

Midlands State University



APPROVAL FORM

This is a confirmation that the undersigned had read and recommended the Department of Development Studies at Midlands State University to accept the project by TAWONA TAPIWA.

SUPERVISOR.....

SIGNATURE.....

DATE SIGNED.....

STUDENT:

SIGNATURE

DATE SIGNED.....

MIDLANDS STATE UNIVERSITY



RELEASE FORM

NAME OF STUDENT:

TAWONA TAPIWA D.

PROJECT TITLE:

DISASTER PREPAREDNESS IN ZIMBABWE: A CASE OF MUZARABANI DISTRICT.

THIS PROJECT WAS SUBMITTED FOR A DEGREE IN:

BA DEVELOPMENT STUDIES HONOURS DEGREE

The midlands state university is hereby granted the permission to reproduce copies of this dissertation for academic use only.

Student: Tawona Tapiwa D.

Signature.....

DECLARATION

I Tapiwa Tawona hereby sign and declare that I am the writer of this dissertation and that this dissertation has never been put before or submitted in any academic institution before by me or anyone else for a degree or any other related academic achievements.

Signature.....

Date signed.....

DEDICATIONS

I dedicate this project to my mother and the Muzarabani community people and all those who are affected by disasters in Zimbabwe especially the victims of the Tokwe- Mukosi floods of 2014.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank my heavenly father for life, guidance during and after the writing of this study may his love and wisdom continue to lead me forever. Secondly, I would like to thank my supervisor Dr J. Matunhu for his supervision, guidance, assistance and encouragement during the production of this piece of work. I would also like to thank the Development studies Department at Midlands State University for their support and for being a family for the four years I spend at the university.

Many thanks to the DCP for their cooperation and assistance during this research, without you it could have been difficult to make this project a success. I would also like to thank all those who took part in this research because without you it would have been difficult for me to have any information to use in this research. I would also like to thank my family for social and financial support, special thanks to Simba and his wife, Tinashe and his wife who were always there for me through thick and thin. Brother B, my beloved friend and roommate Delight and Erick I appreciate your support and words of encouragement.

Lastly but not least, many thanks to my lovely mom who raised me properly and this culminated in me being able to write this project today, if it was not your efforts I would not have been at this level love you mom.

ABSTRACT

Both natural and human induced or man made disasters have negative effects on people's lives because they cause loss of life and livelihoods, loss and damage of property, infrastructure like roads. Given this one can note that there is need to put in place measures to reduce and prevent whenever possible these adverse impacts of disasters on communities. It is against this background that this research focuses on assessing the disaster preparedness level of the Muzarabani community in Mashonaland central province in Zimbabwe. The qualitative data and information that was used in this research was gathered using interviews, questionnaires and observations. The study was done with fifty (50) participants who were chosen using purposive sampling. The findings shows that the most common and recurrent disasters in the Muzarabani area are floods, droughts, epidemics like cholera and other biological disasters like foot and mouth, anthrax. Human animal conflicts are also common but not as disastrous as floods and droughts. The participants also revealed that there are various disaster preparedness measures and activities being undertaken in the district by government and other stake holders. The findings also shows that a national disaster risk management plan exist at the district administrator's offices. The district also has a district disaster risk management plan. The findings showed that effective early warning systems and effective disaster preparedness activities are derailed by lack of adequate financial resources. The district is not fully prepared for other disasters though it is fully prepared for some of the disasters that affect the district.

ACCRONYMS

AIDS	Acquired Immune Deficiency Syndrome
EMA	Environmental Management Agency
DCP	Department of Civil Protection
DA	District Administrator
DAC	District Aids Council
DDF	District Development Funds
DRM	Disaster Risk Management
FAO	Food Agricultural Organization
INGOs	International Non Governmental Organizations
HIV	Human Immune Virus
Met Department	Meteorological Services Department
MOHCW	Ministry of Healthy and Child Welfare
NGOs	Non Governmental Organizations
NEWU	National Early Warning Unit
RTA	Road Traffic Accidents
UNDP	United Nations Development Program
UNISDR	United Nations International Strategy for Disaster Reduction
UNOCHA Assistance	United Nations Office for the Coordination of Humanitarian Assistance
WFP	World Food Program
WHO	World Health Organization
ZBC	Zimbabwe Broadcasting Company

ZESA Zimbabwe Electricity Supply Authority

ZINWA Zimbabwe National Water Authority

ZRP Zimbabwe Republic Police

Table of Contents

APPROVAL FORM	i
RELEASE FORM	ii
DECLARATION	iii
DEDICATIONS	iv
ACKNOWLEDGEMENTS	v
ABSTRACT	vi
ACCRONYMS	vii
CHAPTER 1	1
BACKGROUND OF THE STUDY	1
STATEMENT OF THE PROBLEM	4
AIM	4
OBJECTIVES	4
RESEARCH QUESTIONS	4
JUSTIFICATION OF THE STUDY	5
DEFINITION OF TERMS	5
LIMITATIONS	6
DELIMITATIONS	6
ASSUMPTIONS	6
THEORETICAL FRAMEWORK	7
ORGANISATION OF THE STUDY	7
CHAPTER 2: LITERATURE REVIEW	8
Introductions.....	8
Disaster classification.....	8
DISASTER EFFECTS	9
VULNERABILITY OF ZIMBABWE TO DISASTERS	11
DISASTERS THAT ARE COMMON IN ZIMBABWE	13
DISASTER PREPAREDNESS	14
LEGAL AND INSTITUTIONAL FRAMEWORK FOR DISASTER MANAGEMENT IN ZIMBABWE	17
CHAPTER SUMMARY	18
CHAPTER 3: RESEARCH METHODOLOGY	20
Introduction	20

RESEARCH DESIGN	20
TARGET POPULATION	20
SAMPLING	22
DATA COLLECTING TECHNIQUES	23
INTERVIEWS	23
OBSERVATIONS	24
DESKTOP SURVEYS.....	25
QUESTIONNAIRES	25
DATA ANALYSIS AND PRESANTATION	26
ETHICAL CONSIDERATIONS	26
CHAPTER SUMMARY	27
CHAPTER 4: DATA ANALYSSIS, PRESENTATION AND DISCUSSION	29
INTRODUCTION.....	29
DROUGHT	29
FLOODS	30
FIRES	32
SUMMARY OF FINDINGS	33
CHAPTER SUMMARY	34
CHAPTER 5: RECOMMENDATIONS AND CONCLUSSIONS.....	35
INTRODUCTION.....	35
RESTATING THE OBJECTIVES OF THE STUDY	35
CONCLUSSIONS.....	35
RECOMMENDATIONS	36
SUGGESTIONS FOR FURTHER RESEARCH.....	37
REFERENCES.....	37
WEB SOURCES	39
APPENDIX 1: INTERVIEW GUIDE	40
APPENDIX 2: QUESTIONNAIRE FOR COMMUNITY MEMBERS	41
APPENDIX 3: QUESTION TO DISASTER MANAGEMENT EXPERTS	45

CHAPTER 1

BACKGROUND OF THE STUDY

Thousands of people lose either lives or livelihoods due to the adverse effects of both natural and human induced disasters every year in the world. Seemingly, disasters have increased in both numbers and frequency. The need for societies to prepare for both natural and manmade disasters is imperative. This study investigates disaster preparedness of Muzarabani District in Zimbabwe.

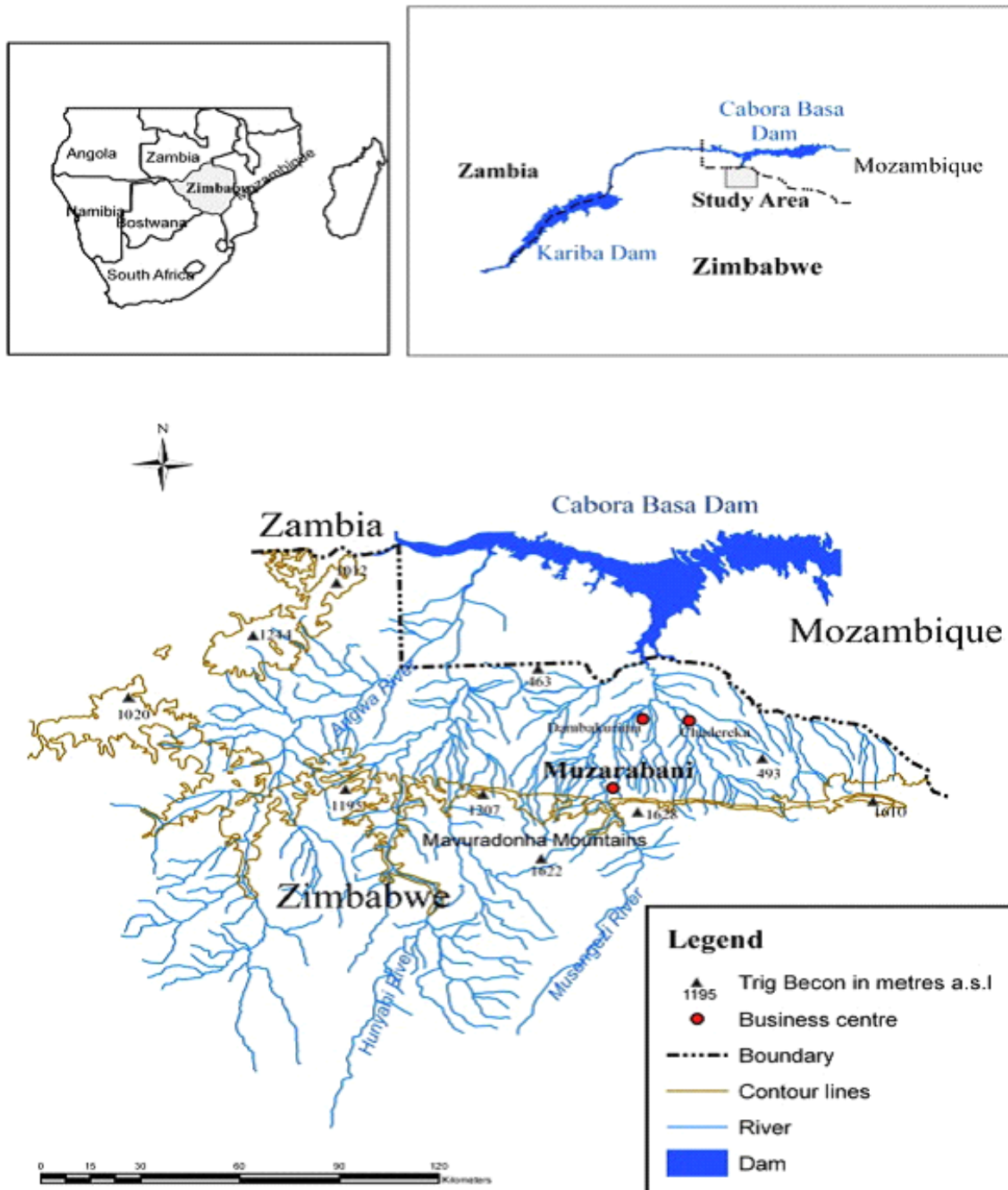
There is no country or region that is immune to disasters though vulnerability to disasters differs. According to WCTP (World Confederation for Physical Therapy website) there are four main types of disasters which are, a) natural disasters, b) environmental emergencies, c) complex emergencies and d) pandemic emergencies. According to David Hall (online: across.co.nz/disaster) the world had witnessed many disasters and some of the worst are: the world wide influenza pandemic of 1918-1919 which claims an estimated 35 million to 75 million lives and in India alone its estimated that it takes about 16 million lives, In 1996 there was a meningitis outbreak in West Africa which claimed about 25 000 lives. 2004-2005 in south Asia an earthquake of 9.0 magnitude hit and resulted in tsunamis and created one of the world's worst disaster, which affected Indonesia, India, Sri Lanka, Thailand, Malaysia, Myanmar, the Maldives, Somalia, Tanzania, Seychelles, Bangladesh, and Andaman. It caused between 235 000 to 285 000 deaths and displaced many. Haiti 2010 earthquake claimed 220 000 deaths and left many homeless, destroyed property worth millions of dollars (across.co.nz/disasters). Every year malaria claims between two- five million lives world over. Disasters are increasing in numbers and frequency hence the need to develop effective and efficient disaster management systems to prevent, and mitigate their adverse impacts.

The research is conducted in two wards in Muzarabani District. The district is in the flood plains of Zambezi with Lake Kariba upstream and Lake Cabora Basa downstream. It's also in

the confluence of Musengezi River and Zambezi River. Chadereka and Dambakurima communities are between Hoya and Nzoumvunda rivers hence why they are flooded almost every year as a result of backflow. These floods will be followed by other disasters like food insecurity, cholera, malaria.

Muzarabani falls under Mashonaland Central Province. The area has four chiefs namely: chief Hwata, chief Changara, chief Kasekete, chief Chiweshe and sub chief Muzarabani. The district has 22 wards. Chaderaka community falls in ward 1 and Dambakurima community falls in ward 4. Currently there are five registered Non Governmental Organizations operating in the area. Most of them dealing with drought relief, water and sanitation activities. Muzarabani has a total population of 122791(ZIMSTAT 2012). 49.8% of the total population are males which is equivalent to 61 160 people (ZIMSTAT 2012). Just like the rest of rural Zimbabwe, Muzarabani is an agro based community. It is found in agro-ecological region four (4). Region four receives 450-650 mm annual rainfall and is subject to frequent seasonal droughts and severe dry spells during the rain season, Moyo 2000. According to Vincent and Thomas (1961) natural region four is suitable for livestock production, forestry, wildlife/ tourism and extensive production systems. The area is mostly covered by indigenous trees like Mopani and muunga (thorn). Typical temperatures are 35 degrees Celsius in November and 14 degrees Celsius in June. According to Environmental Management Agency in a normal rain season rains in Muzarabani will be expected to begin in October to December.

FIG.1: MAP OF THE AREA UNDER STUDY



[Source: from Chari Gladys' Dissertation 2013: Effects of floods in Muzarabani]

STATEMENT OF THE PROBLEM

The frequency and intensity of disasters and extreme weather events have increased over the last decades; massive floods from extreme precipitation, raging wildfires, hurricanes or super tsunamis / giant earthquakes all seem to have become much more common headlines over this period (modernfolktales.com). UNISDR (2008) has it that Sub-Saharan Africa is not the most disaster prone region; it is the most vulnerable to disasters because of physical, social, economic and environmental factors that negatively affect the capacity of the people to secure and protect their livelihoods from disasters. Muzarabani community is prone to natural disasters like floods and droughts because of its physical location and other factors and this has resulted in the community's failure to adopt and cope up with the impacts of disasters that hit the area. Development is lacking in the area as a result of continuous rebuilding of the community after every disaster. It is against this background that this research seeks to identify and assess the disaster preparedness measures and activities undertaken in the area by government and its stakeholders.

AIM

To identify and assess measures taken to prevent, mitigate the impacts of the disasters and the level of disaster preparedness in Muzarabani District

OBJECTIVES

- To examine the level of disasters preparedness in Muzarabani community
- To examine the effectiveness of the disaster management systems in Zimbabwe
- To identify measures taken to adopt and cope up with disasters by rural stakeholders

RESEARCH QUESTIONS

- 1) How has these disasters affected the rural livelihoods of the people in Muzarabani?
- 2) What measures have been put in place by government and various stakeholders, as mitigation and coping strategies for various disasters?

JUSTIFICATION OF THE STUDY

About three quarters of Zimbabwe's total population reside in rural areas, and this study is based on a rural district and its findings may help many other rural people develop effective disaster preparedness, mitigation and prevention measures. This research is the first to assess disaster preparedness of Muzarabani district. This research will be a reflection of what is happening in the Muzarabani community, so it may help the community people develop effective disaster preparedness systems. The study is important to the academic world because it adds on to the knowledge base of disaster preparedness in rural communities in Zimbabwe. It will also help other researchers to identify the gaps that exist in disaster preparedness, mitigation and prevention in Zimbabwe. This study might help in the formulation of effective policies, disaster management system by government and other relevant stakeholders. It might also help reveal the weaknesses that exist in the current disaster management systems. This research might also be an eye opener to other stakeholders by assessing the disaster preparedness of Muzarabani stakeholders will see areas which still need investment and more attention.

DEFINITION OF TERMS

Disaster: It is a natural or man made hazard resulting in an event of substantial extent causing significant physical damage/ destruction, loss of life/ drastic change to the environment. A disaster is a calamitous event, especially one occurring sudden and causing great loss of life, damage/ hardships as floods airplane crash, etc.(dictionary.com). In this research a disaster is any hazard (either natural or human induced/ man made/a result of human activities) that will result in damages to livelihoods, property, loss of life and damage to the environment. There are two main types of disasters, which are natural and human induced disasters/ man made.

Natural disasters: This is when a natural hazard affects humans and / the built environment. Vulnerability plus inappropriate disaster management systems leads to financial,

environmental, / human impact. The impact depends on the community's capacity to resist disasters' which is called resilience.

Man-made disasters: This is a result of technological/ human hazards; for example, fires, transport accidents, industrial accidents, oil spills, nuclear explosions, wars and deliberate attacks are in this category (Blaikie, etal 2004).

Disaster preparedness: Disaster preparedness is a situation of being ready to resist/ contain any disaster or shock that may strike; to reduce loses that is both life and property. This may include a warning system and or notification system that increases the resilience of a society.

LIMITATIONS

Some of the community members may not open up to the researcher due to fear of political victimization so the researcher had limited information from the community members. The researcher has limited finances because he depends on personal savings so travelling to the research site will be compromised.

DELIMITATIONS

The study is confined to Muzarabani District, which is a relatively small area which allows the researcher to gather data until the saturation level was reached. The researcher hails from the same province so language barriers and other related problems were not experienced during the data collection process of this research. This research is focused on assessment of the disaster preparedness of Muzarabani district only and not other related issues like governance.

ASSUMPTIONS

The researcher assumed that the respondents / participants will be honest and free from any influence when they answer the various questions. The researcher also assumed that the

participants will give accurate and reliable data/ information. It is also assumed that gender will not affect the way people view things.

THEORETICAL FRAMEWORK

This research is largely influenced by Sen's theory of entitlements, which is closely linked to the 1945 Declaration of Human Rights. Sen 1984, defines entitlements as a set of alternative commodities that a person can command in a society using the totality of rights and opportunities that he/she faces. In simple terms entitlements can be viewed as alternative resources that a person can depend on for a livelihood. The issue of entitlements is very vital when it comes to disaster management because by giving the people entitlements you will be increasing their capacity thus strengthening the community resilience and reducing vulnerability. Vulnerability plus hazard result is disaster so if one wants to develop effective disaster management system he must reduce vulnerability by giving the people entitlements. In light of this one can note that this research is largely influenced by the entitlements theory which emphasizes the idea of building community resilience by giving people entitlements.

Giving people entitlements can be equated to capacity building in disaster preparedness terms because its main objective is to create and maintain a prosperous social, economic and environmental systems that will be able to adapt to shocks and changes.

ORGANISATION OF THE STUDY

This research have five chapters, chapter one has background, statement of the problem, aims, objectives, definition of terms, limitations, delimitations and theoretical framework. Chapter two has the literature review and chapter three is the research methodology. Chapter four is the research findings and data analysis and presentation. Chapter five has the recommendations and conclusions.

CHAPTER 2: LITERATURE REVIEW

Introductions

This chapter reviews literature on disasters and disaster preparedness. This also acknowledges the works that was done by other scholars on disasters as well as justify this study from the literature point of view by showing the gaps that exist on the disaster information that has been published. In short this chapter is an account of what other scholar have researched on the topic under study.

Disaster classification

UNIDSR (2009) defines a disaster as a serious disruption of the functioning of a community or society involving widespread human, material, economic and environmental losses and impacts which exceeds the ability of the affected community or society to coping up using its own resources. Given this definition one would wonder what does the rural Zimbabwean communities have to cop up with the various disasters they face, this research is going to asses what rural stakeholders are doing to cop up with the adverse effects of the disasters that their areas are prone to.

A disaster can be simplified as hazard plus risk and hazard is defined as 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 (UNIDSR 2009). Given this definition of a hazard one can conclude there a various types of disasters and their types depend on the cause of the hazard or disaster. Below et al (2009) states that there are two main types of disasters which are natural disasters or god's acts and technological or human induced disasters and the natural disasters category can be further divided into the following categories:

- 1) Hydrological disasters these include floods
- 2) Climatological disasters like extreme temperature- heat waves , droughts and wild fires

- 3) Meteorological disasters which include tropical storms and cyclones
- 4) Geophysical disasters w-these include earthquakes, volcanoes, and land slides
- 5) Biological these include epidemics, insect infestation like grass hoppers, locusts, worms

In light of the above one can note that there are two major types of disasters but they can be subdivided into many sub categories. This research is going to assess the measures that are being undertaken in Muzarabani to reduce the effects of the various types of disasters that affect the area that is both natural and technological hazards/ human induced.

DISASTER EFFECTS

Most of the literature focused on the impacts of the disasters on various communities. Bennert (2012) noted that floods in china has resulted in many deaths and missing people over the past years and many more people have been displaced by disaster world over. Given these effects of disaster on human beings one would have a question that is there anything that is being done to reduce these impacts? This is the question that this research is going to answer by showing the various prevention and mitigation measures that are being undertaken in Muzarabani district to reduce the impacts of disasters. The estimated economic loss caused by floods alone on the US economy is estimated to be in billions of dollars per year (ASFPM 2000). Peilke (1996) estimates that floods loss in the US between 1975 and 1994 is around 67.5 billion 1992 US dollars. Samuel D. Body et al (2007) noted that despite the existence of policy and engineering measures to reduce the adverse impacts of floods, they remain one of the greatest threats to property and safety of human communities in the USA amongst all other natural hazards. This clearly shows that there is need to asses how effective are the disaster preparedness measures that are in place.

Nishokiori et al (2006) has it that, Siri Lanka has more than 30 000 deaths and 50 000 displaced persons and is ranked the second amongst countries that were affected by the tsunami of December 26 2004. The number of the people affected is high which shows the

need for the assessment of the preparedness levels of communities. According to UNOCHA (2005) women are the most vulnerable than man to disasters. Wisner (2002) defines vulnerability as the likelihood of injury, death, loss and disruption of livelihoods or other harm in the event of extreme event. Disaster preparedness is very important because it reduces the impacts of disasters on communities.

India accounts for 1/5th of the world's deaths by floods alone every year, over 30 million people are displaced by natural disasters according to Josh and Guha-spir (2002). This clearly shows that there is still greater need of attention needed in the field of disaster preparedness because the disaster impacts are still high hence why this research focused on assessing the preparedness measures that are in Muzarabani district and their effectiveness. Amir Navaz Khan and K. Ahmed (2011) noted that damages or the adverse effects of disasters can be reduced by investing for the strengthening of livelihood asserts. This can be equated with strengthening disaster preparedness measures or activities. Twigg (1998) notes that disasters occurrence is not increasing but disaster impacts on people and property are increasing. This clearly shows that communities are not fully prepared for these unlikely events when they strike. Hence the need to assess the preparedness levels of communities which this research does using Muzarabani as a district.

Gumbo (2006) wrote, Zimbabwe is an agrobased economy and disasters will negatively affect agriculture systems. This gives rise to the question that what is being done in Zimbabwe to prevent and mitigate the effects of disasters in Zimbabwe. UNDP (2007) has it that, Cyclone Eline marked the beginning of an era of unpredictable weather patterns in Zimbabwe. Seasonal shifts resulted in weather unpredictability in the country which has contributed to poor agricultural planning according to UNDP (2009). This shows that there is the need to develop strong and effective disaster preparedness measures in Zimbabwe.

According to Raradza (2007), the people of Muzarabani have been able to cop up with the frequency of disasters using indigenous practices, but these have proved to be weak as they failed in recent years and disasters. This research seeks to find out the existing measures at both national and community/ district level as well as to assess their effectiveness in dealing with the disasters. Red Cross and other NGO's are assisting with food and clothes in Muzarabani according to Tsiko (2011).

This research aims to assess the effectiveness of such measures and their sustainability. Manyanga (2007) notes that livestock in rural Zimbabwe is a social safety strategy. This leads to the question that what preparedness measures are in place in Muzarabani to safeguard the livestock of the community members against disasters like foot and mouth. The effects of any disaster depend on the vulnerability of the community it strikes. It is against this background that this research is going to assess the preparedness levels of the Muzarabani community or district.

VULNERABILITY OF ZIMBABWE TO DISASTERS

This section examines the issue that various scholars has said make Zimbabwe vulnerable to disasters. Chigodora (1997) noted that rural areas are vulnerable because they largely depend on natural resources for their survival and livelihoods which are usually affected by the natural disasters. Gwimbi (2009) wrote that rural communities that are cited in flood plains are vulnerable to floods and these areas include Muzarabani and Mbire districts in Zimbabwe. In view of the above one can note that Muzarabani is vulnerable to natural disasters like floods and droughts. IFPRI (2002) has it that malnutrition makes Zimbabweans vulnerable to health or biological hazards like cholera, malaria, HIV/AIDS to mention but just a few. This clearly shows that Zimbabweans, including people in the Muzarabani district which is under study are vulnerable to biological disasters hence there is need to identify and asses the

effectiveness of the disaster preparedness measures/ activities that are in place for biological disasters/ hazards.

Chitiga and Chigora (2010) notes that lack of effective environmental management measures makes Zimbabwe vulnerable to environmental hazards which are caused by climate change. This means that there is also need to look at the measures that are in place to combat environmental disasters in the Muzarabani district in this research. \similarly, Pearce and Maunder (2000) noted that poor roads conditions, poor law enforcement as a result of corruption and other factors are leading to high vulnerability of Zimbabweans to road traffic accidents (RTA's). Given this one need to know what is being done in Zimbabwe to hedge against this hazard. This research is also going to look at the preparedness measures that are in place to deal with these road traffic accidents in Muzarabani district.

Another thing that make Zimbabwe vulnerable to disasters is that of low budgetary allocations that are given for the disaster risk reduction programs as the civil protection is reduced to more of a funeral/ burial society that is only affords to partly afford those affected by disasters and record the losses made without doing anything to reduce the risks Madamombe (2004). The low budgetary allocations are a result of corruption, poorly timed policies like the land policy, and Zimbabwe's participation in the DRC war which led to the economic decline of the nation (Hondora 2009). This economic decline led to mass migration of professionals from the country including health workers which worsened Zimbabwe's health sector according to Moss and Patrick (2006). In light of the above one can note that Zimbabwe's vulnerability to disasters is worsened by the lack of trained personnel to deal with the disaster risk prevention and preparedness measures or activities. Given the above one can note that Zimbabwe is vulnerable to various disasters as shown in the above paragraphs. One can also note that there is need to group the disasters in categories then look at the preparedness measures that are in place for every disaster and asses their effectiveness

in reducing the impacts of the disaster in the community as shall be done in chapter four of this research.

DISASTERS THAT ARE COMMON IN ZIMBABWE

Gwimbi (2009) wrote that floods and droughts a common and continuous problem in Zimbabwe and they lead to food insecurity in the country. Madamombe (2004) notes that most of the floods in Zimbabwe are cyclone induced or a result of heavy rains and they are not extreme as they are in other nations like Mozambique. He also notes that these floods lead to deaths, loss of livestock, property damage and loss, and can lead outbreak of biological disasters like cholera malaria which will claim more lives than the floods themselves. In light of this one can note that Zimbabwe is prone to floods, droughts and biological disasters like malaria. According to Mazzeo (2011), most of the droughts in Zimbabwe are caused by Elnino-Southern Oscillation. Maphosa (1994) outlines some of the measures that can be adopted to deal with droughts and some of them are water harvesting, building dams and other water reservoirs, and establishing many irrigation schemes.

HIV/AIDS is also prevalent in Zimbabwe; one in every five is HIV positive according to USAID (2011). According to Chadambuka et al (2012) Zimbabwe is also prone to health problems like cholera because of poor water and sanitation which is now old that is the water and sewage systems are now aged and outdated. This clearly shows that Zimbabwe is prone to biological disasters besides the floods and droughts. According to Clark (2000), earthquakes are very rare in Zimbabwe and when they occur they are very weak, or are of small magnitude and the strongest ever recorded was the one that occurred in 1963 which recorded 5.8 on the Richter scale. UNDP (2010), has it that earthquakes are more often in the eastern part of Zimbabwe but they will be weak. This clearly shows that though Zimbabwe is prone to earthquakes they are not as serious as floods, droughts and biological hazards like cholera and malaria.

Chikoto (2004) notes that road traffic accidents are also a menace in Zimbabwe causing to a lot of deaths and injuries and more than ten of the past road traffic accidents have been declared national disasters by the president as prescribed under the civil protection act of 2004. In view of the above one can note road traffic accidents are also a major and common disaster in Zimbabwe. These are some of the disaster that scholars have noted as common and peculiar to Zimbabwe.

DISASTER PREPAREDNESS

Activities or programs and systems developed and implemented prior to a disaster that are used to support and enhance mitigation of, response to and recovery from disasters or emergencies is the definition of disaster preparedness given by the NFPA. FEMA defines disaster preparedness as the leadership, training, readiness and exercise support and technical and financial assistance to strengthen citizens, state, communities, local or tribal government and professional emergency workers as they prepare for disaster, mitigate the effects of disasters, respond to community needs after a disaster and launch effective recovering efforts (www.fema.gov). It is against this definition that this research is going to assess the various disaster preparedness measures that are being under taken in Muzarabani

Natural disasters affect people in different communities in different ways, but the most usual and common results are hunger and poverty Nyahuye (2000). Communities which are socially and economically marginalized have greater vulnerability, hence why effective community based disaster management is limited (Bolin and Stanford 1998; Blaikie et al 1994). Social capital is a very useful determinant of the level of community disaster preparedness. Putnam (1993: 167), defines social capital as “features of social organization, such as trust, norms, and networks that can improve efficiency of society by facilitating coordinated action”. This clearly shows that the status of a community determines whether the severity of a disaster. The European Sustainability Development Network (ESDN)

quarterly report, emphasized on the importance of building resilience in communities. It is also important to note that, the social capital of societies also determine their resilience. It is against this background that this research is going to look at the economic activities in Muzarabani.

In some areas there is effective communication and warning systems. These include the use of warnings such as emergency broadcasts, tornado sirens or other risk communication of an immediate danger. According to Pery and Mushkatel (1986) Mexican-Americans use social networks to relay warning information. Aguirre (1988) notes that the US disaster warning systems have to adopt a multilingual and multicultural structure. This shows that some countries have better and effective warning and communication systems. The question that this research will answer is what warning systems are used in Zimbabwe and how effective are they.

Busch and Givens (2013) wrote about the various disaster preparedness partnerships that can take place between government and the private sector for example in information dissemination private radio stations may play an important part. This research is going to asses and identify if any such partnerships are existing in the Zimbabwe and Muzarabani as a district. Koichi Shiwaku, etal (2011) wrote about the role that education can play in both disaster preparedness and disaster management at large. Disaster information is supposed to be disseminated in two ways which are informal and formal ways if disaster education has to play a significance role in disaster preparedness. This study seeks to investigate how effective have disaster education been in disaster preparedness in Muzarabani district. Miwa Imura and Rajib Shaw (2009) wrote about post disaster response and recovery. They also wrote about the key factors of sustainable and successful relocation. This research is going to assess the level of disaster preparedness of the Muzarabani district to the various disasters that affects the area.

Nakayama and Yamashiki (2013) wrote about the effects of war on disaster preparedness of communities as they noted that, managing the environment and enhancing preparedness for disasters is always problematic in post conflict nations since such areas lack good governance. This clearly shows that there is a core relation between good governance and disaster preparedness. Elia Romo-Murphy (2013) looks at the role played by the media in disaster preparedness in west Sumatra, Indonesia, by analyzing the role played by newspapers, community radio stations, contacts of neighbors and family. This research is going to assess the preparedness of Muzarabani district in Zimbabwe and establishes whether the local media is doing anything about disaster management or not.

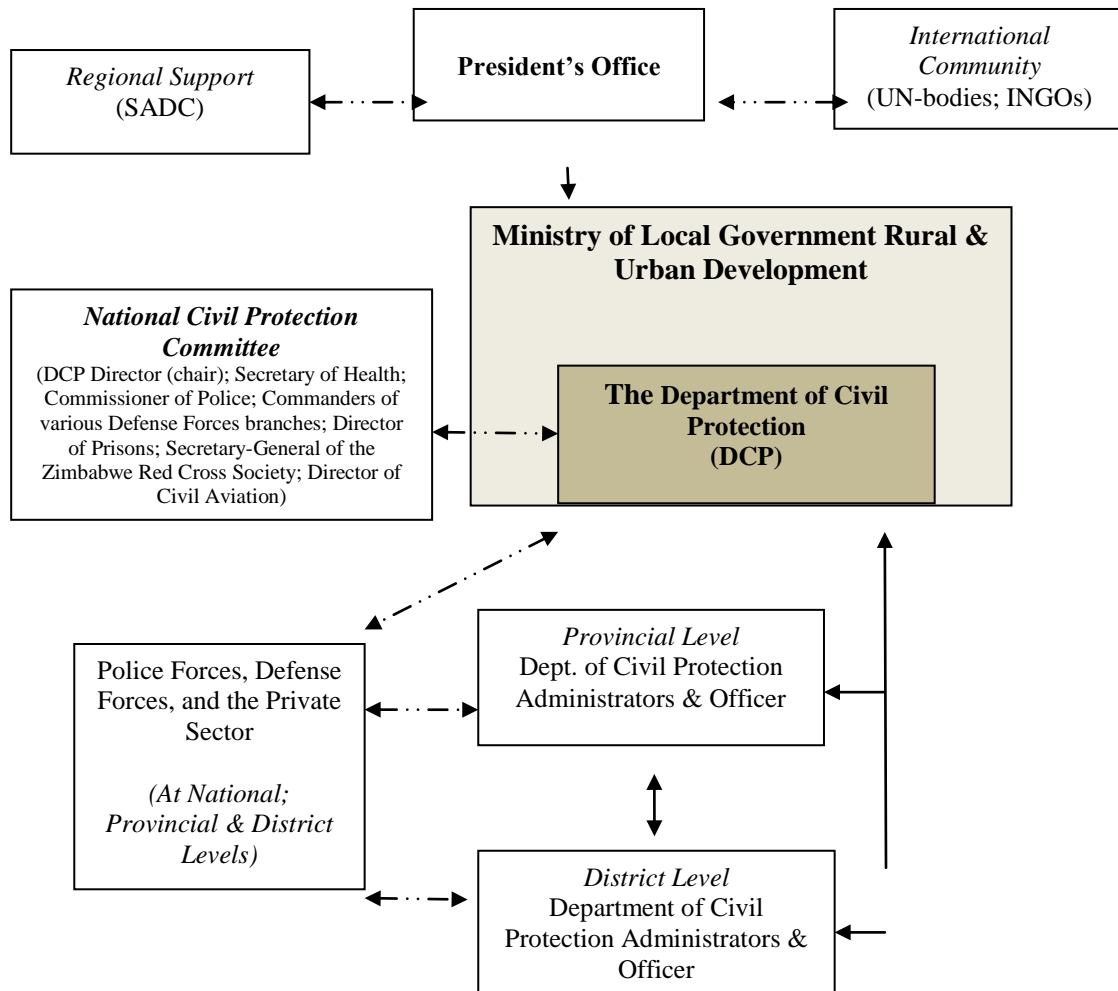
According to Gwimbi (2009), there must be effective early warning systems if the adverse impacts of disasters are to be reduced in Zimbabwe. This research is going to identify the early warning systems that are in place for certain disasters and assess how effective are they in reducing the impacts of disasters. Coltart (2008) agrees with Gwimbi as he also noted that there is lack of investment in the prevention programs in Zimbabwe.

Tsiko (2011) noted that the 2000 and 2007 floods in Muzarabani has exposed the weaknesses and incapacities of the community and nation to respond effectively to disasters. This clearly shows that the community was not fully prepared when the above mentioned disaster strike hence why this research needs to identify and assess the effectiveness of the preparedness measures/ activities that are being done in the district. Madamombe (2004) noted that there is need to strengthen the community resilience of communities so that the community people will be able to do most of the things like rescue activities on their own. This research is going to assess the effectiveness of the capacity building projects that are being undertaken in Muzarabani by the government and other stakeholders. This research is also going to identify the various preparedness activities that are being implemented in the district.

LEGAL AND INSTITUTIONAL FRAMEWORK FOR DISASTER MANAGEMENT IN ZIMBABWE

According to Save the Children (2007) assessment of disaster preparedness is multifaceted and to be fully effective an assessment must be comprehensive at both national and community levels. It is against this background that the researcher find imperative to briefly highlight the legal and institutional framework that deals with disaster management in Zimbabwe down to the district level before assessing the preparedness level of the Muzarabani district. The civil protection act of 1989 was amended in 1992 and in 2002. According to the Civil Protection Act (chapter 10.06) the ministry of local government coordinates all disaster management activities in the country from national to district level. However this will be multi-sectoral at all levels. The Act outlines clearly that it is the role of every citizen to assist where ever possible to avert/ limit the impacts of disasters. The government initiate the necessary disaster preparedness activities through a relevant sector or department or ministry. Below is a structure of disaster management in Zimbabwe.

Diagram T1: structure of disaster management in Zimbabwe



Source: Chikoto (2004) Zimbabwe's emergency management systems.

The diagram above shows how the institutions in Zimbabwe operate and their levels as well as the idea that who constitutes which organization and at what level. In short the diagram above shows how disaster management activities are organized and coordinated in Zimbabwe.

CHAPTER SUMMARY

This chapter is an account of published information on disasters and disaster preparedness. It deals with literature review which serves to acknowledge works of other scholars who have researched in the disaster topics before, this was largely influenced by the fact that this research is not the first one on disasters or disaster preparedness in the world hence why have a full chapter that deals with literature review only. The chapter also helps show the

importance of the study as it shows what have been researched thereby showing the gap that exist in the published literature on the topic which the research aims to cover.

CHAPTER 3: RESEARCH METHODOLOGY

Introduction

This chapter explains how the research was carried out and how the data was gathered. This chapter covers the research design, the target population, sampling, tools that were used to gather the data and ethical considerations.

RESEARCH DESIGN

Parahoo (1997) defines a research design as a plan that describes how, when and where data was collected and analyzed. The qualitative research method was used by the researcher in this study. Burns and Grove (2003) define qualitative research as a systematic, subjective approach used to describe life experiences and situations to give meaning. The descriptive research design was also used in this research as it helped explain what is going on in Muzarabani through analyzing documentations made by Civil Protection Department and many other government departments and other stakeholders like Red Cross currently operating in the area. According to Burns and Grove (2003) a descriptive research design is a design that provides a picture of the situations as it happens naturally.

The explanatory research design was also of great significance to the study as it explains the variations in the findings as well as why things are as they are in Muzarabani. It (explanatory research design) also explains some of the data collected from the documents studied.

TARGET POPULATION

The target population is defined as the total number of units from which data can be collected, by Parahoo (1997). In this study these included people living in Muzarabani district, organizations operating in the area including government departments and ministries. Some of these organizations are Red Cross, UNOCHA, FAO, EMA, DCP and WFP.

The individuals living in the community were important to the study because they have firsthand information of the disasters affects them as well as the measures they put in place to

prevent and mitigate the adverse impacts of the disasters. The teachers, headmasters and students in the area were also important because they had firsthand information about how the disasters affect education.

The DCP (Department of Civil Protection) was also important because it is the national department that deals with disaster management in Zimbabwe, so it has the most up to date information about disaster management and preparedness in the country. More so, most of the disasters, preventive and mitigation measures undertaken in the country are well documented by the department of Civil Protection. The department is also the one that coordinate all disaster preparedness and management activities in Zimbabwe as a whole.

The other organizations, government departments and ministries were also of great significance because they also implement capacity building projects, disaster education and disaster preparedness and mitigation measures in Muzarabani. Eligibility is defined by Burns and Grove (2003 p 234), as “a list of characteristics that are required for the membership in the target population”. In line with this definition, for an individual to be eligible he/she has to be:

A member of the community, that is he/ she should fall under the area which is under the jurisdiction of Muzarabani Rural District Council. A member of an organization or government department that operate in Muzarabani; A member of an organization or government department that deals with disaster prevention, mitigation and response in Muzarabani.

These were the three main characteristics that were used to see whether an individual is eligible or not to participate in the study. Fifty (50) people were involved in this study and they were chosen using the criteria described above.

SAMPLING

Burns and Grove (2003) define sampling as a process of selecting a group of people or events or behavior with which to conduct the study. In this research purposive sampling and random sampling was done. The participants were divided into groups depending on professional expertise and orientation. The main groups were as follows:

Environmental specialists- this group provided information about impacts of disaster to the environment as well as preventive and mitigation measure that are being undertaken in Muzarabani. It consists of officials from EMA, CAMPFIRE, and other organizations that deal with the environment in Muzarabani. Community members- these are the local people who live in the area that is under the jurisdiction of Muzarabani rural district council. They provided the researcher with firsthand information because they are the ones who experience the disaster and develop some preventive and mitigation measures. They are also the ones who benefit from various capacity building projects that are implemented in the area. Disaster management experts: these provided information of various capacity building projects that are being undertaken to reduce the impacts of the disasters. They also provided the challenges that are facing as well as the success they had so far. This group consists of Civil Protection, Local Government, ZRP Sub Aqua, UNOCHA, Red Cross and other various organizations that deal with disaster preparedness in the community.

The disaster management experts and environmental experts were purposively chosen by the researcher because they have up-to-date/ current information about the related topic hence why the researcher handpicked them. The community members were chosen depending on their wards and then they were randomly chosen from those wards after they suite the above described criteria.

Holloway and Wheeler (2002) noted that the sample size does not influence the importance or quality of the research and there are no guidelines in determining the sample size in qualitative research beforehand. It is in this vein that about fifty (50) respondents participated

in the study; these fifty were chosen purposively because they were the ones spearheading the preparedness activities in the area and the community members were randomly picked.

DATA COLLECTING TECHNIQUES

Data collecting tools are instruments used to gather data and an instrument is a tool designed to measure knowledge, attitude and skills according to Parahoo (1997). In this research/ study data was collected using interviews, questionnaires, desktop surveys, observations and was collected from various participants to avoid/ limit bias and to increase information credibility, reliability and dependability.

INTERVIEWS

In simple terms an interview can be defined as purposeful conversation among/ between people. Twenty (20) interviews were conducted by the researcher. There are a number of types of interviews. They can be classified or named depending on how the interviewer proceeds or depending in the media used. A number of interviews were carried out in this research and these are as follows:

Structured interview: This was done because it enabled the researcher to make comparisons among responses to enhance validity and reliability of the data. The structured interview is when the interviewer closely follows a list of questions which makes it easy and simple to compare the responses of various participants. Unstructured interviews were also made use of by the researcher. This is the type of interview when the interviewer ask more predetermined questions and interfere when he/she feels the respondent/ interviewee has gone out of the parameters of the interview.

Telephonic/ telephone interviews were also carried out. These were largely done with the disaster management experts and environmental experts because their telephone numbers are easily found at the department of civil protection on the list of contact persons during emergency disasters. These contact details are also available on the list of the members of the

national civil protection committee. These are interviews that are carried over the telephone. This was more effective than others because it was both cost and time effective. This was so because the research did not need to travel to where the interviewee would be. This also proved to be effective as it get rid of the problem of scheduling where by the interviewee would not show up for the interview or would be late or will be rushing for some other business. This type of interview was also effective because it is not affected by the environment. However despite all the advantages that it offers to the researcher it has one big disadvantage that the interviewer was not able to see the non-verbal cues.

Personal/ face to face interviews were also held. This offered the advantage that the researcher was able to take note of the non-verbal cues / gestures or body movements. The problem of temporal states of the respondents like fatigue and anxiety were experienced. To try and get rid of this problem interviews were scheduled from 8am to 11 am. To avoid annoying the respondents by continuously asking them to repeat again so that the researcher can take notes the interviews were audio recorded and this was done with the consent of the interviewee. In cases where the interviewee was not willing to be recorded the researcher wrote notes as the interview progress. To avoid bias and to validate the information/ data the researcher played the audio with the respondent thus allowing the respondent to clarify and verify what he/ she would have said (responses). The audio tapes were labeled properly with dates, time, place and gender of the interviewee but names were withheld for confidentiality reasons.

OBSERVATIONS

Observations were also held as the researcher visited the area under research to capture some of the existing damages caused by the disasters as well as capture some of the preventive and mitigation measures being done by the government and other stakeholders in disaster preparedness and disaster mitigation. This was imperative to the study as it allows the

researcher to take photographs which was used as evidence of the effects of disasters, preventive and preparedness measures.

DESKTOP SURVEYS

Desktop survey was done because it allowed the researcher to gain background information about the area. This also gave the researcher an opportunity to study past documentations made in the area prior to disaster preparedness, prevention and risk reduction. It also allows the researcher to compare and contrast the past conditions and the prevailing conditions. It also helped the researcher to review the literature on disaster preparedness thoroughly. The major weakness of the desktop survey is that most of the information that is posted on internet is invalidated and anyone can post anything so it's very difficult to rely on data gathered by desktop surveys alone hence why other data collecting tools like interviews, observations and questionnaires were carried out.

QUESTIONNAIRES

A simple definition of a questionnaire is, it is a list of questions that are related and these questions must relate to the topic under investigation. There are various types of questionnaires and their names are derived from the way they are sent to the respondents. Thirty (30) questionnaires were used in the data collection process of this study. The following are the types of questionnaires that the researcher made use of when undertaking this study.

Mailed questionnaires-The researcher also made use of Emails (electronic mails) to send the questionnaires. This was fast, time and cost effective as the researcher did not have to travel to the respondent's physical location. This was only used to send the questionnaires to the key informants because their email addresses and telephone numbers are available at the department of civil protection office on the emergency contact persons and this could not be

used to the community members because the research had nowhere to have their contacts details so self-administered questionnaires were adopted.

Self-administered questionnaire- this is when a questionnaire is given to the respondent who then complete it on their own but in the presents of the researcher just in case some problems may arise/ are experienced by the respondent. The major advantage that was enjoyed was that the researcher was able to take cognisance of the non-verbal ques. However the problem of scheduling was also experienced. Another problem was that this type was time consuming as the researcher has to visit the respondent's physical location. This was also costly as the researcher had to travel to and from the respondent's physical location and some of the places are very difficult to access for example Chadereka community which shares the border with Mozambique.

DATA ANALYSIS AND PRESANTATION

The interviews were numbered according to the dates and places they would have been conducted on. Because a qualitative research design was adopted / used for this research most of the data will be presented in words or as text, tables and pictures. To effectively analyze the disaster preparedness level of the Muzarabani district data that was gathered using the above methods was analyzed by looking at a disaster or hazard and then looking at the preparedness measures that exist in the districts as shall be seen in the following chapter (chapter 4) which is on data presentation analysis.

ETHICAL CONSIDERATIONS

Ethical considerations can simply be defined as norms for conduct that distinguish between acceptable and unacceptable behavior in research. According to Dr Nancy Walton, research ethics have three main objectives which are human protection, to ensure that the research is conducted in a way that is acceptable and benefits all groups in a society and to examine specific research activities and projects for their ethical soundness (researchethics.ca). It

looks at issues such as protection of confidentiality, and process of informed consent. The researcher observed a number of ethical considerations when conducting his research and some of them are in the paragraph bellow.

The researcher honestly reported data, results, procedures, etc. he did not fabricate or misrepresent data. The researcher also tried his best to avoid bias by carrying out a pilot interview. He also disclosed financial issues / problems that may have affected this researcher. The researcher also kept his promises not to disclose the participants' personal details without their knowledge. He also asked their permission before audio recording them or video recording them. The researcher avoided careless errors and negligence by examining his work carefully and gave his colleague to proof read for errors. He also kept a proper record of the research activities. The researcher gave acknowledgement for all contributions to the research. He also tried to avoid plagiarizing by referencing properly. All confidential communications were protected and will be destroyed by fire exactly three (3) months after the completion of the research to make sure that all the confidential communications and data will never fall in wrong hands. The researcher obtained the formal and written permission to carry out that research from the relevant authorities in this case which is Midlands State University and the relevant government authorities like the District Administrator. He obeyed the institutional laws and government policies concerning research.

CHAPTER SUMMARY

In a nutshell one can note that, chapter three shows/ describes how the research was done. This chapter shows that data was gathered through use of various data collecting tools including interviews, questionnaires, observations and desktop surveys. This chapter also clearly outlines how the participants/ respondents were selected and why they were selected. This chapter also clearly spells out that this research is going to be qualitative in research design. The chapter consists of the research design which describes whether the research is

quantitative or qualitative. It also has the sampling section which shows how participants were chosen and why. The last section of the chapter deals with data collecting techniques, outlining the various data collecting tools that were used to gather data as well as outlining their advantages that the researcher enjoyed and the disadvantages. The chapter also has a section that describes how data is going to be presented and analyzed in chapter four (4). The chapter ends with the section that describes the various research ethics that were respected during the research.

CHAPTER 4: DATA ANALYSIS, PRESENTATION AND DISCUSSION

INTRODUCTION

This chapter is on data presentation and analysis. This chapter gives data that was gathered using techniques and from respondents chosen as prescribed in chapter 3. The findings of the data was then analyzed in relation to the statement of the problem outlined in chapter 1.

DROUGHT

The respondents confirmed that droughts occur more frequent than any other disasters in the district. This is mainly because the area falls in Agro-ecological region 4 which receives very low rain fall and experience a lot of dry spells during the rain season which is October to April. The early warning systems that are in the country for droughts is the Meteorological Services Department, the area has one weather station. Despite having one weather station the people also depend on the meteorological services department's forecasts for early warning. However the jargon that is used by the meteorological professionals makes it very difficult for the local and general community people to understand and interpret the warnings which result in the failure of the early warning systems. An example of the complex jargon is the way the expected rainfall is forecasted, we are expecting normal to above normal rain fall this season or we are expecting normal to below normal rainfall. This renders the early warning system ineffective as the general public can't interpret the message.

The other preparedness measure against drought is that of conservation agriculture dubbed 'diga udye' in the community. This program is being implemented by a number of NGO's in the area as well as FAO. This is also compounded by the program of small grains being implemented by government through the department of Agritex. The respondents said that this small grain scheme is a good measure against drought because the small grains are drought resistant and require small amounts of rainfall compared with the likes of maize; however the major weakness or challenge to this preparedness measure is that small grains

are largely affected by quelea birds and other related insect disasters. There is also the presidential scheme of issuing out agricultural inputs to the people. The Muzarabani people also benefited from the program but the program seems to be misguided as the people in the area were given maize seed yet the area receives very low rainfall which is not suitable for maize production. More so the presidential scheme is also affected by politics as those belonging to the opposition party do not benefit in the area. In this regard one can note that the disaster preparedness activities are affected by politics and some are affected by the lack of funding.

Most of the Muzarabani community members (especially those in the Chadereka community) said they had also resorted to farming all year round gardens which are along the Zambezi river but the major challenge to these gardens is that they are affected by floods every time the Zambezi river floods. The community people also turned to the production of cash crops like cotton as a way to reduce the impact of droughts. Most of the participants said cotton requires low rainfall and they can sell the cotton and buy food hence why they had resorted to the production of cotton though they say the prices are very low which is the major challenge of this adaptation measure. In view of this one can note that they are various preparedness measures that are being undertaken in the Muzarabani community to prevent and reduce the negative impacts of droughts.

FLOODS

All the respondents agreed that this is one of the most disastrous, common and frequently occurs in the area because of its location in relation to rivers systems and drainage systems. This has very negative impacts on the community as some of its impacts can still be seen today. To combat floods IMO has built safe houses on high ground where the floods don't affect. The major challenge is that people will go back to the areas that are flooded because the soil there is rich / more fertile because of the deposition of leaves and other things by

floods on the river's banks so the community people can farm all year round in the river banks without using in-organic fertilizers.

Awareness raising and education is also another measure that the participants commonly agreed that it is being done to reduce the impacts of the floods on the community. Awareness campaigns are carried out by the civil protection department funded by UNOCHA every year before the rain season start. These awareness raising campaigns have been effective given the fact that the impact of these flood have been reduced now that judging by the number of deaths as a result of these floods. This however does not mean the damage to property is also reduced.

The early warning systems that are there are ZINWA and Met Department. The meteorological services department forecast the rains and give warning of possible floods as a result of too much rainfall in this case meteorological services department provides early warning information of floods as result of too much rainfall which are flush floods. ZINWA monitors river flows and give warnings of possible floods in the event that the river flow will be rising at a high speed. However the major challenge is not on detecting the hazard but is on disseminating the information usually they use the national radio and newspapers to give these warnings. This renders the early warning systems ineffective because the community respondents said not everyone in the rural Muzarabani owns a radio and not everyone who owns a radio listens to ZBC which is usually used to issue out the early warnings. The respondents also confirmed that the radio signals are bad and problematic in the Chadereka community which is near the border with Mozambique. This resulted in the community members facing a disaster without receiving any proper early warning which results in high negative effects of disasters. The civil protection in conjunction with UNOCHA have provided cell phones to various individuals in the community to notify the relevant authorities in the case of disaster, this has helped reduce the death toll as a result of floods as

emergency services and measures will be quickly adopted and the disaster plan will be initiated in time and as early as possible.

The community people has certain indigenous knowledge systems they have to detect floods before they hit for example if they see foam (mafuro) in the flowing water in the river it's a sign that the river is flooding and if they see leaves, grass and other things being carried down the river it means that the river is flooding and they take safety measures. The effectiveness of these systems is limited because it will be a bit too late to evacuate the area with all their property hence why they end up losing property and livestock in the disaster.

The existence of ZRP Sub-Aqua department at Muzarabani police base is a clear indication that the district is prepared for floods. This is the police department that deals with rescuing people in floods and other related issues like drowning. However the preparedness level should not be exaggerated because the department does not have a chopper/ helicopter, cruise boats and other things. This renders the preparedness levels low as they usually wait for their headquarters to react to bigger scenes like floods. In view of this one can note that there is need to equip the sub aqua department with relevant equipment if we are to have effective disaster preparedness level in Muzarabani. It can be noted that there various preparedness measures that are being taken in the district and some of them are affected by lack of adequate funding and unavailability of adequate equipment which is necessary. The community has various indigenous knowledge systems that they use to detect the disasters before they erupt or occur.

FIRES

This disaster was unanimously agreed that it is very common in the area by the respondents. EMA statistics also shows that this disaster has increased in recent years not only in Muzarabani but in the whole country. Most of these fires are started by community members when they will be clearing land for farming and they spread fast because the community is

Region 4 which is dry most of the year. EMA, ZRP, CAMPFIRE, Chiefs, and other various stakeholders are teaching people on the important of the environments. This education has been effective as community members are now a bit more responsible than they were before according to one respondent from CAMPFIRE Muzarabani District office.

EMA also has a running project of creating fire guards in the country and as of 2011 615 kilometers were created in 15 districts including Muzarabani (EMA respondent). There is the adoption of heavy fines and intensive law enforcement relating to environmental management in the country. Traditional chiefs are also empowered by the traditional leaders act to fine those who commit environmental offences. However there is much that still needs to be done because the district has no fire detecting systems in place, no fire brigade, had no fire tenders and related things. This clearly shows that the district is not fully prepared for the fire disasters fully as they wait for the Bindura fire brigade to react and attend the fire scenes in the district. The villagers have developed fire beaters to use to put out fires in order to avoid using tree branches.

In short one can note that, there are various preparedness activities in the district to reduce and prevent the fire disasters and these include law enforcement, education to mention but just a few. One can also conclude that the Muzarabani district is not adequately prepared for the fire disasters because they don't have a fire department in their district.

SUMMARY OF FINDINGS

A disaster management plan and the national Zimbabwe national DRM plan exists at the Muzarabani district administrator's office but very little can be done or turning the plan into action is difficult due to number of constraints like scarcity of funds. Many prevention and mitigation measures were listed by the respondents but the practical application of them is very limited. This is mainly because of lack of skilled personnel, finances and proper equipment to use like fire tenders. UNOCHA, FAO and Red Cross are helping in capacity

building projects in the district and Zimbabwe as a whole. UN OCHA was established in Zimbabwe in January 2006 with the mandate to support the government with coordination of humanitarian action and support mobilization of financial resources in response to complex emergencies and natural disasters (UNOCHA, Zimbabwe 2012). The government cannot undertake disaster preparedness activities alone because disaster management is complex and requires a multi-sectorial approach.

CHAPTER SUMMARY

Chapter 4 is all on data analysis, presentation and discussion. It looks at the preparedness level of Muzarabani district by looking at each disaster and giving what is being done in the district on the ground to minimize the effects of the disaster if it occurs. It also gives the indigenous knowledge system that exists for every disaster that is if any exists. The following chapter has the recommendations and conclusions.

CHAPTER 5: RECOMMENDATIONS AND CONCLUSIONS

INTRODUCTION

This is the last chapter of this study and it contains the recommendations and conclusions that the researcher made after successfully undertaking the study. This chapter also has suggested areas of further researcher. This chapter is more of a summary of the study.

RESTATING THE OBJECTIVES OF THE STUDY

The objectives of this study were to:

- ❖ To examine the level of disasters preparedness in Muzarabani community
- ❖ To examine the effectiveness of the disaster management systems in Zimbabwe
- ❖ To identify measures taken to adopt and cope up with disasters by rural stakeholders

The research sought to assess the effectiveness of the disaster preparedness measures undertaken by government and its stakeholders in Muzarabani. Data was gathered using various research instruments which included questionnaires, interviews, desktop surveys and observations as clearly outlined in chapter 3. These research tools were used to gather qualitative data that was used in this study. The research findings were analyzed and presented and recommendations were made which if adopted may raise the disaster preparedness levels of the Muzarabani rural district. These recommendations s included the adoption and use of technology like GPS, fire detectors to increase the level of disaster preparedness in the district.

CONCLUSIONS

Any success in dealing with the effects of disasters anywhere in the world depends on the level of disaster preparedness the community has. In this case Muzarabani is not fully prepared for other disasters like floods and droughts as seen by the failure to deal with the impacts alone as evidenced by the coming in of intergovernmental organizations like FAO, UNOCHA and Red Cross. Muzarabani saves as a reflection of what is the disaster

preparedness situation is like in almost all rural districts in Zimbabwe. Shortage of financial and trained personnel is resulting in a decline or ineffectiveness of the disaster preparedness measures in Zimbabwe's rural districts as exemplified by the case of Muzarabani rural district. It can also be concluded that politicization of government programs has led to the ineffectiveness of the preparedness measures undertaken by the government as evidenced by the politicization of the president's scheme. The rural districts have sound disaster management plans on paper but on the ground or in practice these tend to be ineffective because of lack of adequate needed equipment like fire tenders and chemicals, hospitals, ambulances, trained staff to mention but just a few.

The researcher listed a number of recommendations that may increase the disaster preparedness level of rural districts in Zimbabwe and Muzarabani district itself if adopted.

RECOMMENDATIONS

Below are the suggested or proposed recommendations that may lead to increase and effective disaster preparedness measures in Muzarabani and other rural districts in Zimbabwe.

- ❖ Adoption of technological developments that have taken place in the world and make use of them in disaster preparedness activities. For example the use of fire detectors to detect fire at an early stage and whilst it's still easy and less expensive to put out and can be put out using simple things. Fire suppression assistance and pre-disaster grants can also be adopted.
- ❖ Drills- mock drills and training should be carried out regularly and rigorously.
- ❖ Structures or buildings should be built in relation to the disasters that the area is prone to. For example in Muzarabani the buildings should be assessed and built in such a way that they won't be destroyed by floods.

SUGGESTIONS FOR FURTHER RESEARCH

The research was predetermined with assessing the disaster preparedness levels of Muzarabani rural district in Zimbabwe only. The research was not exhaustive of all districts hence why the researcher recommends that further researches be conducted assessing the disaster preparedness level of other rural districts like the Chivi Rural District which has the Tokwe-Mukosi floods which made the headlines this year as the floods were compounded by human animal conflict as crocodiles became a menace in the area during the disaster.

REFERENCES

- ASFPM (association of state flood plain manager) (2000) National flood programs in review- 2000ASFPM, Madison, WI
- Below R et al (2009) Disaster category classification and peril terminology for operational purposes. Universite catholique de louvain
- Bennert E. J. (2012) The small holder farmer perception on climate variability, university of Witwatersrand Johannesburg. South Africa.
- Blaikie et al (2004) At risk natural hazards, peoples vulnerability and disasters, Wiltshire, Routledge
- Bolin R and L. Stanford (1998) The Northridge Earthquake: community based approaches to unmet recovery needs: civic traditions in modern Italy. Princeton University. Princeton
- Brody SD et al (2007) identifying the impact of built environment on flood damage in Texas. Blackwell. Oxford
- Burns SN and Grove SK (2003) Understanding nursing research. 3^r edition. Philadelphia. Saunders
- Busch E and Givens AD (2013). Achieving resilience in disaster management: the role of public-private partnerships. Journal of strategic security. Vol.6. No// 2
- Clark R (2000) Earthquakes in Zimbabwe. Zimbabwe science news, 34c3/4
- Gumbo R. (1997) Coping with drought and floods, Butterworth, Heinmann

Hy R J and Waugh W L (1990). The function of emergency management, in waugh W L and Hy R, (eds) handbook of emergency management. Programs and policies dealing with major hazards and disaster, Greenwood Press, NewYork.

Holling C S. (1973). Resilience and stability of ecological systems. Annual Review of ecology and systematic 4

Holloway I and Wheeler S (2002). Qualitative research in nursing. 2nd edition. Oxford . Blackwell.

Manyanga (2007) Building resilience in South East Lowveld agriculture through crop diversification. Science department Masvingo

Nishikiori N et al (2006) Timing of mortality among internally displaced persons due to the tsunami in Sri Lanka: cross-sectional household survey. British medical journal

Nyahuye M (2012). Rural livelihoods and economic activities across Zimbabwe, University of Zimbabwe

Parahoo K (1997) Nursing research: principles, process, issues. London. Macmillan.

Peilke RA (1996) Midwest flood of 1993: weather, climate, societal impacts. National centre for atmospheric research. Boulder co.

Perry R.W and Mushkatel A.H (1986). Minority citizens in disasters, University of Georgia Press, Athens.

Putnam R. (1993) Making democracy work: civic traditions in modern Italy. Princeton University, Princeton.

Twigg J (1998) Cited in Twigg and Bhatt (eds) understanding vulnerability: Southern Assia perspectives. London. Intermediate technology publications

Vincent V and Thomas RG (1961) An agro ecological survey of southern Rhodesia: Part 1 agro ecological survey. Salisbury. Government printers.

Wisner B (2002) Cited in E Plate (ed) Environmental and human security: contributions to the workshop in Bonn

Zimstat (2012). Report population statistics of 2012 in Zimbabwe

WEB SOURCES

www.wcpt.org/disaster-management. Accessed 25/02/14

www.dictionary.reference.com/disaster. Accessed 20/02/14

David B. Hall: [across.co.nz/world's worst disasters](http://across.co.nz/worlds-worst-disasters). Accessed 20/02/14

Depaulo P (2000): The risk of missing something important. At

www.quirks.com/articles/e2000/2000/202. Accessed 25/04/14

Save the Children organization (2007) emergency preparedness and response at psychosocial.actalliance.org.

www.fema.gov

Nancy Walton. What is research ethics? At researchethics.com

APPENDIX 1: INTERVIEW GUIDE

INTERVIEW GUIDE: FOR THE DISASTER MANAGEMENT EXPERTS

1. Is there any DRM department in the district?
2. Do you have any DRM plan in the district?
3. What are the main disasters that the district is prone to?
4. What disaster preparedness measures or activities that are in place to reduce the effects of these disasters?
5. Can you further illustrate or explain the following issues:
 - I. What you are doing to deal with fire disasters
 - II. What you doing to deal with biological disasters like cholera
 - III. RTA's
 - IV. Chemical spillages
6. What early warning systems do you have in place to detect or forecast the occurrence of these disasters?

APPENDIX 2: QUESTIONNAIRE FOR COMMUNITY MEMBERS

DISASTER PREPAREDNESS IN ZIMBABWE: CASE OF MUZARABANI.

21 TO 26 MARCH 2014

PLEASE DON'T WRITE YOUR NAME, ID NUMBER OR CONTACT DETAILS

SECTION 1: PERSONAL DATA

- 1. Household size.....
- 2. Number of dependents.....
- 3. Are you employed?
- 4. If your answer above is yes, state the type of employment

.....

SECTION 2: AGRICULTURE AND LIVESTOCK PRODUCTION

- 5. What commercial crops do you farm?
.....
- 6. How long have you been practicing agriculture?
- 7. Where do you source inputs?
 - a. Subsidies from government
 - b. Agro-dealers
 - c. Donor input scheme
 - d. Remittances
- 8. What kind of inputs do you get?
 - a. seed/ fertilizers/chemicals
 - b. cash
 - c. knowledge/training
- 9. What factors affect your yield?
- 10. What livestock do you have? Indicate by filling the table below. If you don't have just put an X under the total

Type of livestock	Total number
Cattle	
Goats	
Chicken	
Pigs	
Any other specify	

11. What disasters affect your livestock?

.....

12. Are there any existing capacities to deal with disasters that affect livestock?

.....
.....
.....
.....

13. Any indigenous knowledge systems to combat these disasters?

.....
.....
.....

14. Challenges faced in livestock production

.....

SECTION 3: DISASTER PREPAREDNESS

15. What disasters affect you?

16. State the most severe disaster that you remember

.....
.....

17. What are you doing to reduce the adverse effects of disasters that affect you?

.....
.....
.....

18. Is there any organization that has helped you?

.....

19. If yes, what did it do for you?

.....
.....
....

20. Do you have any warning systems in place?

21. If you answer above is yes what are they?

.....
.....
.....
.....

22. What indigenous knowledge systems do you have to help you forecast disasters?

.....
.....
.....

23. How accurate and reliable are they?

.....
.....
.....

24. Challenges that you face in implementing disaster mitigation measures

.....
.....

25. Any recommendations you want to make to the government and its stakeholders
pertaining disaster preparedness

.....
.....

APPENDIX 3: QUESTION TO DISASTER MANAGEMENT EXPERTS
DISASTER PREPAREDNESS IN ZIMBABWE: CASE OF MUZARABANI
21 TO 26 MARCH 2014

Please don't write your name, national ID number, your contact details and other personal information because it's not necessary.

How long have you been working in the field of disaster management in Zimbabwe?
 How long have you been involved in disaster management in Muzarabani?

.....

What early warning systems are in place for the following hazards?

Hydrological hazards like floods and droughts

.....

Biological hazards like malaria, cholera, foot and mouth?

.....

Technological hazards like RTA's, chemical spillages etc?

.....

What preparedness measures or activities do you have in place for the above hazards?

.....

Do you have the following aspects in the district? Just fill in the table below and write a brief explanation of what the conditions are like for each of the issues.

Measures	Give a brief explanation for every measure were possible
Do you have incident control systems	
Do you have disaster management plans	
Do you have weather stations	
Do you have disaster management training	
Fire detection systems	
Fire fighting vehicles and related things	
Fire guards or fire breaks	
Law enforcement	
Rescue teams	

Evacuation routes	
Education and awareness raising	
Do you have emergency operating centers	
Do you have boreholes	
Do you have irrigation schemes	
Animal treatment areas and animal health offices and personnel	

Outline the challenges you face in DRM activities in Muzarabani community

.....