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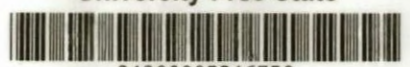
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**ASSESSING NON –GOVERNMENTAL ORGANIZATIONS (NGOS) DROUGHT RISK MANAGEMENT
STRATEGIES IN GWANDA DISTRICT -ZIMBABWE**

By

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**Submitted in partial fulfillment of the requirements for the degree
Masters in Disaster Management**

In the

Disaster Management Training and Education Center for Africa

At the

UNIVERSITY OF THE FREE STATE

Study Leader: DR. ANDRIES JORDAAN

2014

Declaration

I, the undersigned, hereby declare that this dissertation, submitted for the awarding of a Master's Degree in Disaster Management at the University of the Free State, is my own original work and has not previously been submitted in its entirety or part by me or any other person to this University or any other institution of higher education for the awarding of any qualification. All the sources that I have used or quoted have been indicated or acknowledged by means of complete references.

B. Bhebe

Babra Ontibile Bhebe

Date: 31st August, 2014



Dedication

This thesis is dedicated to my mother Sylvia Bhebe

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This study would not have been possible without the support and guidance of several individuals and institutions who, in many ways, offered their valuable assistance in the preparation and completion of this dissertation.

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I would also like to thank my mother, Sylvia Bhebe for her unwavering support throughout the course of this project.

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Last but not the least, I would like to appreciate my family for their unwavering support in all my academic endeavors, Sylvia Bhebe (my mother), Siyenanisiwe, Liberty, Wilander , Doreen and Brilliant, thank for your prayers and encouragements.

Lastly, I thank God for giving me wisdom and for guiding and protecting me throughout this study.

Abstract

Drought represents a major constraint on agricultural production in Zimbabwe. Every year, NGOs intervene in drought affected areas to alleviate hunger and starvation. According to the Zimbabwe Vulnerability Assessment Committee (ZimVAC) (2012) approximately 1 million people (12 per cent of the population) required food assistance at the peak of the 2011/2012 dry season. It is argued that, this number increased in 2013 to 1.6 million – which accounted to nearly one in five rural people in Zimbabwe (ZimVAC, 2012). Drought has had wide ranging effects to communities including; widespread malnutrition, deaths of livestock, loss of income, declining environmental health standards and massive migration. Amongst the factors that worsen drought impact in Zimbabwe are HIV/AIDS, massive dependence on rain fed agriculture and climate change. Past studies have focused on coping strategies adopted by drought distressed communities covering different case studies. Although this has been useful in understanding the survival strategies of communities, researchers have not studied the drought problem and how non- governmental organizations have contributed in mitigating it.

This thesis therefore contributes new and unique evidence on the approaches employed by NGOs in mitigating drought in Zimbabwe. The study is specifically based on a case study which was conducted in Masholomoshe village located in Ward 1 of Gwanda rural district.

Through the use of both secondary and documented evidence and primary data the study found out that, most NGO drought interventions are short term relief measures and do not focus on preparedness, prevention, or mitigation aspects of drought management. This thesis also reveals the need to promote proactive drought risk reduction strategies and activities to address community vulnerabilities to drought rather than relying solely on emergency response measures. This entails a ‘transition from crisis management’ to ‘drought risk management’. The conclusions from this large and original dataset are placed within the context of the wider academic debates. The need for new, relevant and more diverse samples is emphasized to advance discussions on the effectiveness of NGO strategies in drought risk management in Gwanda

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Glossary of Terms

- Capacity:** A combination of all the strengths and resources available within a community, society or organization that can curtail the level of risk or the effects of a disaster (Kreps 1998).
- Communal farmers:** These are small scale farmers that are usually based in rural or communal areas. They farm for sustenance purposes and do not produce surplus
- Drought Impact:** simply refers to actual effects or consequences of drought. It is a display of symptoms of vulnerability of a community to drought (UNISDR 2007).
- Drought:** drought is a protracted period of deficient precipitation resulting in extensive damage to crops, further resulting in loss of yield (UNDP2010).
- Early warning:** The provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response. (UNISDR 2004).
- Exposure:** According to (Blaike et al , 1994), exposure describes the people (population , the value of structures and economic activities that will experience a natural or manmade phenomena and may be adversely impacted by it.
- Hazards:** Hazards may be defined as *“a dangerous condition or event that threatens or has the potential of causing injury to life or damage to property or the environment.”* (World disasters Report 2003)
- Livelihood:** Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards (UNISDR 2004).

- Mitigation:** Mitigation is the most crucial stage in disaster management, it involves any action taken to minimise the extent of a disaster or potential disaster both sudden and slow onset ones (UNISDR 2009).
- Preparedness:** It is a process of ensuring that an entity has complied with measures and is in a state of readiness to contain the effects of a forecasted disaster. (UNISDR 2004).
- Relief/Response:** immediate assistance to maintain life, improve health, and to support the morale of the affected population (Quarantelli 1997)
- Resilience / resilient:** The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure (Wisner 2000).
- Resilience:** refers to the capacity of people or economies to absorb loss and recover. Poor households often have low resilience to loss due to a lack of savings, reserves or insurance (Thompson 1997).
- Risk Assessment:** A process to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability or capacity that could pose a potential threat or harm to people, property, livelihoods and the environment (Wisner 2004).
- Risk:** A measure of the expected losses due to a hazard event occurring in a given area over a specific period of time (WCDR 2005)
- Vulnerability:** Vulnerability is the characteristic of a person or group and their situations that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard (Wisner et al 2003)

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Chapter 1

Introduction, Background & Research Problem

1.0 Introduction

This chapter provides a contextual background of the study. It also outlines the problem statement as well as the objectives of the study. The rationale for this research is also discussed. The chapter also describes the hypothesis, limitations and delimitations of the study. The last part of the chapter presents an outline of the thesis.

1.1 Background

Drought is considered to be the most composite and least understood of all natural hazards (Wilhite 2000). Compared to other hazards, its effect on populations, livestock and food security is huge. Each year, disasters originating from prolonged drought not only affect millions of people in Zimbabwe, but also contribute to starvation among the country's population. For instance, the 1991-1992 drought which affected most countries in southern Africa killed more than one million cattle in Zimbabwe (Environmental Software Services 2002). The same drought also affected more than 5 million people as depicted in table 1 below (UNSDR 2014).

Figure 1: Number of people affected by Drought events in Zimbabwe

| Disaster | Date | Affected(no. of people) |
|----------|------|-------------------------|
| Drought | 2001 | 6,000,000 |
| Drought | 1991 | 5,000,000 |
| Drought | 2007 | 2,100,000 |
| Drought | 2010 | 1,680,000 |
| Drought | 1982 | 700,000 |
| Epidemic | 1996 | 500,000 |
| Flood | 2000 | 266,000 |
| Epidemic | 2008 | 98,349 |
| Drought | 1998 | 55,000 |
| Flood | 2001 | 30,000 |

Source: (UNSDR Statistics 2014)

Zimbabwe's climatic conditions and socio-economic vulnerability of certain sections of the population make it one of the most drought prone countries of southern Africa. Drought is a common phenomenon and has had very devastating effects to a number of communities, which are dependent upon agriculture and related occupations for livelihood. It has also affected the country's economy, which is also dependent largely on rain-fed agriculture (Unganai 1992; Andear 2009). A number of factors and conditions influence the occurrence of drought in Zimbabwe's various provinces. These include; lack of adequate rainfall, duration of rainfall deficiency and unequal rain distribution nationally. Most parts of Matabeleland and a few parts of the Mashonaland regions are prone to extreme drought seasons. Dealing with drought in comparison to other hazards has been very costly. For instance, 2.5 million dollars as shown in Table 2 below was invested in dealing with the 1982 drought (UNSDR 2004).

Figure 2: Economic Damages as a Result of Drought

| Disaster | Date | Cost (US\$ x 1000) |
|----------|------|--------------------|
| Drought | 1982 | 2,500,000 |
| Flood | 2003 | 200,000 |
| Flood | 2000 | 72,900 |
| Drought | 1991 | 50,000 |
| Flood | 2001 | 3,600 |
| Storm | 2007 | 1,200 |
| Epidemic | 2000 | 0 |
| Epidemic | 2000 | 0 |
| Epidemic | 2000 | 0 |
| Drought | 2001 | 0 |

Source: (UNSDR 2014)

For the last few decades, donor agencies, international and local Non-Governmental Organizations (NGOs) have complemented government efforts in addressing drought impact in Zimbabwe. However, since the introduction of 'targeted sanctions' against Zimbabwe by the United States government and other western countries in 2003, development aid to Zimbabwe was largely channeled through NGOs (Kriger 2011). However, this changed in the post July 31st 2013 elections, following ZANU-PF's landslide victory. The 'targeted sanctions' program was implemented by the United States (US) 'as a result of the actions and policies of certain members of the Government of Zimbabwe and other persons who were said to be undermining democratic

institutions and processes in Zimbabwe' (US State Department, 2014). Through programs similar to the one implemented by the US most western donors desisted from giving funding support direct to the Zimbabwe government. This is one of the factors that made NGOs to begin playing a more central role in disaster related programming. NGOs can be defined as '*any non-profit making non-governmental body that receives funds from a donor or donors and which performs work intended to benefit the public or a sector of the public and which applies any fees or profits from its activities to the furtherance of its objects*' (Zimbabwe NGO Bill, 2007:3). This study recognizes that NGOs, have become increasingly important in the international aid community, not only in their role of translating private and corporate funding into humanitarian projects in the developing world but also for their growing role as recipients of official government funding as stated above, for example from USAID, European Union and the World Bank amongst others (McCoskey 2009). Most donors have argued that NGOs can be more efficient providers of humanitarian services and economic development aid (Kilby 2006). It is from this understanding that, this study sought to put NGO drought risk management strategies under scrutiny.

This thesis reports the findings of a thorough study to assess the various strategies used by NGOs in drought risk reduction and how these can be improved to reduce the adverse effects of drought occurrences in Gwanda rural district, Zimbabwe. Emphasis is placed on assessment of NGO approaches in drought risk identification, impact assessment and early warning mechanisms. The study also sought to understand methods used by NGOs in drought awareness and knowledge management. Also central to the research study is exploration of the effectiveness of NGO drought mitigation and preparedness measures. An analysis of NGO efforts in influencing drought policies is also undertaken.

The study adopted a mixed methods research approach in analyzing NGO drought risk management strategies. This perspective seeks to better understand the research problem by converging both quantitative (QUAN) and qualitative (QUAL) data. In this approach, a questionnaire (quantitative instrument) was used to measure the relationship between the NGO drought intervention strategies (independent variables) and drought impact (dependent variables) (Tashakkori and Teddlie 2009). Two main sources of information were used; primary and secondary. The study undertook a critical review of secondary literature, which was used to

create a basic understanding of the drought situation specifically in Zimbabwe and southern Africa in general. Secondary sources were also used to construct a theoretical framework, which was used as a basis for analyzing primary data gathered. The second source relates to the data collected through primary sources, such as the structured questionnaire and key informant interviews which captured views of disaster management experts and communal farmers in Gwanda rural district, focusing on Masholomoshe village.

1.2 Description of Study Area

The study was conducted in a drought prone region as indicated in the map below. Located in Matabeleland South, Gwanda district falls within natural regions IV and V and is characterized by low rainfall and high temperatures, making crop production difficult without soil and water support interventions (Moyo 2000). Zimbabwe is divided into five climatic regions. Regions 1 to 3 are characterized by specialized, diversified and intensive farming. Rainfall levels are relatively higher than the amounts received in regions 4 and 5 (FAO 2013). Regions 4 and 5 where this study is centered is classified as an extensive farming area (Chikodzi et al. 2013). This region experiences fairly low total rainfall (450-650 mm) and is subject to periodic seasonal droughts and severe dry spells during the rainy season. The rainfall is too low and uncertain for cash cropping except in certain very favorable localities, where limited drought-resistant crops can be grown. The farming system is largely based on livestock production, but it can be

intensified to some extent by the growing of drought-resistant fodder crops (FAO 2013).

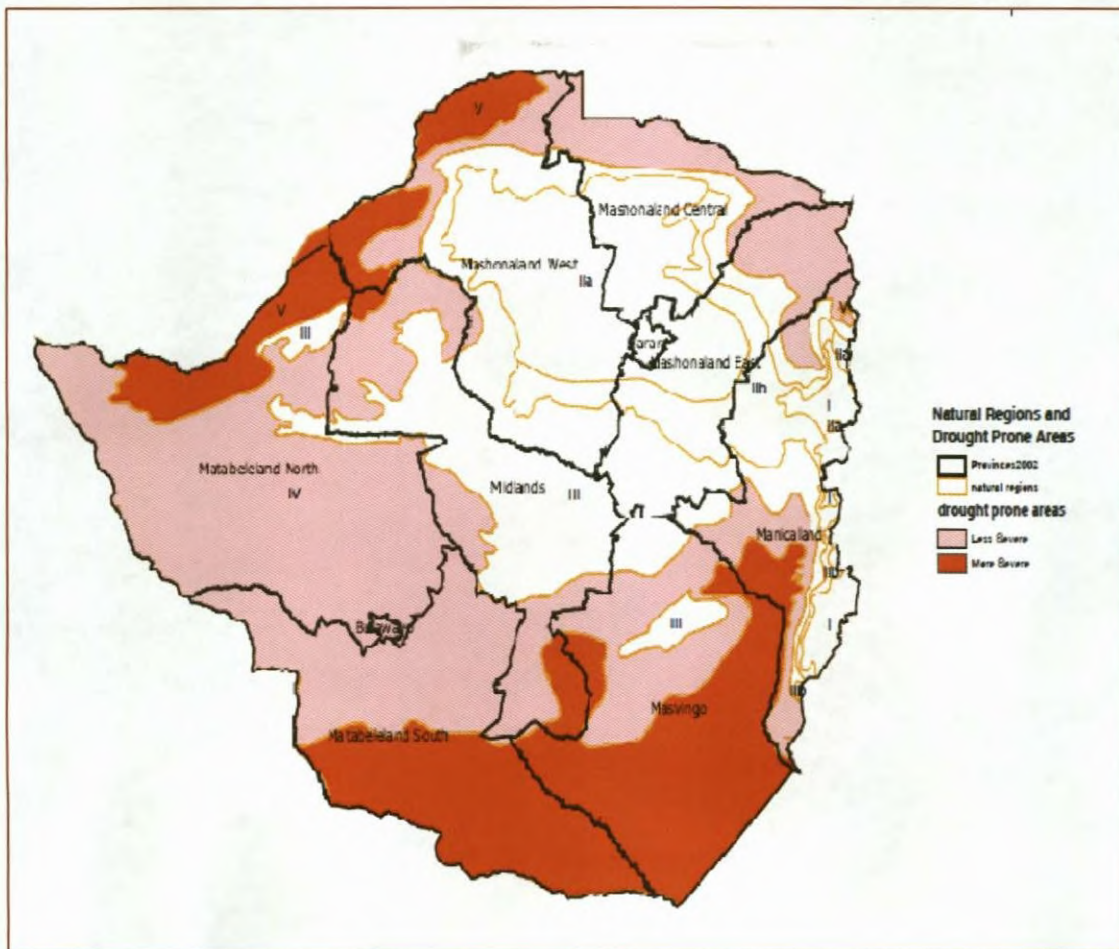


Figure 3: Drought Prone Regions in Zimbabwe, (FAO 2013)

This study is located in Matabeleland South province and specifically in Gwanda district which has twenty-four (24) wards and covers 14015, 31 km² (FAO 2013). An estimated population of 115 778 in the rural areas giving an average population density of 30 people per km² is recorded as indicated in the map below (Zimstat 2012).

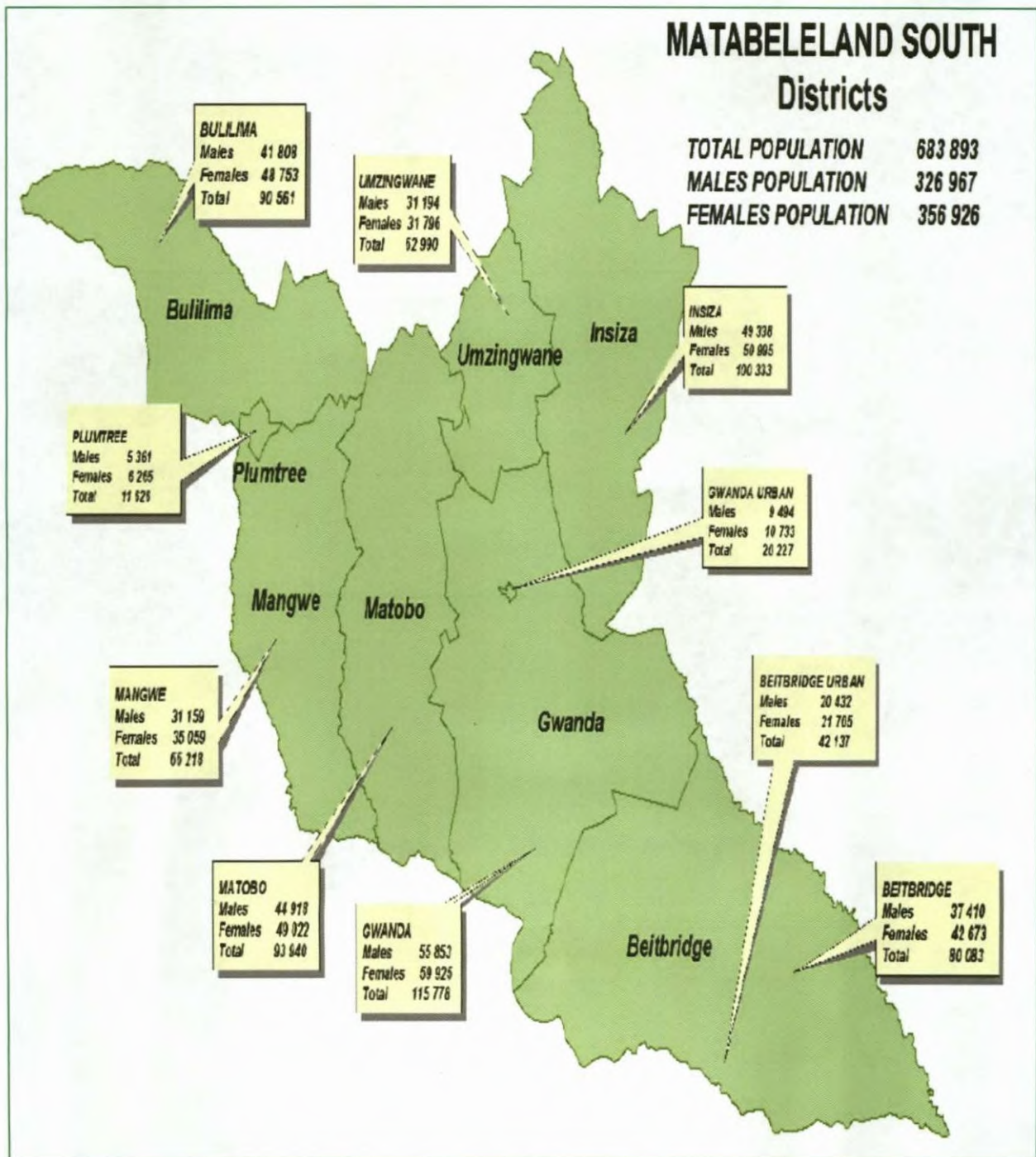


Figure 4: Map depicting the location of Gwanda district in Matabeleland south province (Zimstat 2012)

Specifically, the study was carried out in Masholomoshe village which falls under ward 1 of this district. Similar to other parts of the district Masholomoshe village is a very dry mountainous area. The village is traditionally known for growing drought resistant crops such as sorghum and millet. However, with the advent of urbanization most farmers now grow maize as the main crop.

It is argued that this has exacerbated the drought problem in this area. Due to recurrent drought farmers in Masholomoshe now rely on a diversified livelihood which includes; gold panning, selling of firewood and small scale irrigation gardening. The farmers also rely on food aid from non-governmental organizations for survival. The mountainous landscape surrounding Masholomoshe village makes it a perfect habitat for baboons. Over the years, baboons have caused extensive damage to field crops such as maize in this area. Communal farmers in this area have recorded direct costs associated with severe crop losses attributed to baboon foraging activities. In addition, there are also indirect costs of baboon crop raiding related to increased labor demands to protect crops from them and, occasionally, to replant crop stands badly damaged by baboons. This amongst other factors is said to worsen drought in this village.

1.3 Statement of the Problem

Zimbabwe's climatic condition coupled with socioeconomic vulnerability among the marginalized and weaker sections of the population makes it one of the most disaster prone countries in southern Africa (ZimVAC, 2011). Every year, NGOs intervene in drought affected areas particularly in Matabeleland to alleviate hunger and starvation. According to the Zimbabwe Vulnerability Assessment Committee (ZimVAC) (2012) approximately 1 million people (12 per cent of the population) required food assistance at the peak of the 2011/2012 dry season. It is argued that, this number increased in 2013 to 1.6 million – which accounted to nearly one in five rural people in Zimbabwe (ZimVAC, 2012). Drought has had wide ranging effects to communities including; widespread malnutrition, deaths of livestock, loss of income, declining environmental health standards and massive migration. Amongst the factors that worsen drought impact are HIV/AIDS, massive dependence on rain fed agriculture and Climate change (ZDHS 2011). Climate change has been pointed as a factor that continues to contribute to the vulnerability of millions of people living in Zimbabwe's rural areas who are directly dependent on sensitive sectors such as agriculture, forests and fisheries, and on natural resources such as water, mangroves, minor forest produce and grasslands for their subsistence and livelihoods (ZimVAC 2013). NGOs in Zimbabwe have for years been playing a complementary role to

government through various disaster management programmes. A lot of resources have been used in such programs with limited impact.

While drought is a common phenomenon in Zimbabwe, its impact on communities is disproportionate. Out of the 10 provinces in the country, drought usually affects 6 provinces namely: Masvingo, Matabeleland North and South, and parts of Mashonaland, Midlands and Manicaland provinces (ZimVAC, 2013). Out of these districts, the worst affected is usually Gwanda. Drought has also had disturbing effects particularly on children's health (ZDHS, 2011). According to the Zimbabwe Demographic Health Survey (ZDHS 2011) 32 percent of children under the age of 5 years were stunted (short for their age), 3 per cent were wasted (thin for their height) and 10 per cent were underweight (thin for their age). It has also increased the number of poor households especially in rural areas. The Poverty Income and Consumption Survey (2012) estimated the head count of poor rural households in Zimbabwe at 76 percent in 2011. Drought results in the death of livestock. In Matabeleland South, 69 percent of the households reported that cattle deaths were due to drought in 2013 (ZimVAC 2013). It is therefore, the purpose of this research to evaluate strategies used by NGOs in DRM in order to identify opportunities for strengthening risk reduction mechanisms in the district.

In Gwanda district and specifically Masholomoshe village drought is experienced on a year to year basis. The district experiences frequent dry spells which lead to crop failure, livestock decimation and worsens the poverty situation. Communal farmers in this area have resorted to alternative means of survival such as selling firewood, gold panning, gardening, sell of Mopani worms and wild fruits. However, most communal farmers have become dependent on relief assistance largely from NGOs and government. This research seeks to assess how far NGOs have gone in enabling communities cope with the effects of drought.

1.4 Aim, Research Questions and Objectives

The main aim of this study is to assess the various strategies used by NGOs in drought risk management and how these can be improved to reduce the adverse effects of drought occurrences in Gwanda rural district, Zimbabwe.

1.5 Research Questions

- What strategies are used by NGOs to reduce risk and vulnerability against drought disasters?
- How effective are these strategies?
- What opportunities exist for enhancing NGO drought risk management efforts?
- What should NGO's do?

1.6 Research sub- Objectives

- To analyze NGO drought risk management strategies in terms of influencing:
 - the community's coping capacity 'preparedness'
 - mitigation measures and;
 - enhancing 'prediction and early warning systems'
- To identify opportunities for enhancing NGOs Drought risk management strategies in Zimbabwe

1.7 Hypothesis

It is the assumption of this research that, if NGO DRR strategies are strengthened then communities' vulnerability against drought can be reduced. If the vulnerability of communities against disasters is reduced massively then drought impacts on populations will be lessened. Another assertion of the study is that current NGO drought management strategies in Gwanda are not effective as they are fraught with limitations. A deeper analysis indicates that most NGO drought management approaches are restricted to initial response and relief measures. In essence, *'there is currently a heavy bias towards emergency response and relief. Not much has been done in the area of disaster mitigation'* (Musarurwa & Lunga, 2012: 6). Most NGO efforts are not adequate in addressing community vulnerability to drought. For instance, following major droughts in (1992 and 2003) and the resultant livestock losses, NGOs focused their programming largely on provision of food aid and crop seeds without equipping farmers with farming techniques suitable for the district's climatic conditions which include, dry planting and planting of dry resistant crops.

In addition, most NGO strategies do not focus on long-term drought mitigation interventions. There is need to promote proactive drought risk reduction strategies and activities to address community vulnerabilities to drought rather than relying solely on emergency response measures that is 'transitioning from crisis management' to 'drought risk management'.

1.8 Significance of Study

This study is an exploration of the strategies used by NGOs in drought risk management in Gwanda rural district. The study contributes to existing academic debates on the importance of influencing a change in NGO strategies from a crisis centered approach to a more holistic risk management focus. It presents disaster managers with new ways of thinking regarding opportunities for strengthening NGO drought risk management efforts.

Zimbabwe is faced with frequent and devastating drought disasters. This study is an attempt to fill the gap in literature studies related to drought risk management. Even though several studies on the role of NGOs in development were undertaken in the 1990s (Mararike 1999; Mhone 1995; Moyo 1995; Raftopulous 1999; Hicks 1993), no specific studies on the role of NGOs in mitigating drought in Gwanda district was undertaken. This study therefore, through an exploration of NGO drought mitigation strategies in Gwanda seeks to fill this existing literature gap.

1.9 Limitations of the Study

The study was carried out in the context of a number of constraints. Firstly, the decade long economic crisis in Zimbabwe contributed to a stunt growth in literature particularly on NGOs and drought risk management. The political situation in the country for the past decade also set a seal of secrecy on the activities of most NGOs, particularly for political reasons amongst other factors. As such, some data important to the research was not readily available. However, to deal with this problem the research relied heavily on reputable global and national reports such as ZIMVAC, ISDR and UNCCD. Secondly, given the breadth of information that the researcher sought to gather during relatively short interviews of an hour, she was not in a position to evaluate or assess individual projects and had to rely on information provided by the

interviewees. As such, the recommendations given in the thesis are contingent and indicative rather than definitive. Thirdly, the study sample was too small making its “generalizability” limited. In addition, the lack of detailed studies limited the study’s analysis of NGO drought risk management approaches in Zimbabwe. Lastly, conducting face to face interviews was rather costly for the researcher given the limited research budget.

1.10 Delimitations

The study focused specifically on Masholomoshe village in Gwanda district, ward one. The area experiences frequent drought seasons. The study also confined itself to the period 1990 - 2014 although much reference is made into the years before this period in order to provide a broader scope in the analysis

1.11 Validity of the Study

Validity is a process of “*assessing the extent to which the conclusions that have been drawn are logical, believable, and justifiable by the data and patterns identified and supportable even when there are alternative explanations*” (Hair et al 2007:294). To ensure the validity of data, this research used statistics to substantiate qualitative data gathered from primary and secondary sources. The research ensured uniformity and consistency in the use of phrases and concepts dominant in this study. Various data sources were employed in a bid to verify facts as well as ensure reliability and validity of data. This approach was also used to eliminate possible biases and errors in the research project. According to Hair et al (2007) validity in qualitative research defines the degree to which the findings correctly define the concepts being assessed. As, such information in this study was verified through various sources to ensure validity.

1.12 Chapter Outline

This research examines NGO drought mitigation interventions in Masholomoshe village located in Gwanda district using data acquired through secondary and primary sources.

The research comprises of seven chapters. It is organized as follows:

Chapter 2 discusses the theoretical framework of the study. It provides an analysis of six theoretical frameworks, highlighting merits and demerits. The chapter argues that, the study is anchored on the BBC model (2006) and the Drought Risk Management Framework (2007).

Chapter 3 provides the research methodology of the study. This chapter presents the research strategy and the empirical techniques used as well as the philosophical thinking behind the study. The chapter delves into the scope and limitations of the research design and locates the study amongst existing research paradigms in social sciences. The research is positioned within the mixed methods research paradigm.

Chapter 4 provides an analysis of drought as a natural occurrence and its effects to Zimbabwe and specifically to Gwanda rural district. It outlines the conceptual issues related to drought. It also discusses the phenomenon of drought and its impact. The strategies adopted by communities to cope with drought disasters are also discussed.

Chapter 5 is devoted to analyzing the role of NGOs in drought risk management in Zimbabwe and globally. The chapter provides an analysis of the term 'NGO' and how it is defined by various scholars. It also highlights various scholarly arguments on the shortcomings of NGOs. A thorough analysis of the role of NGOs in drought management both at a global scale and specifically in Zimbabwe is also presented.

Chapter 6 is a critical evaluation of the views and perceptions of communal farmers, disaster management practitioners, policy makers, agriculturalists, academics and donor agencies on the effectiveness of drought risk management strategies used by NGOs in alleviating drought impact in Gwanda rural district. It also examines expert views on drought impact in Gwanda.

Chapter 7 provides a conclusion and recommendations on how NGOs can enhance their efforts in order to strengthen the capacity of communities in coping with drought disasters.

Chapter 2

Theoretical Framework

2.0 Introduction

The purpose of this chapter is to discuss the theoretical frameworks guiding this study. The chapter is divided into six sections. The first four sections assess the pros and cons of different theoretical viewpoints that could be applied to the study. These include:

- Pressure and Release Model (Wisner 2004)
- Access Model
- Sustainable Livelihoods Framework (DFID 2000)
- Risk and Hazards Model

The last two sections provide a synopsis of the BBC model and the Drought Risk Management Framework (UNISDR 2007) upon which this study is anchored. The sections also explore key concepts that constitute building blocks to these theories. In view of the various theoretical approaches, the study was faced with a number of options.

The initial option was to adopt any one of the theoretical approaches below. The shortcoming of this option is that, in adopting one of these to the exclusion of others, the study risked reproducing the gaps within, and deficiencies of, the existing studies. The second option was to seek a more holistic and comprehensive theoretical approach to the study. No comprehensive approach was found as each seemed to have its shortcomings. This led to the third option of using two or more approaches. While this option inevitably posed questions on how these could be combined into a more rational analytical approach. The study found it to be the most plausible option. Thus, two theoretical frameworks, the BBC model and Drought Risk Management Framework provided a complementary foundation for this study. A DRM approach was used to assess drought impact as well as draw up appropriate mechanisms for addressing risk, whereas the BBC model was used to undertake a more comprehensive assessment of vulnerability when compared to other models. The theoretical combination served to discover the complexities involved within NGO drought interventions particularly in Gwanda rural district.

Based on a thorough analysis of studies that have used the same approach, the last part of this chapter outlines the main components of the Drought Risk Management Framework as well the BBC model. The section also provides justification on the suitability of these theoretical models to the study. In conclusion, the chapter argues that the Drought Risk Management Framework combined with the BBC model has the potential to address inadequacies identified in other theoretical approaches and gaps of existing research while it also has the capacity to provide a comprehensive and coherent analytical framework for studying NGO drought risk management strategies in Gwanda rural district, Zimbabwe.

2.1 Pressure and Release Model (Wisner 2004)

This study first explored the 'Pressure and Release model' which was postulated by Blaikie *et al.* (1994) and Wisner *et al.* (2004). The theory adopts a human centric approach and tracks progression of vulnerability from root causes to dynamic pressures and unsafe conditions, which then interact with natural events.

Wisner *et al.* (2003) defines root causes as a set of well-established, widespread economic, demographic and political processes within a society that give rise to vulnerability and produce vulnerability over time. Dynamic pressures are described as processes and activities that transform the effects of the root-causes into vulnerability, these might include lack of training, appropriate skills and local conditions of markets and policies. Unsafe conditions are specific forms in which the vulnerability of a population manifests itself in time and space in conjunction with the hazard. This may occur through processes such as lack of disaster planning and preparedness.

The '*Pressure and Release model*' explains the linkages between disaster risk, vulnerability, hazard and coping capacity. Wisner *et al.* (2004) states that disasters occur at the intersection of two opposing forces, those of natural hazards and the processes that generate vulnerability. It is when these two forces coincide that a disaster happens. He further argues that the release idea is '*incorporated to conceptualize the reduction of disaster and to relieve pressure vulnerability has to be reduced*' (Wisner *et al.* 2004:50).

The diagram below gives a graphic illustration of how vulnerability and hazards relate and influence the occurrence of a disaster.

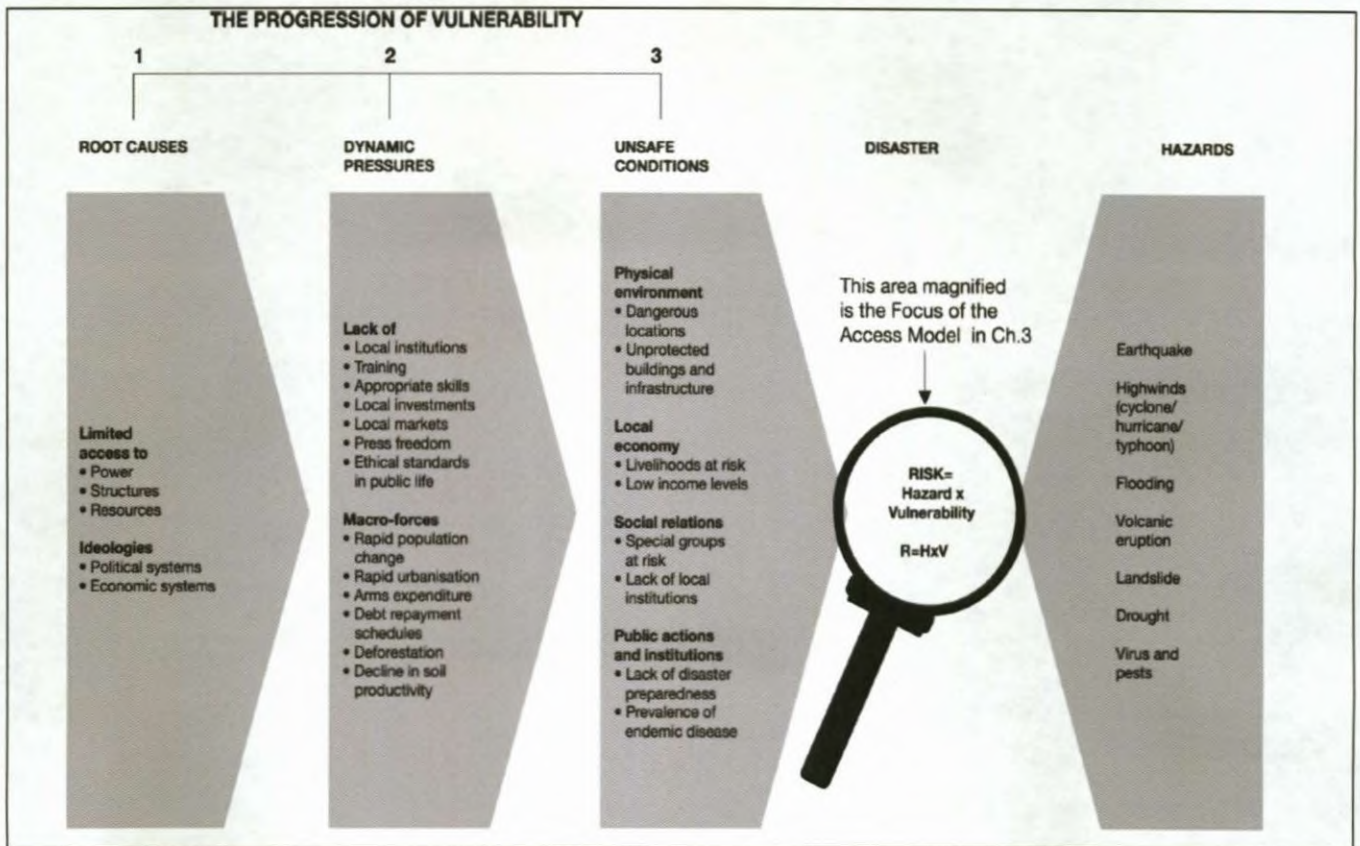


Figure 5: Pressure and Release Model (Wisner et al 2004: 51)

The major limitation of this model is that it fails to address the role of proximity to the source of the threat and the interaction between the social and natural systems in the production of the hazard in the first place (Cardona 2006). The study found this model to be more applicable for descriptive analyses rather than empirical testing. One of the goals of this study is to investigate how NGOs address drought impacts in various communities and this requires a more practical and pragmatic tool to conduct the analyses.

2.3 Access Model

The “*Access model*” (Wisner *et al* 2004) explains how unsafe conditions at any level (national, household) emerge as a result of processes that allocate resources. The Access model is designed to understand “*complex and varied sets of social and environmental events and longer-term processes that may be associated with a specific event that is called a disaster. A disaster may be described and labelled according to the natural hazard that triggered it (for example, drought impacting upon vulnerable people leading to famine*” (Wisner *et al.* 2004:98)

The Access model picks up the state of 'normal life' and explains how people earn a livelihood with differential access to material, social and political resources. Below is a diagram representing the Access model.

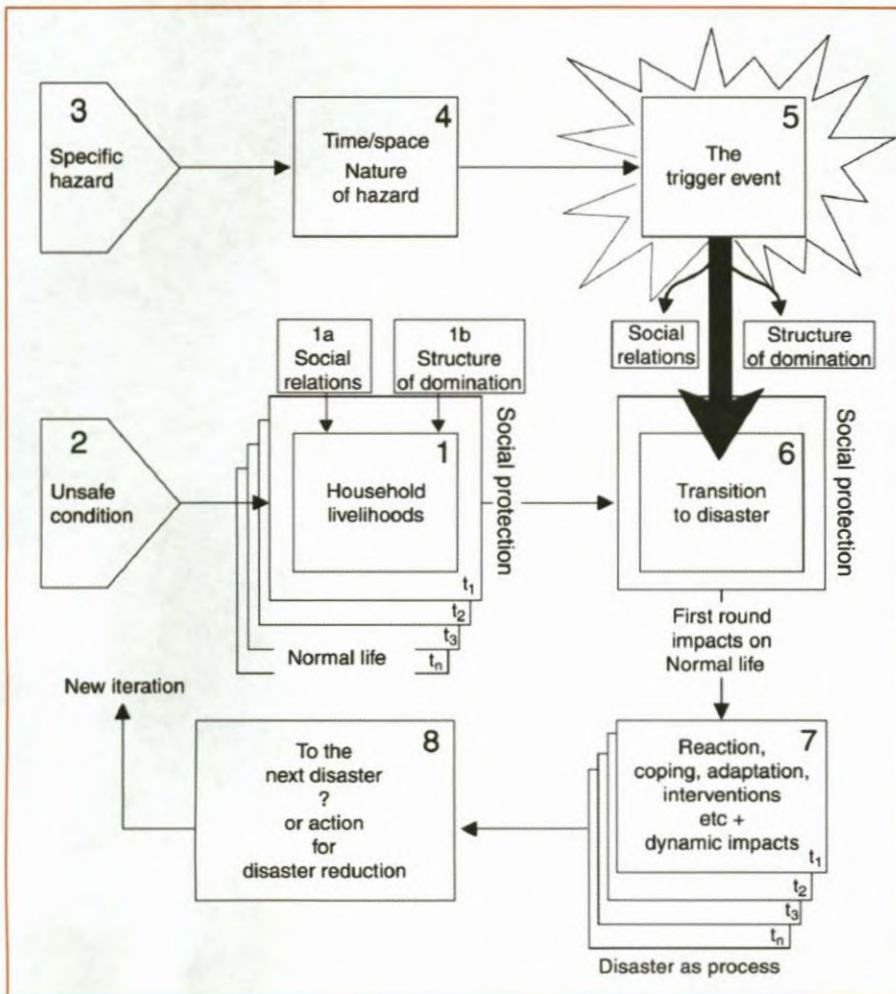


Figure 6: Access Model (Wisner *et al* 2004:98)

The community's access to resources strongly influences its capacity to respond to the impact of drought. According to Riet (2008) the "Access model" considers how the relationship between access to various resources and the choices made within a set of structural constraints impacts on their ability to withstand shocks. This model asserts that access to resources makes a population sustainable thereby increasing their resilience against shocks and capacitates them in restore to normalcy after a disaster has struck. The access model pays particular attention to the social course that is, the degree of human vulnerability (Varley 1994). Focus of this model on human vulnerability is criticized for failing to consider the institutional factors that either enhance or

prevent vulnerability. It is from this basis that this model was considered unsuitable for the study.

2.4 Sustainable Livelihoods Framework

Another theoretical approach which this research considered is the ‘*Sustainable Livelihoods*’ approach which basically considers factors which affect people’s livelihoods and the inter-relationship between these factors (DFID 2012). The framework was developed by Turner *et al* (2003) as an alternative conceptualization of vulnerability to hazards. It is largely used by Department for International Development (DFID) as a tool for addressing livelihoods challenges in development programmes.

Birkmann (2006:19) argues that the ‘*sustainable livelihood framework*’ “*can also be seen as a framework or vade-mecum for vulnerability assessment*” The framework is composed of five livelihood assets or capitals (human, natural, financial, social and physical capital (DFID 2000).

According to de Stage *et al* the Sustainable Livelihoods Framework seeks to investigate:

“how people operate within a vulnerability context that is shaped by different factors – shifting seasonal constraints (and opportunities), economic shocks and longer-term trends. It also seeks to understand how they draw on different types of livelihood assets or capitals in different combinations which are influenced by: the vulnerability context; a range of institutions and processes; how they use their asset base to develop a range of livelihoods strategies to achieve desired livelihood outcomes” (de Stage *et al* 2002:15)

In simple terms the elements of the framework can be summarized using Kollmair *et al* (2002) quoted in (Glopp 2008:3)’s description as follows;

“...The framework depicts stakeholders as operating in a context of vulnerability, within which they have access to certain assets. Assets gain weight and value through the prevailing social, institutional and organizational environment (policies, institutions and processes). This context decisively shapes the livelihood strategies that are open to people in pursuit of their self-defined beneficial livelihood outcomes.”

The major critique of this framework is that, it does not clearly differentiate between exposure and sensitivity (social vulnerability) and it does not evidently specify where vulnerability begins and ends. Cutter *et al* (2009) further argues that the framework is more valuable for qualitative assessments than empirically based analyses. It from this basis that this study which combines both qualitative and quantitative analyses found this model not suitable for this study.

The framework has been largely criticized for its people centered approach. According to DFID (2012) the framework fails to work in a linear manner and is detached from reality. While this is the case, it is argued that, *'it offers way of thinking about livelihoods that helps order complexity and makes clear many factors that affect livelihoods'* (DFID 2012:2). Another shortcoming of this theory is that, while the framework summarizes the components of and influences on livelihoods, it does not provide an exhaustive list of issues to be considered.

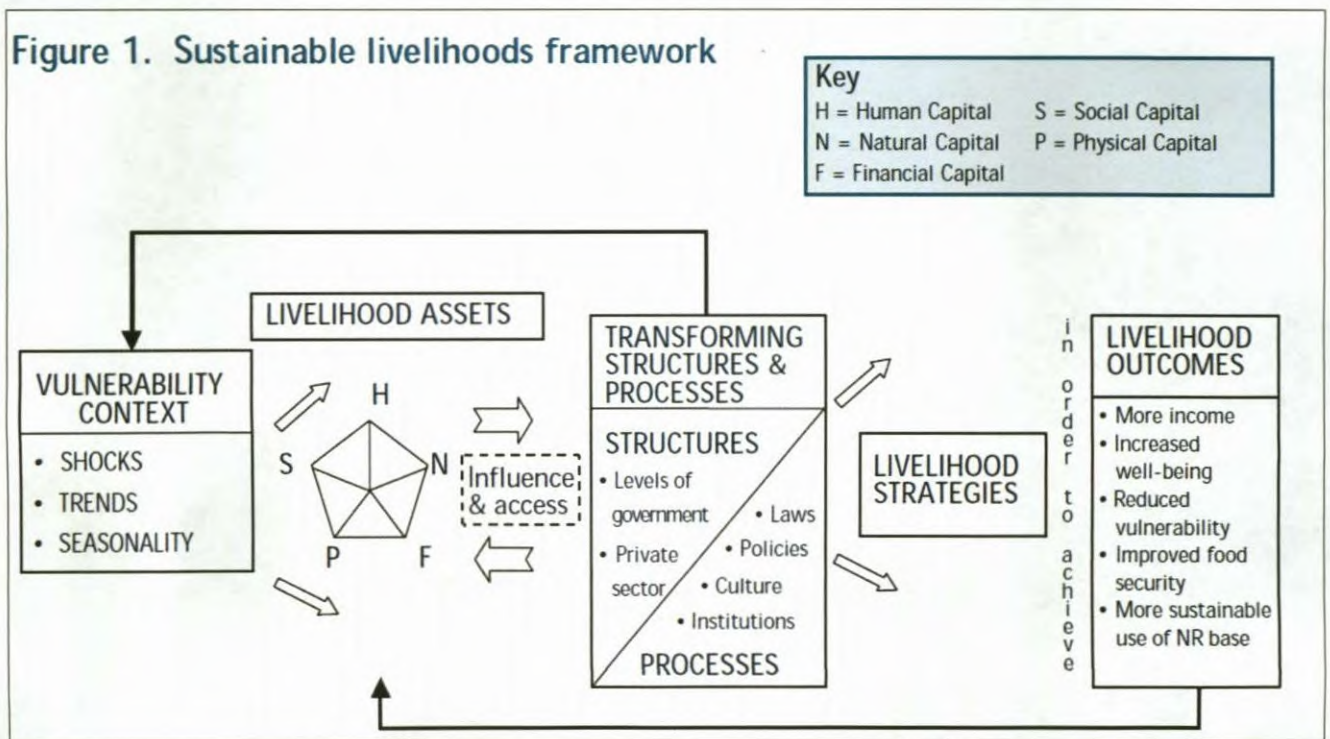


Figure 7: Sustainable Livelihoods Framework (DFID 2000:3)

In addition, a differentiated livelihood analysis needs time, financial and human resources. Also, by improving the livelihoods of a specific group a negative effect may occur on livelihoods of others. This may lead to a normative dilemma on the decision about what to consider with

priority. Reducing the livelihood perspective to a methodological tool contains the risk of looking at the two things interchangeably. The SLF still is a simplification of the multidimensional reality of livelihoods (Glopp 2008:5). The above factors account for the reasons why the framework could not be adopted for this study.

2.5 Risk-Hazard (RH) Model

Initial RH models sought to understand the impact of a hazard as a function of exposure to the hazardous event and the sensitivity of the entity exposed (Turner et al. 2003).

This school usually views vulnerability, coping capacity and exposure as separate features (Birkmann 2006: 14). This conceptual framework views risk as the sum of hazard, exposure, vulnerability and capacity measures. While hazard is defined through its probability and severity, exposure is characterized by structures, population and economy (Birkmann 2006:15)

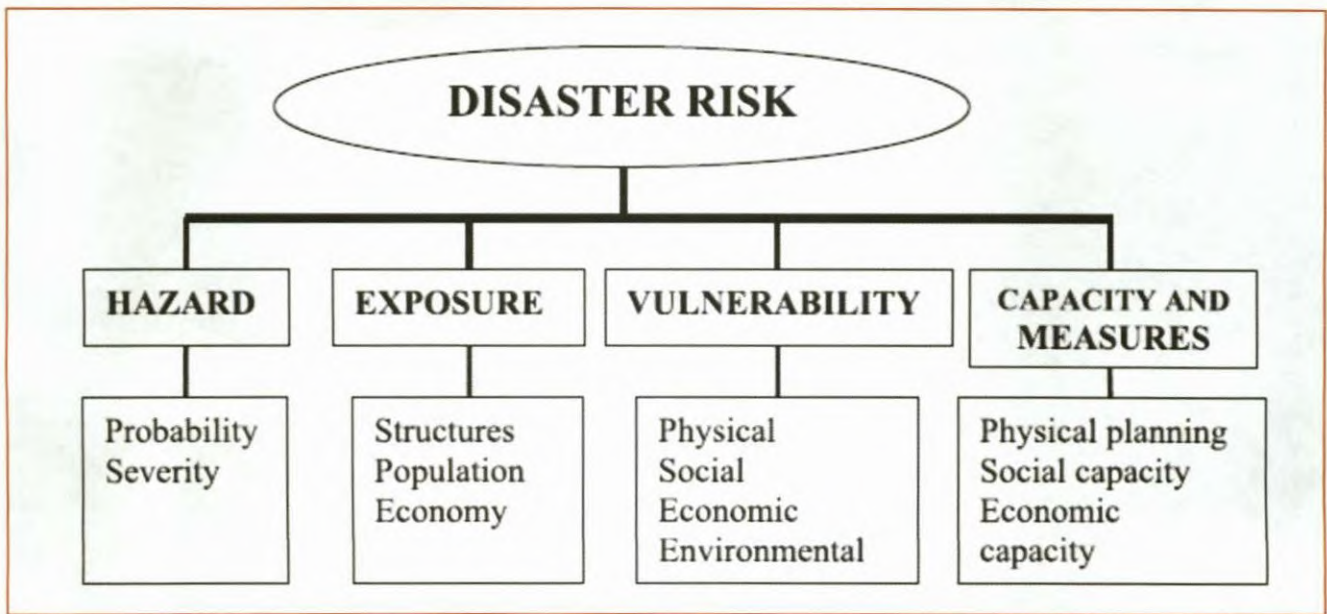


Figure 8: Conceptual Framework for Identifying Risk (Birkmann 2006: 16)

The study could not be anchored on this model because it does not address the distinction among exposed subsystems and components that lead to significant variations in the consequences of the hazards, or the role of political economy in shaping differential exposure and consequences (Blaikie et al 1994, Hewitt 1997). This led to the development of the PAR model.

2.6 Drought Risk Management Framework

This study adopted the DRM framework in developing benchmarks for assessing NGO drought interventions in Gwanda. According to the United Nations the drought risk reduction framework consists of “five components (as highlighted in figure 9. below), all of which consider the priorities of the UN International Strategy for Disaster Reduction, the Hyogo Framework for Action, regional strategies, and thematic risk reduction documents”(2007: 11). These include; i) policy and governance, ii) drought risk identification and early warning, iii) awareness and education, iv) reducing underlying factors of drought risk, and v) mitigation and preparedness, as well as cross-cutting issues (UNISDR 2007).

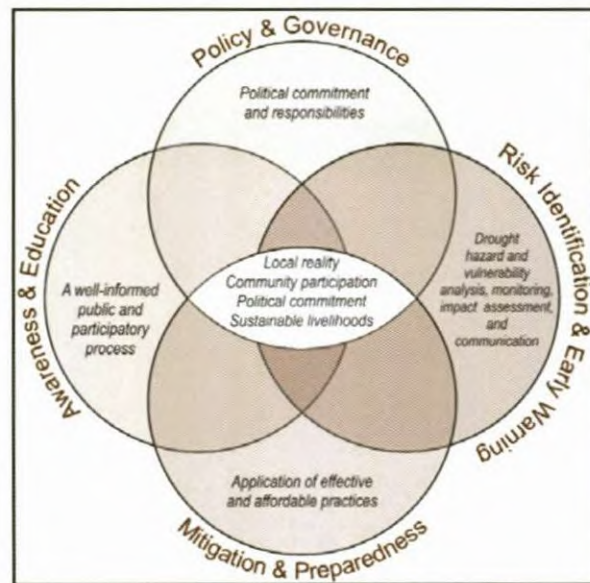


Figure 9: Drought Risk Management Framework (UNISDR, 2007:18)

The advantage of using this model is that while other models focus generally on assessing risk and vulnerability of all possible disasters, the DRM framework is specifically used for assessing drought impact as well as drawing up appropriate mechanisms for addressing risk. The DRM framework seeks to address the root causes of drought-related disasters and to reduce drought impacts and the consequences for human welfare and food insecurity (UNISDR, 2007). The elements of the framework were used as a guide for understanding drought and its impact in Gwanda district. It provided a guide on actions to reduce the risks associated with drought. Guided by the framework this thesis also assessed the effectiveness of local and national drought policies in Zimbabwe. Methods of assessing risk identification and early warning, awareness and

knowledge management, and effective mitigation and preparedness measures used by NGOs were evaluated.

The rationale behind the use of the framework in the conceptualization of this research is based on the following;

Firstly, an analysis of existing policies and governance are an essential element for drought risk management and political commitment. According to (UNISDR, 2007) drought risk reduction policies should establish a clear set of principles or operating guidelines to govern the management of drought and its impacts, including the development of a preparedness plan that lays out a strategy to achieve these objectives. Drought-related policies and plans should emphasize risk reduction (prevention, mitigation and preparedness) rather than relying solely on drought (often turned into famine) relief. As such the research investigated the nature of NGO drought risk interventions looking specifically at whether they emphasize prevention, mitigation and preparedness.

Secondly, an assessment of NGO drought risk assessment methodologies such as hazard assessment, drought impact assessment and vulnerability analysis enabled the research to understand better specific trends, vulnerability and impacts of drought in Gwanda Rural District. Venton argues that, *“drought risk is the combination of the natural hazard and the human, social, economic and environmental vulnerability of a community or country, and managing risk requires understanding these two components and related factors in space and time”* (2012:14)

He further argues that drought monitoring and early warning systems play an important role in risk identification, assessment and management. In view of this, the research delved deeper into understanding how NGOs share information on early warning and drought disaster risks. The research focused on this element because drought awareness and knowledge management is crucial in creating the basis for a culture of drought risk reduction and resilient communities.

In addition, Venton (2012) argues that, drought awareness, knowledge management and education, is an enabling factor for drought risk reduction. The effects of drought can be

substantially reduced if people are well informed and motivated toward a culture of disaster prevention and resilience. As such, the research focused on understanding the effectiveness of NGO information dissemination strategies as a step towards enhancing risk reduction in Gwanda.

In the third place, research evidence has revealed that, effective drought mitigation and preparedness measures are essential in influencing a transition from policies to practices in order to reduce the potential negative effects of drought (US National Drought Mitigation Centre 2008). Consequently, this element of the framework guided the questions which investigated the methods used by NGOs in mitigating and preparing communities for drought.

In the fourth place, the research was guided by another element of the framework which emphasizes that, *'reducing underlying factors of drought risk inadvertently contributes to reducing drought vulnerability'* (Venton 2012: 21). These risk factors can be reviewed and reduced by effective environmental and natural resource management, social and economic development practices, and land-use planning and other technical measures. To cement this view, the United Nations (2007) also argues that, factors that have an impact on vulnerability to drought need to be reflected in national poverty reduction strategies, development plans, sector development planning and programmes, environment and natural resource management strategies as well as in post-disaster situations so that effective preparedness and mitigation measures can be considered. It is from this analysis, that the research sought to investigate NGO strategies and in particular development plans, approaches and programmes to see if they adequately deal with factors that expose communities to drought effects.

Lastly, the study considered the underlying principle of this framework which states that, *'enhancing mitigation measures and preparedness for drought substantially reduces drought impacts and losses if authorities, individuals, and communities are well-prepared, ready to act, and equipped with the knowledge and capacities for effective drought management'* (UNISDR 2007:16). The theory provides more emphasis on mitigation and preparedness as a step towards reducing the scale and effects of drought disasters. In short, the theory's main focus on

prevention, mitigation and preparedness which are core components of disaster risk reduction placed it as the most suitable framework for analysis.

2.7 BBC Theoretical Approach

To complement the DRM framework, this study is also anchored on the BBC Conceptual framework of analysis. The theoretical framework was used to get an understanding of drought as a phenomenon and community vulnerability in the study area. The model is a combination of disparate elements of the theoretical frameworks discussed above. According to Birkmann (2006) the acronym 'BBC' is a reflection of the theoretical work undertaken by Bogardi and Birkmann (2004) and Cardona (1999 and 2001), which worked as a foundation for this method. He further argues that, *'it grew from three discussions: how to link vulnerability, human security and sustainable development (Bogardi and Birkmann 2004); the need for a holistic approach to disaster risk assessment (Cardona 1999, 2001; Cardona et al., 2005); and the broader debate on developing causal frameworks for measuring environmental degradation in the context of sustainable development'* (Birkmann 2006:3)

In their study and as quoted by Birkmann (2006) Damm, M., Fekete, A. and Bogardi, J. J. (2010) argue that the BBC framework locates vulnerability to the three corners of sustainability which include; the economy, environment and society. This framework is based on theoretical considerations, how social, economical and environmental dimensions of human security can be integrated with existing hazard and risk concepts.

Birkmann (2006) argues that vulnerability can be understood beginning with the natural phenomenon that can develop into a hazard event and hits an exposed, vulnerable group in society. If there is enough capacity to with stand the hazard in this particular community then vulnerability is inadvertently reduced. The BBC framework formed the basis for this study as it easily reflects the interconnections of hazard, vulnerability, and risk within the context of drought risk management.

The study used the BBC framework in placing the main analytical components of vulnerability into focus for an analysis. The three components of the framework; exposure, susceptibility and

capacities, provided the main entry and structuring points for the development of vulnerability pointers. These pointers guided the construction of a questionnaire which was used in gathering data on the effectiveness of NGO drought risk management at a community level. For each component the study guided by the framework explored the social, physical, environmental, economic and institutional factors that either contribute towards increased and or reduced vulnerability in Gwanda.

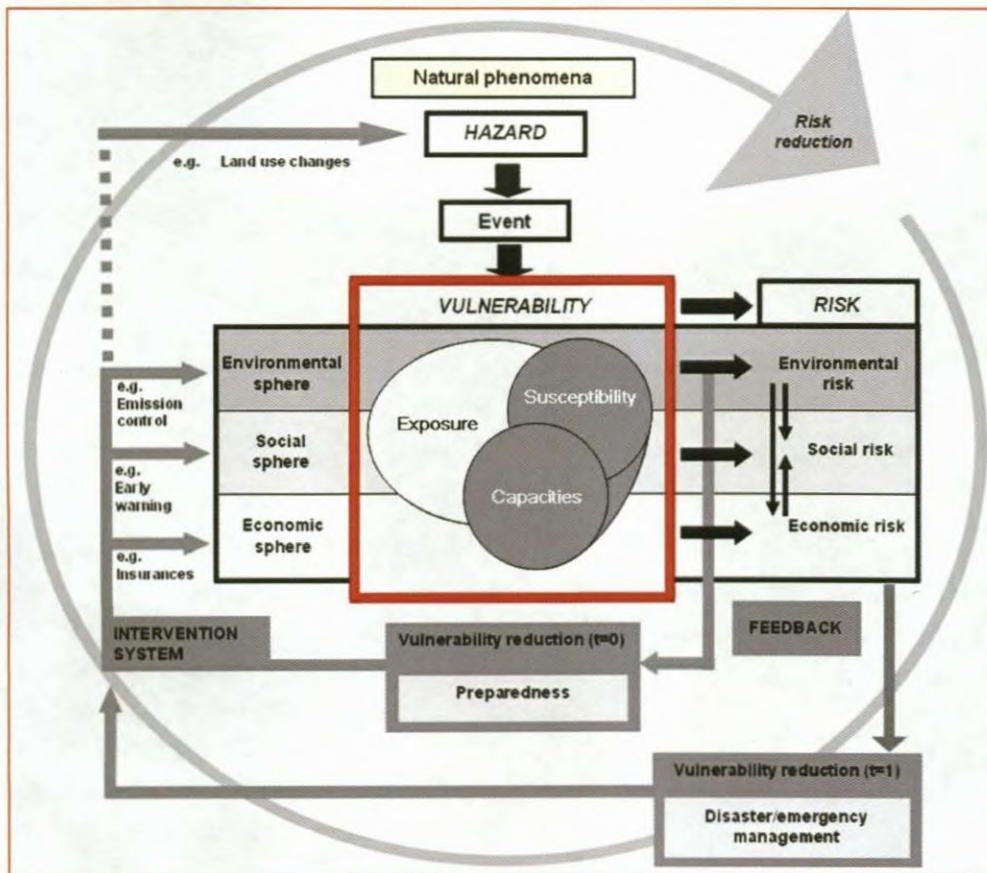


Figure 10: BBC Theoretical Framework (Birkman 2006)

Another reason why this study adopted the BBC framework in its analysis lies in the fact that the framework views vulnerability analysis beyond the estimation of deficiencies and assessment of the historical impacts of disasters. Instead, it views vulnerability within an evolving process which means concentrating instantaneously on vulnerabilities, coping capacities and potential - mitigation tools that address vulnerability – a concept which Birkmann (2006) calls a '*feedback-loop system*'. To cement this view, it can also be argued that, BBC theoretical framework adopts

a holistic approach as it views vulnerability not as an isolated feature but it also considers issues to do with hazard specificity, potential events that the community is susceptible to, economic and environmental factors.

The BBC framework underpins the need to concentrate on *'social, environmental and economic dimensions of vulnerability, clearly linking and integrating the concept of sustainable development into the vulnerability framework'* (Birkmann 2006: 34). This framework is also easier to use as it can be integrated to other models such as the sustainable livelihoods framework. However, in this thesis the model was combined with the *'Drought Risk Management Framework'*.

The BBC model is unique as it provides a more comprehensive assessment of vulnerability when compared to other models. Birkmann (2006:38) explains that the framework focusses on,

'The different vulnerable or susceptible and exposed elements, the coping capacity and the potential intervention tools to reduce vulnerability'

In addition, the BBC framework was adopted as an assessment tool in this study as it enabled the research to distinguish NGO approaches at different levels, that is, between the response before risk and disasters are manifested and the response needed when risk and disasters occur (Birkmann 2006). The model is based on the understanding that, *'while during the disaster, emergency management and disaster response units play a crucial role, vulnerability reduction should give particular emphasis to responses, thus focusing on preparedness rather than on disaster response and emergency management'* (Birkmann 2006:44).

2.8 Conclusion

This chapter discussed the theoretical framework of the study. It undertook an analysis of six theoretical frameworks, highlighting merits and demerits. The chapter argued that, the study is anchored on the BBC model (2006) and the Drought Risk Management Framework (2007).

Chapter 3

Research Methodology

3.0 Introduction

This chapter presents the research strategy and the empirical techniques used as well as the philosophical thinking behind the study. The chapter delves into the scope and limitations of the research design and locate the study amongst existing research paradigms in social sciences. The research is positioned within the mixed methods research perspective. This perspective seeks to better understand the research problem by converging both quantitative (QUAN) and qualitative (QUAL) data. In this approach, a questionnaire (quantitative instrument) was used to measure the relationship between NGO drought intervention strategies (independent variables) and drought impacts (dependent variables). More also, the impact of drought, which is the central phenomenon was explored using data acquired through qualitative interviews, documents, observations and visual materials.

The study conducted two types of analysis. The first involved an analysis of drought effects at farm household level, coping mechanisms and NGO drought alleviation efforts. The second entailed evaluating NGO drought management strategies using views from experts.

This chapter is categorized into three sections: the first part presents an examination of the mixed methods research approach and its applicability to this study. The next section discusses the research approach employed in this study and the last part of this chapter describes the research design and provides justification for the data collection and analytical tools used.

3.1 Mixed Methods Research Design

A research design explains a set of procedures for collecting, analyzing, interpreting, and reporting data in research studies (Creswell et al 2003). It is useful as it guides the methods and decisions that researchers must make during their studies and sets the logic by which they make interpretations at the end of their studies. This research adopted a mixed method research design. According to (Tashakkori and Teddlie 2009: 4) mixed research entails mixing of quantitative and qualitative methods of scholarly inquiry. Creswell and Clark (2011) provide a more detailed definition of mixed research as;

“the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative approaches (for example., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the purpose of breadth and depth of understanding and corroboration”

Explaining the thinking behind the mixed research, Creswell and Clark (2011) argue that, mixed research can best be described by a metaphor where one constructs one fish net out of several fish nets that have holes in them by laying them on top of one another. The ‘new’ net will not have any holes in it. The use of multiple methods or approaches to research works the same way. Two major types of mixed research are distinguished: mixed method versus mixed model research.

On one hand, (Creswell 2006: 5) argues that “*Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry*”. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone. Concurring with Creswell (2006) Tashakkori and Teddlie (2009) argue that, mixed method research is when a researcher uses the qualitative research paradigm for one phase of a research study and the quantitative research paradigm for another phase of the study. Mixed method research is like conducting two mini-studies within one overall research study. For instance, during the first phase of the study, interviews were held to gather qualitative data. The second phase was conducted using the questionnaire method which facilitated the collection of quantitative data. This method was considered the best because when different approaches are used to focus on the same phenomenon and they provide the same result, you have corroboration which means you have superior evidence for the result (Creswell 2006; Tashakkori and Teddlie 2009).

Other important reasons for doing mixed research are to complement one set of results with another, to expand a set of results, or to discover something that would have been missed if only a quantitative or a qualitative approach had been used.

3.2 Justification for using Mixed Methods Research

In explaining the reasons why the study adopted the mixed research paradigm, this sections uses Mahmood (2013)'s six scholarly benchmarks:

- the insufficient argument;
- multiple angles argument;
- the more-evidence-the-better argument;
- community of practice argument;
- eager-to-learn argument and;
- the intuitive" argument

3.2.1 The insufficient argument

The first reason why this research paradigm was considered most appropriate for this study lies in what Mahmood (2013) calls the 'insufficient argument. This school of thought maintains that either quantitative or qualitative research may be insufficient by itself. It is argued that, mixed methods research provides strengths that offset the weaknesses of both quantitative and qualitative research. Prior to the development of mixed methods research design, disparate scholars had pointed out problems inherent in both quantitative and qualitative research. They argued that quantitative research is weak in understanding the context or setting in which people talk. Also, the voices of participants are not directly heard in quantitative research. Further, quantitative researchers are in the background, and their own personal biases and interpretations are seldom discussed. Therefore, it was argued that qualitative research makes up for these weaknesses. On the other hand, qualitative research is seen as deficient because of the personal interpretations made by the researcher, the ensuing bias created by this, and the difficulty in generalizing findings to a large group because of the limited number of participants studied. Quantitative research, it is argued, does not have these weaknesses. To this end, the combination of both approaches can offset the weaknesses of either approach used individually.

3.2.2 The more-evidence-the-better argument

The second reason for using mixed research methods lies in the understanding that combined quantitative and qualitative approaches provide more evidence. Mixed methods research provides more comprehensive evidence for studying a research problem than either quantitative

or qualitative research alone. Researchers are given permission to use all of the tools of data collection available rather than being restricted to the types of data collection typically associated with qualitative research or quantitative research (Creswell 2006; Mahmood 2013).

3.2.3 Multiple angles argument

The third scholarly argument in support of mixed method research states that using both quantitative and qualitative approaches in a single study enables the researcher to get different “pictures” of the investigated phenomenon (Teddlie *et al.* 2007). In addition, this method helps answer questions that cannot be answered by qualitative or quantitative approaches alone. For example, “*Do participant views from interviews and from standardized instruments converge or depart?*” is a mixed methods question. This approach also encourages researchers to collaborate across the sometimes adversarial relationship between quantitative and qualitative researchers and dividing between quantitative and qualitative only serves to narrow the approaches and collaboration to inquiry.

3.2.4 Eager-to-learn argument

The fourth perspective is that, mixed methods research is the latest methodology preferred by scholars due to its ability to leverage advantages drawn from both qualitative and quantitative research paradigm.

3.2.5 The intuitive argument

Scholars have also argued that this is the most “practical” research method. It enables the researcher freely use all methods possible to address a research problem. It is also “practical” because individuals tend to solve problems using both numbers and words. It also mirrors real life (Mahmood 2013; Teddlie *et al* 2007).

3.2.6 Community of practice argument

The last argument lies in that mixed methods research is emerging as the most preferred approach within a scholarly community due to its advantages. However, despite its advantages, scholars argue that the major limitation in mixed research is that it is not easy to conduct (Creswell 2006; Teddlie *et al* 2007; Teddlie 2005). They also argue that it is time consuming and costly to collect and analyze both quantitative and qualitative data. It complicates the procedures of research and requires clear presentation if the reader is going to be able to sort out the different procedures. Furthermore, investigators are often trained in only one form of inquiry

(quantitative or qualitative), and mixed methods requires that they know both forms of data. To counter these challenges, the researcher is well trained in both approaches.

3.3 Combining Qualitative and Quantitative Approaches

The purpose of this section is to define both qualitative and quantitative research approaches. It will point out the merits and demerits of each in order to reveal how they can be harnessed to counter weaknesses and maximize on the strengths of each method.

To begin with, qualitative research is '*multi-method in focus, involving an interpretive, naturalistic approach to its subject matter*' (Denzin and Lincoln 2004: 2). In other words, this approach attempts, to study and or make sense of, or interpret phenomena in terms of meanings people bring to them. Bryman and Bell (2007) state that, the approach involves three main features: The first feature is the inductive view, which attempts to establish the relationship between theory and research. The second element is the epistemological position. This perspective is more 'interpretivist' and attempts to understand phenomena through an examination of the interpretation of those phenomena by its participants. The last perspective is the ontology; also called a constructionist approach. In this approach, the interaction of variables is what defines a phenomenon. Criticisms leveled against this approach are varied. According to Keyton (2001) qualitative research is largely criticized for its subjectivity rather than objectivity. (Another weakness is that it fails to analyze its data into statistical components as is the case with quantitative analysis. Despite, these criticisms, this study took advantage of this approach in dissecting and understanding the phenomenon of drought in Gwanda and how NGOs manage its recurrent occurrence. It also gave the study an opportunity to study a variety of empirical materials which were useful in the analysis. The chart below shows how both qualitative and quantitative methods were used in the study

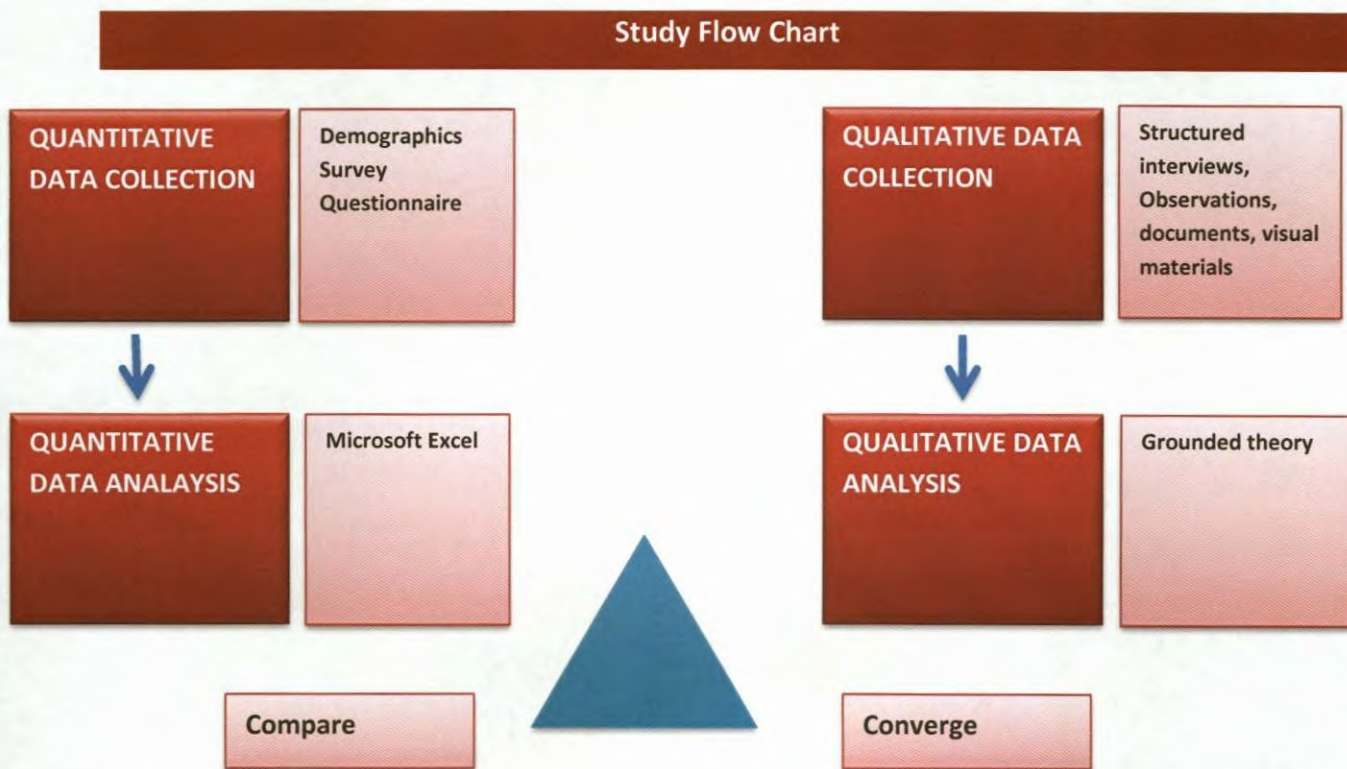


Figure 11: Study Flow Chart

On the contrary, quantitative research is linked to the positivism perspective (Deacon *et al*, 1999). The positivism perspective argues that social and cultural research should be the same as research in the natural world. Under this school of thought it is argued that “*as in the natural sciences, the only admissible scientific evidence is ‘facts’ established by systematic personal observation*” (Deacon *et al* 1999: 4) Quantitative research thus has a bias towards evidence measured statistically in terms of numbers as opposed to words, transcripts, field notes or such other forms. Focus on objectivity drives quantitative researchers to focus on the use of statistical approaches and systematic analysis. Objectivity is thus the main advantage of quantitative research, which lends the approach with a certain degree of validity and reliability (Roberts 2007). One major advantage with using quantitative research is therefore that it is seen as more scientific than qualitative research. However, qualitative research scholars argue that this method fails to capture or analyze social and cultural phenomena that cannot always be measured adequately in statistical terms (Keyton 2001).

The limitations identified in both the qualitative and quantitative research paradigms influenced the adoption of the mixed research method which has the ability to leverage on the advantages of each approach.

3.4 Data collection

3.4.1 Secondary Data

The empirical framework employed in the analysis involves the extensive use of both secondary and primary data in analyzing the strategies used by NGOs in Drought Disaster Management. The research utilized academic journals and published texts as main data sources. However, online-published sources and databases were useful in obtaining up to date drought information as well as emerging perspectives on the research subject. The study relied mostly on reputable web sources such as the National Drought Mitigation Center, Regional Drought Monitoring Centre and Famine Early Warning Systems Network.

3.4.2 Primary Data

Two methods were utilized in gathering both qualitative and quantitative primary data. The key informant interviews were used to collect qualitative data while the questionnaire was used to gather quantitative data.

- **In-depth Interviews**

Given the explorative, interpretive and constructionist nature of this research, in -depth interviews were used in the collection of primary data. The study utilized in-depth interviews to complement findings gathered through expert opinion. In-depth interviews are a qualitative research technique that is used to gather the thoughts of people with regards to different phenomena such as drought (Keyton 2001). Sometimes known as field interviews, in-depth interviews seek to get a deeper meaning of respondents' feelings and thoughts, thus asking probing questions and not sticking to a set down list. They are thus not linear in nature as the researcher has to follow up on arising issues as the interview progresses. They seek to understand concepts from the point of view of the interviewee and discover meaning from their experiences (Kvale 1996).

In-depth interviews were important to this research as they provided a means to gather the views of communal farmers on NGO drought management efforts in Masholomoshe village. This

information complemented information which had been gathered from experts using a structured questionnaire.

Laws (2003) argues that interviews are among other instances useful when the researcher needs to know about people's views in some depth and when one can rely on information from a fairly small number of respondents. Both these factors were true with respect to this research; hence the author chose to use in-depth interviews. 17 household level in-depth interviews were held with communal farmers in June 2014. The sample comprised of eight males and nine females. The responses were recorded manually during the conversations.

- **Structured Questionnaire**

Data collection using a questionnaire allowed for data triangulation and validity. A questionnaire is a research tool that is used to collect data direct from respondents (Wisker 2001). A questionnaire can also be described as a document that consists of a list of questions and respondents to the questions respond to an identical set of questions to allow for consistency and precision in terms of wording the questions and makes processing of responses easier.

Data gathering using the questionnaire preceded the interview process and was therefore useful in determining whether participant views from interviews and the questionnaire converged or were in contradiction.

The questionnaire method was used to gather expert views on the impact of NGO drought interventions. This method was used because of the need to reach out to a large number of respondents. 20 questionnaires were completed using interviews with disaster management experts in Zimbabwe. The interviews were held between October and December 2013. The study utilized the expert sampling technique which allowed for the solicitation of information from respondents with a particular skill set. The data attained through this approach complemented secondary sources. The study targeted experts working in the field of disaster management particularly in Gwanda and this helped the research to understand drought impacts and approaches used by NGOs better.

This questionnaire was used because the tight control over the wording of the questions and the order in which the questions occurred and the range of answers that were on offer had the advantage of standardization (Denscombe 2007; Wisker 2001). Respondents to the questionnaire

were asked identical questions. This method which utilized a range of pre-coded answers on offer to respondents made the process of analyzing data relatively easy. Denscombe (2007) argues that, pre-coded questions have the disadvantage of limiting or confining respondent views to a specific line of thought. The gaps inherent in this approach were however addressed by interviews which provided in-depth data for the study.

3.5 Population and Sampling

3.5.1 Purposive Mixed Probability Sampling

Social science research has revealed two basic sampling procedures that are; probability and purposive sampling techniques (Teddle 2007). This study relied on both techniques as shall be explained under this section. This sampling technique is what Teddle (2005) dubbed the ‘*Purposive Mixed Probability Sampling Strategy*’, as reflected below:

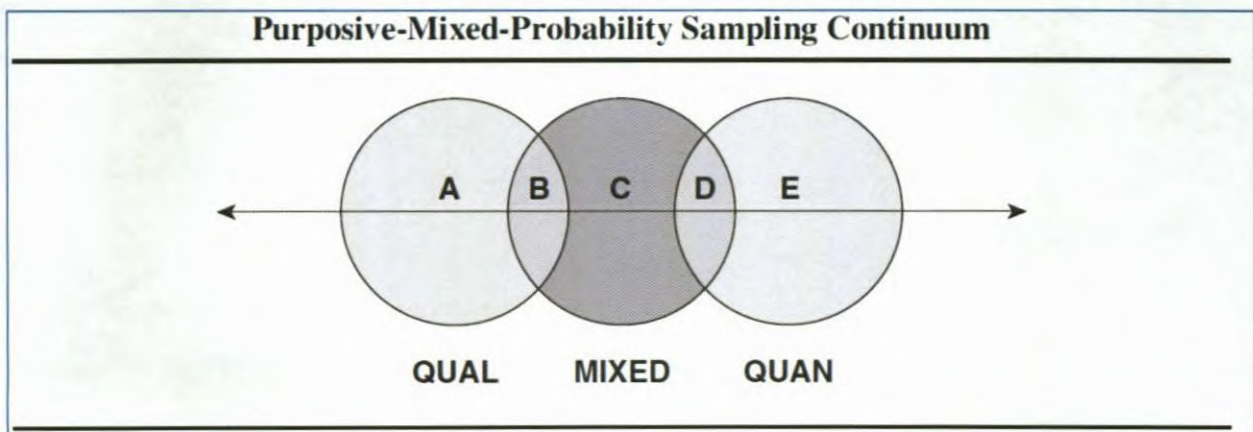


Figure 12: Purposive Mixed Probability Sampling Continuum (Teddle 2005)

Segment A represents qualitative research using purposive sampling while segment E is purely quantitative research with probability sampling. Segment B on the other hand is principally qualitative in nature with some quantitative elements. Segment D stands for quantitative research with some qualitative elements. Segment C represents a complete integration of mixed methods research and sampling. The arrow represents the purposive-mixed-probability sampling continuum. A shift toward the middle of the diagram indicates a greater integration of research methods and sampling. A shift away from the center (and toward either end) indicates that research methods and sampling are more separated or distinct.

This sampling strategy is a combination of intermediate points between the probability and purposive sampling positions as shown above.

According to (Tashakkori & Teddlie 2003a:713)

“Probability sampling techniques are primarily used in quantitatively oriented studies and involve ‘selecting a relatively large number of units from a population, or from specific subgroups (strata) of a population, in a random manner where the probability of inclusion for every member of the population is determinable’”.

The scholars further argue that, probability samples aim to achieve representativeness, which is the degree to which the sample accurately represents the entire population (Tashakkori & Teddlie, 2003). While this is the case, purposive sampling is;

“applied to those situations where the researcher already knows something about the specific people or events and deliberately selects particular ones because they are seen as instances that are likely to produce the most valuable data”.

(Denscombe 2007:17)

Teddlie et al (2007) concurs Denscombe (2007)’s definition by emphasizing that purposive sampling techniques are primarily used in qualitative studies and may be defined as selecting units (e.g., individuals, groups of individuals, institutions) based on specific purposes associated with answering a research study’s questions. Maxwell (1997:87) further defined purposive sampling as a type of sampling in which, “particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well from other choices”.

This sampling technique has various categories. This research used the ‘expert sampling’ technique which enabled the research to solicit information from individuals with expertise in disaster risk management. According to Denscombe (2007), expert sampling is a type of purposive sampling technique that is used when your research has aspects that needs to glean knowledge from individuals that have particular expertise. This expertise may be required during the exploratory phase of qualitative research, highlighting potential new areas of interest or opening doors to other participants. Expert sampling was very useful in this research due to the limited empirical evidence related to the study focus. It was used in gathering information from key stakeholders involved in drought risk reduction programmes such as NGO personnel, agricultural extension officers, rural district administrators and agriculturalists.

The Mixed methods sampling approach was utilized for this study due to a number of valuable reasons. Firstly, this technique allowed the researcher to triangulate the results from the separate qualitative and quantitative elements. As a result the study was able to “confirm, cross-validate, or corroborate research findings (Creswell et al. 2003:229) Evidence from research unveils two basic procedures of Concurrent mixed methods sampling. The first one entails a situation in which probability sampling techniques are used to generate data for the quantitative strand and purposive sampling techniques are used to generate data for the qualitative strand. These sampling procedures occur independently.

The second one utilizing makes use of a single sample generated through the joint use of probability and purposive techniques to generate data for both the qualitative and quantitative strands of a mixed methods study. This research used the first option where probability sampling was used to select community samples for the survey while purposive sampling and in particular expert sampling was used to select the sample for the interviews. Below is a table illustrating characteristics of mixed methods sampling

| Characteristics of Mixed Methods Sampling Strategies | |
|---|--|
| Dimension of Contrast | Mixed Methods Sampling |
| Overall purpose of sampling | Designed to generate a sample that will address research questions. |
| Issue of generalizability | For some strands of a research design, there is a focus on external validity issues. For other strands, the focus is on transferability issues. |
| Number of techniques | All those employed by both probability and purposive sampling. |
| Rationale for selecting cases/units | For some strands of a research design, there is a focus on representativeness. For other strands, the focus is on seeking out information rich cases. |
| Sample size | There are multiple samples in the study. Samples vary in size dependent on the research strand and question from a small number of cases to a large number of units of analysis. |
| Depth/breadth of information per case/unit | Focus on both depth and breadth of information across the research strands. |
| When the sample is selected | Most sampling decisions are made before the study starts, but QUAL-oriented questions may lead to the emergence of other samples during the study. |
| How selection is made | There is a focus on expert judgment across the sampling decisions, especially because they interrelate with one another. Some QUAN-oriented strands may require application of mathematical sampling formulae. |
| Sampling frame | Both formal and informal frames are used. |
| Form of data generated | Both numeric and narrative data are typically generated. Occasionally, mixed methods sampling strategies may yield only narrative or only numeric data. |

Note: QUALqualitative; QUANquantitative.

Figure 13: Characteristics of Mixed Methods Sampling (Teddlie 2005)

3.6 Data analysis

Data analysis is a process that involves taking things apart and dissecting them again (Laws 2003). The process of analyzing data for this study entailed categorizing the information based on the research objectives and questions of the study.

Qualitative data gathered through interviews was analyzed using the grounded theory method. This approach seeks to “*find and conceptualize the underlying issues amongst the ‘noise’ of the data*” (Allan 2003:1). After collecting data, through interviews, the research went through a process of coding the data. Coding is the “*process of assigning meaningful numerical values that facilitate understanding of your data*” (Hair et al 2007:292). This process involves categorizing or breaking down the data into component parts given names. Initial categories were guided by the interview schedule questions; however, the research was mindful of new meaning and

relationships. The data was assigned into categories until the research reached a point of “*theoretical saturation*” (Bryman and Bell 2007). This defines a point where the research was satisfied with the way in which the data had been categorized. This process enabled the research to link data collected with concepts, ideas, and topics. The research also identified new emerging themes through this process. In addition to this, the data was simplified to make it more manageable.

An initial analysis was done to facilitate the process of locating data similarities, divergences, or contradictions, as well as omitted content based on the research questions (Tesch 1990). Hair *et al* (2007) defines this process as “data reduction”. The data was then compared constantly, to establish the link between the data and conceptualization (Bryman and Bell 2007)

After the analysis process, the data was grouped into different themes and are reported in Chapter six of this research. Research questions, enabled the researcher to remain focused on the main objectives of this study. Over and above all, the grounded theory enabled the researcher to thoroughly analyze the responses.

Quantitative data gathered through the structured questionnaire was analyzed using Microsoft Excel. Data was recorded through this method and analysis of findings are captured in Chapter 6 of this thesis

3.7 Ethical considerations

This study led the research to investigate issues concerning socio-economic, political, and ideologically responsive issues and as such, the measures to ensure the protection of privacy and rights of the respondents were undertaken. In the first place, respondents were made to sign consent forms prior to completing the questionnaire and conducting the interviews to get their full agreement to participate in the research. As a result, each interview recorded involved the consent of the respondent. In addition, the consent form assured respondents of their confidentiality. For this reason, real names have not been used in the final submissions of this research.

Chapter 4

Understanding Drought

4.1 Introduction

This chapter seeks to provide a basic understanding of drought as a phenomenon. It also explores its effects in southern Africa and specifically in Zimbabwe in an endeavor to put this study into context. The discussion is centered on the following aspects:

- Understanding the drought phenomenon and its characteristics
- Types of drought and indicators
- Historical analysis of drought in southern Africa
- Drought in Zimbabwe and its impact
- Institutional framework for drought in Zimbabwe

4.2 Understanding the Drought Phenomenon

It is hard to provide a specific and universally accepted definition of drought due to its disparate characteristics and impacts in different parts of the world.

In the first place, a number of scholars agree that drought is generally a treacherous natural hazard that produces a multifaceted web of effects that ripple through many sectors of an economy (Wilhite 2007; Powell 1998; Sear 1999; Soule 1990; Hagman 1984; UCAR 2009; Grasso 2012). Its effects are cumulative in nature and are accentuated by a repetition of the phenomenon from one season or year to the next (Wilhite 2007).

In the second place, drought is recognized as a *'deficiency of precipitation over an extended period of time, usually a season or more, which results in a water shortage for some activity, group, or environmental sectors'* (United Nations 2007:5). Drought is normally characterized by its intensity, duration and spatial coverage (Singh 2006). Similarly, the United Nations Convention to Combat Desertification and Mitigate the impacts from Drought (UNCCD) defines drought as *'the naturally occurring phenomenon that exists when precipitation has been significantly below normal recorded levels, causing serious hydrological imbalances that*

adversely affect land resource production systems' (UNCCD 2006:8). Correspondingly, UNECA (2007) concurs with the UNCCD (2006) definition by describing drought as an extreme climatic condition that results from a deficiency of precipitation from expected or normal that, when a season or longer period of time extended over, is insufficient to meet the demands of human activities and the environment (UNECA 2007). In simple terms, the definitions above state that drought is a temporary reduction in water or moisture accessibility significantly below the normal or expected amount for a defined time scale.

Thirdly, a number of studies have also documented that; drought differs from other natural hazards in several critical ways. It is argued that drought is a "*slow-onset, creeping phenomenon that makes it difficult to determine the onset and end of the event*" (Government of India 2008: 18). It can last for months or years. There is generally no commonly accepted definition of this phenomenon. It is also argued that there is no single indicator that can dictate the beginning and intensity of drought. Its effects are usually difficult to quantify as they are usually non-structural (University Corporation for Atmospheric Research (UCAR) 2009). Its spatial extent is usually much greater than for other natural hazards and this makes it extremely difficult to measure its effects and response actions given that effects cover massive geographical areas.

Drought affects human activities, terrestrial ecosystems, and hydrologic systems (Wilhite 2007). Its effects usually take months or years and are always uniquely experienced. Previous studies indicate that, the variable nature of drought effects complicates the selection and adoption of appropriate measures (UCAR 2009; Reed 1992; Trenberth 2007). The disparate definitions of drought above are an indication that there is no collectively acceptable definition of drought, except perhaps the general understanding of it as shortage of precipitation (Powell 1998; Soule 1990; McKee 1993; UCAR 2009).

In view of the above viewpoints, Powell (1998) and Wilhite (2007) concluded that the multifaceted nature of drought analyses can be partially attributed to the absence of unifying definitions and measures of drought. They further argue that, the definition of drought has continually been a stumbling block for drought monitoring and analysis. As such, it can be argued that the multifaceted and complex nature of drought accounts for some of the challenges which NGOs have faced in alleviating drought in Zimbabwe as exposed in this study. The lingering question is, at what point do NGOs implement drought interventions? How do they

determine the most appropriate time to intervene? This will be discussed in depth in Chapter 6 of this study.

Despite, varying arguments on drought, there seems to be an agreement that it is a condition of insufficient moisture caused by a deficit in precipitation over some time period. Difficulties are primarily related to the time period over which deficits accumulate and to the connection of the deficit in precipitation to deficits in usable water sources and the impacts that ensue (McKee 1993; Sear 1999; UNECA 2007).

Trenberth (2007) concurring with McKee (1993) argues that, a critical review of drought requires a consideration of the following aspects: time scale, probability, precipitation deficit, application of the definition to precipitation and to the five water supply variables, and the relationship of the definition to the impacts of drought. Frequency, duration and intensity of drought all become functions that depend on the implicitly or explicitly established time scales.

4.3 Drought Effects

Drought may have a number of different and interconnected social, economic and environmental effects (Venton 2012:18). Its impacts can either be direct or indirect. Direct effects are usually physical and include decline in crop yields and thus increased food insecurity; increased fire hazards, livestock losses; forced sale of household assets and land, depletion of water resources, reduction of water for industrial use (GI 2008). Multiplier effects resulting from direct effects are called indirect effects. These range from reduced agricultural output which leads to reduced income for both farmers and agricultural businesses, increased food and timber prices, unemployment and reduced purchasing capacity, increased crime, decline in health levels, increased migration and civil unrest (UCAR 2009).

4.4 Drought Types and Indicators

Drought can be categorized into five: meteorological, agricultural, hydrological, ground water and socio-economic drought, as reflected in the diagram below (UCAR 2009; NMDC 2008 and Trenberth 2007). The first three types of drought describe physical events while the third describes the particular impact of the first two types

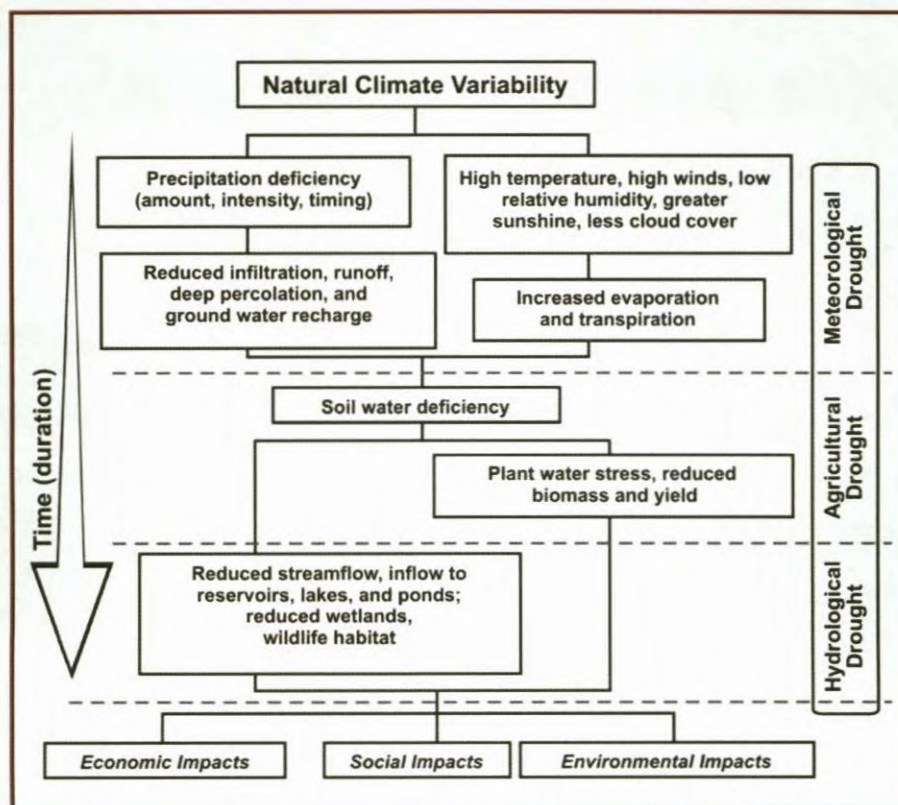


Figure 14: Relationship between meteorological, hydrological, agricultural and socio-economic droughts (NMDC 2008; Trenberth 2007)

The sections below provide a description of each drought type:

4.4.1 Meteorological Drought

According to (Reed 1992; Thompson & Powel 1998) meteorological drought involves a reduction in rainfall for a specified period, below a specified amount usually defined as some proportion of the long-term average for the specified period of time. Meteorological drought basically affects water resource systems. To ascertain these drought type specific indices can be used. These include the Standardized Precipitation Index (SPI) (McKee 1993) and the Bhalme-Mooley Index (BMI) (Bhalme and Mooley 1979). These indexes are calculated using precipitation or rainfall as the principal indicator. The SPI can be applied to different time scales, and has thus been frequently used. But an exclusive use of precipitation data as the input has posed a limitation. Some other drought indices include; the Palmer Drought Severity Index (PDSI) (Palmer 1965) and the Standardized Precipitation Evapotranspiration Index (SPEI) (Vicente-Serrano et al., 2010). The original PDSI can however be used only on a fixed temporal

scale, while hydro climatic variables may respond to droughts over a wide range of time scales (Gobena and Gan 2013; Dai 2011).

4.4.2 Agricultural Drought

This type of drought occurs when moisture level in soils is inadequate to support average crop harvests. Agricultural drought is evident where there is a reduction in agricultural output and other related production. This type of drought can result to famine and starvation. To determine the extent of agricultural drought, indices are used to measure soil moisture content. These include Palmer's 1968 crop moisture index (CMI) that takes into account annual precipitation and annual potential evapotranspiration (Trenberth 2007)

4.4.3 Hydrological drought

This is defined by the reduction in water resources (stream flows, lake levels, and ground water or underground aquifers) below a specified level for a prolonged period of time (Reed 1992). Hydrological drought indices are often based on basin stream flow data, such as the Standardized Stream flow Index (SSI) (Vicente-Serrano et al., 2011).

4.4.4 Socio-economic drought

This occurs when human activities are affected by reduced precipitation and related water availability. This form of drought associates human activities with elements of meteorological, agricultural and hydrological drought (US National Drought Mitigation Centre, 2008). When the supply of some goods or services such as water and electricity are weather dependent then drought may cause shortages in supply of these economic goods (UNECA, 2007).

4.4.5 Groundwater drought

In addition to the four types of drought based on the widely accepted classification above, Misha and Singh (2010) suggest groundwater drought as an additional type. Groundwater drought is defined as decreased groundwater level, depleted groundwater storage and low recharge or low discharge (Dai 2011). It occurs following a decrease in precipitation, soil moisture and recharge or an increase in groundwater abstraction. Groundwater drought is a physical phenomenon, similar to meteorological, agricultural and hydrological droughts, but may be directly caused by human factors, that is, an excessive abstraction of groundwater. The indicators to quantify groundwater storage recharge or discharge could be used as drought indices for groundwater drought (Misha and Singh, 2010).

4.5 Historical Analysis of Drought in southern Africa

Drought has historically been a common feature in southern Africa. Eleven countries make up the region of southern Africa as depicted in the map below.



Figure 15: Southern Africa map (Google 2014)

In the past 34 years, the region has been faced six major droughts during 1982-83, 1987-88, 1991-92; 1994-95, 2000-01, 2007-8. Of these drought periods 1982-83, 1991-92 and 1994-95 were severe and region-wide. Below is a table indicating southern Africa’s drought history.

Table 1: Drought History -southern Africa

| Time Scale | southern Africa Drought Situation |
|------------|---|
| 1800-1850 | The drought was severe throughout southern Africa drying up the region’s rivers, swamps and wells. |
| 1840-1850 | In southern Africa, there were five successive droughts during the period 1844-1849. |
| 1895-1910 | An abrupt continent-wide decrease in rainfall started, culminating in severe droughts in the 1910s, and desiccation of the African continent. |
| 1921-1930 | Severe droughts were experienced throughout southern Africa |

| | |
|------------------|--|
| | |
| 1930-1950 | southern Africa recorded moderate to severe drought between 1930/31 and 1932/33. The year 1946/47 witnessed the region's worst famine |
| 1967-1973 | The 1967/68 drought heralded the beginning of a period of successive unusually dry years across Africa, ending about 1972/73 in southern Africa. |
| 1981-1995 | Drought ravaged the whole sub-region during 1991/92. |
| 2001-2007 | Although wet years occurred during this period it has been recorded that drought affected some parts of southern Africa. |

(SADC Climatic Service Centre 2011; State of the environment in southern Africa, SADC 1994)

As shown in the table above, within the past three decades southern Africa faced one of the worst droughts in 1992. The drought devastated crop, particularly maize, reduced scarce water availability in many areas and placed the lives of some 18 million people at risk from starvation and disease. Historical analysis indicate that drought is a common feature of southern Africa's climate and one of the most important natural disasters in southern Africa. Each year countries in this region grapple with drought impacts. Its frequent occurrence has had devastating effects owing to the region's dependence on rain fed agriculture. These drought seasons have also left the footprints of many non-governmental organizations working towards alleviating its drastic effects. These NGOs implement a number of drought mitigation efforts which have complemented government initiatives of alleviating hunger and starvation. The challenge though with most of these interventions has been the inability to create adequate preparedness measures for affected populations.

In response to recurrent droughts, governments in the region have also responded by creating regional drought monitoring centers such as the one established in Harare, Zimbabwe in 1989. The challenge with this center is that it has not been effective in executing its duties due to resource limitations. However, it is worth noting that, efforts have been made by SADC to deal with challenges posed by drought.

4.6 SADC Drought Mitigation Challenges

A review of SADC's efforts in dealing with drought reveals a number of challenges. The first challenge was raised by Wilhite (2007) who strongly argues that, SADC's shortcoming in

drought interventions are a result of its inability to keep drought monitoring schemes active even during times of good rains. They have argued that such systems are allowed to collapse and when drought recurs, crisis rather than proactive management approaches are formulated, often at phenomenal cost. The second challenge is that, countries in southern Africa are battling to deal with other urgent problems, such as reducing poverty, fighting disease, reducing unemployment, political unrest in addition to drought. Hence, when drought seems to have been abated, resources are channeled to other sectors. The third challenge emanates from the definition of drought itself. According to Wilhite (2007) perhaps establishing a climate monitoring center would help deal with the mistaken notion of what drought monitoring entails. It is argued that drought monitoring is too specific and hence the need for change. Another option will be to make the proposed center regional in order to ensure its survival.

The fourth challenge with managing droughts in southern Africa lies with limitations in drought interventions at a national level. Existing literature, has exposed lack of drought policies and plans in some SADC member states such as, Angola, Lesotho, Mauritius, Mozambique, Namibia, Swaziland, Zambia including Zimbabwe, although some infrastructure does exist in most of these countries to respond to drought conditions, but usually on a reactive or crisis management basis. In these countries, some early warning systems are often in place usually focusing on monitoring climate and water supply conditions and the other emphasizing issues associated with food security. Mitigating the effects of drought requires the use of all components of the cycle of disaster management rather than only the crisis management portion of this cycle. Because of the region's emphasis on crisis management, countries have generally moved from one disaster to another with little, if any, reduction in risk

4.7 Drought in Zimbabwe

Zimbabwe experiences recurrent droughts which occur on average every 2 years countrywide (NEPC 1999; CEDRISA 2009; Zimbabwe Civil Protection 2012). Drought is considered the most prevalent 'hazard and accounted for 6 out of 10 major disasters between 1982 and 2011' (Zimbabwe Civil Protection 2012). In view of the last three decades, the main droughts in the country were witnessed in 1992, 2001 and 2007 (Munro 2003; Raftopulous 1999). Of these droughts, the 1992 and 2001 droughts were the worst, affecting more than 5.6 million and 6 million people respectively as shown in the graph below (Thompson 1993; Zimbabwe Civil

Protection 2012). The 1992 drought impact was experienced countrywide leading to its declaration by the Zimbabwe government as a State of Disaster on 6 March 1992 (Secretariat for the Drought Disaster 1992).

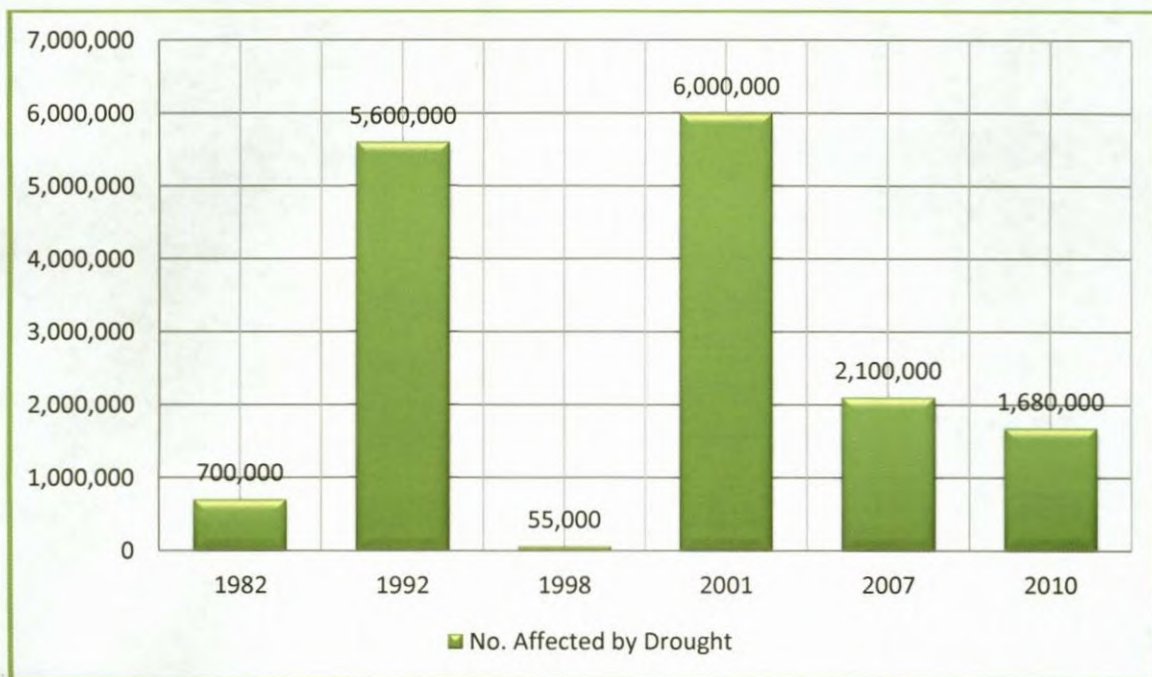


Figure 16: Drought Year Statistics (Zimbabwe Civil Protection 2012; Thompson 1993)

4.8 Drought Impact in Zimbabwe

The impacts of drought in Zimbabwe's communities are varied and range from shortages of water and food, cattle losses, declining wages, contractions in national income, balance of payment difficulties, increasing unemployment and resort by the poor to emergency coping strategies (Munro 2003; Zimbabwe Civil Protection 2011). These impacts result to a situation which (Hulme & Shepherd 2003) describe as transient poverty. This explains a temporary disruption of normal livelihood patterns in communities as a result of drought impact

When drought strikes certain special groups are usually the most affected. For instance, in Zimbabwe children, people living with HIV/AIDS and the elderly are considered the most at risk population (Zimbabwe Civil Protection 2012). A number of factors influence drought impacts on communities and these include; poverty and rural vulnerability; increasing water demand due to urbanization, poor soil and water management; climate variability and change (Zimbabwe Civil

Protection 2012:8). In addition, drought also has effects on the agricultural sector which is heavily dependent on rainfall. An analysis of drought impacts in Zimbabwe indicates that regions IV and V where this study is located are the most vulnerable.

4.9 Drought Impact on Livestock

This study focuses on NGO drought approaches in Gwanda district which falls under the low rainfall region IV and is reliant on livestock production. To understand drought impacts particularly in Gwanda, this chapter will also review its impact on livestock.

According to (Morton 2013) drought affects pastoral and agro-pastoral livestock systems essentially by reducing the amount of forage available and thereby leading to the death of livestock. It may also directly kill livestock through lack of drinking water. In 2012, Matabeleland south lost 12 721 cattle due to drought and of these 812 were from Gwanda district (Sunday News 2013). In Zimbabwe, drought accounts for the reduction of livestock population. According to the Ministry of Agriculture Mechanization and Irrigation Development, Division of Livestock and Veterinary Services' statistics as quoted in (Sunday News 2013) in 2011, the cattle population stood at 5 156 753 heads, which represented a decline compared to 5,7 million stock in 2000.



Figure 17: Picture depicting cattle deaths due to drought (Sunday News 2013)

By weakening livestock, drought may also increase their vulnerability to a range of animal diseases, both during the dry phase and also during a succeeding recovery phase when internal parasites may flourish in newly rainy conditions. According to the (ZIMVAC 2013:90) survey *'Of the households that reported losing cattle in the 2012/13 consumption year in Matabeleland South, 56 percent reported diseases as the main cause while 69 percent indicated cattle deaths were due to drought'*.

In Zimbabwe, most pastoralists especially in dry areas of Matabeleland generally depend for their staple food, and in particular their energy requirements, on cereals purchased with the proceeds from sales of livestock and livestock products. During droughts the stock that farmers sell are in poor condition and thus fetch lower prices. In addition, farmers sell more stock resulting in sharp decline in market prices for livestock (Morton 2013). The (ZIMVAC 2013) report states that during the 2013 drought, 45 percent of the households in Matabeleland South were disposing cattle to purchase food. Similarly, (Practical Action 2013:3) revealed that, in 2008 villagers in Gwanda district were *'disposing of their goats and cattle for four to five and ten to fifteen 12,5kg bags of imported super refined maize meal respectively'*. The bags cost R70 to R100 each. Exchanging one ox for 15 bags of meal effectively valued the animal at a mere R1, 500.00 which is far below its actual market value'. Cattle are an essential source of draught power for tilling the land and pulling scotch carts, without which farmers are effectively unable to farm. Having disposed of their productive assets, they are left with limited chances of recovering from drought stress. Drought may also have a number of different and interconnected social, economic and environmental impacts. Below is a further discussion on the impacts of droughts:

4.10 Economic Impacts-

The economic impacts of drought in Zimbabwe can be defined as those that are accounted for in monetary terms. Droughts can lead to loss of crops and this inevitably affects the income of farmers (NDMC 2014). Zimbabwe faced enormous economic losses as a result of the 1982/83 drought, including US\$ 360 million in direct agricultural losses and US\$ 120 million in drought relief costs (Ogallo 1987). In 2013, the Government used a lot of resources in grain import owing to poor harvests experienced in that year. According to the (Ministry of Agriculture 2013)

second crop assessment report only 798,600 metric tons (mt) of maize were harvested in the 2013 season compared to the 968,000 mt that were harvested in 2012. This was against a national requirement of 1,800,000 mt. As such, the Government of Zimbabwe made efforts to close this huge food deficit of 1,001,400 mt by importing 150,000 mt of maize, and this was augmented by up to 160,000 mt that the Grain Millers Association had committed to import (AfDB 2013).

4.11 Social Impacts

According to (NDMC 2014) social drought impacts may have a number of effects on communities including; anxiety or depression especially on economic losses caused by drought. Loss of human life due to food shortages, heat, suicides, violence; health problems related to poor water quality; health problems from inhaled dust; reduced incomes and increased poverty; political conflicts and social unrest; inequity in the distribution of drought relief; rural-urban migration which leads to depletion of farm labor and disintegration of family fabrics; reduction of recreational infrastructure and increase of household conflicts as a result of reduced household income. Drought may also put a strain on Diasporas who have to support relatives during times of crisis. This is prevalent in Zimbabwe where 3, 5 million Zimbabweans are resident in other countries (Herald 2013) Evidence of this practice is seen in the increase of remittances over the years although this is not attributable to drought occurrences alone. Remittances to Zimbabwe have grown significantly over time, rising from as low as US\$17million in 1980 to about US\$44 million in 1994 and an estimated US\$361 million by 2007 (Mudungwe 2009; Oucho 2008; Mutume 2005).

4.12 Environmental Impacts

The (NDMC 2014) notes that, drought effects on the environment include; soils; farmlands; rangelands; water; loss of human lives; livestock and wildlife; infrastructure; air; human settlements and power plants.

4.13 Causes of Drought Impact

The drought impacts stem from a combination of factors. An increase in rainfall variability is one aspect, but how this affects communities and nations depends upon how well people, the economy and the environment can cope. As such a number of issues combine to undermine the

ability of communities to withstand drought situations particularly in Zimbabwe. Over the years, Zimbabwe has used diverse strategies to deal with drought – unfortunately some of these have contributed to the vulnerability of communities to this hazard. For instance, the government placed large chunk of staple food production and supply in the hands of Zimbabwe's communal farmers, who had been without advanced technologies and had been forced to farm increasingly marginal –lands and this was a major contributory factor to drought effects (Chisvo 1994). The land reform program which placed the bulk of the land in the hands of unexperienced farmers with limited capital also exposed the country to massive drought effects (Moyo 1995). In other parts of the country such as regions 1 -3 where there is improved rainfall, large-scale producers discovered greater financial incentives to grow cash crops such as tobacco and cotton instead of grain. This has contributed in reduced grain metric levels. Other root causes to drought impacts in Zimbabwe include; poor health limiting household productivity, lack of access by communities to information on how to reduce drought impacts and climate change. A comprehensive account of drought impact root causes based on primary data will be articulated in chapter 4 of this study.

4.14 Institutional Framework for Drought in Zimbabwe

Zimbabwe has potential capacities which include the availability of legal frameworks and instruments. Of note is the reform of the DRM framework guided by the Hyogo Framework for Action 2005-2015. Draft DRM legislation has been developed and will replace the 1989 Civil Protection Act and will transform the whole DRM system for Zimbabwe including the equally important components of preparedness. A draft DRM policy has also been developed to ensure the implementation of the DRM legislation once it is approved by Parliament. Another notable capacity is the existence of a functional national platform with a wide cross sectional representation from Government, UN agencies as well as local and international NGOs. This is complemented by relatively functional Civil Protection Committees both at Provincial and District levels. The National Platform, in form of the National Civil Protection Committee meets regularly to create consensus on issues that require intervention. In addition, there is a dedicated Government department, the Department of Civil Protection under the Ministry of Local Government, Rural and Urban Development, which has the overall responsibility of disaster risk management.



Cooperating partners such as the UN System and NGOs (local and international) have been providing various emergency preparedness and response (EPR), assessments and early recovery assistance to the Government of Zimbabwe.

Zimbabwe has a relatively strong institutional and technical capacity to prevent, mitigate, prepare for, respond to and recover from drought-induced disasters. The decentralized local Government structures, including the Drought Relief and Civil Protection Committees, ensure wider stakeholders' participation. The Meteorological Office, National Early Warning Unit (NEWU), Famine Early Warning systems Network (FEWSNET), World Food Programme (WFP), Drought Monitoring Centre (DMC) and the Food and Nutrition Council in collaboration with ZIMVAC assess and monitor drought hazards and maintain early warning systems. The Agricultural Rural Extension Services (Agritex) and cooperating partners, particularly United Nations Food and Agricultural Organization (UN-FAO), promote drought tolerant crops, grazing schemes, water harvesting, expansion of irrigation schemes and moisture conservation. There are also social support mechanisms to protect vulnerable groups through drought relief, cash transfers and food for work programmes. Some provinces and districts, for example have updated preparedness and response plans in place while others need to have plans updated.

4.15 Conclusion

This chapter explored the various definitions of drought as a phenomenon, its characteristics and effects to populations. The chapter also undertook a historical analysis of drought in southern Africa and challenges faced by SADC governments in mitigating drought. A review of drought effects and interventions in Zimbabwe and specifically in Gwanda was also undertaken.

Chapter 5

NGOs and Drought

5.0 Introduction

This chapter discusses the role of NGOs in drought risk management in Zimbabwe and globally. The chapter is organized into sections. The first section provides an analysis of the term ‘NGO’ and how it is defined by various scholars. The second section highlights various scholarly arguments on the shortcomings of NGOs. The third part of the chapter presents a thorough analysis of the role of NGOs in drought management both at a global scale and specifically in Zimbabwe. The chapter also pays specific attention to the contribution of NGOs in drought mitigation Gwanda district

5.1 Understanding Non-Governmental Organizations (NGOs)

Previous research on the role of NGOs in development work has demonstrated that there is no universally accepted definition of the term ‘NGO’ (Vakil 1997; Martens 2002; Kilby 2006; Lewis 2009). Various scholars have presented different viewpoints on the meaning of this term. Available literature has also revealed that the definition of the term NGO is fluid and constantly evolving. To start with Lewis (2007) contends that the acronym ‘*NGO*’ is used in reference to international or ‘*developing*’ country work, since its origin lies in the formation of the United Nations in 1945, when the designation ‘non-governmental organization’ was awarded to certain international non-state organizations that were given consultative status in UN activities. This was the initial role of NGOs in the beginning. However, their role grew as they expanded their reach and focus in a number of developmental issues both at national and international levels. The distinct role of NGOs has thus made it precisely difficult to define what constitutes an NGO. As a result, the meaning of the term ‘*NGO*’ remains complex and unclear (Lewis 2007).

Tracing the historical development of NGOs, it is evident that NGOs have since the late 1980s assumed a huge role in development than previously. Hence, they are commonly understood as development actors. While this is the case, there is evidence in literature that, fierce debates abound on their effectiveness in development. Some literary works, particularly earlier research on NGOs, have celebrated their existence as bringing fresh solutions to longstanding problems

characterized by inefficient government to government aid and ineffective development projects (Kilby 2006). To cement this view, Lewis (2007) argues that, NGOs are viewed as a cost-effective alternative to public sector service delivery and as a “quick fix” for development problems.

This view is supported by Edwards and Hulme (1996) who argued that, in the realm of international development, NGOs are perceived as the new “favored child” of official development agencies and proclaimed as a “magic bullet” to target and fix the problems that have befallen the development process. They further argued that, NGOs are considered instrumental in changing mindsets and attitudes (Keck and Sikkink, 1998) in addition to being more efficient providers of goods and services (Edwards and Hulme, 1996). It was during this period that, a historian (Iriye 1999: 424) remarked, ‘to ignore NGOs is to *“misread the history of the twentieth-century world”*. His work and those of other scholars placed emphasis on the view that, NGOs are an indispensable development player.

On the contrary, other studies have revealed that NGOs had only partially lived up to these unrealistically high expectations. Questions around the effective role of NGOs in development, led donor countries to shift methods of channeling development assistance, as they began working with developing country governments, using mechanisms such as budget support” and *“sector-wide approaches”* (Lewis 2007). The above arguments account for some of the various view points on the actual meaning of the term NGO.

Martens (2002) argue that, the term ‘NGO’ can either be defined using the juridical approach or the sociological perspective. He further argues that, the juridical interpretation looks into the legal status of NGOs in the national context and their implications for international law. Elaborating his argument, Martens (2002) also points out that, the sociological perspective is centered on examining the specific composition and functions of NGOs in the transnational arena.

In line with Martens (2002)’s viewpoint, Lewis (2007) defines NGOs from a sociological perspective as playing three critical roles in development work that is, implementer, catalyst, and partner. He further argues that the catalyst role can be defined as an NGO’s ability to inspire, facilitate or contribute to improved thinking and action to promote social transformation. The

implementer role is concerned with the mobilization of resources to provide goods and services to people who need them. It also includes activities that take place among NGOs and with communities such as “capacity building” work which seeks to develop and strengthen capabilities. The ‘partnership’ perspective seeks to bring NGOs into mutually beneficial relationships with various development actors.

Kilby (2006: 6) in his analysis defined NGOs in a manner which Martens (2002) regards as juridical as follows;

‘self-governing independent bodies, voluntary in nature, and tend to engage both their supporters and constituency on the basis of values or some shared interest or concern, and have a public benefit purpose’.

Earlier studies by authors such as (Salmon and Anheier, 1999) have noted that, NGOs are in some way formally registered by the state and adopt non-violent approaches to their work. However, latest studies have revealed that NGOs can be self-governing and independent although this mechanism will be recognized by government (Lloyd and Casas 2009).

In addition, Ahmed (2007:14) provides a definition of NGOs which is similar to Kilby (2006)’s definition as;

“characterized primarily by humanitarian or cooperative, rather than commercial, objectives, that pursues activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development in developing countries”.

In Zimbabwe, an understanding of the role played by NGOs is displayed in the definition extracted from the draft Non-Governmental Organizations Act (2007). The act defines NGOs as “any non-profit making non-governmental body that receives funds from a donor or donors and which performs work intended to benefit the public or a sector of the public and which applies any fees or profits from its activities to the furtherance of its objects” (2007:7).

In view of the scholarly views above, this research adopts Lewis (2007)’s definition of NGOs which is categorized into three; implementer, catalyst, and partner. This captures both the sociological and juridical role of NGOs in its definition as stated by Martens (2002).

5.2 Development Assistance channeled through NGOs globally

It is hard to know precisely how many NGOs there are, because few comprehensive or reliable statistics are kept. The United Nations estimates that there were about 35,000 large established NGOs in 2000 globally (Lewis 2009). In 2004, it was estimated that NGOs were responsible for about \$US23 billions of total aid money, or approximately one third of total Overseas Development Assistance (ODA) (Riddell 2007: 53). Newsweek (5 September 2005) cited figures suggesting that official development assistance provided through NGOs had increased from 4.6 percent in 1995 to 13 percent in 2004, and that the total aid volume had increased from US\$59 to US\$78.6 billion in the same period. (Lewis 2009:1). Zimbabwe is amongst many developing countries that have benefitted from donor aid through various drought programmes. Aid has been channeled to communities through local NGOs to help alleviate drought effects.

5.3 NGO's Sin in General

A first wave of academic literature on NGOs emerged in the 1990s (such as Clark 1990; Korten, 1991; Fowler 1997) that was normative and applied rather than primarily analytical in its focus. While such work presented a wide range of case studies of NGOs in action and began to raise important questions about NGO performance and accountability, it was not until the following decade that a second wave of more detailed, theoretically grounded research on NGOs began to become more common within the interdisciplinary field of development studies (e.g., Hilhorst, 2003; Igoe & Kelsall, 2005).

NGOs have received fierce criticism in some quarters. One argument has been about the role NGOs have played in shifting attention away from state institutions towards more privatized – and potentially less accountable – forms of public sector reform (Test 1998). For these critics, NGOs helped facilitate neoliberal policy change either by participating in de facto privatization through the contracting- out of public services, or by taking responsibility for clearing up the mess left by neoliberal policies which disproportionately disadvantaged poor people. In this regard, NGOs are seen as having worsened rather than improved the plight of the poor

As their name implies, NGOs also need to be viewed in the context of the government against which they seek to distinguish themselves. This is because NGOs are conditioned by and gain much of their legitimacy from, their relationships with government. Clark (1991) suggested that NGOs “*can oppose, complement or reform the state but they cannot ignore it.*” NGOs will always remain dependent for their “*room for maneuver*” on the type of government which they find themselves dealing with at international, national or local levels. Government attitudes to NGOs vary considerably from place to place, and tend to change with successive regimes. They range from active hostility, in which governments may seek to intervene in the affairs of NGOs, or even to dissolve them (with or without good reason) to periods of active courtship, “*partnership*” (and sometimes “*co-optation*”) as governments and donors may alternatively seek to incorporate NGOs into policy and intervention processes.

Despite these criticisms, (Lewis 2009:1) argues that NGOs are now recognized as key third sector actors on the landscapes of development, human rights, humanitarian action, environment, and many other areas of public action...”. This explains why it is critical to evaluate their action which is the intention of this study.

5.4 NGOs and Drought in Zimbabwe

A number of approaches are used by NGOs to manage drought disasters in Gwanda. NGOs such as Practical Action use a livelihood-centered approach to disaster management. This entails reducing the impact of particular hazards by increasing livelihood opportunities, increasing resilience, reducing vulnerability, while fostering preparedness to deal with local hazards and their aftermath (Practical Action 2013). The approach maintains that while communities are exposed to drought occurrences or hazards, the resource poor with few assets are least able to protect themselves or respond effectively. For instance, ‘a small-holder farmer in Gwanda District who has a few goats and is growing maize as the family’s main crop is unlikely to be able to recover from a long-lasting drought. His livelihood is most likely destroyed. Yet a richer farmer with access to a borehole, several milking cows, poultry, a plough to cultivate more land and a vegetable garden, is more likely to survive and recover from the same drought’ (Practical Action 2013:3). The approach is also based on the understanding that, poverty, vulnerability and disasters are inextricably linked. Hence vulnerability reduction is put at the center of DRR

interventions. It is also believed that ‘insecure livelihoods, supported by a fragile asset base (Including human, physical, natural, financial and social assets) are extremely vulnerable to the impact of hazards’ (Practical Action 2013:5). This DRR approach has proved to be very effective. Other NGOs do not use a similar approach and their efforts as indicated in the table below are centered mainly on post disaster activities. This means that, many communities will remain vulnerable if the approaches which certain NGOs continue to use do not seek to reduce risk. According to (ISDR 2007) the risk associated with drought for any region or group is a product of the exposure to vulnerability of society to the event. Vulnerability is ‘the characteristics and circumstances of a community system or asset that make it susceptible to the changing effects of a hazard’ (ISDR 2007: viii). In view of this conceptualization of vulnerability, NGO efforts can only be effective if their interventions are based on an understanding of the drought hazard and the factors and processes concerning who and what is most at risk to drought and why. Below is a table reflecting NGO drought programmes in Gwanda district

Table 2: NGO Drought Programmes in Gwanda

| Organization | Services Provided |
|-------------------------------|--|
| Hlekweni | Nutritional and Herbal Gardening; Drip irrigation; Gully reclamation; Small livestock production/breeding; Seed multiplication; sustainable food production and agricultural innovation; small livestock production, management and marketing |
| Lutheran development services | Gully reclamation; Shallow well and dip wells development; Nutritional gardening; Relief aid and food for work; food and water security Workshops; Tree planting and material support; Restocking; Conservation Farming; money saving and strengthening income generating groups |
| Red cross | Small livestock production; nutrition gardening; borehole rehabilitation |
| Agritex | Agricultural extension services; seed distribution; promoting Farmer Field Schools |
| World Vision | Free food aid; Material support for dip tank rehabilitation; training and rehabilitation of boreholes; Conservation farming; Cattle dip |

| | |
|--|---|
| | chemicals/remedies for tick-borne diseases; supplementary feeding for school children |
|--|---|

Source (Practical Action 2013:14)

Based on the data of NGO activities above, it is evident that most NGO interventions are restricted to activities they undertake only after outbreak of a disaster. Drought risk identification, risk monitoring and early warning do not seem to be priority areas for NGOs. According to (ISDR, 2007) the process of risk identification, monitoring and early warning forms the basis for promoting a culture of resilience in combination with enhancing knowledge about hazard occurrence, the potential effects of the hazard and the related vulnerabilities of potentially affected people and activities. Common activities by NGOs operating in Gwanda as reflected in available literature include; gardening, dry land cropping, animal husbandry, Mopani harvesting and marketing, infield rainwater harvesting, gully reclamation and rehabilitation of infrastructure. While these activities are critical in enhancing the coping capacities of communities against drought, reducing the underlying factors of drought risk approaches remains critical. Approaches used by NGOs such as Practical Action which seeks to address vulnerability and are based on local needs and community participation is worth replicating. A number of DRR actions which can be adopted as best practices have been implemented by this institution and these include; livelihoods diversification, early planting, grain storage, livestock feed storage for dry seasons, adoption of suitable seed varieties and encouraging planting of drought tolerant seed varieties such as sorghum and millet (Practical Action, 2013).

Other NGO approaches used in Disaster Risk Reduction in Gwanda include the development of food security strategies through appropriate and sustainable environmentally friendly land use and water management systems. NGOs such as Dabane Trust have helped communities develop their own water resources. Communities have been assisted with establishing sustainable small-scale irrigated gardens around simple hand pump systems and water harvesting schemes. These gardens have been very useful in alleviating drought impact in the district of Gwanda. While these approaches are recommendable a need to enhance drought early warning systems remains crucial. Efforts should be devoted on assessing drought impact in order to identify the most vulnerable groups and sectors during drought. In addition increasing individual, community and institutional capacities is also essential to reducing vulnerability to drought impact.

5.5 NGO and Government Drought Mitigation Interventions

The role of NGOs in drought mitigation cannot be understood outside efforts by the government of Zimbabwe as their role is only complementary. This section brings into perspective government drought support interventions and their limitations. To alleviate drought impact, the government of Zimbabwe has also played a critical role in drought risk management. Its efforts are largely supported by an Agricultural Policy which provides a framework for the promotion of food security at both national and household levels. A number of measures have been instituted to protect communities against drought impact and these include; capacitating farmers to increase agricultural production and productivity; importation of grain in times of grain shortages; building and maintaining grain reserves and; provision of drought relief food to people affected by drought and increased investment in irrigation development (Munro 2003). The major challenge with the drought policy is that it has not been adequate in dealing with drought effects due to its focus in production, storage and distribution of food to the nation.

The overwhelming problems of drought have remained grave prompting the government to shift its focus to prioritize early warning systems, the need for strategic reserve facilities, continued research efforts in traditional food crops, the need for medium and large-scale water conservation schemes and general national preparedness (Brian Raftopulous 1999). In addition to this, the government has invested resources in improving water harvesting techniques for irrigation farming schemes (NEPC 1999). The successes of these efforts have largely been limited due to resource challenges.

NGOs have attempted to augment government efforts in many ways especially in those areas of endemic food shortages. These organizations have targeted specific groups such as children under the age of five, expectant mothers and the aged in the affected districts. External donor organizations and governments have contributed immensely, not only in the critical food area by purchasing large stocks of food during drought years, but also in the funding of longer-term programmes for increased food production. Through these approaches, it is argued that the food availability equation at the household level has been achieved to a great extent, even though efforts are still being made to improve the household food situation (ZIMVAC 2013).

Zimbabwe, however, still faces major constraints inhibiting agriculture from realizing its full potential. High on that list of constraints is the question of land utilization by newly resettled

farmers. The government implemented a land reform to correct land imbalances inherited from the colonial system (Moyo 1995). This program was implemented in a chaotic manner resulting in poor agricultural outputs in the years that preceded the land resettlement Programme (Moyo 1995). The agricultural sector has failed to recover since the introduction of the land reform program. As a result, minor drought shocks on communities lead to very huge impacts.

5.6 Conclusion

This chapter assessed perceptions about the nature of NGOs as reflected in secondary literature. It also assessed their specific role in drought mitigation in Zimbabwe vis- a-vis government efforts. A snap shot of their work globally was also detailed

Chapter 6

Presentation and Analysis of Empirical Data

6.0 Introduction

This chapter presents an analysis of the empirical data for this study. It presents a critical evaluation of the views and perceptions of disaster management experts and communal farmers on the effectiveness of drought risk management strategies used by NGOs in alleviating drought impact in Gwanda rural district. It also examines expert and communal farmers' views on drought impact and its causes. The chapter also highlights opportunities for enhancing NGO drought management strategies. The analysis is based on the findings of Ward 1 and specifically Masholomoshe village in Gwanda rural district.

The chapter is organized into disparate sections capturing findings gathered through experts and communal farmers. Section I describes the study sample and presents the demographics according to gender, level of education and expert field. Section II outlines expert views on the impact of drought in the specified ward. It also provides a snapshot of the special groups affected by drought in the district. Section III also assesses the strategies used by NGOs in dealing with the impact of drought disasters in Gwanda and specifically in Masholomoshe village. Precisely, this section considers whether NGO drought management approaches are effective. The root causes of drought impacts in the district are discussed in Section IV. An analysis of the barriers faced in addressing the root causes of drought impact are also presented in this section. Section V reports the views of experts on the factors that influence effective drought risk assessment practices in the study area. In the final analysis, this section presents the findings of the study on the extent to which NGOs are able to disseminate information on drought risks and early warning.

6.1 Data Collection and Sampling

To collect data, the study used key informant interviews and a structured questionnaire. The structured questionnaire was useful in gathering the views of experts including; disaster management practitioners, policy makers, agriculturalists, academics and donor agencies. 20

structured questionnaires were completed through interviews with disaster management experts in Zimbabwe. The interviews were held between October and December 2013. 65 percent of the respondents were male while 35 percent were female (See figure 1 below). The study utilized the expert sampling technique which allowed for the solicitation of information from respondents with a particular skill set. The data attained through this approach complemented secondary sources. The study targeted experts working in the field of disaster management particularly in Gwanda and this helped the research to understand drought impacts and approaches used by NGOs better. Confidentiality was guaranteed to the respondents and for this reason, this study utilized pseudo names. Perceptions from N-GO and government field personnel enhanced the study with a deeper and thorough understanding of the barriers faced by NGOs in addressing causes of drought impact as well as the available opportunities for dealing with the adverse effects of drought. To complement data collected through the structured questionnaire, the study conducted 17 key informant interviews (as shown in Figure 2 below) targeting farm households in Masholomoshe village. The interviews were held in June 2014. Farmers' perspectives provided the study with a deeper understanding of the effects of drought in the district; the effectiveness of drought alleviation programs by NGOs and how these can be improved. Gathering farmers' perspectives also enabled the study to verify, validate and compare respondents' views. The study also identified points of convergence in the analysis of views from both experts and the farmers.

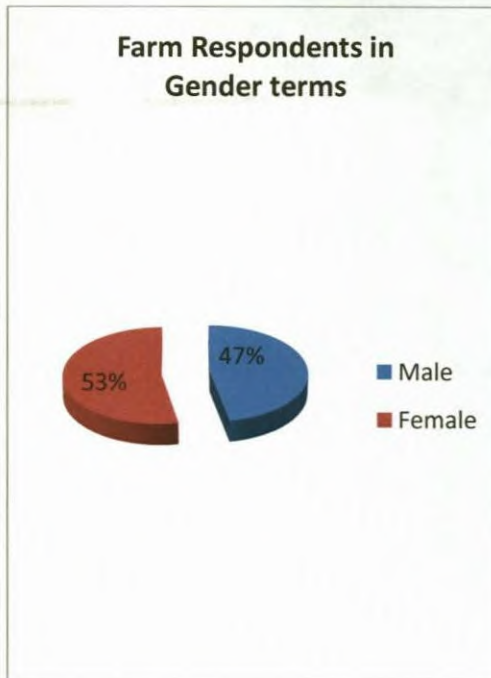
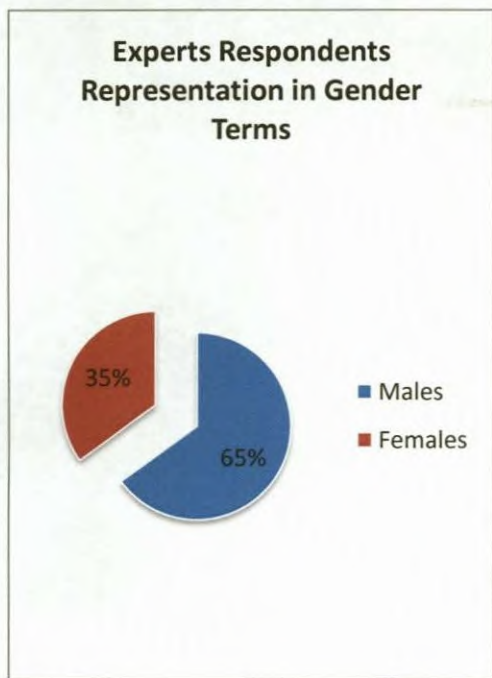


Figure 18: Gender Expert Representation

Figure 19: Farm respondents in Gender Terms

6.2 An Assessment of the Respondents

Experts that participated in this study had diverse skills and knowledge within the field of disaster management. Although the study sample was relatively small, the comprehensive answers which the respondents provided helped put the study into perspective. Structured interviews enabled the study to standardize questions and responses. However, to deal with the challenge of limiting the responses of the respondents, structured questions were complemented by open ended questions. This enabled the study to benefit from the expert and comprehensive knowledge of the respondents. A range of pre-coded answers on offer to respondents were used to create sections for the first part of this chapter. The total sample in terms of expert field comprised of the following; health professionals, development practitioners, disaster management students, land specialists, environmentalists, water and sanitation specialists, disaster management professionals and agriculturalists (see Figure 20 below).

At farm household level the 53 percent of respondents (as depicted in figure 21) that participated in the study had acquired primary education while 29 percent had managed to reach secondary level. Only 6 percent of the respondents had never accessed education. The level of education of the respondents helped enrich the interviews with more enlightened perspectives.

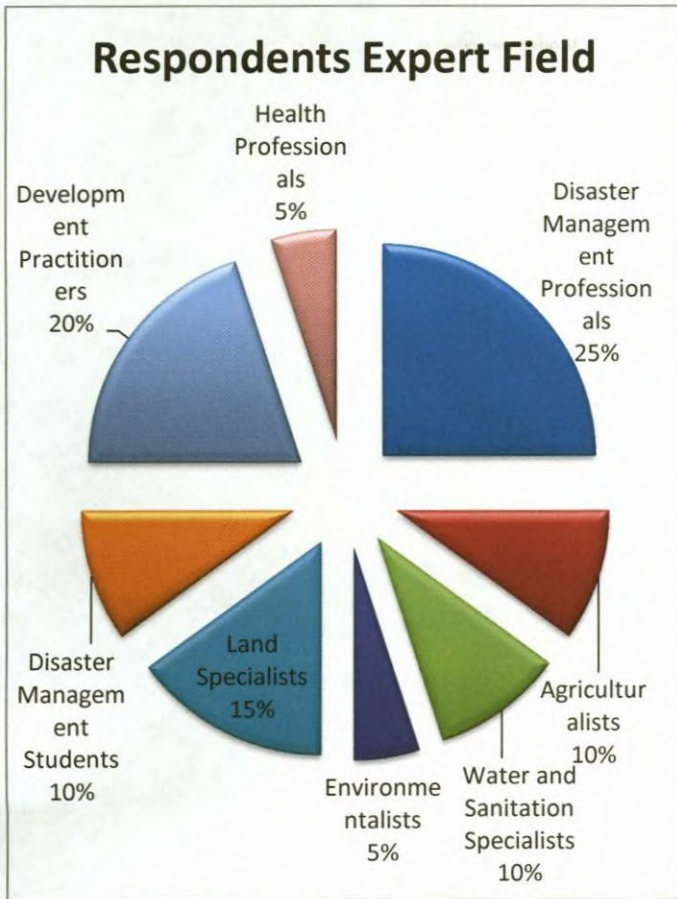


Figure 20: Respondents Expert Field

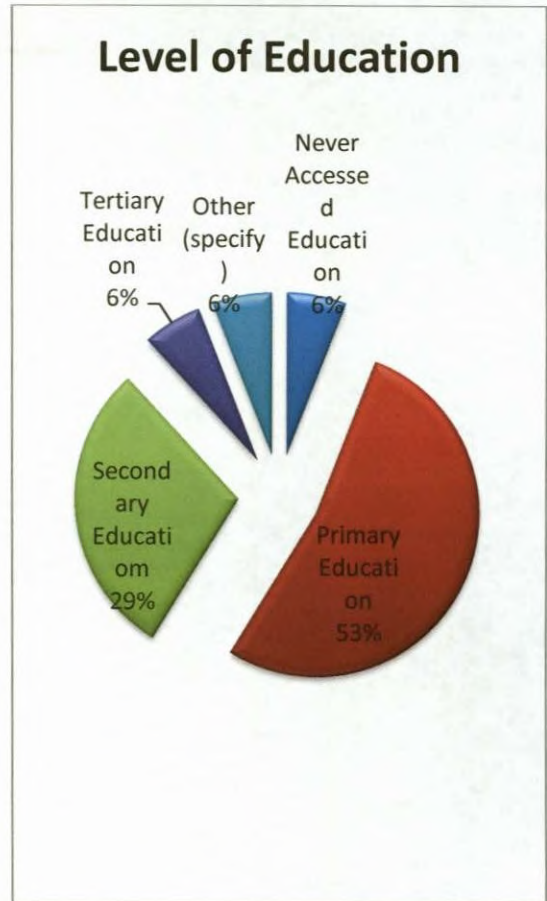


Figure 21: Farmers Level of Education

6.3 Farm Household Level Respondents Age Groups

Figure 22 below, shows that 88 percent of the community respondents that participated in the study were above the age of 61 and had also been resident in Masholomoshe for a period longer than 20 years. As a result, the study benefitted from the respondents' long experience with drought.

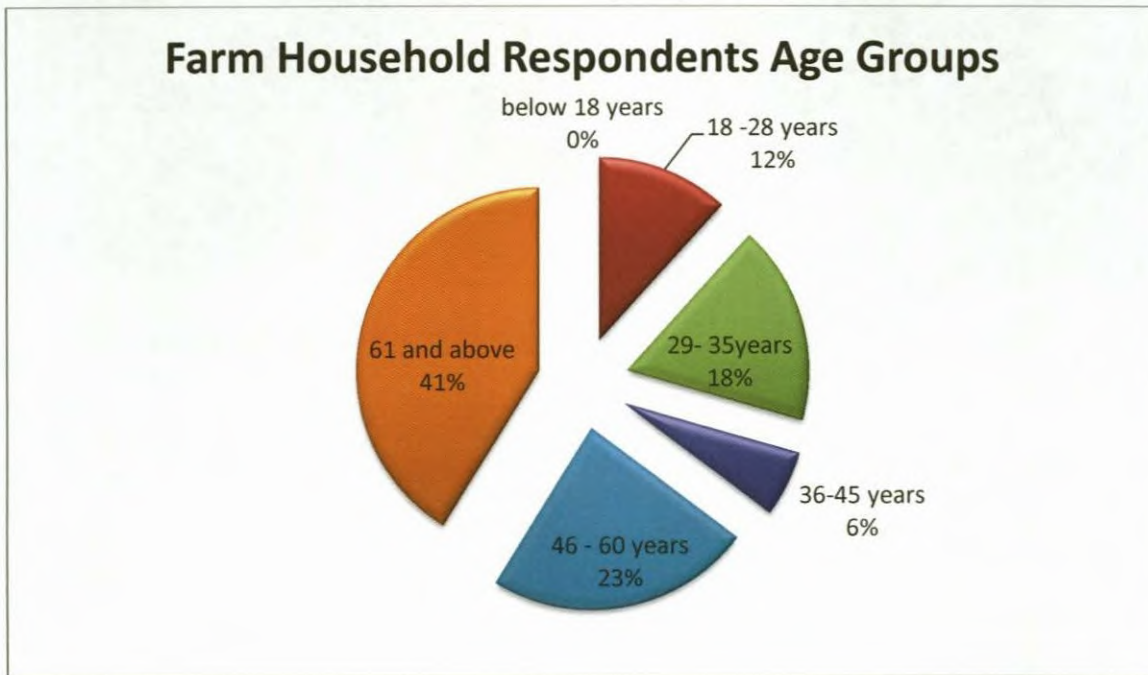


Figure 22: Farm Respondents Age Groups

6.4 Using International Strategy for Drought Risk Reduction framework (ISDR) for Analysis

The International Strategy for Drought Risk Reduction framework (ISDR 2007) which contributes to the implementation of the Hyogo Framework for Action (HFA) 2005 -2015 guided the design of the questions for both the structured questionnaire and interview guide used in this study. The ISDR framework provides an integrated approach to reducing societal vulnerability to drought and has been used to promote drought resilient nations and communities globally (ISDR 2007). It proposes the following main elements for consideration, namely: policy and governance; drought risk identification and early warning; awareness and education; reducing underlying factors of drought risk and mitigation and preparedness, as well as cross-cutting issues. The first three elements correspond with the Hyogo Framework for Action. In essence the ISDR framework seeks to contribute towards the implementation of the Hyogo Framework for Action. NGO approaches in alleviating drought effects were assessed against each component of the drought risk management framework.

The ISDR framework emphasizes the need to *‘foster proactive drought risk reduction strategies and activities to address drought's root causes rather than relying solely on emergency response*

measures' (ISDR 2007:7). It also stresses a transition from '*policies to practices through the development of a knowledge network to identify indigenous practices, exchange expertise, and propose simple and affordable technologies and good practices that can be promoted and implemented in vulnerable communities through coordinated programs and projects*' (ISDR 2007:5). The framework also considers the effectiveness of drought monitoring, mitigation, and preparedness policies and practices in alleviating drought impact. All these factors informed the analysis of drought impacts and NGO approaches in Gwanda.

In addition to the ISDR framework the study also employed the systematic approach used by (Venton 2012). In this study, the author undertook a comparative analysis of drought risk management practices in Africa and Asia. This study adopted the same approach although it relies on a case study and also focuses specifically on NGO drought risk management approaches.

6.5 Analytical Approach

The study conducted two types of analysis. The first involved an analysis of drought effects at farm household level, coping mechanisms and NGO drought alleviation efforts. The second entailed evaluating NGO drought management strategies using views from experts.

a) Farm household level analysis

Analysis of the household-level impact of drought and NGO interventions was conducted using 17 farm households interviews targeting Masholomoshe village located in ward 1 of Gwanda rural district. Households were selected from study area using purposive mixed probability sampling approach (as explained in chapter 5). Detailed information on drought effects, cropping patterns, production of drought resistant varieties; coping strategies, support received from NGOs, effectiveness of NGO drought interventions and how these could be improved were elicited using key informant interviews.

b) Expert Level Analysis

This research also used the 'expert analysis' technique which enabled it to solicit information from individuals with expertise in disaster risk management. According to Denscombe (2007), expert sampling is a type of purposive sampling technique that is used when your research has

aspects that needs to glean knowledge from individuals that have particular expertise. This expertise was particularly useful at the exploratory phase of qualitative research, highlighting potential new areas of interest or opening doors to other participants. Expert sampling was very useful in this research due to the limited empirical evidence related to the study focus

6.6 Major Empirical Findings

6.6.1 Household-level impact of drought

A detailed analysis of the household-level impact of drought was conducted using farm level interview data. The household-level impact of drought presented here is based mainly on the study of farm households in Masholomoshe village, Ward 1, Gwanda. An analysis of responses from farmers indicates that drought has historically been a major challenge in Masholomoshe. The area is reportedly said to be dry and receives poor rains on a year to year basis. Drought is said to affect farmers in a number of ways. At the most basic level it is said to be a source of conflict in most families. It also contributes to school drop outs and is a major cause of food insecurity.

Evidence from both experts and farmers as indicated in the graph below (figure 23) shows that drought in Gwanda district most significantly impacts on deaths in livestock and decline in crop yields .The impact of drought on crop yields means that communities are left food insecure.

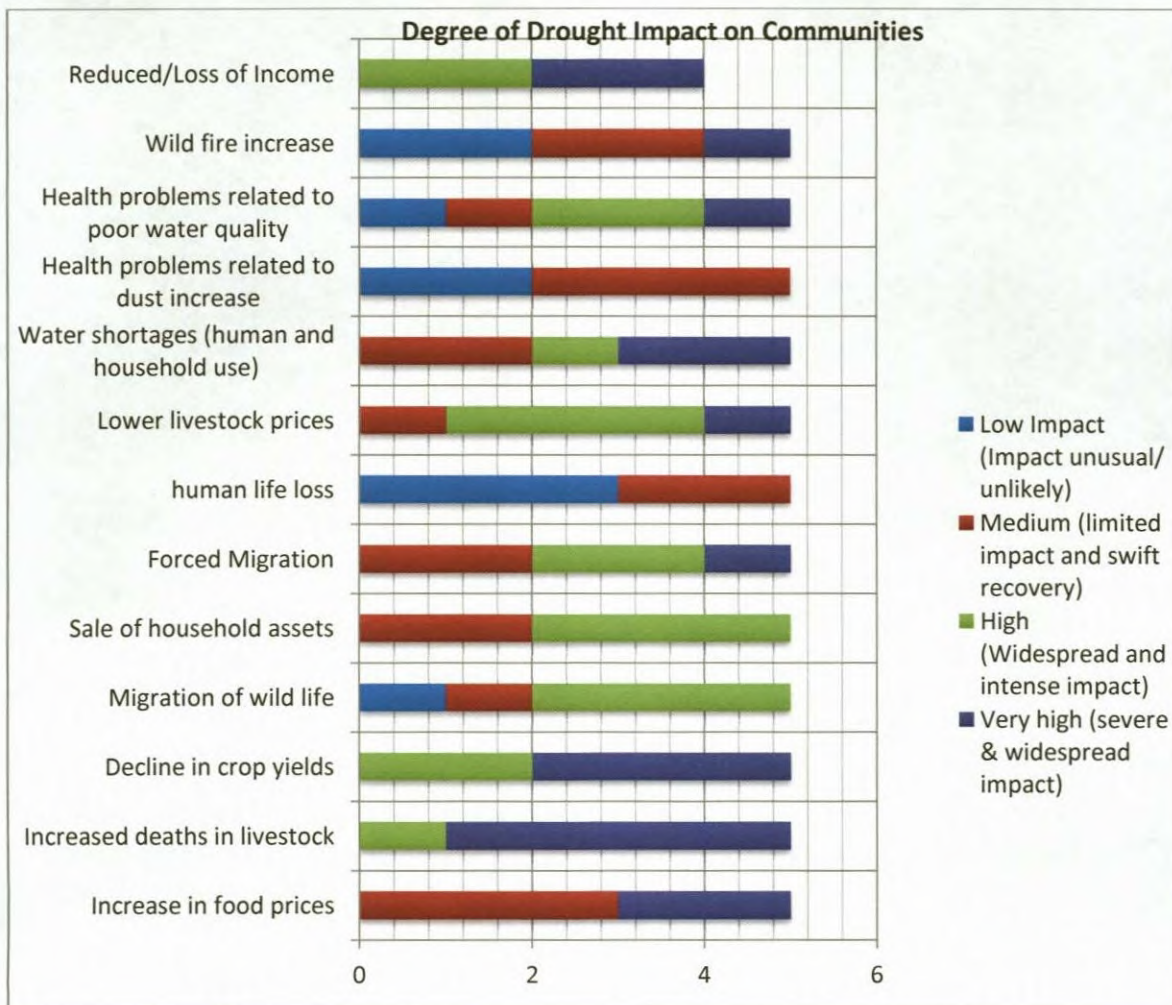


Figure 23: Degree of Drought Impact on Communities

The respondents also noted that most farmers in Gwanda use proceeds from sale of livestock to buy stock feed and their food requirements especially in drought times. Widespread impact of drought through livestock losses means that the communities are left with no income to meet their food needs. One of the farmers noted that;

We lost a lot of livestock especially in September 2013 as a result of drought, there was no stock feed and we got to a point where we had to exchange 10 bags of stock feed for a cow. This meant that the value of cattle had declined because under normal circumstances, a single cow would give one 25 bags of stock feed (Maphosa 2014)

To support the view above, farmers also noted that drought takes away their most valuable source of income 'cattle'. Proceeds from sale of livestock under normal circumstances usually go a long way in enabling communities to send their children to school as well as being self-reliant.

To back this point, 100 percent of expert respondents reported 'loss of income' ranging from high to very high impact areas. This signifies that the impact of drought on loss of income is widespread and severe. This was noted as a major point of vulnerability. According to (Wisner 2004:11) vulnerability means the '*characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard*'. Evidence from the research indicates that, groups with loss of income have less capacity to cope with drought. Capacity defines the '*ability of a group or household to resist hazard's harmful effects and to recover easily*' (Anderson and Woodrow 1998; Eade 1998; IFRC 1999b, Wisner 2003a) quoted in (Wisner 2004). Most respondents explained that, 'loss of income' was related to decline in crop yields, deaths of livestock and decline in cattle prices. Gwanda district is located close to the Zimbabwe- South Africa border post and hence levels of '*forced migration*' of young people in particular is usually high especially during drought times.. Forced migration induced by recurrent droughts has left most households unable to recover the impacts of drought. Young people are the most needed resource in any thriving sector of an economy – they are a source of labor in most communal areas in Zimbabwe.

Respondents also noted that shortages of water for household and human use are usually widespread and intense during drought times. The district and specifically Masholomoshe has very limited water sources and farmers have to buy water in order to survive. One of the farmers noted that;

'We have limited sources of water, the dam is far, and we can't even have gardens. We have to walk long distances to get water yet this place is extremely dry and hot. We survive by buying water at 5 dollars per drum and it is very expensive because my husband and I are both economically inactive. We are both old and have been having health problems' (Maphosa 2014)

As a result of reduced capacities and increasing vulnerabilities noted above, most expert and farm level respondents noted that the impact of drought in their communities has worsened over the years due to a number of notable reasons. The first point that was highlighted relates to changes in climatic conditions which continue to affect crop yields. Households also engage in poor coping strategies such as the sale of assets. This affects their recovery process or the ability to cope with future drought occurrences. A case in point is the sale of livestock which communities use both for income and ploughing purposes. The second point is that the

Masholomoshe community is heavily reliant on rain fed agriculture and yet the area is well known for not receiving good rains. There are very few irrigation projects in the area. One of the farmers noted that;

'The irrigation projects cannot accommodate all the farmers. As it is the scheme in this area does not only cover ward one but a number of wards. Farmers were given very small gardens and are unable to get vegetables for sale and also for their families. As such, people just use the gardens to get food to eat. It would have been good if they could sell some of the vegetables and get money to cover other income gaps caused by drought' (Khumalo 2014)

The last factor which the respondents highlighted was the failure by farmers to adopt cropping patterns suitable for arid conditions. 98 percent of farm household level respondents stated that maize is a major crop planted in this area. This exacerbates drought effects to the farmers because the climatic conditions are not suitable for this crop. Very few farmers plant drought resistant crops. One of the respondents, Maphosa (2014) revealed that; farmers are reluctant to grow drought resistant crops such as millet and wheat because of birds. To support this point, one of the respondents, Sibanda (2014) argued that; families that grow wheat and other drought resistant crops cope with the effects of drought better. He further argued that, before the advent of non-governmental organizations, the communal farmers in Masholomoshe used to rely on drought resistant crops and were able to cope with drought.

6.7 Impact of Drought on Vulnerable Populations

According to the findings in this study drought impact is dependent on the level of vulnerability of disparate groups in a community. This means its impact on individuals varies. An investigation into drought effects to different groups in Masholomoshe based on expert analysis shows the chronically ill as the most vulnerable group. Impact of drought was also reported high on disabled persons, single and child headed households and widows. Drought impact on young women was said to have medium impact. While this is the case, interviews with the farmers revealed a slightly different result. The elderly were pointed out as the most vulnerable group.

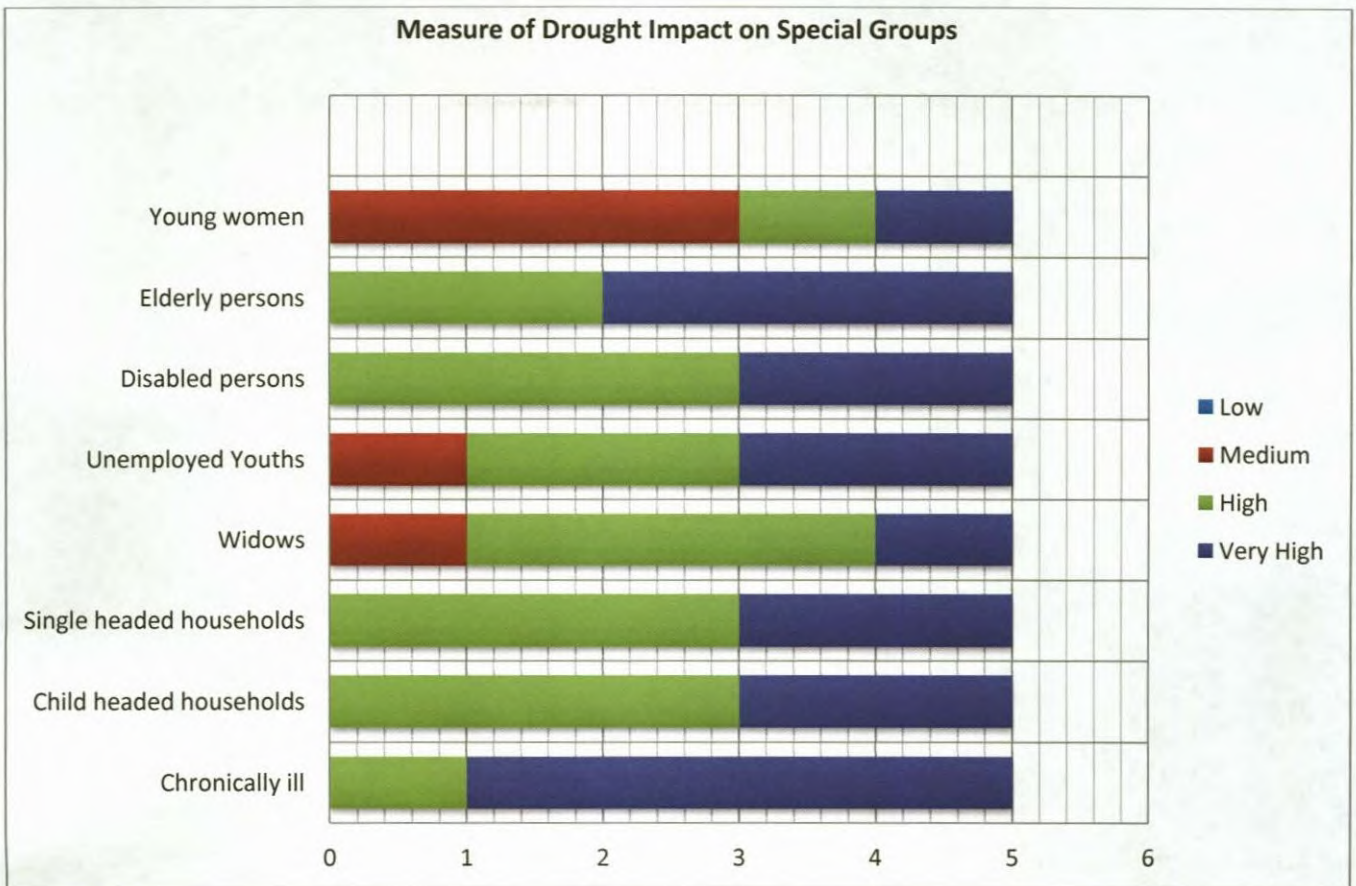


Figure 24: Measure of Drought Impact on special groups

6.8 Underlying Causes of Drought Impact

In order to assess the impact of NGO interventions, this study also analyzed the root causes of drought impact. This section is vital to the study as it is worth assessing whether NGOs are dealing with these root causes in their interventions. The most important root cause behind the impact of drought in Gwanda was noted as poor rainfall. Rainfall patterns, it is said have been worsened by changes in the climate. The respondents noted that communities are struggling to adapt to new climatic changes as they continue with their traditional farming methods which are not suitable for arid conditions. For instance, communities are failing to be responsive to drought resistant cropping and continue to grow crops like maize which require good rains. This aspect was however linked to the issue of ‘lack of awareness by communities to information on how to reduce drought impact’. The respondents explained that, NGOs and governments fail through their programs and due to inadequate resources to reach out to all farmers in the district. This point was also linked to the issue of poverty which is said to worsen the vulnerability of most

households to drought. About 38 percent of the respondents noted economic inequality as driving factor to drought impacts in the district. 22 percentage of the respondents also noted that governance challenges, as it relates to the formulation and implementation of relevant disaster management policies has widespread significance. Over population and HIV /AIDS were highlighted as the least important root causes behind impact ranking 12 percent and .8 percent respectively.

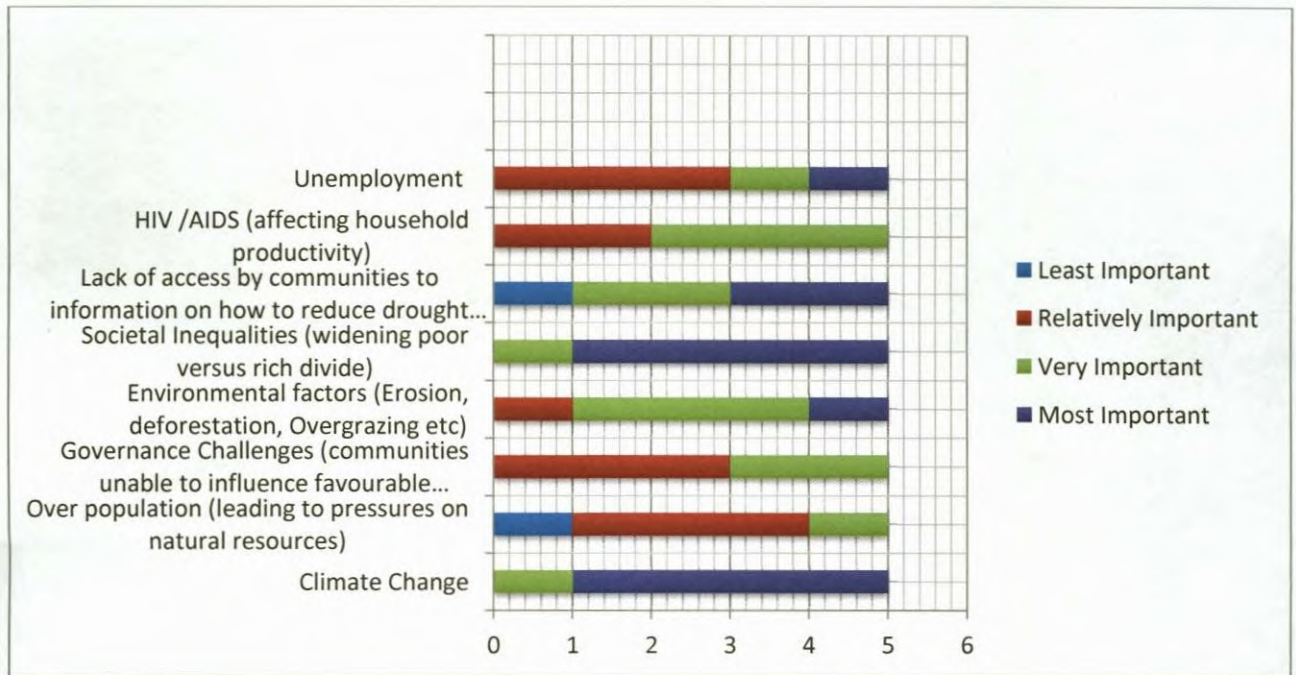


Figure 25: Root Causes of Drought Impact

Morealso, the mountainous landscape surrounding Masholomoshe village makes it a perfect habitat for baboons. Over the years, baboons have caused extensive damage to field crops such as maize in this area. Communal farmers in this area have recorded direct costs associated with severe crop losses attributed to baboon foraging activities. In addition, there are also indirect costs of baboon crop raiding related to increased labor demands to protect crops from them and, occasionally, to replant crop stands badly damaged by baboons. This amongst other factors is said to worsen drought in this village.

6.9 Coping Mechanisms

Empirical findings reveal that, farmers use different coping strategies before, during and after the drought event. Strategies adopted before the event help reduce the impact of drought. During the drought event farmers usually adopt what can be termed ‘survival mechanisms’ in dealing with drought. After the drought event, farmers usually attempt to bridge gaps in income and assets – an attempt to strengthen their ability to cope in the event of another drought. Post drought strategies can either attempt to reduce risk by diversification of income and those that do so by imparting greater flexibility in cropping patterns. Diversifying farmers’ income enables farmers to have various fall back positions. In Masholomoshe, most farmers cope with drought through seeking employment in the non-farm sector. This includes; artisanal mining, informal trading (selling firewood and vegetables); brick making and construction. One of the farm level household respondents revealed that;

‘We have resorted to making bricks for sale but it’s an uphill task since we are this old (over 60 years)’ (Wilda Maphosa 2014)

As revealed some of the drought coping mechanisms are difficult for elderly farmers. In addition, the study revealed that farmers also cope with drought through harvesting of wild fruits both for household consumption and sale in nearby towns or cities such as Gwanda. Other strategies include reliance on food relief from non-governmental organizations. The study revealed that, farmers have very limited independent drought coping mechanisms. They rely heavily on NGOs. According to Maxwell Maphosa, a communal farm respondent;

If the NGOs and government had not provided us with food during drought times, most of us would have died of hunger (Maphosa 2014)

The quote above is an indication of farmers’ inability to come up with sustainable coping measures for dealing with drought. This failure to strengthen coping mechanisms has led to a forced to reduction of household food consumption. Most farmers according to this study survive on one meal a day during drought times.

In addition, the study noted that while non-governmental organizations are providing relief support to farmers, their programs do not seem to have reached distressed farmers adequately. In

Masholomoshe village, of the 17 households that participated in the study only 8 had participated in drought relief programmes. As a result, the impact of their programmes seems to be limited.

However, during drought, farmers in Masholomoshe often liquidate productive assets such as agricultural tools, livestock and even land. According to the research findings, the sale of these assets has negatively affected the productivity of farmers in subsequent years. Livestock decimation also impacts negatively of farmers. The study having been conducted after the severe 2013 drought in Gwanda district found out that farmers lost a lot of livestock. Of the farmers that were interviewed none possessed more than 10 cows or donkeys (see figure 26 below). This is evidence that the drought robbed the farmers of their draught power. As a result, although the district received good rains in 2014 most farmers still did not get a good harvest.

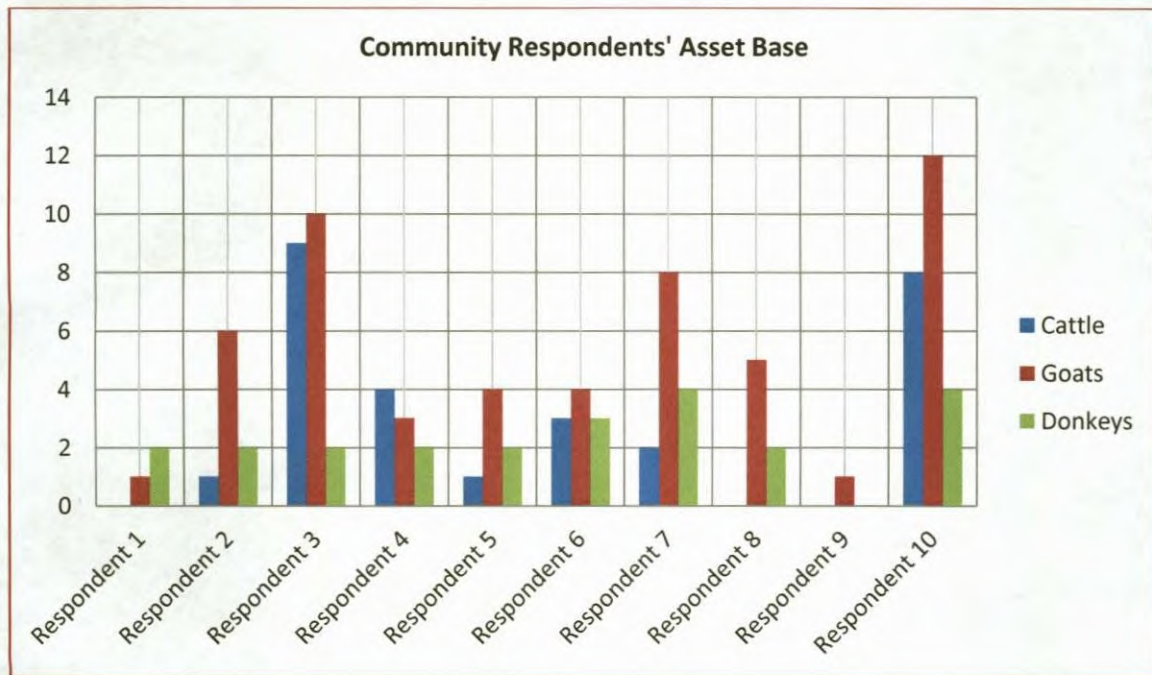


Figure 26: Community Respondents' Asset Base

While some farmers in Masholomoshe have managed to adopt a number of coping strategies against drought, a number of challenges abound. Firstly, the opportunity costs related to the adoption of various coping strategies can be detrimental in the long run. For instance, growing drought resistant crops may be useful in minimizing drought risk during poor years but could lead to farmers sacrificing potentially higher income in normal years. In addition, this study has

also found that farmers in Masholomoshe are reluctant to invest in seed and fertilizers which could increase yields and profitability in normal years, but lead to loss of capital investment in poor years. NGOs have attempted to provide fertilizers to farmers in Masholomoshe but not all households have received such support.

More also, the investigation revealed that, farmers that sold their productive assets such as cattle and donkeys during times of distress have suffered productivity losses, as it takes them several years to replace those assets. The loss of income and assets can transform transient poverty into chronic poverty, making it difficult to cope in future.(Murdoch 1994)

6.10 NGO Approaches to Drought Mitigation

This study has revealed a number of NGO approaches to drought in Gwanda district. The findings below were specifically gathered from Masholomoshe village. NGOs approaches to drought have been at two levels. At one level they have been instrumental in setting up mechanisms for long term drought proofing. At another level NGOs have largely contributed their efforts towards relief during times of distress.

Most respondents, as shown in figure 10 below highlighted that most NGO deal with drought as a food security issue. This is evidenced by NGO efforts in enhancing food security in the district. NGO actions in this regard include; the introduction of community gardens, crop diversification and encouraging the harvest of wild fruits. An increase in NGO activities related to dry land conservation was also noted. NGOs have thus been building community capacity to do conservation farming through pre and post-harvest workshops, farmer exchange visits, seed collection and procurement.

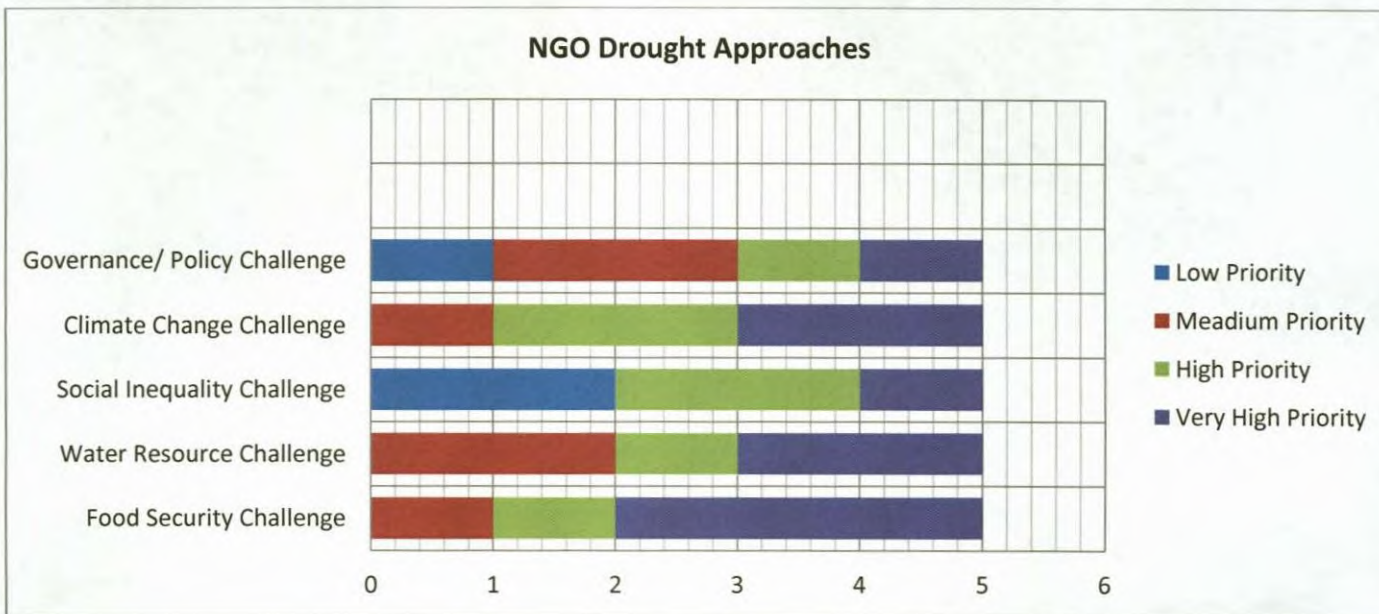


Figure 27: NGO Drought Approaches

The second most important priority area noted by 15 percent of the respondents is ‘*water resource*’. The respondents noted that in addressing the threats and challenges of drought impact most NGOs seek to enhance water supplies in the district. This point is substantiated by increased NGO activities related to drilling of new boreholes or wells, rehabilitation of existing boreholes, deepening water points , provision of trainings on sand-abstraction, sand filter tanks and pump installations. Consolidating views from the experts, the study noted a growing concern by NGOs in managing drought as a climate change challenge. This is evidenced by NGO efforts in encouraging farmers to grow drought resistant crops such as sorghum and millet. From the respondents’ responses, it is evident that a number of NGOs do not focus on addressing drought risk from a policy or governance perspective. NGOs are supposed to play a watchdog role – advocating the full implementation of available drought laws and policies by government. This remains a grey area for NGOs who consider this a politically charged area.

According to the respondents, while current NGO approaches in drought risk management go a long way in alleviating the drastic impact of drought – there are still a number of notable gaps. The respondents noted that there is need for NGOs to adopt multi-pronged strategies which seek to harness or integrate various ways of eliminating risk. These include; encouraging communities to change cropping patterns, harnessing indigenous knowledge systems, raising awareness on the

impact of climate change and conducting research on crops suitable for arid conditions. This will also entail documentation of DRR best practices from other countries with arid climatic conditions.

According to the study findings, NGOs focus more of their programs on the provision of relief to affected farmers. While such assistance is required to prevent hunger and starvation, most experts contend that it is a very short term solution that is likely to create a dependency syndrome in the long run. One of the respondents argued that, water resource development should be taken as key in drought mitigation (Ndlovu 2014). He further argued that, although organizations such as Dabane Trust have helped them construct new and rehabilitate old boreholes, these programmes have not adequately covered the water needs of farmers. . The study also found out that there are a number of long term drought protection programmes which NGOs have implemented particularly in Masholomoshe. NGOs such as Care International have supported the farmers through food for work programmes while Red Cross, World Vision and Dabane Trust have been instrumental in providing fertilizers and seeds for drought resistant crops in an attempt to mitigate drought. While these programmes have yielded positive outcomes their impact is limited as they do not support all farmers.

A review of farmers' perceptions' on NGO drought relief efforts exposed irregularities in beneficiary selection processes. Mlilo (2014) a farmer in Masholomoshe passed the following comment about NGO relief programmes:

“Some people who work with NGOs are corrupt. As it is I am 67 years old and yet I do not benefit from these schemes. There is a tendency of selecting people according to relations and friendships. Younger people (some below 25 years) actually benefit more from the schemes”

In view of the above, there is scope for NGOs to improve their beneficiary selection criterion. In addition to the above, respondents also raised their concerns on the length of relief programs. Dube (2014) bemoaned the short life span of NGO relief projects and said;

“Their programmes run for a very short period of time. They also do not equip communities to deal with drought impact. This affects the continuity of NGO community projects”

In cognizance of the point above, considerable opportunities exist to improve the effectiveness of drought relief through better targeting, timely responses; continuation of activities after the drought is over, and the integration of interventions into overall agricultural development programmes.

6.11 NGO Challenges in Drought Mitigation

Addressing the root causes of drought impact is a necessary step towards alleviating the drastic impacts of drought. This study sought to identify hurdles faced in addressing root causes of drought impact in Gwanda rural district. 65 percent respondents noted that a serious funding gap lies at the core of the drought problem. NGO and government respondents explained that the resources both at governmental and NGO level are not sufficient for responsible actors to undertake risk reduction programs. Without adequate resources, the respondents noted it is difficult to build the local technical capacity. For instance, the agricultural extension officers do not have transportation needed for them to move around the district for the purpose of providing relevant information to the communities. As a result, most of them only provide support to farmers involved in irrigation programmes. In addition, some field based NGO personnel do not understand DRR approaches – making it difficult for them equip the communities they serve. Some of the expert respondents highlighted ‘lack of technical capacity as a barrier with widespread significance (figure 12 below). In addition, the respondents revealed that, it has been difficult for NGOs to focus on risk reduction centered drought programming solemnly due to resource scarcity.

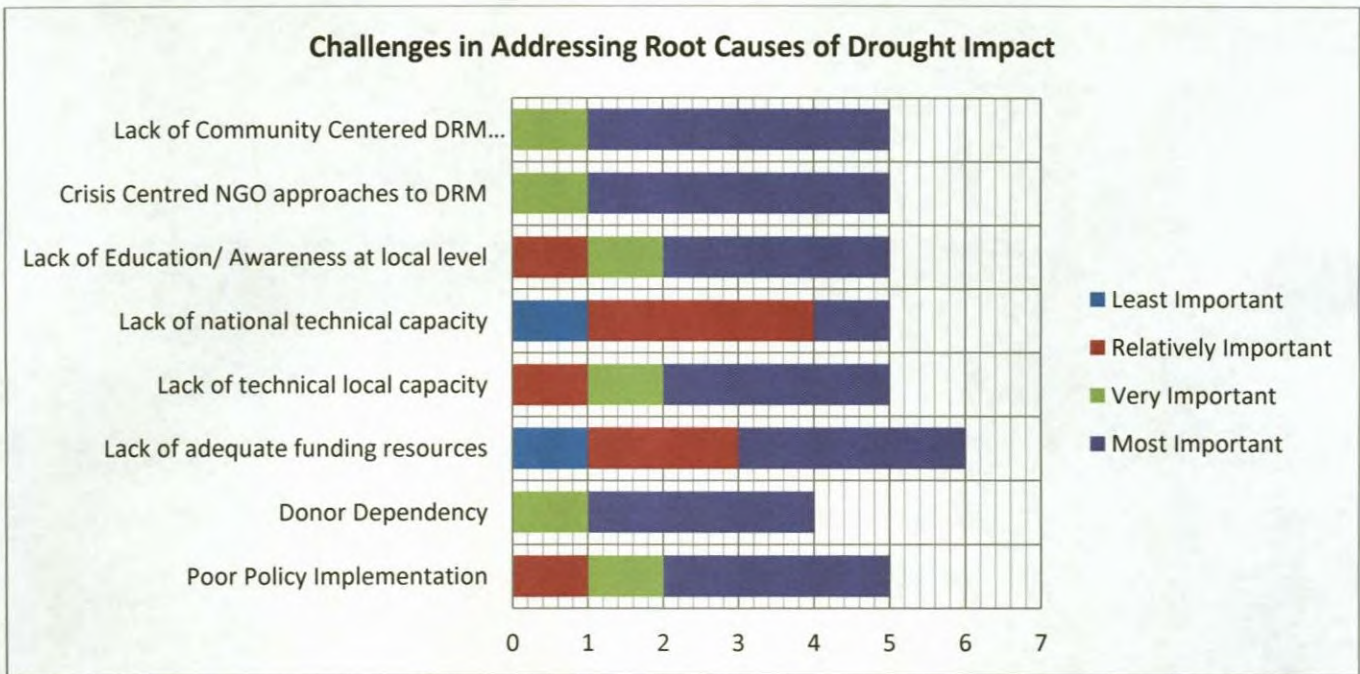


Figure 28: Challenges in Addressing Root Causes of Drought Impact

This element as shown above is a very important factor. Donor dependency was also noted by 80 percent of the respondents as a serious problem. It is apparent that, while donor resources especially in terms of food aid have helped alleviate starvation – this has created a situation where communities are reluctant to produce their own food as they are now reliant on donor food stuffs. One of the expert respondents noted that;

“Some members of the communities are now so dependent on donor rations – so much that they sell seeds donated by NGOs and are no longer producing their own food. This is a very serious problem haunting this district” (Ncube 2013)

Although political will did not rank amongst the most important issues, it was considered relatively important a significant number of the respondents. It is however, critical to mention that the respondents identified a co-relationship between lack of funding and the inability of government to allocate sufficient resources to deal with drought challenges in Gwanda. Despite, all the barriers highlighted above, the respondents commended the country’s capacity at a national level. It was mentioned that Zimbabwe has DRR capacities which include the availability of legal frame works and instruments. While this is the case, it was said that these are

not complemented by action on the ground and resources for full policy implementation are also scarce.

An analysis of views from experts also revealed that NGOs communicated drought threats to communities poorly (as reflected below) and this has also affected their interventions which are mainly ad hoc. Consequently, communities have also been unable to respond well to drought alerts from NGOs. For instance, during the 2014 planting season, NGOs went around informing farmers to grow drought resistant crops way after the planting season. There is therefore a need for NGOs to improve the way they send out alerts on drought to farmers across the district.

6.12 NGO Drought Risk Assessment Methods

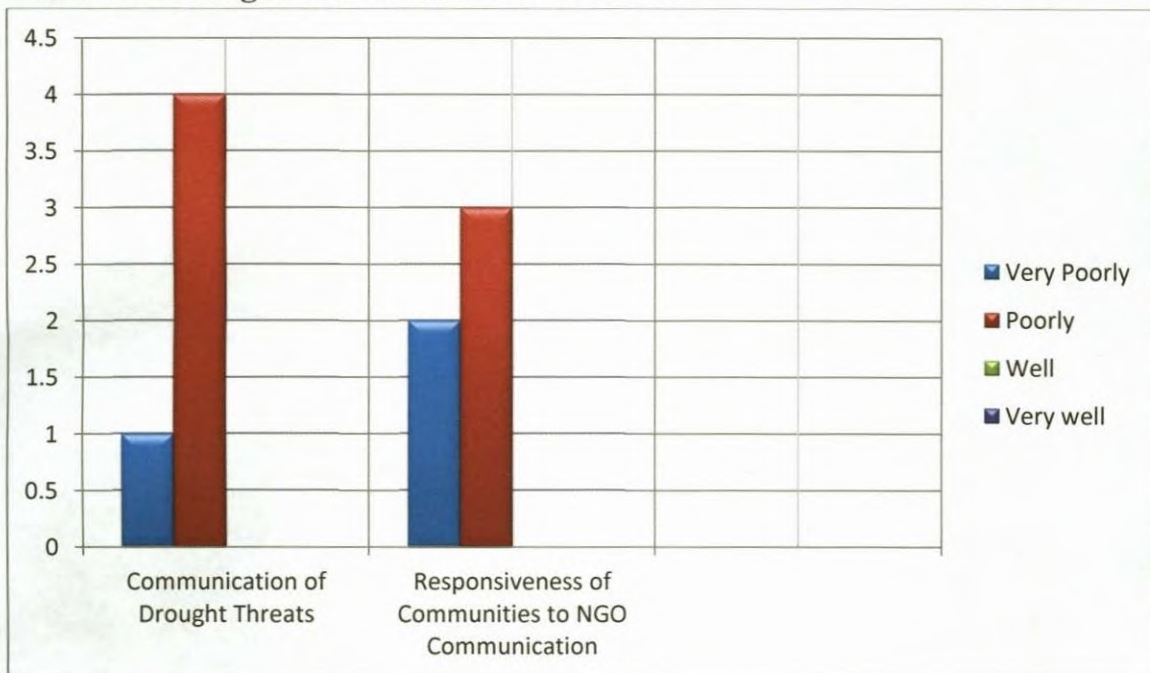


Figure 29: NGO Risk Assessment Methods

6.13 Dissemination of Drought Early Warning Signals by NGOs

It also emerged that NGOs rarely issue early warning signals to farmers as shown below. As such, farmers are always caught unprepared of drought effects. Although, it can be argued that, dissemination of early warning signals is the sole duty of the Zimbabwe government civil protection unity.

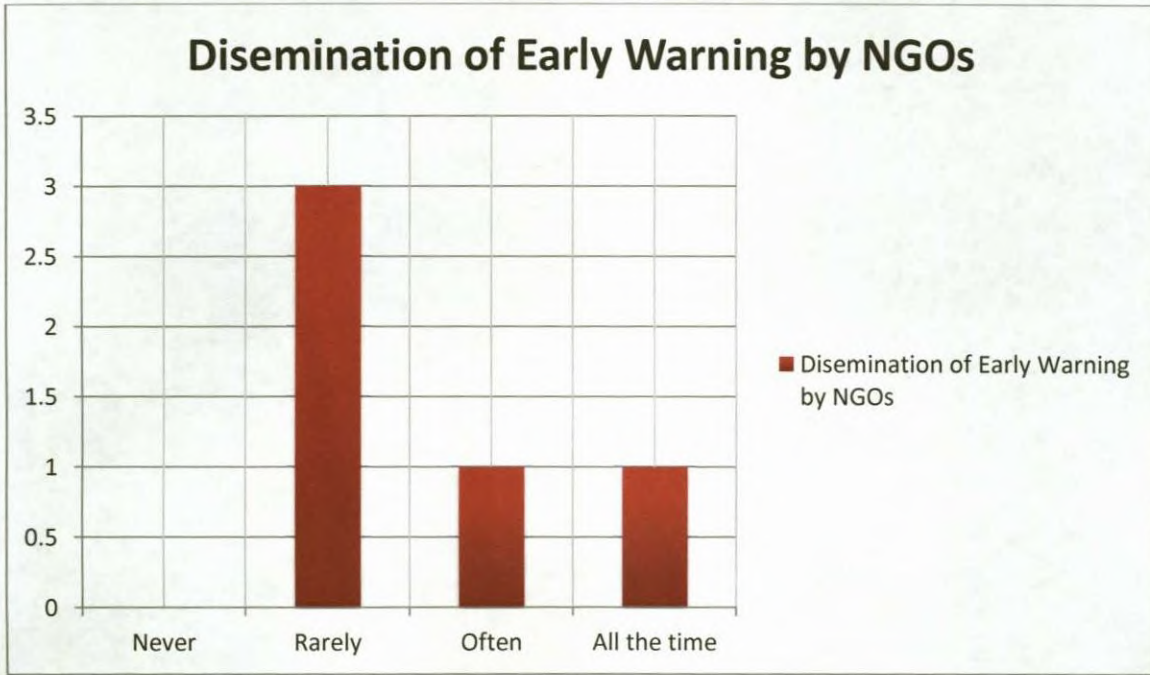


Figure 30: NGO Early Warning Mechanisms

It is worth noting that NGOs have the option of partnering with relevant government departments to ensure that community's access drought related information.

6.14 Conclusion

Overall, this chapter presented an analysis of the results of the study. Findings from this study revealed that, Masholomoshe village is amongst the worst drought affected wards within Gwanda district. The village which is mainly dependent on rainfed agriculture is usually hard hit by drought. NGO interventions in drought risk management in this district have gone a long way in alleviating the drastic impact of drought although there are still a number of notable gaps. The study noted that there is need for NGOs to adopt multi-pronged strategies which seek to harness or integrate various ways of eliminating risk. These include; encouraging communities to change cropping patterns, harnessing indigenous knowledge systems, raising awareness on the impact of climate change and conducting research on crops suitable for arid conditions. This will also entail documentation of DRR best practices from other countries with arid climatic conditions.

According to the study findings, NGOs focus more of their programs on the provision of relief to affected farmers. While such assistance is required to prevent hunger and starvation, most experts contend that it is a very short term solution that is likely to create a dependency syndrome in the long run. In the final analysis, the study noted the need for NGOs to implement long term drought mitigation projects which will help reduce elements that pose community or farmers risks to drought effects in Masholomoshe.

Chapter 7

Conclusion and Recommendation

7.1 Introduction

In the previous chapter, the results of the empirical study were presented and the findings of the study examined in detail. This chapter provides an overview of the study, together with the conclusions drawn and the resulting recommendations. The chapter also provides a snapshot of the limitations faced in conducting the study and scope for future research. A summary on the importance of this study concludes this chapter.

7.2 Overview of the Study

In the first chapter, the background and problem statement was discussed in order to bring to light the importance of this study. The problem statement highlighted that Gwanda is one of the 12 districts that are hard hit by drought in Zimbabwe. It was also revealed that, NGOs are the major players in drought mitigation in the region. Drought has had wide ranging effects to communities including; widespread malnutrition, deaths of livestock, loss of income, declining environmental health standards and massive migration. Amongst the factors that worsen drought impact are HIV/AIDS, massive dependence on rain fed agriculture and Climate change (ZDHS 2011). Climate change has been pointed as a factor that continues to contribute to the vulnerability of millions of people living in Zimbabwe's rural areas who are directly dependent on sensitive sectors such as agriculture, forests and fisheries, and on natural resources such as water, mangroves, minor forest produce and grasslands for their subsistence and livelihoods (ZimVAC 2013). The factors above necessitated this study.

Based on the problem statement, the main objective of this study was to assess the various strategies used by NGOs in drought risk management and how these could be improved to reduce the adverse effects of drought occurrences in Gwanda rural district, Zimbabwe.

This was followed by a discussion on the theoretical framework of the study

In the second chapter the theoretical framework of the study was discussed in detail. The chapter examined seven theoretical frameworks, highlighting merits and demerits. In this chapter it was argued that the Drought Risk Management Framework (2007) formed the basis of the study

The third chapter provided the research methodology of the study. In this chapter the research strategy and the empirical techniques used as well as the philosophical thinking behind the study were presented. The chapter analyzed in depth the scope and limitations of the research design and located the study amongst existing research paradigms in social sciences. The research was positioned within the mixed methods research paradigm.

The fourth chapter examined drought as a natural occurrence and its effects to Zimbabwe and specifically to Gwanda Rural District. It outlined the conceptual issues related to drought. It also discussed the phenomenon of drought and its impact. The strategies adopted by communities to cope with drought disasters were also discussed.

The fifth chapter analyzed the role of NGOs in drought risk management in Zimbabwe and internationally. The chapter provided an analysis of the term 'NGO' and how it is defined by various scholars. It also highlighted the various scholarly arguments on the shortcomings of NGOs. A thorough analysis of the role of NGOs in drought management both at a global scale and specifically in Zimbabwe is also presented.

The sixth chapter critically evaluated the views and perceptions of communal farmers and experts including disaster management practitioners, policy makers, agriculturalists, academics and donor agencies on the effectiveness of drought risk management strategies used by NGOs in alleviating drought impact specifically in ward 1 (Masholomoshe village) of Gwanda district

7.3 Conclusion

In the final analysis, NGOs approaches to drought can be understood at two levels. At one level NGOs have been instrumental in setting up mechanisms for long term drought proofing. While at another level NGOs have largely contributed their efforts towards relief during times of distress. Based on the results of this research, it is evident that most NGO interventions are restricted to activities they undertake only after outbreak of a disaster. Drought risk identification, risk monitoring and early warning do not seem to be priority areas for NGOs. According to (ISDR,

2007) the process of risk identification, monitoring and early warning forms the basis for promoting a culture of resilience in combination with enhancing knowledge about hazard occurrence, the potential effects of the hazard and the related vulnerabilities of potentially affected people and activities. As such, there is need for NGOs to ensure short term relief interventions are complemented by long term initiatives such as irrigation schemes, borehole rehabilitation, and diversification of cropping patterns amongst other strategies. It is understood that this will help combat the problem of donor or NGO dependency which is already rampant in areas that are frequently affected by drought such as Masholomoshe.

7.4 Recommendations

Based on the findings of this study and the conclusions drawn above, the following recommendations or opportunities were identified are made:

7.4.1 Opportunities for Enhancing NGO Drought Risk Management

A number of opportunities identified in this study can be adopted to strengthen NGO drought mitigation efforts.

1) Development of water resources

The first opportunity that exists in strengthening NGO mitigation efforts in Gwanda is the development of water resources. This chapter has already revealed that shortage of water resources exacerbates drought impact. NGO working in Masholomoshe could build on the existing irrigation project by establishing small irrigation schemes to accommodate farmers that are currently not part of existing programmes and also to ensure that every farmer has access to a gardening addition, NGOs can also play a critical role in the maintenance and rehabilitation of water sources such as dams and small irrigation schemes.

2) Providing drought relief and Implementation of long term drought programmes

An investigation of NGO drought mitigation in Masholomoshe has revealed that the provision of relief to distressed farmers is a major approach. This inevitably has created a dependency syndrome which has seen farmers failing to get good harvests even during good rainy seasons.

Therefore the second opportunity that exists for NGOs is to have a proper institutional strategy for drought relief. This could be done through increasing food for work initiatives. In addition to this, relief programmes need to be complemented by long term initiatives such as land use and water conservation programmes, crop and income diversification and drip irrigation. Important progress in this regard has been made already by organizations such as Care International but their programmes do not sufficiently include all the farmers in need

3) Drought Research and Technology

The third opportunity is for NGOs to conduct research which will explore physiological factors that ensure drought tolerance (Lafitte et al. 2006). It may also be useful for NGOs to investigate further on the crop varieties suitable for the climatic conditions in Gwanda district. Further research could also be undertaken to explore methods of managing crops such as the effective use of available soil moisture and how to strengthen the ability of crops to recover from severe drought. Furthermore, research could also be undertaken into traditional mechanisms that this community used to rely on in coping with drought. This could use cover research on how indigenous knowledge systems could be used to deal with drought.

4) Changing Cropping Patterns

The findings of this study show that some crops such as maize are not suitable for arid conditions. As such the fourth opportunity for strengthening NGO efforts would involve educating farmers on the need for flexibility in crop choices. There is need for farmers to embrace drought resistant crops

5) Risk Assessment and Dissemination of Early Warning

To complement relief efforts, there is scope for NGOs to undertake thorough analysis of drought and its impact in the district. There is also need to adequately examine the vulnerabilities of farmers against drought. This will enable NGOs to implement appropriate short and long term drought interventions. No major assessments have been held on the nature of drought in the district yet this is a crucial element in risk assessment. Drought risk identification, risk monitoring and early warning do not seem to be priority areas for NGOs. According to (ISDR, 2007) the process of risk identification, monitoring and early warning forms the basis for promoting a culture of resilience in combination with enhancing knowledge about hazard occurrence, the potential effects of the hazard and the related vulnerabilities of potentially

affected people and activities. Common activities by NGOs operating in Gwanda as reflected in this study include; gardening, dry land cropping, animal husbandry, mopani harvesting and marketing , infield rainwater harvesting, gully reclamation and rehabilitation of infrastructure. While these activities are critical in enhancing the coping capacities of communities against drought, reducing the underlying factors of drought risk remains critical. There is scope for NGOs to expand and replicate approaches used by NGOs such as Practical Action which seeks to address vulnerability which are based on local needs and community participation across the district of Gwanda

6) Drought Preparedness Measures

Farmers in Masholomoshe have limited means of preparing themselves against drought. They largely rely on relief support which is short term and unsustainable. There is need for NGOs to help farmers establish mechanisms for drought preparedness. These can include; enhancing drought forecasting methods and the provision of timely advice to farmers on drought

7) Livelihood Centered Approach to Drought Mitigation

Farmers in Masholomoshe are usually hard hit by drought because they depend on one major source of livelihood that is, rain fed agriculture. There is therefore room for NGOs to assist farmers in diversifying their livelihoods. NGOs such as Practical Action are already making inroads in this regard through use of a livelihood-centered approach to drought mitigation. Although much of Practical Action interventions are found in other parts of Gwanda and not ward 1 per se. There is need for this approach to be replicated in other parts of the district. The livelihood centered approach is based on reducing the impact of particular hazards by increasing livelihood opportunities, increasing resilience, reducing vulnerability, while fostering preparedness to deal with local hazards and their aftermath (Practical Action 2013). The approach maintains that while communities are exposed to drought occurrences or hazards, the resource poor with few assets are least able to protect themselves or respond effectively. For instance, *'a small-holder farmer in Gwanda District who has a few goats and is growing maize as the family's main crop is unlikely to be able to recover from a long-lasting drought. His livelihood is most likely destroyed. Yet a richer farmer with access to a borehole, several milking cows, poultry, a plough to cultivate more land and a vegetable garden, is more likely to survive*

and recover from the same drought' (Practical Action 2013: 3). The approach is also based on the understanding that, poverty, vulnerability and disasters are inextricably linked. Hence vulnerability reduction is put at the center of DRR interventions. It is also believed that '*insecure livelihoods, supported by a fragile asset base (Including human, physical, natural, financial and social assets) makes households or farmers extremely vulnerable to the impact of hazards'* (Practical Action 2013:5). NGOs can help farmers diversify their livelihoods in many ways which include; small livestock production, nutrition gardening amongst others.

7.5 Future Research

Based on this study, further research is required in the following areas:

- As the research study was limited to investigating approaches by Non-governmental organizations. Research should be undertaken to examine the role of other stakeholders such as government
- Research should also be undertaken to analyze the impact and costs of drought in the district
- A country wide scientific study on the effects of drought and possible strategies could also be done. This could be complemented by research into how new technologies could be harnessed to promote drought mitigation

7.6 Value of the Study

The following factors account for the value of the study.

- Given that no study of this nature had been conducted in Masholomoshe, Gwanda district, the empirical finding will be useful in improving drought mitigation programs
- The district of Gwanda will benefit from the results of this research, in that these findings will contribute to their future planning as it has identified a number of drought mitigation gaps
- The perceptions from farmers will help non-governmental organizations to deal with deficiencies in drought mitigation approaches.

7.7 Summary

Discussions in this chapter have highlighted a number of opportunities for strengthening NGO drought mitigation programs and scope for further research. The chapter also indicated the need for further research covering a number of gaps stated above.

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List of Appendices

Appendix 1: Farm Household Level Interview Guide

a) Details of Respondent

| | |
|-----------------|--|
| Respondent Name | |
| District | |
| Ward | |
| Village Name | |
| Date | |
| | |

b) Household Information

| | |
|------------------------------|---|
| Gender of Household Head | Male Female |
| Gender of Respondent | Male Female |
| Marital Status of Respondent | Married Single Separated Divorced Widowed Other (Please specify) |
| Relation to HH | Self Spouse Daughter Son Other, specify |
| Age of Respondent | Below 18 years 18 – 28 years 29 – 35 years 36– 45 years 46 – 60 years 61 years and above |
| Level of Education [HH] | Never accessed education Primary education Secondary / High School education Tertiary Education Other (specify) |
| | |
| Family Size | 1 -5 members 6 -10 members More than 10 members |
| No. of Children in the HH | 0 – 4 children |

| | |
|-----------------------------------|---|
| (children are 16 years and below) | 5 -10 children More than 10 children |
|-----------------------------------|---|

Questions

1. Do you see drought as a major challenge to your livelihoods in this community?
2. What do you see as the cause for the drought you have been experiencing in the past years?
3. What impact has drought had in your community?
4. What do you think is the major cause of drought impact in your community?
5. How often do you encounter drought and which years were the most severe?
6. Has experience with drought influenced your on farm and off farm activities? How?
7. How many hectares of land do you use for crop production every year?
8. Which crop varieties do you plant per season and what influences your decision to plant those crops?
9. Do you have any livestock? Please provide me with numbers (of each type).
10. What strategies do you use to deal with drought impact/to cope with drought at household level?
11. How did you prepare for the previous drought season?
12. Are there NGOs that assist you during drought times and what kind of programmes do NGOs provide for communities?
13. Do these programmes have any impact in terms of assisting communities' in dealing with drought?
14. What challenges do you see in the work of these NGOs?
15. What other community structures exist to assist households to cope with drought and can you describe their key programmes? (eg. Government programmes)
16. Have these structures or programmes helped alleviate drought effects over the years?
17. What strategies do you think NGOs should employ in mitigating drought impact in this district?

Appendix 2: Structured Questionnaire

1. Basic Information

| | |
|---------------------------------------|--|
| Name | |
| Organization | |
| Occupation | |
| Number of Years of Drought Experience | |
| Gender | |
| Ward | |

Expert Field

Please tick appropriate

| | | | |
|----------------------------------|--|-----------------------------|--|
| Disaster Management/ Food Relief | | Land Resources/ Agriculture | |
| Health | | Environment | |
| Water & Sanitation | | Climate Change | |
| Other (Please Specify) | | | |

Type of Organization

Please tick appropriate

| | | | |
|-------------------------------|--|--|--|
| Community Based Organization | | Government | |
| Faith Based Organization | | Research / Academic | |
| Non-Governmental Organization | | International Non –Governmental Organization (INGO) | |
| Donor Agency | | | |
| Other (Please Specify) | | | |

2. Assessing Drought Impact

a) What measure does the following drought impacts have to the communities which you work with?

Please tick appropriate

| | Low (Impact unusual/ unlikely) | Medium (Impact limited in scale and recovery is swift) | High (Impact widespread and intense) | Very High (Impact severe, widespread and lasts longer) |
|------------------|--------------------------------|--|--------------------------------------|--|
| Livestock Losses | | | | |

| | | | | |
|---|--|--|--|--|
| Decline in Crop yields | | | | |
| Sale of household assets | | | | |
| Forced Migration | | | | |
| Forced Sale of Land | | | | |
| Increased Crime Rate | | | | |
| Shortage of Water for Household and human use | | | | |
| Decline in human health | | | | |
| Decline in environmental health standards | | | | |
| Loss of Income | | | | |
| Other (please specify) | | | | |

b) Has the drought impact situation in Gwanda been worsening over the years or not? If yes, what has been the cause of this?

3. In your view, which of the following special groups is more vulnerable to drought impact?

Please tick appropriate

| | | | |
|--------------------------|--|-------------------|--|
| Chronically ill | | Unemployed Youths | |
| Child headed households | | Disabled Persons | |
| Single headed households | | Elderly | |
| Widows | | Young women | |
| Other (Please Specify) | | | |

4. Based on your work experience, what strategies are used to deal with drought in Gwanda District?

Please tick appropriate

| | | | |
|--------------------------|--|-----------------------------|--|
| Through food relief | | Government | |
| As a humanitarian issue | | As a local governance issue | |
| As a food security issue | | Economic Issue | |
| As a water resource | | Climate change issue | |
| Other (Please Specify) | | | |

a) *Do you think these approaches are adequate? What other approaches are used to deal with drought do you have knowledge about?*

| |
|--|
| |
|--|

Root Causes of Drought Impacts

5. *What do you see as root causes behind the impacts of drought in Gwanda District?*

Please tick appropriate

| | Least Important (Not a major issue) | Relatively Important (significant but does not have much impact on drought losses) | Very Important (This has widespread significance) | Most Important (compared to others this is a serious problem) |
|--|--|---|--|--|
| Climate change | | | | |
| Over population (leading to pressures on natural resources) | | | | |
| Governance Challenges (communities unable to influence favourable government policies) | | | | |
| Environmental factors (Erosion, deforestation, Overgrazing etc) | | | | |
| Societal Inequalities (widening poor versus rich divide) | | | | |
| Lack of access by communities to information on how to reduce drought impact | | | | |
| HIV /AIDS (affecting household productivity) | | | | |
| Unemployment | | | | |
| <i>Other (Please specify)</i> | | | | |

6. *Please state the barriers faced in addressing root causes of drought impact in Gwanda district?*

Please tick appropriate

| | Least Important (Not a major issue) | Relatively Important (significant but does not have much impact on drought losses) | Very Important (This has widespread significance) | Most Important (compared to others this is a serious problem) |
|---|--|---|--|--|
| Lack of Political Will | | | | |
| Unavailability of Funding Resources | | | | |
| Donor dependency | | | | |
| Lack of technical capacity at a local level | | | | |
| Lack of technical Capacity at national level | | | | |
| Lack of local awareness | | | | |
| NGO Crisis management programming | | | | |
| Lack of community Centred approaches | | | | |
| Other (Please specify) | | | | |

5 a) *What other hurdles exist? Provide more details*

Factors Influencing Effective Drought Risk Management

7. *How effective are NGO Drought Risk Assessment methods?*

| | Very Poorly (Nothing is done) | Poorly (Only very few examples can be found and it is not possible to say if these indicate what will happen in the future) | Well: Many examples exist and there is confidence that this will continue and improve | Very well: The systems and processes are well established and highly regarded |
|--|----------------------------------|---|--|--|
| How well do NGOs communicate identified | | | | |

| | | | | |
|---|--|--|--|--|
| threats to the communities? | | | | |
| How well does this lead to local action that help reduce impacts? | | | | |
| | | | | |
| <i>Other (Please specify)</i> | | | | |

Please provide more information on your responses

| | |
|-----------|--|
| <i>a)</i> | |
| <i>b)</i> | |

8. To what extent do NGOs disseminate early warning and share information on drought risks to communities?

Please tick appropriate

| | |
|---|--|
| Never | |
| Rarely (not regularly – information shared only amongst a few people) | |
| Often (Information widely disseminated) | |
| All the time (NGOs disseminate information through diverse media sources) | |

9. To what extent are national and district policy plans supporting disaster risk management in Gwanda?

| | Not at all | Sometimes (on an adhoc basis from time to time) | Frequently: (efforts made help curtail drought impacts) | Entirely (established policies help curtail drought risk and promote a culture of drought prevention) |
|---|------------|---|---|---|
| Do they promote drought prevention over crisis management (response)? | | | | |
| Do they promote a multi – stakeholder risk management approach | | | | |

| | | | | |
|--|--|--|--|--|
| Do they enhance NGO efforts | | | | |
| Do they promote wide community participation | | | | |
| Do they prioritize local issues | | | | |
| Other (Please specify) | | | | |

Opportunities for Drought Risk Management

10. What effective approaches do you think can be used to manage drought? Give reasons for your answer.

