the impact of disasters, including the issuance of timely and effective early warnings and the temporary removal of people and property from a threatened location.

### **2.2.5. Prevention**

It means the outright avoidance of adverse impacts of hazards and related disasters. Disaster Prevention is the activities that express the concept and intention to completely give avoid the adverse impact of hazards and related environmental, technological, and biological disasters throughout the action taken in advance (Flanagan, B.E., 2011).

### **2.2.6. Mitigation**

It is the process geared towards lessening or limitation of the adverse impacts of hazards and related disasters (Tarlow, P.E., 2002). Therefore, disaster mitigation aims, to save lives in the future and to reduce economic disruption, decrease the vulnerability of populations and thereby increase their capacity and, where appropriate, decrease the chance or level of conflict.

### **2.2.7. Early warning system**

The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss (Amadhila, E., 2013). It therefore, a means of alerting the populations at risk to the impending impact to allow for efficient evacuation.

### **2.2.8. Floods**

The floods are grouped into types, such as localized and widespread floods. The localized floods are those resulting from the substantial excess rainwater caused by excess whereas the widespread disaster is a result of river and tributaries overflowing beyond their capacities (Paolo Paron, 2015).

Floods are the commonest and costly natural disasters. A flood is an emergency catastrophe that attack anywhere without warning, occurs when a large volume of precipitation within a short time. They further lead to destruction of infrastructures and yields from crops, destruction and displacement of people and their habitation.

### **2.2.9. Landslides**

According to the Oxford Advanced Learner's Dictionary, landslides can mean huge rocks and parts of the earth that is detached from the part of the mountain slope or a steep area and is swift in movement huge mud and rock that may no longer be supported by the weak soils and water (Hornby, A. S., 2015). It encompasses all kinds of mass movements of hill slopes. Fabio Vittorio De Blasio (2008) defined landslides as the downward and outward movement of slope forming materials composed of rocks, soils, artificial fills and all these can be together in the process of separation by falling, sliding and flowing, either slowly or quickly from one place to another. Following heavy or torrential rains and overflowing of water through open space and cracked rocks



probably caused by quaking of the earth, this mass movement of rock sediments and soils becomes inevitable.

### **2.3. General literature of armed forces role in disaster management**

This sub section will discuss on classification and occurrence of disasters, military involvement in disaster management, hierarchy of military and civilian actors, civilian military and disaster response and challenges with civil-military coordination.

#### **2.3.1. Classification and occurrence of disasters**

Disasters that have occurred in recent years are from diverse hazards, such as landslides, droughts, fires and floods etc some of them are rapid-onset while others are slow-onset in nature (Hagelman, R.R., 2017). Slow-onset disasters in nature, they impinge on large numbers of people and their effects can be predicted, controlled and prevented. Rapid-onset disasters affect fewer people; they take place at any time, may be violent and require a quick response. Thus the hazards that commonly affect Rwanda are as follows in their clusters:

Human-made disasters such as socio- economic, technologic-industrial, human,

Biological epidemics i.e. disease, pests (for human, livestock and crops) and accidents

Environmentally triggered (Climate-related; floods, landslides, droughts, storms)

Geologic disasters includes volcanic eruptions, earthquakes,

#### **2.3.2. Military involvement in disaster management**

Over the last ten years natural disasters affected more than 2.4 billion people the equivalent of one-third of the earth's population and they have wrought over \$910 billion in damages equivalent to approximately 18 percent of global GDP (IFRC, 2011). Natural disasters affect not only individuals and communities but also economies, governments and the international system. The 373 natural disasters recorded by the International Disaster Database EM-DAT in 2010 affected some 300 million people from all regions: 300 000 lost their lives and many more suffered injuries, family separation and other trauma (Ferris, E., 2012). Sudden-onset disasters displaced 42 million people from their homes and caused \$108.5 billion in economic losses (Ferris, 2012). Ninety-two per cent of the disasters in 2010 were climate-related (EM-DAT, C.R.E.D., 2016).

In a bid to tackle these disasters, there exists a world body that overviews all endeavour. The United Nations Disaster Assessment and Coordination (UNDAC) is part of the international emergency response system for sudden-onset emergencies. UNDAC teams can deploy at short notice (12-48 hours) anywhere in the world. They are provided free of charge to the disaster affected country, and deployed upon the request of the United Nations Resident or Humanitarian Coordinator for the affected government. UNDAC is designed to help the United Nations and governments of disaster affected countries during the first phase of a sudden onset emergency, as well as assist in the coordination of incoming international relief at national level and/or at the site of the emergency (Van de Walle, B., 2009).

Over the past few years, the role of militaries in responding to natural disasters has grown, as the result of various factors. These include: an increase in the scale and incidence of natural disasters; a concurrent trend towards militarization of humanitarian response in conflict situations; and increased interest in disaster response on the part of militaries. Some of the reasons for military actors' increased interest in disaster response are related to public perception, staff morale, relevant training opportunities, and humanitarian operations as a means for armed forces to diversify their role and expertise (Cârstea, L.I., 2019).

Military resources were used in response to the 1991 cyclone in Bangladesh; after Hurricane Mitch in Central America in 1998; following Hurricane Katrina in 2005; in Indonesia after the 2005 Asian tsunami; in the UK during flooding in 2007; and in China in the aftermath of the 2008 earthquake in Sichuan Province (Virk, K., 2011). More recently, the US military in particular played an important role in the response to the earthquake in Haiti in 2010. Therefore, due to increased engagement of military actors in humanitarian response to both conflict and natural disasters, interaction on the ground between humanitarian and military actors has increased and this has led to cast the spotlight on issues related to civil–military co-operation, co-ordination, and the effectiveness of militarized emergency assistance in general.

It is submitted therefore, that the military brings specific assets to disaster response and especially to initial rescue efforts. Recovery and reconstruction, however, are generally seen as the responsibility of civilian authorities. When national governments do not have the capacity to rebuild a country after a major disaster, international organizations particularly development organizations are called on to do so (Ferris, 2012).

Regionally, in the workshop that was held in Kampala, it was maintained that the army has the capacity to respond both in terms of human and financial resource to disasters since the defence department throughout the five partner states is most favoured by the budget (Kiggundu, M.N., 2015). One of the attendants emphasized the role of the army because it is resourceful and well facilitated. They are good partners who are committed and can respond positively even on short notice (Times report, 2008). He went on to say that there is need for co-ordination and collaboration at the regional level to adequately respond to disasters and prevent the human induced disasters like civil wars, environmental degradation and rapid population growth common in the region. The occurrence of these disasters is borderless and this calls for a holistic approach. The army is easy to mobilize and available on short notice. When there is no war, they remain an idle resource,” (The new times 2008).

### **2.3.3. Disaster management system in Rwanda**

Rwanda experienced a growing number of disasters in recent decades, causing physical, social and economic damages and losses. The best known amongst these disasters are droughts that occurred in 1989, 2000, 2005- 2006 and 2014; the devastating landslides that occurred in 1988, 2006, 2010 and 2011 mainly in the northern and western provinces; the ever increasing floods across the country, the earthquake of 2008; and the windstorms that constantly hit different parts of the country. (Economics of Climate Change in Rwanda REMA 2009).

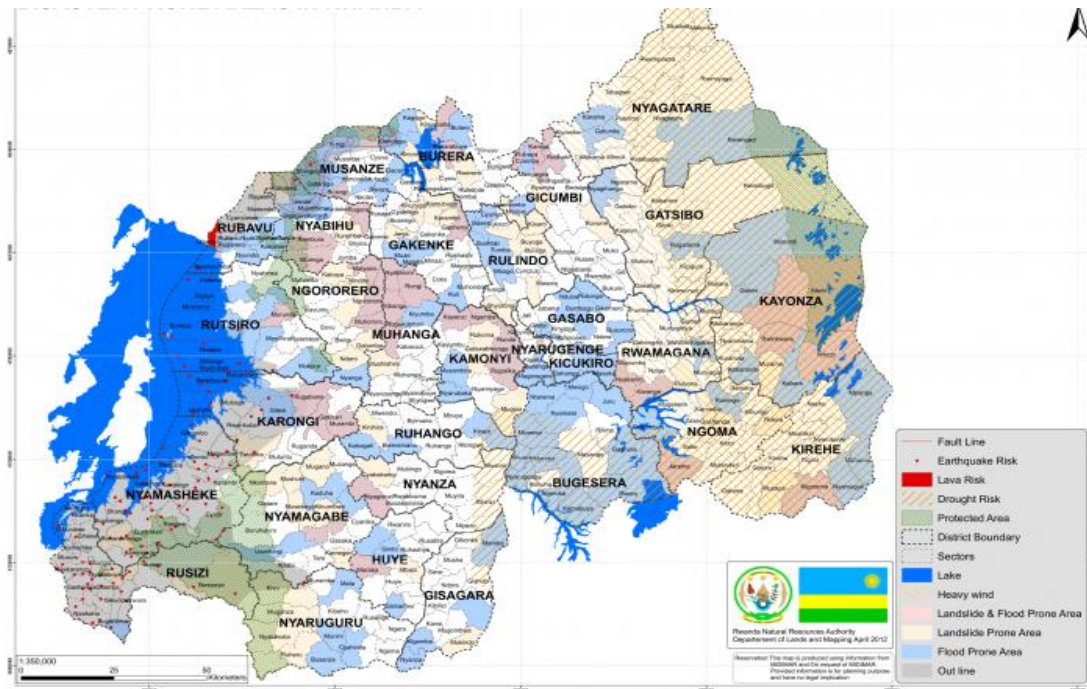


Figure 1: Map of Rwanda Disaster Prone Areas

Source: [www.midimar.gov.rw](http://www.midimar.gov.rw) (accessed on 10 April 2020)

In the recent, disasters occurring in Rwanda were managed on an ad hoc basis and the country was heavily dependent on international assistance in the occurrence of a disaster (MIDIMAR, 2012). Some particular events and international agreements related to disaster management changed the mind-set of the Rwandan Government regarding DRR. The Hyogo Framework for Action 2005-2015 The HFA aims at the “substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries” (UNISDR, 2007).

Rwanda has established a wide range of disaster management institutions. MINEMA and The MOD are responsible for leading all preparedness, response and relief activities for disasters. (Rwanda National Contingency plan on Earth quakes 2014). MINEMA framework seeks to ensure coherence among the different institutions and stake holders. The current institutional framework of Rwanda. legal framework are an important tool for governments to regulate processes aimed at reducing human impact of natural hazards as well as assigning responsibilities and mandates to different actors (UNDP, 2007). Accordingly various rules and legislation containing elements of DRM have been drafted in order to address disaster risk management policy. The national disaster management policy (NDMP) demonstrates the legal and institutional frameworks. MIDMAR is

the national coordinator for disaster risk reduction (DRR). It has the mission to develop a highly proficient mechanism for preventing, mitigating, securing, monitoring, recovering and responding to disasters in a timely manner in order to promote management of natural and man –made disasters (MIDMAR, 2013).

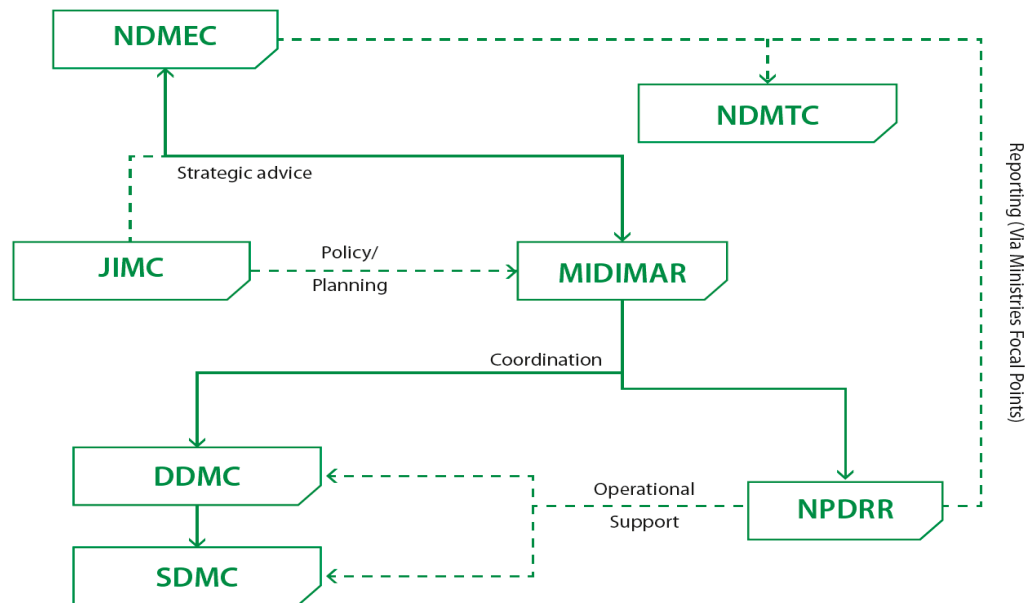


Figure 2: The institutional framework for Disaster Management in Rwanda

Source: Ministry of disaster management and refugee affairs, Revision of the 2009 National Disaster Management Policy, p. 18

Although there a different disaster management committee in the above institutional framework, there are a still loop holes in the liaison, cooperation and coordination between different actors. There is a need for proper communication and coordination between different actors.

The state of civil-military relations in Rwanda surfaced as a notable focus of concern in the 1994s. In the early years after genocide due to the active role of the Army then RPA (Rwandese patriotic army) in stopping Genocide The occurrence of military interventions in the political life of a country has not been a feature of this century However, although the earlier analysts tended to look at the military institution as political group incapable of interacting with other social groups but able to act against them, it was only after Genocide that people started to develop a different point of view towards it. Hence, whereas Machiavelli would argue that a "military man cannot be a good

man", Voltaire would describe them as the "manifestation of brute force in rationalized form", and Samuel Adams would claim that a standing army, however necessary it may be, is always dangerous to the liberties of the people, now the military is seen as a legitimate pressure group, capable of playing a positive role in the socio-political transformation of the country.

Civil authorities are responsible and accountable for some aspects of control and military leaders are responsible and accountable for others. Although some responsibilities for control may merge, they are not fused. Alterations of rules and decision-making procedures account for the dynamic nature of civil-military relations, while alterations of norms and principles account for conflict in civil-military relations.

The civil-military relations have considerably changed dimensions. The political and military actors have overtaken humanitarian, and active participation of the armed forces for humanitarian assistance has become a reality. The distinction between military action, political action and humanitarian action gradually fades when the armed forces are regarded as humanitarian when civilians are embedded into military structures, and when it seems that humanitarian actors are than mere tools in integrated strategies for conflict management or nation building. The distinction is more blurred when armed forces are their efforts to provide humanitarian assistance and reconstruction pillars of their military objectives and their communication campaigns on the local and international levels. (Journals Cambridge 2015).

Coordination of response to Disaster is a responsibility of the Office of the Prime Minister. It gives the Ministry of Emergence Management the following roles and responsibilities as described in the Prime Minister's order 75/01 of 08/07/2011: "1° developing a highly proficient mechanism for preventing, mitigating, responding to, recovering, securing, monitoring and responding in a timely manner in order to promote management of natural and man-made disasters including volcanic activity, earthquakes, floods, landslides, mudslides, storms, fire and drought;" "2° developing a pro-active refugee policy and a mechanism for the management and protection of Rwandan and foreign refugees which permits development of a strategic response to the problems of refugees, in conformity with national laws and international treaties" (MIDIMAR, 2011).

The MoD using RDF capabilities is the lead agency in offering credible response to major disasters. For example: floods; landslides; earthquakes; volcanic eruption; major fire outbreaks etc during which the RDF uses land, marine and air capabilities to augment other agencies in reversing

the situations. Although it is a Constitutional mandate for the RDF participate in humanitarian activities in case of disaster in the country but also Rwandese public views the military as problem solver that succeeds in any mission. They are perceived as efficient, orderly, and disciplined and the military itself is willing to keep up this image as it makes them socially useful. RDF/Air Force with its Helicopters, Eng regiment using High reach Excavators, bulldozers, water browsers, motor graders, cranes, compactors, rescuer trucks, trucks with cutting tools, fire extinguishers and skilled personnel are always available.



Figure 3: Photo of RDF staff rescuing people in Tanzania, 2011.

Source: RDF album



Figure 4: RDF soldiers take part in an exercise to drain flood waters in Nyabugogo.

Source; [www.google.com/images/floods/nyabugogo](http://www.google.com/images/floods/nyabugogo) (accessed on 08 April 2020).

The RDF is a key institution of the government of Rwanda's response to natural disasters. In the past decade the Rwanda Airforce especially rescued residents in the region, fought veldt fires across the country and evacuated residents of the Rusizi region in the west. Its unique ability to deploy personnel and stage equipment throughout the country from its existing installations and through its ground transport as well as its rotary wing airlift capacity has made the Air force a valuable instrument in preparing for and dealing with disasters in Rwanda.

The Rwanda Defence Force and Rwanda National Police are called upon to play a critical role during emergency response and assist the civil administration when the situation is beyond their coping capability. In practice, the Armed Forces form an important part of the Government's response capacity and are immediate responders in all serious disaster situations. On account of their vast potential to meet any adverse challenge, their speed in carrying out operational responses and the resources and capabilities at their disposal, the Armed Forces have historically played a major role in emergency response. (Olowu, D., 2010). These include search and rescue operations, health and medical facilities, and transportation, especially in the immediate aftermath of disaster. Airlift, heli-lift and trips to provide assistance to neighbouring countries primarily fall within the expertise and domain of the Armed Forces (IFRC, 2011).

#### **2.3.4. Hierarchy of military and civilian actors**

The idea of hierarchy is a concept well cherished in the military. In civilian planning it has its problems. It assumes that upper echelons know what is best, and they impart their wisdom downward in the system. In reality, upper management in civil administration has little real-disaster experience (except, perhaps, for a prior incident that might have happened sometime during their tenure); but, senior echelons do have management skills. Disaster-specific knowledge, both theoretical and practical, is more often found at the lower, technical levels of bureaucracy, where workers tend not to have broad-based management skills (Dynes, R.R., 1994). Thus, in military organization, the military operates on coordination by legal mandate; the army is structured by rules and statutes, which clearly define responsibilities. There is structure in the civilian community, but it is much more fluid, without the harshness of commands.



### **2.3.5. Civil–military coordination and disaster response**

Civil-military operations are activities of any Armed Forces with its Civilians to seek full maximum cooperation for a joint operation to accomplish a certain mission. Civil-Military can be conducted during National disasters or in peace time ((Dynes, R.R., 1994). These civil-military activities can be done in the Local Government Areas. The Rwanda Defence forces have several military units that have trainings on tackling disasters such as natural and manmade disaster (floods, landslides earthquakes ,Terrorism, Insurgency, Civil strife and so on), For example: The Army the Rwanda Air Force service, The RDF marine regiment, the Army engineering regiment . These military formations are equipped with manpower, equipment and skills to help prevent or mitigate disasters when they occur.

### **2.3. 6. Challenges to civil–military coordination**

A common theme in the literature is that the different cultures of military and humanitarian actors present a major challenge to effective interaction. The tensions between these actors are not simply to do with cultural differences, but also stem from fundamental differences in motivations, goals and approaches (Roslan, N.H., 2018). The military does have strength in information (i.e., intelligence) collection. During a disaster updated information about the current situation of the disaster is often required. Some of that information comes from military sources such as aircraft and has to be integrated with information received from civilian sources (Perry et al., 2001).

### **2.3.7. Conclusion**

From the above reviewed literature, it is clear that disasters are not only prevalent in Rwanda but the whole world and the role of RDF in disaster management consists of a complex array of many different participants who have different operating procedures, mandates and capacities. The problems that worsen the disasters are negligence and poor planning of land use coupled with poor decision making on disaster management and government projection on disasters and how to respond to them. The disasters are contributing to so many factors of human insecurity like food, environment, social, economic, healthy and displacement of people and destruction of social structures of the people hence leading to budgetary constraints. The probable increase in the frequency, severity and impact of sudden-onset natural disasters will challenge both civilian humanitarian agencies and military forces that are likely to be deployed in support of disaster response.

The benefits have also been observed that range from increasing social security, economic security, physical security and human security entirely if proper and appropriate techniques of disaster management are implemented. The literature review identifies that flooding, drought and landslides are more prevalent world over and Rwanda and caused by poor methods of land use and habitation by people that is not planned for the management of hydrological disasters. The theory identified for this study points to development implementation of certain areas to cause disasters basing on the nature of implementation and planning. However, due to several researches conducted, there is a glimmer of hope that if RDF continues to build its capacity in disaster management can enhance its effective.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1. Introduction**

The objective of this study is to explore the role of RDF in disaster management in Nyarugenge district, CoK. This chapter entails a brief description on the study area, research design approach to address the research questions of this study, study population, ethical consideration, data types and sources, data collection procedures and data analysis that have been acquired for proper and sounding conclusion. During my research, this section was dealing with the methods used to come up with the research design, sampling and population size as well as data collection. However, data collection methods are now the focus as far as the study is concerned.

### **3.2. Research design**

The design of this study will be qualitative. Qualitative exploratory and descriptive designs helped in describing situations using small number of subjects that are very knowledgeable about issues under investigation. According to (Kothari, 2004:44) he asserts that “It is defined as the organization of circumstances for collection and analysis of data in a way that makes research follow logical sequence in accordance to the purpose of the research and procedures that must be considered.” Therefore, as the research will call upon a way of step-wise conversion, whereby the qualitative will be brought into the quantitative domain (Humphries, B., 2008). The data gathering process is an important aspect of the entire research study and this will help in achieving formidable results. To this end, the various steps adopted in conducting this research are hereby presented.

### **3.3. General description of study area**

Rwanda is a densely populated country with 11.78 million people (World Bank 2013). The major economic sectors are tourism, mining and agriculture (Whitley, S., 2014). The three official languages are Kinyarwanda, English and French. Although Rwanda is located only two degrees south of the equator, Rwanda's high elevation makes the climate temperate. The average daily temperature near Lake Kivu, at an altitude of 4,800 feet (1,463 m) is 73 °F (22.8 °C) (carta.guide/i/Rwanda., 2020). During the two rainy seasons (February–May and September–December), heavy downpours occur almost daily, alternating with sunny weather. Annual rainfall averages 800 mm (31.5 in) and is generally heavier in the western and northwestern mountains than in the eastern savannas (Xavier, M.F., 2010). The City of Kigali is located in the central part

of the country. It is the capital city and largest city of Rwanda. Kigali was established as the capital of Rwanda in 1907 by the German colonists (Nzayirambaho, M., 2019). It is connected with the rest of the country, by the road network, which makes the city the most important economic place of the nation.

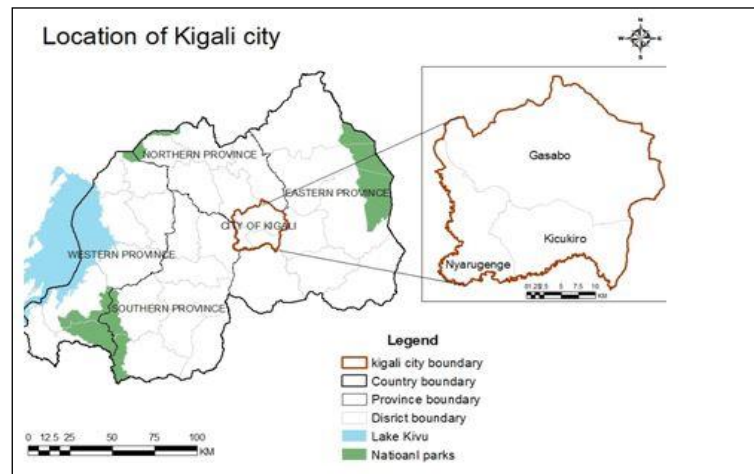


Figure 5: Localization of Nyarugenge district in Kigali City.

Source: google maps (accessed on 15 April, 2020)

### Physical characteristics

Kigali City is constructed on a hill that extends on four hills separated by valleys. The lower part is elevated around 1400 m while the highest is about 1845 m above sea level. The highest hill is Mount Kigali, with 1850 m of elevation. Kigali City has leaps from one mountain to another. These breaks are due to different limitations like existence of flood plains swamps and steep slopes. The settlements were mostly developed on gently sloping hillsides and on flattened hilltops (Ruousseil & Pau, 1990). Kigali city is located near the confluence of two main rivers in the county, namely Nyabarongo and Nyabugogo

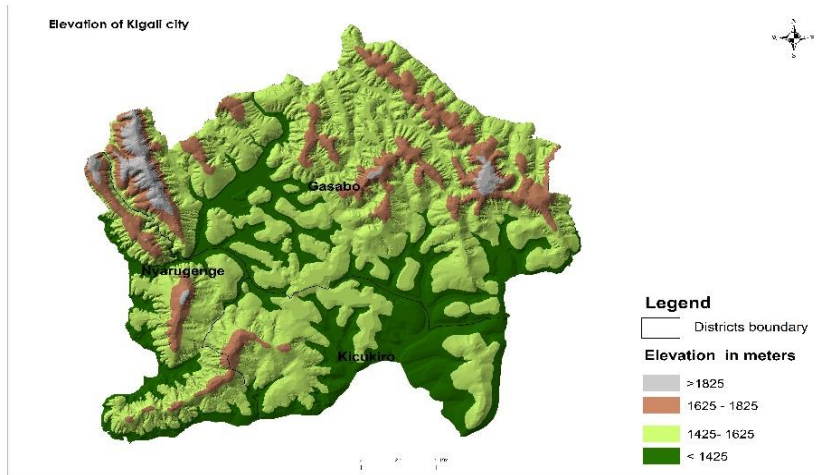


Figure 6: Elevation map of Kigali city in meters.

Source: [www.google.com/maps](http://www.google.com/maps) (accessed on 15 April, 2020)

### **Administrative units**

The city of Kigali is divided into three districts that are Gasabo, Nyarugenge and Kicukiro. These districts have 35 sectors which are subdivided into 161 cells. These cells are also divided into 1061 villages. Kigali City had had three major divisions of administrative boundaries. The first division has occurred with decree-law n° 11/97 of 20/04/1979 from which the defined area was 112 km<sup>2</sup>. The second revision was obtained from the presidential order n° 896/90 of 27/11/1990, to include an additional area of about 237 km<sup>2</sup>, which conferred to the city a total area of approximately 349 km<sup>2</sup>. The last revision, based on the law n° 29/2005 of 31/12/2005 after which Kigali city total area was adopted to be 730 till now (Republic Of Rwanda,2005 ).

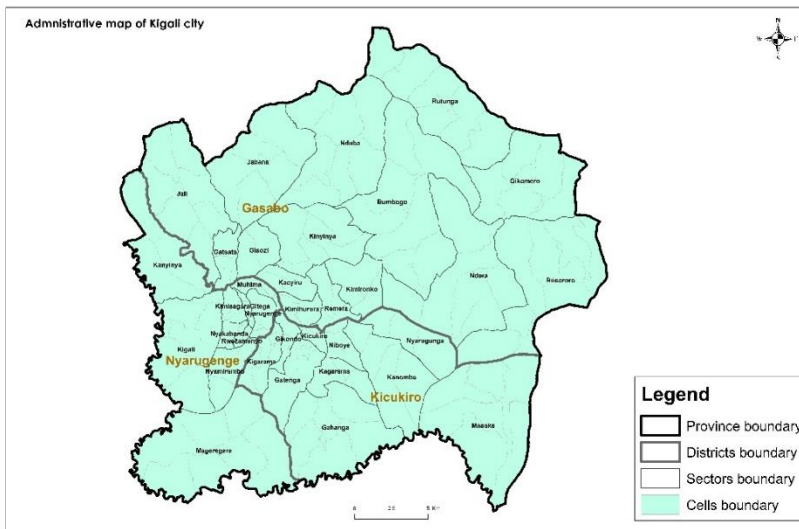


Figure 7: Administrative map City of Kigali.

Source: [www.kigalicity.gov.rw](http://www.kigalicity.gov.rw) (accessed 10 April, 2020)

### **Spatial expansion and demographic characteristics**

During the period of colonial, the rate of growth for Kigali was too low where it was extended to a small area of Nyarugenge hill. After the independence of Rwanda of 1962 some activities have been moved to Kigali, the city started to grow and expand to hills like Nyamirambo, Gikonde, Kimihurura and Kacyiru.

After 1994, an extraordinary expansion has been noted where over 800,000 of people returned in Rwanda from exile especially from countries like Uganda, Burundi, Kenya and Congo, etc. Most of those returned people have chosen to stay in Kigali City because it is where they could get the job and the security. This has increased the population of Kigali city and its expansion. In addition to this, during this period there was a remarkable rural-urban migration of many Rwandans in order to search for jobs and better standard of living because the city was grown up. In Kigali city, the population is 1.1 million on a 730 square kilometre of land, men constitute 48.4% of the population and women are 52.6% (National Institute of Statistics of Rwanda, 2012).

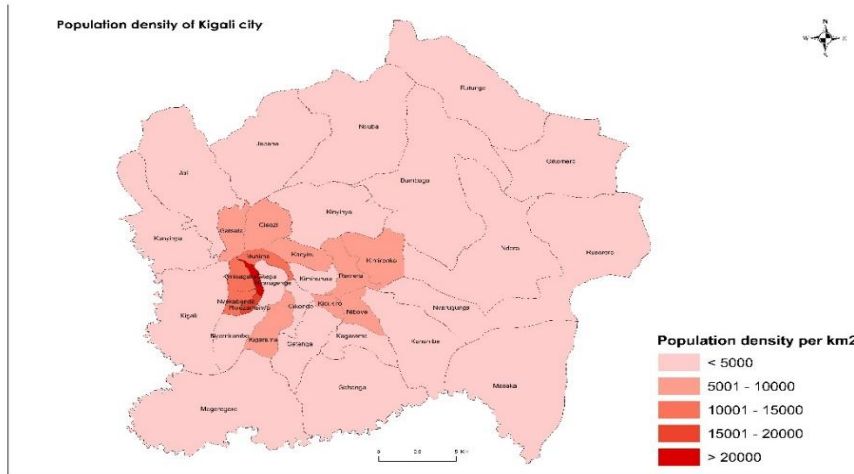


Figure 8: Population density

Source: NISR, 2006 (accessed on 15 April, 2020)

### Land use

Due to the revision of administrative boundaries which extended Kigali in rural area, currently over 70% of Kigali City total area is located in rural and only 13% is occupied by urban land use (CoK, 2013). In this urban area, the total formal area is about 30% while the informal area constitutes (RHA, 2011). Since 1994, the urbanized area has shown a considerable level of new settlements and economic activities. In the same way population growth, the number of business and industrial establishment has increased significantly. The increase of business has put pressure on infrastructure so that in these days administrative authorities of the city states that there is a necessity to develop more infrastructures like schools health facilities and roads to keep pace with the population growth (CoK, 2013).

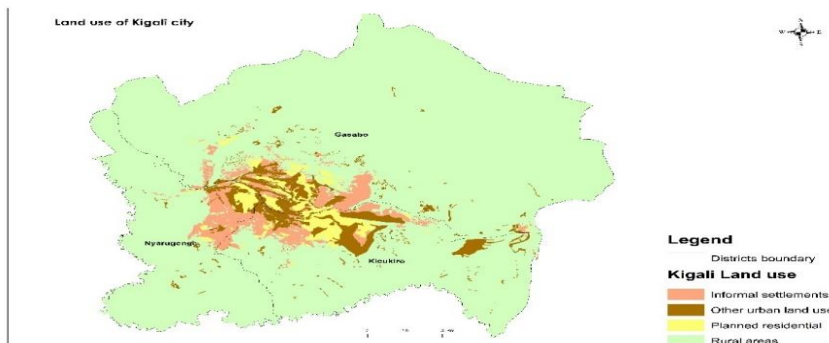


Figure 9: Land use of Kigali City

Source: NISR, 2006 (accessed on 15 April, 2020)

It is in this context, that the research was conducted in the City of Kigali, particularly in Nyarugenge district. It targeted the western part of Nyarugenge district which encompasses Nyabugogo wetland and mount Kigali high slope area. These areas are mostly worst hit by disasters and many people from these parts have been forced to relocate to other safer zones. On the other hand, the area is within CoK, where most of the actors are based thus the research needed to know how actors in disaster management respond or intervene to perform their roles without saying that area of intervention was far and also the area contained relocated people from high risk zones of CoK.

### **3.4. Population and sampling techniques**

This section has reflected the views of the population that has been interviewed by giving details on our study population, sample size and sampling techniques used in this study.

#### **3.4.1. Study population**

The population includes individuals and items with features of interest to the researcher. A population is the sum of all items with distinct characteristics that motivate the researcher to study them. This particular study according to the researcher considered policy makers from the ministry of emergency management, RDF personnel that intervened in disaster management, disaster managements committees in Nyarugenge districts as well as disaster relief beneficiaries who formed the population. It is indicated that population size must be given due consideration in cases of larger variance, selection of a reasonable sample should be chosen (Kothari, (2004:69).

The population size determined as the size of the sample to be considered in this research is 10% of the total population and is estimated to be 30 respondents. This sample population was categorized as follows; eight (08) respondents were from Rwanda Defense Forces (staff, Air force, Engineering regiment and Marine), six (06) from Nyarugenge district officials (social protection officer, 2 district engineers, District Executive Administrator), eight (08) of the questionnaires were asked from other actors involved in disaster management (2 MINEMA, 2 general practitioners, 2 police officers at the sector level and 2 members of the Red Cross committee at the sector level); and six (06) from Karama IDP model village households and other disaster relief beneficiaries. A total of 30 respondents were identified for this study to constitute the size of the population. Some were chosen because of the positions they are holding, other others because of being in the disaster management teams and disaster victims. The total of respondents was arrived



at through selection and categorization after earmarking them for the required information necessary for the study through the selected tools of data collection. Some were earmarked for interview and focus group discussion and some could be useful in one or both tools. The sampling in this study was done in order to reflect ideas of the study population without investigating every individual and also with the current situation of the COVID-19, we could not be able to reach a big number.

### **3.4.2. Sample size**

Sample size is part of the population that one who conducts research decides to use in his/her study as a representation of the total population (Kothari, 2005). A sample size has been constituted before interviewing respondents from both the Civilians and the Military by use of interview and focus group discussion. The table which shows appropriate sample size for a given population. For the purpose of this study, the sample size is 28 respondents and the researcher went direct to those who were assumed to have direct knowledge on the study basing on their status.

### **3.4.3. Sampling technique**

Sampling techniques provide a range of methods that enable to reduce the amount of data that are to be collected by considering only data from a sub group rather than the whole population. In a focus group, for example, one may seek out respondents at both ends of a spectrum to ensure that all different views are catered for (Mark 2009). This type was identified to be the best for the study since the respondents are scattered and those with desired information follow in different groups and some who had been identified before data collection could not be available in the short time. This made the researcher to dwell on 28 respondents selected through this sampling method with desired information. A total of 28 respondents formed the sample size and all tools of data collection identified for this study were used on them.

Table 2: Sample size of the population used by the researcher, 10 April 2020

S/No	RESPONDENTS	TOTAL
1	RDF OFFICERS	8
2	NYARUGENGE DISTRICT STAFF	6
3	OTHER ACTORS (MINEMA, RNP, MoH, MINALOC)	8
4	DISASTER VICTIMS	6
5	Total	28

Source: sample size proposed by the researcher, April 2020

### 3.5. Data collection and procedures

In this study data collected was from both the primary and secondary sources. The major source of primary data was the use of interview guided questionnaire in widening the horizon and operational approach. Secondary source data were gotten from review of other peoples' project works, journals, magazines, newspapers and books from the RDF SCSC Nyakinama.

#### 3.5.1. Primary data

This is defined as the information obtained from the field and included in the sample as fresh and in it is original in nature. In this research, data collection was undertaken using interview guided questionnaire and focused group discussion which was addressed to respondents. Interview was conducted with some managers considered to have important and special information related to the topic. Observation method and focus group discussion were employed in primary data collection. This helped the researcher to eliminate the subjective biases by the respondents. The information is directly related to what is happening.

#### 3.5.2. Interview

An interview schedule is used in information interviews or structured interviews such as surveys, it may employ physical or personal interviews or through telephone interviews (Kothari, C, R, 2004:110). Interview is defined as face-to-face conversation between the interviewer and a respondent conducted for the purpose of obtaining information. This is commonly used to guide the respondent who is not able to read and to write and also for respondent who cannot answer questionnaire because of less time. In this study, purposeful interview guide was used for respondents from the RDF given their nexus to the researcher. In order to obtain primary data,

remote interview has been applied to the RDF, Rwanda Air force, Engineering regiment, marine, MINEMA, Nyarugenge district disaster management team and households of Karama IDP model village, etc. As explained above, these remote guided interviews have been used in widening the horizon and operational approach, due the COVID-19 lockdown. Therefore structured interviews were used to ensure accuracy of information.

### **3.5.3. Focus group**

It is observed that qualitative research method is more suitable for this tool of collecting information and it is economical as many respondents targeted were interviewed at the same time and in the different vicinity (Alhassan, M., 2018). The timeline allocated for this study was short and hence, this method was found convenient. The researcher conducted two focus group discussions comprising 8 respondents each. It was also selected since some respondents have a tendency of not being available and can't answer the questionnaires. It helped the research to collect data in a short time.

### **3.5.4. Secondary data**

This information from library research through review of other peoples' project works, journals, magazines, newspapers, books from the RDF SCSC Nyakinama, internet, records of institutions, and other data from archives. It is necessary to undertake research using it to enable comparison of statistics from different years and performance of some sectors within an agency, institution or government entity and it gives basis for measuring the level of change on the subject being researched about after reviewing what previous researchers have written about or published concerning the study being undertaken and the researcher must give preference to various sources to ensure credibility (Kothari, 2004:124). These data helped the researcher to remain focused on his study since the research study is not an isolated case as many scholars have had some research on it. It also widened the understanding of the researcher on the problem of study being researched upon.

### **3.5.5. Documentary review**

The researcher has called upon literature that he consulted from different libraries. He also leaned on literature available from internet sources. The annual and monthly reports on disaster management from the study area (City of Kigali especially Nyarugenge district), Ministry of emergency management and different departments from the Rwanda defence Force, as well as

other books about the subject matter have also been consulted. Secondary source data has been extracted from review of other peoples' project works, journals, magazines, newspapers and books from the SCSC-RDF Library Nyakinama and University of Rwanda Library. The documentary review was chosen because of it is vital in providing background information and facts about risk management methods.

### **3.6. Data Analysis**

Some information has been collected using interview guided questionnaire and other using focused groups and materials from secondary data. The data have been gathered from the Army, MINEMA, Nyarugenge districts officials, Karama IDP model village households and other control individuals involved in disaster management and have been analyzed carefully to deduce major facts such as the occurrence of Disasters (Natural and Man-made) , role of RDF in disaster management and civil-military cooperation during disasters, Mitigation, Rehabilitation, Recovery and Preparedness. Comparing these key facts natural disaster (such as floods, landslides etc) that has occurred in the last few years, thereby, deducing results which could tell if the role of RDF in disaster management is effective up to international standard as compared with other armed forces in other countries that adhere strictly to the international humanitarian law to protect the life and dignity of the victims of both Natural and Man-made disasters. With these data analyzed then the computing frequencies and percentages of the responses through the use of descriptive statistics and analysis of the role of RDF during disasters management whether natural or manmade have been ascertained, thereby, helping to improve its effectiveness during disaster management operations. Editing and coding will be done and finally, graphical presentations will be used to present data in form of frequency and percentages.

### **3.7. Ethical Considerations**

Before conducting the study, the permission was given by the University of Rwanda in collaboration with Rwanda Defense Forces Command and Staff College. In order to get consistent information to the study, the researcher wrote a letter to the respondents requesting to answer questions through a questionnaire addressed to them. The research will conduct an interview with some selected people considered to have more and additional information regarding the study. The answering of the questions was not by force and the importance of the study was clearly explained to the respondents. Before the study, the researcher contacted the local authorities and the security

agencies to ensure that accessibility to the respondents is granted instead of taking advantage of respondents.

The researcher promised all respondents concerned that the information given was to be kept with confidentiality and used for academic purpose only. To ensure the confidentiality, the names of participants were not written on the study questionnaire; and the names of people who accepted an interview with the researcher were not identified in the study. Respondents who accepted to give us information were met and gave all explanation concerning the study. Last but not least, all the data collected will be managed without any manipulation to make the study as genuine as possible

### **3.8. Limitation of the study**

This study explores the role of the RDF in disaster management in Nyarugenge district. As this study suggests, it is wider that the researcher could not embrace all types of disasters that affect Nyarugenge district as well as different types of responses that are offered by the RDF. This is why the researcher deemed practical confining the study to some disasters, namely floods and landslides. As a matter of facts, Nyarugenge district is prone to many disasters that include lightning, mine disasters, rain with strong winds, floods, building collapses, fires, earthquakes and landslides. Focusing on one type of natural disaster, flooding and landslides, may not be able to capture the intended rigout of events following a disaster. Flooding is generally predictable and likely to cause predictable outcomes compared with other unpredictable and sudden onset disasters such as earthquakes, lightning, fire and mine disasters which require the participation of different technical agencies, though relief support is generally the same. This study mainly included participants who have experienced severe floods and landslides. Including a sudden onset disaster such as an earthquake, lightning and fire into the study. Other researchers, not bound by time and financial constraints, could widen the scope of the study and cover the role of RDF in other disaster management as enumerated above. This study was further limited by the current COVID 19 pandemic situation as it was administered through telephone guided interviews.

### **3.9. Conclusion**

This chapter defined the methodology that was used for this research. In this chapter the main purpose was to choose the respondents and what instruments to be used in data collection. Primary data were gathered from respondents through guided interview and focus groups on the selected respondents by the researcher as explained in the sampled population.

Each selected group was asked at different times to minimize similar responses and biases and also to ensure that the responses given in their answering interview and focused groups had a clear order. Secondary data was collected from various textbooks, journals and websites online. The tools selected on the criteria of suitability to the study being undertaken by the researcher. The chapter outlined how the data will be analyzed through the qualitative approaches to accommodate different responses and perspectives that gave the researcher an opportunity to understand the research problem being examined in this study

## CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

### 4.1. Introduction

The general objective of this study is sought to understand the role of RDF in disaster management in Nyarugenge district. This chapter analyses the role of the RDF in disaster management in Nyarugenge from the lenses of the researcher's respondents. It sets off from data related to types of disasters that affect Nyarugenge district and goes on highlighting the role and involvement of RDF in dealing with those frequent disasters within the study district. Challenges that RDF encounters follow thereafter and the chapter winds up suggesting effective strategies that can be used by RDF in order to achieve a state of art disaster management endeavours.

### 4.2. Categories of respondents who have experienced any disasters related with floods and landslides in Nyarugenge district.

The data below shows that majority of the respondents were represented equally from the various actors representing the military, Nyarugenge district, victims of disasters and other actors like MINEMA and RNP, almost all respondents experienced disasters related with floods and landslides. A total of 65% of the military replied that they had experienced such disasters. For the other actors like MINEMA, Nyarugenge district, RNP etc 30% did experience and 5% undecided no wonder the civilian populations consulted were from the disaster management that are in day to day activities of disaster management. One of the respondents through interview illustrated his argument as follows; According to respondent A.

*The disasters we experienced related with floods and landslides were mostly caused by river Nyabarongo and river Nyabugogo which flooded most of Nyarugege parts and others were other like soil erosion originating from landslides due to heavy rainfall on this mountainous area of Nyarugenge, I think you can even see by yourself how these mountains like Mont Kigali and others, the rain that comes from there is always dangerous, what helps is the support and help we get from our partners like RDF and others otherwise it would not have been easy to manage these types of disasters.*

It come to the attention of the researcher that almost all the respondents had experienced disasters related with floods and landslides in Nyarugenge district.

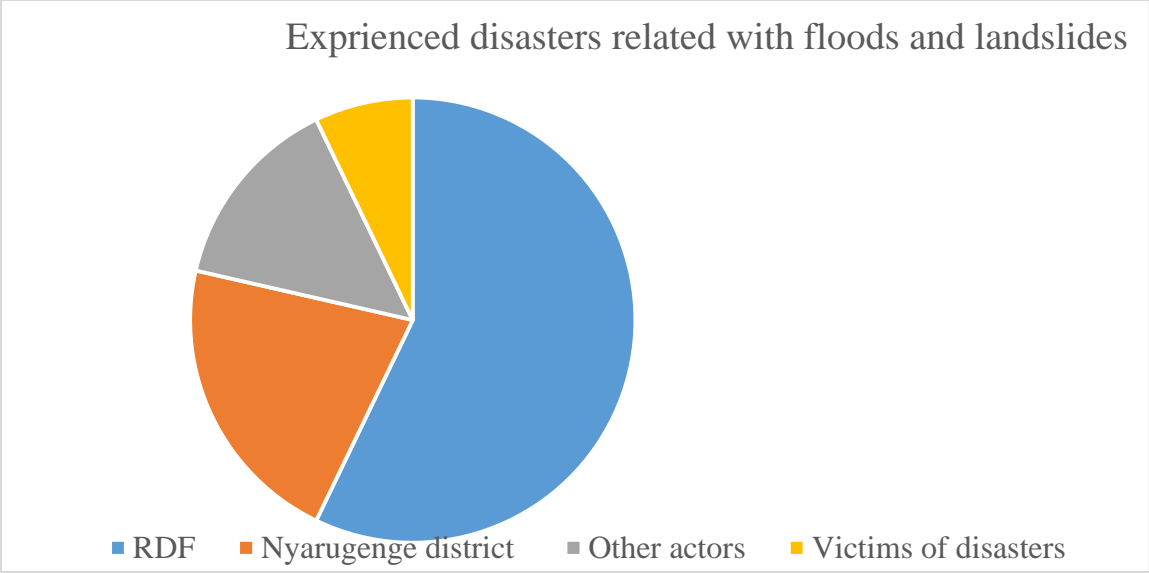


Figure 11: Categories of respondents on how they experienced disasters.

**4.3. Categories of respondents experienced recurrent disasters in Nyarugenge district apart from floods and landslides**

Data in the chart below show that 70% of the respondents hold that other disasters that are recurrent in Nyarugenge district are fires; 12% of the respondents ascertain that other disasters are droughts whereas 18% avow that other recurrent disasters are epidemics and earthquakes. This means that the district of Nyarugenge is prone to disasters and needs early warning systems if it is to lessen the occurrence of disasters and minimize the number of losses both in material assets and human lives. According to respondent X

*Yes, we have been experiencing other recurrent disasters apart from floods and landslides like fire, drought, epidemics, and earthquake but fire was the dominant after floods and landslides but we are always blessed because usually RNP and RDF come in time to help us.*



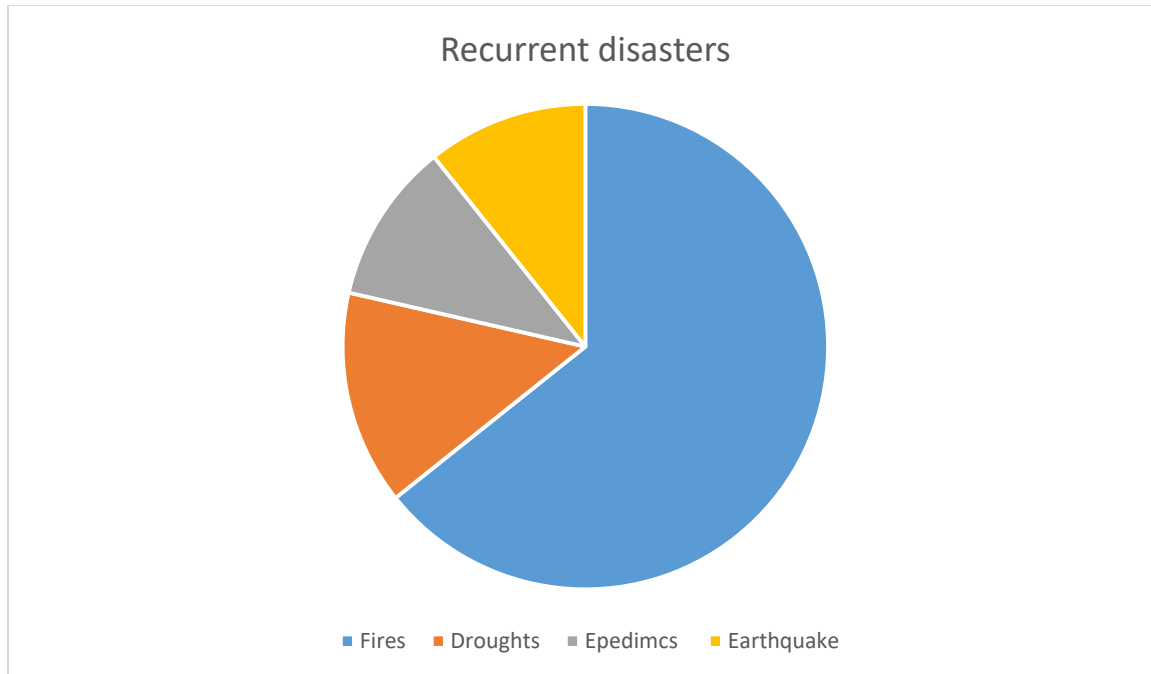


Figure 12: Categories of disasters apart from floods and landslides.

#### 4.4. Categories of respondents on how RDF manages disasters related with floods and landslides in Nyarugenge district

It is read from the data below that 60% of the respondents feel that the district should be at the fore front in managing disasters in Nyarugenge district. 40% of the respondents think that the army should step in as subordinating actor. This converges with other scholars' views who maintain that army should be called upon as the last resort and it should refrain from actively participating in the decision making process. According to respondent Y

*Usually RDF manages disasters related to floods and landslides in Nyarugenge like we do it else elsewhere in the country, we usually get information from locals authority or reserve force and deploy our capabilities according to the nature and the magnitude of the disaster occurred.*

It was observed by the research that all the respondents had knowledge on the presence of RDF in management of floods and landslides in Nyarugenge district.

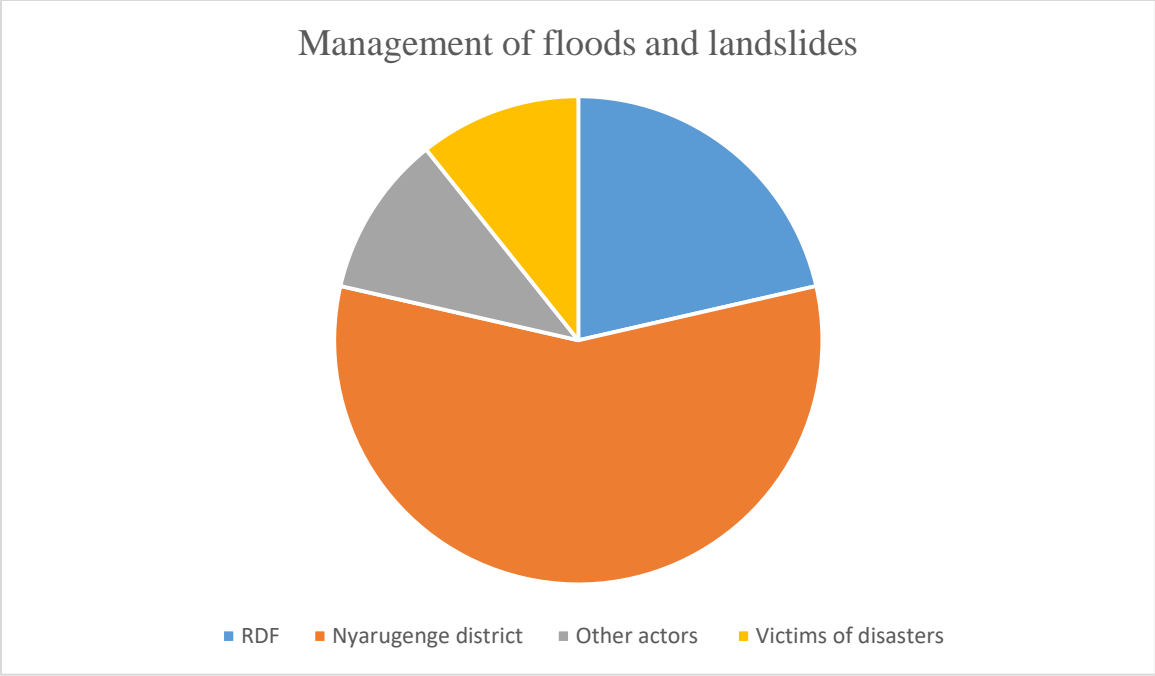


Figure 13: Categories of respondents on how RDF manages disasters.

**4.5. Categories of respondents on the role of RDF in disaster management in Nyarugenge**

Besides district authorities and the military rated at 65%, there are other actors who contribute to disaster management. The data below show that respondents position other actors (International Federation of the Red Cross, RNP) in descending order according to their role in disaster management they provide. Hence, 20% of the respondents think that the Rwanda National Police do not spare any effort in intervening and responding effectively wherever a disaster happens. 10% of the respondents reveal that the International Federation of the Red Cross also assists in responding to disasters. 5% of the respondents posit that health personnel, in this particular study, general practitioners, contribute effectively in disaster response. These data underscore the outstanding role of the RDF in responding to disasters management. It is therefore equipped with state of art materials that allow intervening timely wherever summoned. Furthermore, the RDF has sound skills in managing disasters. This is a topic which worthwhile developing but it is beyond the scope of this study.

Medical support is necessary not only for healing the sick but also for preventing and controlling diseases during the relief process. Large scale disasters may result in high demand for medical support. In addition, it is difficult for local governments to handle medical support on their own.

In this respect, local governments require support from the other internal and/or external organizations in their disaster relief networks. The involvement of voluntary non-profit organizations and civil society in disaster relief is one of the significant facets of disaster management processes. According to respondent Z

*I been in disaster management team at the district level for almost five (years) but the way RDF intervenes in disaster management of this district is indispensable, you cannot compare it with other agencies that comes to help us in disasters.*

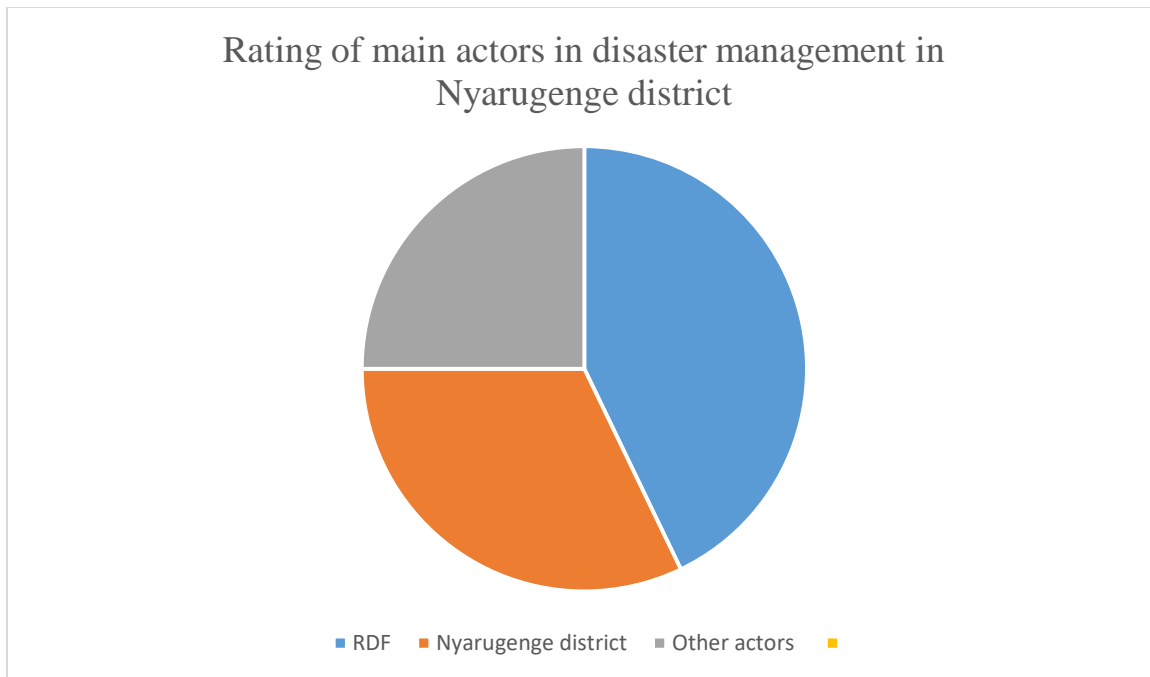


Chart 14: Category of respondents on rating of RDF and other actors

#### **4.6. Categories of vulnerable people mostly assisted by disaster relief teams**

It is read from the table that 80% of the respondents concur that all vulnerable people should give particular attention in disaster relief. 12% of the respondents think that the elderly should be given priority in post disaster rescue. 8% of the respondents unveil that children should be accorded special treatment in disaster relief and another 8% disclose that the disabled have to be treated with a special care. It is to note that none of the respondents views women as vulnerable people at risk in disasters.

Children and adolescents are largely dependent on their families to supply basic needs such as shelter, food, and economic support, as well as to fulfill many of their social and emotional needs.

A child's reaction to a disaster situation is influenced by a number of factors. Regardless of age, children may demonstrate difficulties in being away from their primary caretaker and exhibit a variety of sleep disturbances, including difficulty falling asleep, nightmares, and fear of the dark.

In an emergency situation, older adults may be less likely to heed disaster warnings, can be reluctant to leave their homes, may require more functional assistance, and are more likely to have chronic medical and/or psychiatric conditions. They are also prone to suffer health-related consequences as a direct result of a disaster and will require longer recovery periods for these problems.

Disabled people like the ones with severe mental disorders may not search for help at all, for reasons such as isolation, stigma and fear of being rejected, lack of knowledge or awareness of their own situation, or because of limited access to services. Furthermore, these persons may have been abandoned by their families as a consequence of the disaster and or displaced from their place of residence. Hence, the disabled need a special treatment in disaster relief. According to respondent F.

*Yes RDF and other actors like RNP, IFRC, MoH, MINEMA they usually intervene in assisting vulnerable people but I think much emphasis needs to look at whole population that is high risky areas are because when disaster comes does not choose whether you are vulnerable of not vulnerable.*

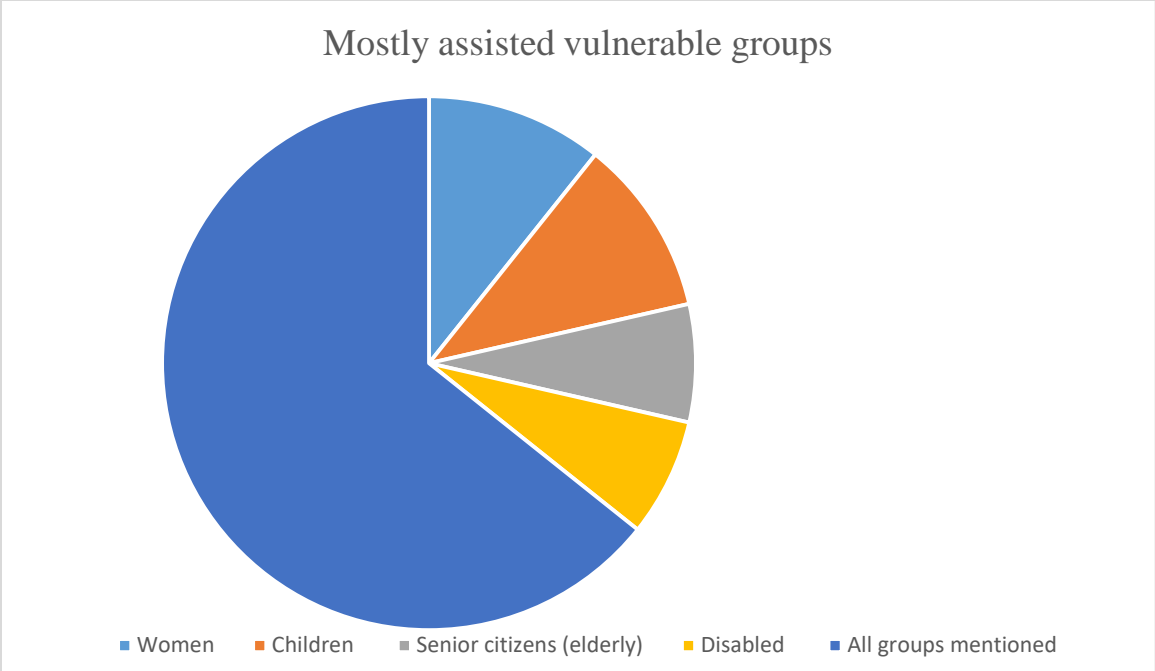


Figure 15: Categories of vulnerable people

**4.7. The categories of respondents on whether there were other stakeholders**

The chart below shows that majority of the respondents agreed that there were other stakeholders representing 40 % from the military while the least are those that did not find there other stakeholders representing 2%. Showing that most of them intervened in their own formations like military following own mode of operating procedures. For the civilian 12% agreed to have worked with other stake holders and only 5% found no stake holders on the ground.

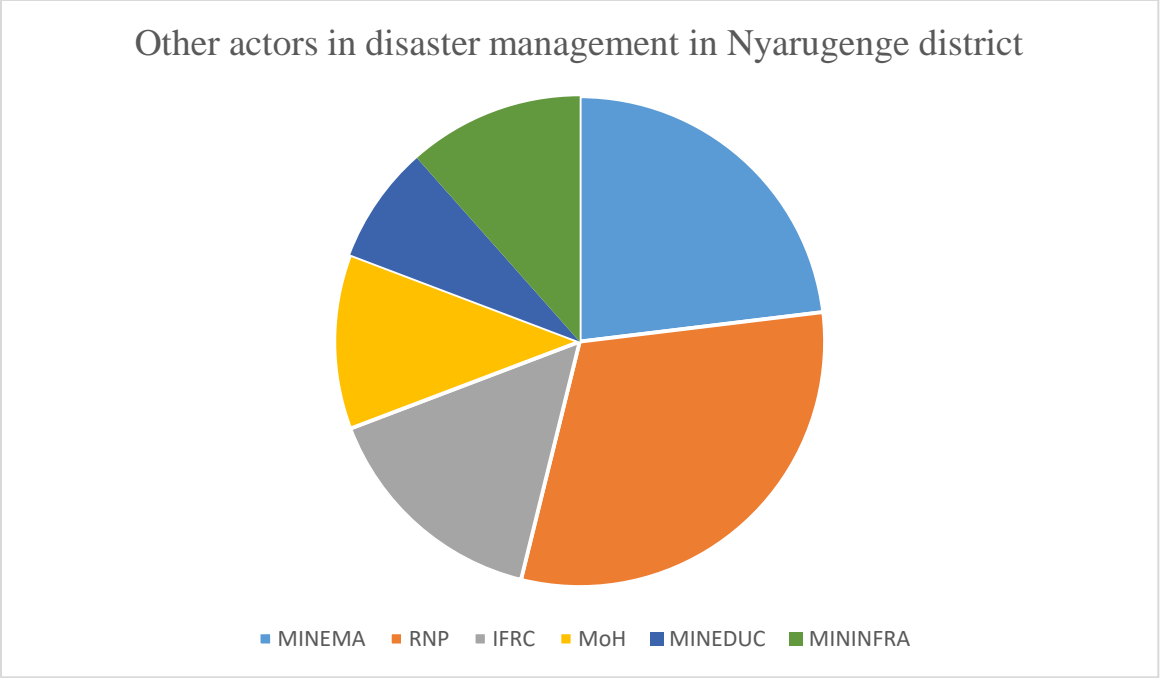


Figure 16. Other involved stakeholder in the intervention.

**4.8. Ratio of the role of RDF rescue teams in comparison with other actors in disaster management**

From these data we read that 56% of the respondents, in comparison with other rescue teams, value the role of the RDF rescue teams as outstanding. 32% of the respondents admit that other actors’ relief services are exaequo with the RDF relief services. 12 % rate the RDF rescue services as minor compared to the services offered by other actors. This indicates that all stakeholders have to work hand in hand in order to cater for more people after the occurrence of the disaster.

These data entail that the military have succeeded fairly well in their areas of intervention and have gained admiration from other actors and members of the public for their commitment and dedication and successful discharge of their duties wherever they are called upon. The military have been fairly successful and this has raised the question as to why they cannot be accorded the lead role in disaster response. However, it must be recalled that disaster management must be spearheaded by civilian authorities and the military should step in as secondary resort. According to respondent N.

*Since when I started working in district disaster management teams, I come to find that working with military is the best thing because they are quick in responding to all matters regarding disasters and I consider them to be the best among other teams from other actors, I like them and wish all people would be intervening and working like soldiers because they motivate us the way they do their work.*

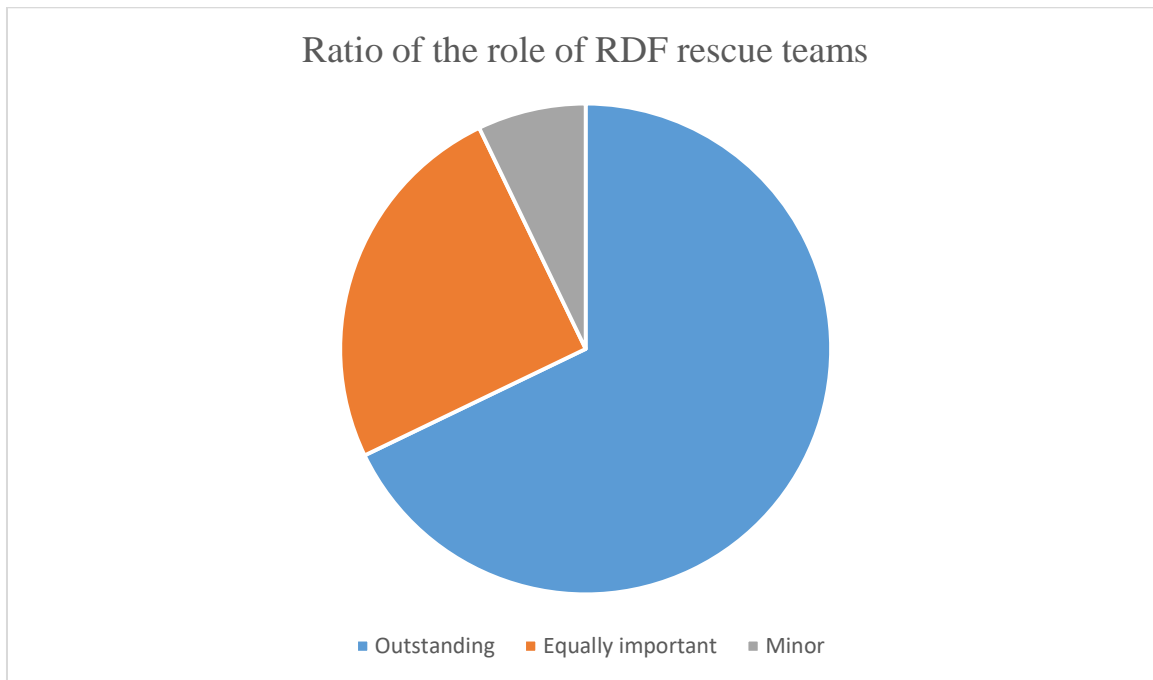


Figure 17: Ratio of the role of RDF rescues teams in comparison with other actors

#### **4.9. Challenges encountered by the RDF in the process of disaster management**

It is read from the chart below that 48% of the respondents think that the RDF rescue teams collide with long military chain of command. 24% of the respondents maintain that the RDF does not have the disaster response fund which would help them cope with financial constraints once they are to give a hand the district in responding to disasters. This constitutes a serious burden. 16% of the respondents are of the view that the RDF does not have enough materials to be used in responding to district disasters. 12% of the respondents reveal that the good will of the RDF may be belatedly applied due to the delayed alert from the district officials. According to respondent G.

*Yes do encounter challenges like any other actors in disaster management and they are include lack of enough budget, lack of some equipment, terrain which is sometimes difficult to maneuver and also lack of enough qualified personnel.*

These data indicate that the RDF encounters challenges that are generated by financial constraints (materials and funds) and administrative issues. It is to be recalled that the 2015 law on disaster management, the district are required to include in their budget funds for response, assistance, rehabilitation and recovery in case of disaster of categories 1 and 2.<sup>1</sup> It is in this regard therefore, that if RDF intervenes in a given district should be using the resources in that district to manage the disasters in that district, so as to reduce burden on RDF.

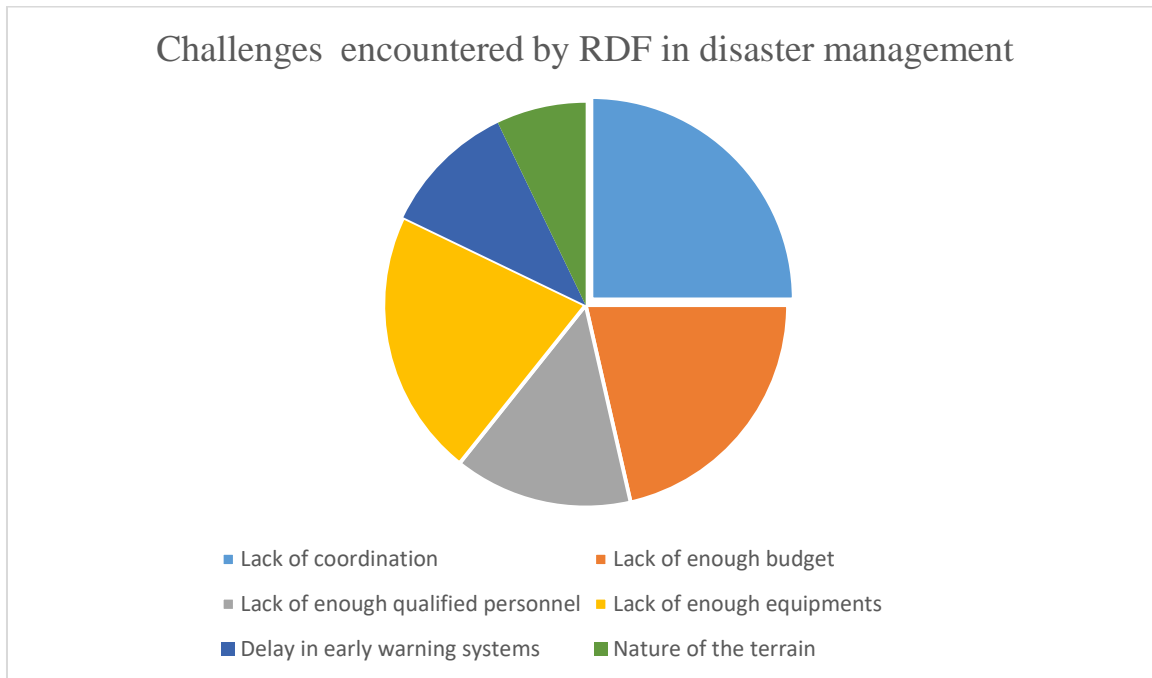


Figure 18: Challenges encountered by the RDF

#### 4.9.1. Challenges faced by other actors in the process of disaster management in Nyarugenge district

The results show that 60% of the respondents think that other intervening actors in disaster relief lack the prerequisite skills in disaster management. 28% of the respondents are of the view that these partnering entities do not have disaster management budget. 12 % of the respondents hold that they face challenges associated with internal bureaucracy which hampers a smooth and swift intervention in disaster relief efforts. It should be pointed out that brandishing lack of disaster

<sup>1</sup> Disasters shall be classified into the following categories: 1° Category 4: a disaster which is beyond the Country's means; 2° Category 3: a disaster which occurs in any District and is managed using resources from the Ministry and its partners; 3° Category 2: a disaster which occurs in any District and which is managed using resources available in the District in collaboration with its partners; 4° Category 1: a disaster which has occurred in a Sector and is managed using resources available in the Sector in collaboration with its partners.



management fund or budget does not hold because, according to law N°41/2015 OF 29/08/2015 relating to disaster management, all public and private institutions shall include in their respective budgets funds for disaster prevention and mitigation. According to respondent C.

*...we usually encounter challenges like any other person or institution dealing with disaster management for example the budget is never enough, we don't have even enough and trained personnel to be doing the basics in case of any disaster before the intervention of RDF and RNP.*

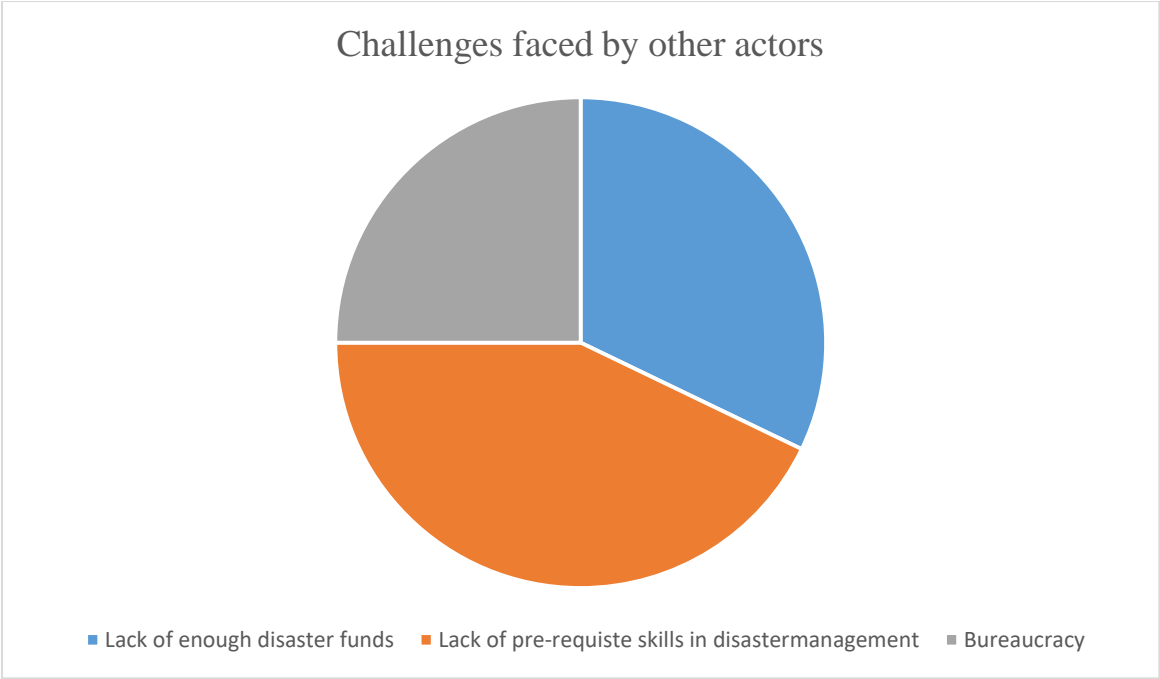


Chart 19: Challenges faced by other actors in Nyarugenge district

**4.9.2. Challenges linked to the evacuees and which hamper swift relief services**

The results show that 32% of the respondents think that the disaster relief efforts may be hampered by poor mindset and unwillingness to relocate embodied by the evacuees or the disaster victims. Another 32% hold that lack of emergency preparedness information by the victims may hinder swift relief services. 24% of the respondents argue that the disaster victims may experience post-disaster psychological shock. 12% of the respondents submit that large size of the families of the victims may slow down the relief efforts as it takes time to evacuate each large family from the disaster hit scene. According to respondent N.

*...it is not easy to tell you that come and we take you to IDP village when you have left your small houses that you have been letting although they are in high risk zones but we have been earning some income for survival but after coming here and occupied these houses that were built by Reserve we are very comfortable and we have very good security and everything is near us even schools and hospital.*

With regard to poor mindset, former mayor of Nyarugenge, Nzaramba Kansiime said that Rwandans need to change their mindset. She heard some complaints that houses where the floods victims were to be relocated to were small. She went on to say “But let them compare them with the muddy houses they formerly lived in within those high-risk areas”.

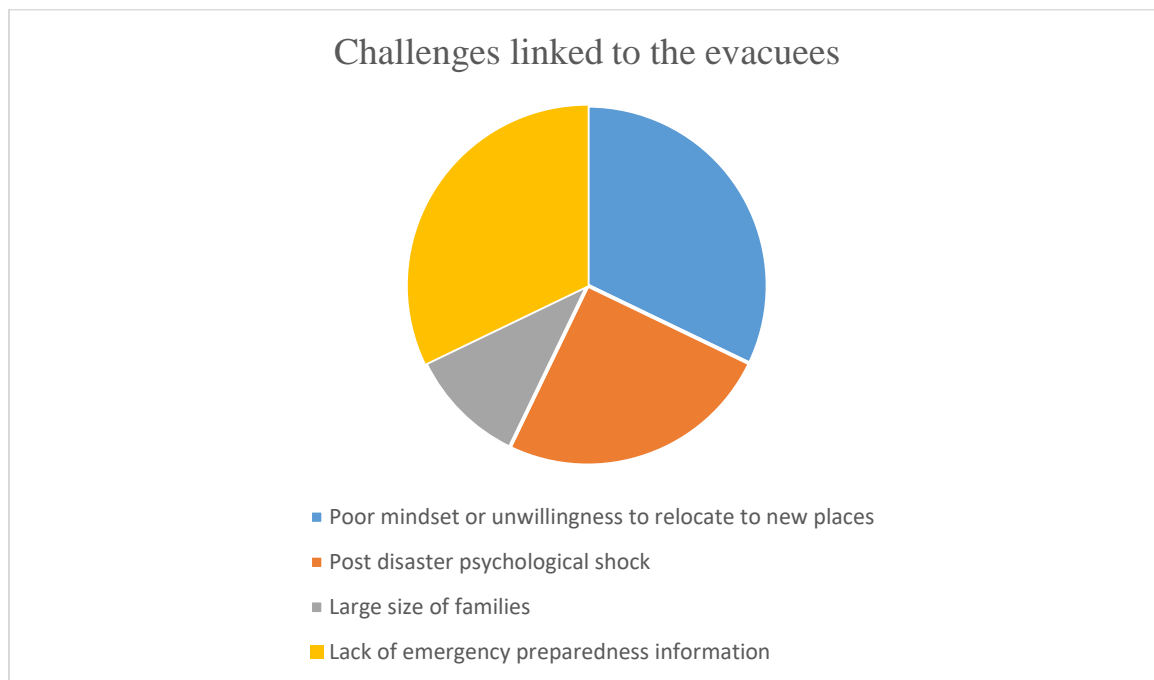


Figure 20: Challenges linked to the evacuees

#### **4.10. Discussion of Findings**

In DM literature review, our first finding is that Rwanda has the common problem with the other countries, first of all, in terms of sustainable development; it is found that the subject of disasters and building disaster resilient countries are enlisted among the critical issues in both Hyogo Framework for Action 2005-2015 and Rio+ Earth Summit on Sustainable Development , While the debate surrounding the role of RDF in disaster management, It is still necessary to consider civil-military relations ,and the most appropriate engagement of military assets during a disaster

situation, the results of the analysis suggest that the gaps and challenges encountered by the RDF can be addressed by planning, liaison, coordination, and expertise are needed in all phases of the disaster management cycle.

RDF has specific unique abilities and resources that are needed in some aspects of DM. It has also a history of working successfully with other agencies in an international context, particularly with the UN in doing humanitarian aid and peace keeping and working successfully in domestic disaster situations. The results obtained from the analysis of the investigation of the roles of the RDF in disaster management are shown in the chart 4.1 - 4.10. From the response to question on understanding what disaster management means in the questionnaire it can be generalized that most of the respondents if not all have heard of the word disaster and even know what it means to an extent. Thereby giving the researcher confidence on the Data gathered. However asked whether beside from school other sources where they learn about disasters the majority agreed they studied from the media TVs, internet, radio etc.

In addition, in relation to education about disasters it is a government sensitization policy on low level but has not been included in programs. In fact, this professional program is very important, because without sufficient understanding and knowledge of the population on disaster management policies cannot be implemented effectively.

Moreover, from the response to question on whether they understand the role and involvement of RDF in disaster management in the questionnaire it can be generalized that most of the respondents if not all have heard/seen RDF in disaster management. Thereby giving the researcher confidence on the data gathered. It is observed that the effort were described as not effective by both the Civilian and Military respondents, meaning a lot has to be done to overcome the mentioned challenges. In this perspective, coordination, communication and collaboration of all stake holders during all phases of emergency management (Preparedness, response, recovery and mitigation) are very important. From the answers given by the populations to question 3 by military and question 5 from the Civilian respondents, it could be viewed that the both the Civilian and Military got improve in their roles while discharging their duties effectively in disaster relief and rescue operation. And as we all know that disaster could be brief, sudden and deadly, because it has to do with lives of the populace, therefore it is good for both the Military and Civil actors to imbibe the culture of working together during disasters.

Information on determining if the respondents think the RDF and other actors like civil society, NGOs and humanitarian have role in disaster management (manmade and natural) they believe and agree that the RDF and other actors have key roles in disaster management especially in search and rescue, first aid, financing, habitation to the displaced, distribution of aid and provision of expertise. Secondly, this emphasizes the need for a strong liaison and coordination if the population agrees with the services then mutual concern should be addressed.

#### **4.11. Conclusion**

In conclusion the findings reveal that the population are aware of disaster management and different types of disasters in Nyarugenge district. Most of the data collected and presented is compatible with the reviewed literature. The literature indicated that role of the military and civil military rations in disaster management and how this phenomenon operates in many countries including Rwanda, challenges encountered by the RDF in perming its secondary role of disaster management. The findings further revealed challenges in coordination with other actors in disaster management. The finding found out that some people are aware of the disaster management but they lack general mobilization and awareness by the local authorities.

The findings also revealed that the role of RDF in disaster management has been focusing on response, recovery and rebuilding instead of prevention which would be less costly. The findings further indicated that the capacity of low income earners is still a roadblock to implementation of people shifting from high risk zones to low risk zones. The findings noted that most of equipment and training for disaster management are expensive to undertake and the concerned institutions should be brought on board to enable the harmonization of the budget in performing disaster management.

The findings were also linked to the conceptual framework and theoretical framework identified for this study and to some extent found it true but in some cases, they were not proved to be true like the case of unfavorable train while doing disaster management.

## **CHAPTER FIVE: SUMMARY OF FINDINGS AND CONCLUSIONS**

### **5.1. Introduction**

The purpose of this chapter is to present the results of analysis obtained to address the role of RDF in disaster management in Nyarugenge district, CoK. Therefore, in an endeavor to achieve this purpose, the study identified three objectives namely the study wanted to examine how RDF manages floods and landslides disasters in Nyarugenge district, establish the challenges encountered by the RDF in the process of managing disasters and thereafter, suggest new strategies that can help the district, RDF and other stakeholders in effectively managing disasters in Nyarugenge district. The objectives attached the study in conformity with the research questions that have been answered in the previous chapter. The following summary linked the ideas and arguments of the scholars to the objectives to come up with the following summary of findings, conclusion and recommendations.

### **5.2. Summary of findings**

The researcher findings on the role of RDF in disaster management revealed that Rwanda like other African countries and in the whole sphere faces natural and manmade disasters which are causing deaths, injuries and other different losses on human and environment. The disaster risks are multiplying on daily basis due to some critical seasonal conditions and climate change (hydro-meteorological conditions). These causes an extreme wide range of weather hazards including floods, landslides, severe storms, drought, fires, thunder, storms, earthquakes, volcanic eruptions that can trigger widespread of other related risks and devastations. Rwanda is also prone to human epidemics, animal and plant diseases that require preparedness and intervention mechanisms and appropriate operations during emergencies as well.

The risk assessment study which was conducted by MIDIMAR (2017), confirmed that the country is highly prone to drought, landslide, flood and windstorms. The assessment found that the main cause of flooding across the thirty districts is climate change which results in heavy rain and flash flooding through overflowing of Rwanda's rivers. Around 40% of the country's population is estimated to be exposed to landslide at moderate to very high slope susceptibility with 14% of the exposed population being children below 20 years and old people aged above 64 years (Anderson, 2019). In all, over 1.6 million poor Rwandans (about 15% of the total population) are estimated to

be exposed to landslides. Around 40% of Rwanda's land is classified as being under a "very high risk zone" (Anderson, E.R., 2019).

During the research it was identified that although RDF plays a key role in disaster management but there still some gaps in the implementation of its disaster management services and mostly are caused by lack of enough qualified personnel, equipment and small budget. Additionally, the other challenges encountered by the RDF include planning, liaison, coordination, and expertise needed in different phases of the disaster management cycle. It came to the researcher attention that different actors contributing in the disasters management services were not aware of the law that governing disaster management as most of them claim that they collide with lack of disaster management funds. This widens the gap of competing interests between the government organs as they seek to justify their roles especially in the area of response that normally attracts good funding from the government and donor agencies when disaster occurs. This indicates that the law has to be publicized in a wide range of people so that they address the issue of budgeting for disasters in every fiscal year.

This study submits that besides insufficiency of funds allocated to the disaster relief services, the RDF encounters other challenges that are associated with people who need rescue after the disaster. The military relief efforts are sometimes hampered by the limited mindset of disaster victims which makes them be adamant to shift from their location. It is also posited that the military faces large size of families to evacuate. This has a nexus to the economic category these large families pertain to. It is clear that disasters affect the poor more than the well to do persons in society. This is because the poor are the majority and live under deplorable conditions in filthy and populous areas of the city where they are exposed to various hazards. As disaster management cannot be left to one. The government therefore remains the key actor in coordination of disaster management in the country and cannot afford to delegate this responsibility.

The results obtained from the analysis of the investigation of the roles of the RDF in disaster management indicates that RDF was much involved in construction of roads that were damaged by floods and landslides, shifting of people from high risk zones. When Nyarugenge district was hit by floods and landslides which destroyed a number of infrastructures that include seven bridges that were connecting cells and sectors, serious flooding at Kanogo high way and Nyarurenzi feeder

road in Mageragere sector. Additionally water drainage systems were damaged in Nyabugogo main car park and that approximately 100 houses have been wrecked since December 2019.

The researcher also wanted to find the perceptions of respondents on the concept of disaster management. According to scholars Disaster management can mean a science of dealing with and avoiding risks. It is a discipline that involves preparing, supporting, and rebuilding society when natural or human-made disasters occur. Therefore it is the distribution, coordination and effective utilization of resources and responsibilities of all stakeholders in cases of emergency to respond to disasters and they comprise response, rebuild and recover from disasters in a society or an area which has been hit by the disaster and all are aimed at decreasing the impact of disasters. It is hence the way governments and stakeholders respond in case of disasters (Harsh K Gupta, 2003). The findings revealed that the respondents understand what are disasters and those particularly related to floods and landslides. The findings indicated that in case of disasters, the communities have seen the staff of government institutions like the RDF and other actors gather to help people recover from disasters through supplying of food, tracing the dead, streamlining the impassable road and removing of landslides that may have blocked the road. The findings also revealed that the government officials have identified houses to be destroyed because they are in high risk zones, the control of illegal mining that is handled, and the encouragement of tree planting. These activities identified during data collection indicate that the respondents understand the meaning of disaster management that includes prevention or mitigation, response, rebuilding and recovery and their role in this undertaking.

The RDF provides some support for domestic emergencies, specifically on natural disasters and civil disturbances without affecting primary mission and its role has increased with the current effects of climatic change that has of recent given rise to human insecurity due to floods, erosion, landslides and ultimately loss of lives.

### **5.3. Conclusion**

Rwanda has established a wide range of disaster management institutions. MINEMA and The MOD are responsible for leading all preparedness, response and relief activities for disasters. (Rwanda National Contingency plan on Earth quakes 2014). MINEMA framework seeks to ensure coherence among the different institutions and stake holders. In order to manage these disasters thorough activities need to be carried out when disaster strikes, who is responsible, where the

resources are and how they can be obtained, what are the elements of coordination, how information is to be handled, etc.

As it has been demonstrated above the military have succeeded fairly well in their areas of intervention and have gained admiration from other actors and members of the public for their commitment and dedication and successful discharge of their duties wherever they are called upon. The military have been fairly successful and this has made some actors suggest that the army should be accorded the lead role in disaster response. This thesis shows that even on limited resources and time, the military can perform increasingly well at disaster relief. However, it must be recalled that disaster management must be spearheaded by civilian authorities and the military should step in as secondary resort.

It therefore, important for the RDF and disaster management actors to give particular attention to vulnerable people during disaster management. Indeed, children and adolescents are largely dependent on their families to supply basic needs such as shelter, food, and economic support. Again, in an emergency situation, older adults may be less likely to heed disaster warnings, can be reluctant to leave their homes, may require more functional assistance, and are more likely to have chronic medical and/or psychiatric conditions. Lastly disabled people may not search for help at all, for reasons such as isolation, stigma and fear of being rejected, lack of knowledge or awareness of their own situation, or because of limited access to services.

It was also discovered that development or less development are both responsible for worsening human activities that destroy environment and create a fertile ground for disasters that are connected to rainwater. The human activities that are done by low income earners like tree cutting, doubling slums and dwelling in them, brick making, stone mining and crushing are done to improve household incomes. They are especially done for those who migrated from villages looking for greener pastures in town but again on a large scale the very adverse human activities are a response to development needs of the community.

Finally, following the fact that some of the disasters are natural in nature and not man made, some of them are likely to stay and cause damages despite of our levels of preparedness. However, the district and the army must endeavor to minimize the damages through sustainable disaster management systems that seek to empower the communities (like distributing disaster management leaflets to its population) and give appropriate attention to the key phases in disaster



management as continuous process. The continued participation of RDF in disaster management is brought by the increasing number of disasters growing pressure for response and a complex need of humanitarian assistance and this therefore, requires RDF to have availability of equipment, knowledge and skilled personnel on disaster management to be able to provide high value service to the Rwandan natural hazards responsiveness systems.

#### **5.4. Recommendations**

From the above study, it was discovered that for proper disaster management, the focus of the actors should be on prevention or mitigation rather than response and hence the following recommendations came up:

District officials have to disseminate basic disaster management information as it will facilitate the disaster relief efforts once any area is affected by any disaster.

Government has to organize as many workshops as possible, which are directed towards increasing the level of trust for each other between all stakeholders. Lack of trust leads to reluctant collaboration and hinders a hybrid and collaborative command and control in disaster management. Besides, all contributing actors have to be equipped with elementary skills on how to cope with disasters and take part in disaster relief efforts.

The ministry of emergency management has to advocate for more budgeting for disasters preparedness and response but has also to involve the media in disseminating the law governing disasters in Rwanda as this law clearly stipulates where funds are to stem from.

The military have to well espouse that their role is to subordinate the civilian institutions and that their intervention most of the time is appealed to as the last resort.

There should be a strong strategic risk communications between the leadership of both the civil society and the RDF, The military should be given free hand in search, rescue, and evacuation due to large number of manpower that are trained in handling dangerous task such as rappelling, aerial surveillance.

The RDF in collaboration with other actors in disaster management should focus more on mitigation before they occur because its cost effective compared to disaster response.

Since RDF has some skilled personnel in the field of disaster management should support the GoR in mobilization and sensitization of people such that it becomes a culture to have basic techniques of disaster response.

The security agents should be vibrant in fighting illegal human activities that worsen man-made related disasters and those who give a leeway to illegal doers should be apprehended and brought to book such that a systematic system is put in place to ensure the policy that is embedded in different government legislations and international protocols guiding on conservation of water is upheld.

The RDF should support the GoR and make sure that environmental conservation policies and techniques being adopted to fight environmental degradation are adhered.

The GoR should make sure that expropriation of people from high risk zones of Nyarugenge district is expedited to conform to the City of Kigali Master plan and where standard infrastructure development will be encouraged that focus on techniques and environmental conservation.

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Table 3: Report on floods and landslides disasters in Nyarugenge over the past 6 months, Source: Nyarugenge district

District	Month	Deaths	Injured	Houses damaged	Crops damaged/Ha	Roads	Fences
Nyarugenge	Oct 2019	2	2	12	0	0	0
	Nov 2019	2	0	20	12	1	0
	Dec 2019	2	1	89	45	2	12
	Jan 2020	1	0	9	0	1	4
	Feb 2020	3	1	110	0	5	11
	Mar 2020	1	0	4	0	0	0
<b>Total</b>		11	4	244	57	9	27

## INTERVIEW GUIDE QUESTIONNAIRE

Nyakinama- Musanze,

April /2020

Dear respondent,

I am a student of University of Rwandan currently conducting a research on “THE ROLE OF RWANDA DEFENCE FORCE (RDF) IN DISASTER MANAGEMENT: A CASE OF NYARUGENGE DISTRICT”. Your opinion on the following questions is hereby sought. Please volunteer as much information relevant to this study as possible. You are assured that this is a strictly an academic exercise and your opinions would be treated with utmost anonymity. You don't need to provide us with your biography.

Thank you.

Maj GH GASASIRA

### TO RDF OFFICIALS

1. Have you experienced any disasters related with floods and landslides in Nyarugenge district?
2. What kinds of disasters apart from floods and landslides, that are recurrent in Nyarugenge district?
3. How does RDF manage disasters related with floods and landslides in CoK particularly in Nyarugenge district?
4. Does the RDF have the disaster response /mitigation fund?
5. How do you rate your role or intervention in disaster management in Nyarugenge district?

6. Do you offer special treatment for women, children, senior citizens (elderly), and disabled people during disaster management?
7. What are some of the ways used by RDF in disaster management in Nyarugenge district?
8. Are there any other actors in disaster management in Nyarugenge district? If yes who are they and what is their role in disaster management?
9. In your opinion, are there any challenges encountered by the RDF in the process of disaster management?
10. What do you think are the challenges faced by other actors that you collaborate with in the process of disaster management in Nyarugenge district?
11. Among the disasters in Nyarugenge district which one is greater and how does it affect you?
12. In which types of disasters did the RDF help in managing over the past five years in Nyarugenge district?
13. Did you get any other disaster rescue teams to help you in disaster management during the last period of five years?
14. How do you compare the role of RDF rescue teams with other actors in disaster management?
15. Do district officials alert you when they need your swift intervention?
16. Are there emergency preparedness handouts and other information distributed to the community on disaster or emergency management?
17. In your opinion, what do you think that can be done by RDF and other actors for effective disaster management in Nyarugenge district?

## TO DISASTER MANAGEMENT OFFICIALS IN NYARUGENGE DISTRICT

1. Have you experienced any disasters related with floods and landslides in Nyarugenge district?
2. What kinds of disasters apart from floods and landslides, that are recurrent in Nyarugenge district?
3. How does RDF manage disasters related with floods and landslides in CoK particularly in Nyarugenge district?
4. Does the district have the disaster response /mitigation fund?
5. How do you rate RDF role or intervention in disaster management in Nyarugenge district?
6. Do you offer special treatment for women, children, senior citizens (elderly), and disabled people during disaster management?
7. What are some of the ways used by RDF in disaster management in Nyarugenge district?
8. Are there any other actors in disaster management in Nyarugenge district? If yes who are they and what is there role in disaster management?
9. In your opinion, are there any challenges encountered by the RDF in the process of disaster management?
10. What do you think are the challenges faced by other actors that you collaborate with in the process of disaster management in Nyarugenge district?
11. Among the disasters in Nyarugenge district which one is greater and how does it affect you?
12. In which types of disasters did the RDF help in managing over the past five years in Nyarugenge district?
13. Did you get any other disaster rescue teams to help you in disaster management during the last period of five years?

14. How do you compare the role of RDF rescue teams with other actors in disaster management?
15. Do district officials alert you when they need your swift intervention?
16. Are there emergency preparedness handouts and other information distributed to the community on disaster or emergency management?
17. In your opinion, what do you think that can be done by RDF and other actors for effective disaster management in Nyarugenge district?

## TO VICTIMS OF DISASTERS

1. Have you experienced any disasters related with floods and landslides in Nyarugenge district?
2. What kinds of disasters apart from floods and landslides, that are recurrent in Nyarugenge district?
3. How did RDF manage disasters related with floods and landslides during the rescue operation? What support did they provide to you?
4. Does the resident area have the disaster response /mitigation teams?
5. How do you rate RDF role or intervention in disaster management in Nyarugenge district?
6. Is there any special treatment given women, children, senior citizens (elderly), and disabled people during disaster management?
7. What are some of the ways used by RDF in disaster management in Nyarugenge district?
8. Are there any other actors in disaster management in Nyarugenge district? If yes who are they and what is there role in disaster management?
9. In your opinion, what are the challenges encountered by the RDF in the process of disaster management during when you were relocated?
10. What do you think are the challenges faced by other actors that were with RDF in the process of disaster management during when you were relocated?
11. Among the disasters in Nyarugenge district which one is greater and how does it affect you?
12. In which types of disasters did the RDF help in managing over the past five years in Nyarugenge district?
13. Did you get any other disaster rescue teams to help you in disaster management during the last period of five years?

14. How do you compare the role of RDF rescue teams with other actors in disaster management?
15. Do you think that your local leaders alerted district officials and RDF on time when they needed their swift intervention?
16. Are there emergency preparedness handouts and other information distributed to the community on disaster or emergency management?
17. In your opinion, what do you think that can be done by RDF for effective disaster management in Nyarugenge district?