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THE IMPACT OF DROUGHT COPING STRATEGIES ON FOOD SECURITY IN ZIMBABWE. THE CASE OF TSHOLOTSHO DISTRICT.

BY

DAISY MUGWAGWA

R123508A

A DISSERTATION SUBMITTED TO THE FACULTY OF SOCIAL SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE BACHELOR OF SOCIAL SCIENCES HONOURS DEGREE IN POLITICS AND PUBLIC MANAGEMENT AT MIDLANDS STATE UNIVERSITY.

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ABSTRACT

Zimbabwe is currently characterized by droughts caused by El Nino. The droughts have become a common feature for agriculture in Zimbabwe, a country whose majority of the population (70%) depends on agricultural based activities as their livelihoods resource. The research is carried out in Tsholotsho district ward 13 which is characterized by erratic and inadequate rainfall. Drought frequency is very high occurring at a rate of four in every five years. The main purpose of this research was to establish the drought coping strategies that are in place and to establish the impact of these drought coping strategies on food security in Zimbabwe. The researcher used questionnaires to collect data from participants in the research. Drought coping strategies which were discussed in the study included responses to production, consumption, food storage, income generating assets and livestock management, external assistance from the Government, NGOs and migration complimented these strategies. The research findings reviewed that the people in Tsholotsho district used external assistance from the government, NGOs and social networks like friends and relatives, migration, growing of drought resistant crops and sale of assets such as livestock. The results of the research established that government departments and NGOs were the actors involved in drought mitigation in the district. However it was also seen that these actors face challenges such as political interference, shortage of staff and inadequate resources such as transport and fuel. The research reviewed that there is need for the people in the community to add consumption response and food preservation to the existing drought coping strategies in place. The government is recommended to make sure that robust committees such as the DDR are created right up to the village level where the effects of drought are mostly seen. Whilst the NGOs are recommended to understand the local coping strategies and to work hand in hand with the community. Research findings led to a conclusion that most of the coping strategies employed by the people in the district contribute to food security in Zimbabwe.

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DEDICATION

My dedication goes to my parents Mr. A and Mrs. R Mugwagwa, F Chada and my grandmother Omega Chada.

Table of Contents

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

AGRITEX	Agricultural Technical & Extension Services
CPU	Civil Protection Unit
CTDT	Community Technology Development Trust
DA	District Administrator
DCPPC	District Civil Protection and Planning Committee
DDRC	District Drought Relief Committee
DMS	Department of Meteorological Services
DSS	Department of Social Services
EMA	Environmental Management Agency
GDP	Gross Domestic Product
DVS	Department of Veterinary Services
FAO	Food and Agriculture Organization
GMB	Grain Marketing Board
LPD	Livestock Production Department
MLGPW & NH	Ministry of Local Government Public works & National Housing
MSD	Meteorological Services Department
NCPCC	National Civil Protection Coordinating Committee
NGO	Non-Governmental Organization
PA	Provincial Administrator
PCPCC	Provincial Civil Protection Coordinating Committee
PRDC	Provincial Drought Relief Committee
RDC	Rural District Council

REWU	Regional Early Warning Unit
SADC	Southern Africa Development Committee
SPSS	Statistical Package for Social Sciences
UNAIDS	United Nations Programme on AIDS
UNISDR	United Nations International Strategy for Disaster Reduction
UNSO	United Nations Sudano -Sahelian Office
WFP	World Food Program
ZITF	Zimbabwe International Trade Fair
ZimVAC	Zimbabwe Vulnerability Assessment Committee

CHAPTER ONE: INTRODUCTION

1.1 Introduction

Policies and strategies provide the framework and guidance to support the implementation of best management practices and suitable interventions. For several years, Zimbabwe has been striving to find appropriate policies and strategies to address drought-related issues. This section provides an overview of some of the drought coping strategies on food security in Zimbabwe. This chapter encompasses the background of the problem, the problem statement, research objectives, and research questions, justification of the study and the organisation of the study.

1.2 Background to the study

Drought can be defined in meteorological, or hydrological, or agricultural terms though in general the term was derived from the Anglo- Saxon word ‘drugoth’ which means dry ground. The common aspect in all the definitions of drought is that it is concerned with the shortage of water. Thus it is a condition of abnormal dry weather, resulting in a serious hydrological imbalance with consequences such as loss of standing crops and shortage of water needed by people, livestock and wildlife (Chenje and Johnson, 1996).

Most parts of the world have experienced droughts. A severe drought which lasted for years occurred in the United States between 1930 and 1936. Whilst in some parts of Asia and Africa, it has been the way of life for several years. A notable drought occurred in Southern Africa between 1968 and 1975 and the major response was to seek international relief and food aid. In Ethiopia a succession of drought years lasted more than a decade from the early 1970’s to the mid 1980’s. Many people, particularly in the rural areas were forced to sell their land in order to buy food. Pastoralists were evicted to make way for commercial agriculture. In 1984, the Ethiopian government sought and acquired relief from western nations. Recently, migration from areas of water scarcity to areas of abundance was seen as the best alternative by nomadic pastoralists in Uganda and Kenya. In the year 2000 drought in Kenya worsened the scarcity of water and forestry resources throughout the nation. Once again, international relief was the first option however in addition traditional knowledge systems and resources were incorporated in order to alleviate some of the adverse impacts of the drought.

Zimbabwe is amongst the countries that have been affected by drought, some of the notable years that the country was seriously by this disaster are: 1982-83; 1986-87; 1992-93; 2002-03; 2004- 05; 2007- 08 (Springer, 2004). To add on the change in climatic conditions the country seems to be facing mild drought from 2009 to date.it is important to note that agriculture in Zimbabwe contributes to 19% of the country's Gross Domestic Product. Approximately 80% of Zimbabweans depend on this agriculture which is mostly rain fed for their livelihoods (Madzwamuse, 2010). The Ministry of Environment, Water and Climate through the Meteorological Services Department (MSD) and the Ministry of Agricultural through Agriculture Research and Extension Services have (AGRITEX) are responsible for monitoring drought and provides forecasts and information that are related to weather and climate.

Zimbabwe has a history of being a food exporting country but for the past two decades it is known as a food importing country because in almost all these drought situations, the major response was to seek international relief and food aid. Tsholotsho district is among Zimbabwe's severely affected provinces and the trend is that drought usually occurs once in every two years. It is one of the areas of Zimbabwe where the majority of people rely heavily on food aid for the greatest part of their lifetime during dry conditions. Besides food aid some conventional drought coping strategies have been incorporated and these include conservation agriculture, dam construction, borehole drilling and water harvesting technics (irrigation).

Of late, droughts have been crippling the nation and have contributed greatly to the low life expectancy levels and high levels of emigration. According to the FDI Global Food and Water Security Research Programme the 2012 drought saw a deficit of approximately 45% in the nation's staple food source, maize. According to the Sunday News (17-23 January 2016) farmers from Esigodini especially livestock farmers are concerned about the drought that has destroyed grazing land, dried up dams and boreholes. A report by the Matabeleland South's Department of Livestock Production and Development (DLPD) as of 07 January 2016 revealed that 452 cattle have died due to the effects of drought while water levels at most major dams in districts are below by 50%. This shows that drought keeps crippling the nation in every part therefore since it is one of the many environmental problems which are localised and specific it requires local, ecologically particular responses. Local inhabitants

of an area have an intimate understanding of their agro-ecological conditions, thus their knowledge is superior to that of outsiders eve led to the death of their livestock. At the same time it cannot be disputed that traditional management strategies for indigenous resources exist and these are firmly anchored in a given community's compendium of knowledge and experience.

It is against this background that effective drought coping strategies can be put in the Zimbabwean agricultural policies and implemented so as to increase a community's resilience to drought. According to the WRI (2007), Indigenous Knowledge Systems should be the basis upon which other conventional methods can build on to help the community adjust to the increasingly changing environment. The general objective of this study is thus to assess the impact of drought coping strategies on food security in Zimbabwe. The objectives are meant to identify the drought coping strategies that are based on indigenous knowledge systems in Tsholotsho District, to assess the effectiveness of the drought coping strategies and hence to identify the local institutions involved in drought mitigation to enhance food security in Tsholotsho District and to identify and explain the challenges being faced by the government in implementing drought mitigation measures so that relevant recommendations can be made for effective drought coping strategies to enhance food security.

1.3 Statement of the problem

Tsholotsho district has suffered from several agricultural droughts in the past decade. The rainfall patterns have been unpredictable mostly characterised by dry spells that rain fed agriculture has become unreliable. Poor rainfall patterns have resulted in rural households failing to harvest any meaningful produce and even those who harvest grain, it has not been enough to see them throughout the season resulting in food insecurity and stress (ZIMVAC, 2009). Most communal households have lost draught power and high cost and the unavailability of inputs have further worsened the challenges rural households face to acquire the necessary inputs to realise better yields. The recurring of drought over the years compounded by other limiting factors of production most households have become food insecure and most vulnerable cases are found among women, elderly persons and child headed or with chronically ill persons. The research is an investigation of the impact of drought coping strategies on food security in Zimbabwe, a case study of Tsholotsho District.

1.4 Research objectives

The study seeks to satisfy the following objectives:

1. To explain the drought coping strategies in place by individuals and the community in Tsholotsho District
2. To examine the impact of drought coping strategies on food security in Tsholotsho District
3. To assess the local actors involved in drought mitigation to enhance food security in Tsholotsho District
4. To explore the challenges being faced by the actors involved in drought mitigation in Tsholotsho District
5. To proffer recommendations to enhance food security in Matabeleland North

1.5 Research questions

1. What are the drought coping strategies put in place by individuals and the community in Tsholotsho District?
2. What is the impact of drought coping strategies on food security in Tsholotsho District?
3. What are the local actors involved in drought mitigation in Zimbabwe?
4. What are the challenges faced by the actors involved in drought mitigation in Tsholotsho District?
5. What strategies can be adopted to enhance food security in Matabeleland North?

1.6 Justification of study

Besides the community's exposure and experience with drought which has become a common occurrence in the province, many households have remained vulnerable to severe droughts. A lot of ground has been covered on this particular topic this has been partly covered by the government which has mostly produced controversial results. The vulnerability and drought coping strategies of communities have only been mentioned in passing. The study seeks to provide useful information on how people can cope with drought in a rural background branded by semi-arid to arid conditions. The scope of this study is different because it focuses on the drought coping strategies based on the community's indigenous knowledge and explains on the impact it has on food security in Zimbabwe. Information acquired through this research will be of great use and can be relied upon by other sections in Zimbabwe and abroad in coping with drought in their own

situations. The results of this research will also be of paramount importance to the government as the information will add value to the Food and Nutrition Security Policy of Zimbabwe's goals as it will provide information that fulfils the rationale of the policy.

1.7 Limitations of the study

The researcher was limited in terms of accessing information due to the bureaucratic nature of the government as it posed some delays and some unstructured information was provided. Some officers in the department of AGRITEX were unwilling to give out information and statistical figures due to the effect of the Officials Secrecy Act which forbids government workers to disclose classified information. The use of sample sizes in the research was also a challenge as it provided the researcher with inaccurate information as some respondents had the tendency of exaggerating the situation on ground and it could not be generalized.

1.8 Delimitations of the study

The researcher will only focus on the impact of drought coping strategies on food security in Tsholotsho District and will only focus on the coping strategies applied from 2003 to 2016. The researcher will gather information from the District Administrator, the department of AGRITEX, The Provincial Food and Nutrition Security Council for Matabeleland North, Ward Councillors, villagers and from the households.

1.9 Organization of the study

Chapter one provides the contextual background to the research problem, the problem statement, objectives of the study and research questions, justification of the study. Delimitations and limitations are also discussed in this study and its contribution to the literature. Therefore the chapter constitutes the basis of the whole study. Chapter two reviews the literature on drought mitigation strategies. This chapter presents a critical analysis of the concepts and principles underpinning the impact of drought coping strategies on food security in Zimbabwe. Chapter three focuses on research methodology, that is, outlining the technics and procedures used to gather pertinent data and information. Data was gathered through document study, surveys are also discussed. Chapter four presents and analyses research findings. The data for this study is to be analysed using both qualitative and quantitative methods. Data was presented using charts and graphs. Finally, chapter five presents the conclusions and recommendations on the research. These are arrived at after careful, systematic distillation of research findings upon which the conclusions are premised and where upon recommendations are then proffered.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The core of this chapter is to review literature relating to drought mitigation and the impact of drought coping strategies on food security in Tsholotsho District. The chapter discusses the concepts and principles underpinning drought management in Zimbabwe, the legal framework, challenges encountered by various institutions in drought mitigation, outlines and explains the drought coping strategies in Zimbabwe and analysis the impact of these drought coping strategies on food security. Other issues surrounding drought mitigation and case experiences are also going to be reviewed.

2.2 Drought

Drought has been studied in Southern Africa for over a hundred years (Chenje and Johnson, 1996) and is recorded in text and in oral history dating back many generations. As noted by Springer (2004), drought is a recurrent phenomenon in dry land Africa. It has been observed that droughts are not always the same. Oba (2001) acknowledges that droughts are not always the same: some are localised while others are widespread; some affect grass production while others affect crops. The World Disaster Report of 2004 ascertained that drought and famine have proven to be the deadliest disasters of the decade worldwide, accounting for at least two hundred and seventy- five thousand (275 000) deaths since 1994. According to FAO (2008), extensive droughts have afflicted Africa with serious episodes since the African independence in 1965-66; 1972-74; 1981-84; 1986-87; 1991-92 and 1994-95. The 1991-92 episodes in Southern Africa are largely remembered as the worst drought in living memory.

Drought is considered by many to be the most complex, but least understood of all natural hazards affecting more people than any other hazard (Ndlovu, 2010). It is a normal recurring feature of climate and occurs in virtually all climatic regions. Drought is the consequence of a natural reduction in the amount of rainfall received over an extended period of time, but other climatic factors such as high temperature and wind can significantly worsen the severity of the event. It has adverse social, economic and environmental impact that can lead to overall reduction in Gross Domestic Production (GDP), food security and water sources

2.2.1 Drought in Southern Africa

Drought is a chronic problem in Sub-Saharan Africa and the most important factor affecting livelihoods of the people in the region. Yet the drought risk reduction concept is not at the heart of disaster management in most countries of Africa (Dube, 2008). Disaster reduction efforts in Africa have followed a somewhat different course than those in other continents. In Southern Africa, and perhaps more widely across Africa, the field of disaster reduction has never been explicitly achieved the same policy stature or secured levels of financial commitment comparable to those seen in Asia or Latin America (Holloway, 2003). This is not only due to the nature of Africa's disaster risk profile, which has differed from that reflected in other continents. It is also explained by the character of international assistance that has tended to be prolonged aid for refugees/ displaced populations or highly visible food and other humanitarian assistance in times of drought and famine (Holloway, 2003).

In part it also reflects the political priorities of Africa's emerging democracies. In Southern Africa specifically, issues concerning development and national security have been historically associated with struggles for independence and freedom from political, military and other forms of oppression. These preoccupations, rather than concerns for threats triggered by nature, have dominated national and regional security agendas. Even today, despite, some progress in favour of democratic governance across Southern Africa, actual and potential internal conflict is perceived as and remains the primary threat to national security in several countries (Ndlovu, 2010).

Despite the limited profile given to disaster management in the region, the protection of national and regional food security was an early strategic priority for the Southern Africa Development Coordination Conference (SADCC), Southern African Development Community's predecessor. This was reflected in the establishment of a Regional Early Warning Unit (REWU) in the then SADCC Food Security Technical Advisory Unit based in Harare (WIlhite et al., 2000). The REWU built capacity to monitor and consolidate data on regional food security for each growing season.

During 1997 Undergraduate Nursing Student Organisation (UNSO) compiled a disaster management report on southern Africa countries namely: Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe in order to establish the status of drought preparedness, primary drought policy and planning needs and lastly constraints that exist with regards to drought policy and plan

development. The study was evaluated from the perspective of the three critical components of a drought plan:

- Monitoring and early warning
- Vulnerability and impact assessment
- Mitigation and response (Wilhite, 2002).

Results indicated a wide range of institutional capacity to respond to drought emergencies in Southern Africa. Hays and Knutson (2005) reported that although some countries have detailed organizational structures in place to coordinate the actions of government at various levels, as well as those of partners, such as donors and NGOs, most of the countries have not developed a permanent institutional capacity. The common problem with drought and other natural hazards is maintaining interest in planning beyond the relatively short window of opportunity that follows the event. Interest in drought planning quickly wanes in the post drought period when precipitation conditions have returned to normal or above normal levels. Drought response is coordinated through natural disaster authorities; a case in point is Lesotho, Zambia and Zimbabwe. Drought relief is directed at human relief and no post response and recovery evaluation are undertaken, hence opportunities to learn from the past are lost (Wilhite, 2000). On a positive note, however, drought and famine early warning systems commonly exist despite the obsolete equipment and poor meteorological networks used, vulnerability of elements at risk are often out and economic diversification as a risk mitigation measure is evident (The International Famine Centre, 2002).

The International Famine Centre (2002) further indicates that no drought plans existed in Angola, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe. Some infrastructure does exist in most countries to respond to drought conditions, but on a reactive or crisis management basis. However, Botswana and South Africa clearly stand apart from other countries in terms of their experiences and prevailing status in drought planning (Hays and Knutson, 2005). Drought planning in Botswana is part of developing planning and institutional structure is well defined. In South Africa, an inclusive forum with all major players is in place and has led a shift from exclusive emphasis on commercial farmers to include communal poor farmers and farm workers (Wilhite, 2002)

2.2.2 Drought in Zimbabwe

Zimbabwe is no exception as far as drought is concerned. Some of the most notable drought years in living memory are: 1982-83; 1986-87; 1992-93; 2002-03; 2004- 05; 2007- 08 (Springer, 2004). In almost all these drought situations, the major response was to seek

international relief and food aid. Gwanda South is among Zimbabwe's severely affected districts and the trend is that drought usually occurs once in every two years. It is a representative of areas where the majority of people rely heavily on food aid for the greatest part of their lifetime during dry conditions. Besides food aid some conventional drought coping strategies have been incorporated and these include dam construction, borehole drilling and introduction of irrigation schemes. It is of paramount importance to discuss the legal framework guiding drought management in Zimbabwe, which is the Civil Protection Act of 1989 Chapter (10:06) and other sections complimenting the law that support the act.

2.2.2.1 Causes of drought

There are several causes of drought in Zimbabwe; a number of these are discussed in the following paragraphs. According to the FAO report on State of Food and Agriculture in Zimbabwe (2002), the high temperatures and low erratic rainfall patterns are the major cause of droughts that have been common in recent years, as these are unfavourable to crops, since they cannot sustain the scotching heat of the sun as well as the low rains. Indeed high temperatures and low erratic rainfall patterns are the major cause of droughts, for example the 2015- 2016 season experienced low rainfalls nationwide and crops could not stand the heat from the sun as most parts of the country experienced high temperatures. This resulted in many villagers losing their crops they planted to the heat as all the plants were burnt.

Another cause of drought is the El Nino and Cyclone Eline. According to Chigora and Zvikomborero (2010) the region suffered from the devastating effects of *El Nino* and *Cyclone Eline* which, not only worsened the vulnerability of the country to poverty alone, but the whole region as well, as most of the planted crops and livestock were affected by the dry spells and were swept away by the floods, leaving millions of people across the region homeless without food. Henceforth effects of El Nino and Cyclone Eline are the major causes of drought in Zimbabwe and Southern Africa as a region. These effects have left the people of Zimbabwe heavily poverty stricken and with few malnourished livestock.

Moreover, the bad relations of Zimbabwe and the Western countries contributed to the causes of drought in Zimbabwe. In 2002 and 2003, some parts of the region experienced another drought. For Zimbabwe it coupled with economic instability emanating from the worsening relations of Zimbabwe with the Western countries after Zimbabwe pursued a controversial land reform program that gave land to the landless black majority of

Zimbabwe, taking it from the white minority during the year 2000 (Chigora and Zvikomborero, 2010). It is of great importance to note that the land reform worsened the relations between Zimbabwe and the Western countries and it stretched out to the International Monetary Fund and the World Bank's decision to stop borrowing Zimbabwe money. Together with the sanctioning of the government top officials by European Union and its allies resulted in the country failing to have access to food accessibility and this worsened the drought situation in Zimbabwe.

Another major cause of drought in Zimbabwe is the change of weather patterns due to climate change (Ravu, 2009). The weather conditions experienced in the country of late are different from what the people experienced in the past. Evidenced are the delayed rains coming as late as mid- December and ending early. Therefore this has been blamed as the reason of crop production failure resulting in drought. This is so because Zimbabwe as a developing country is dependent on agriculture. Even though there were other nationwide socio-politico-economic stressors touted as the major causes of poverty in Zimbabwe since the worsening of the country's economic and international relations with the west since the concluding years of the 20th century, the successive climatic instability and unreliability account for the poor crop production for the past eight years, laying the foundation for the food crisis that has been a characteristic of Zimbabwe.

2.3 Legal framework in disaster management

Drought is considered a disaster which calls for state intervention. In January 2016 the President of Zimbabwe declared the 2015-2016 droughts a disaster. The Civil Protection Act of 1989 (Chapter 10:06) is the principal act and regulatory framework that guides and regulates disaster management in Zimbabwe (UNISDR, 2004). The Civil Protection Act is complemented by other sections of the law (MLGPW &NH, 2006) such as Environmental Management Act (Chapter 20:27) of 2002, which has some relevant sections in disaster management. It is National Policy for Civil Protection that every citizen of Zimbabwe should assist where possible to avert or limit the effects of disaster. As provided by the Zimbabwe Civil Protection Act of 1989, central government initiates hazard reduction measures through relevant sector Ministries with the local administration taking the responsibility for implementing its effectiveness (UNISDR, 2004; MLGPW &NH, 2006).

2.3.1 The Civil Protection Act of 1982 (chapter 10:06)

The Department of Civil Protection under the Ministry of Local Government, Public Works and National Housing was mandated to spearhead disaster risk reduction and response. The Department had the overall co-ordination of all relevant disaster management stakeholders. The system used the existing Government departments, private sector, and NGO organizations whose regular activities contained elements of disaster risk prevention and community development. The major priority components of the current Act that enables its implementation include the organisational structure of civil protection in Zimbabwe from the Local Authority level to the National level, formation of the National, Provincial and District Civil Protection Committees and their subsequent sub committees, the component of planning for emergencies/disasters, the establishment of a Civil Protection Disaster Fund and procedures of declaring a State of Disaster (Civil Protection Act, 2006).

However, due to some shortcomings in the current Act, the country has engaged in a process to review its legislation since 1995 in an effort to strengthen disaster risk reduction. It is anticipated that the process will end with the repeal of the current Civil Protection Act to be replaced by the Emergency Preparedness and Disaster Management Act which will provide a legal basis for the establishment of an Emergency Preparedness and Disaster Management Authority whose major functions include developing a risk reduction strategy in order to minimize vulnerability to both natural and man-made or technological hazards (MLGPW &NH, 2006)

The National Civil Protection Coordinating Committee (NCPCC) chaired by the Director in the department of Civil Protection is responsible for the formulation of the National Civil Protection Plan. At provincial and district level, the same structure exists and is chaired by the Provincial Administrator (PA) and District Administrator (DA) and called the Provincial Civil Protection Planning Committee (PCPPC) and District Civil Protection and Planning Committee (DCPPC), respectively.

Planning for emergencies in Zimbabwe is done at various levels namely (i) district, (ii) Provincial and (iii) National levels. As provided for by the Civil Protection Act, all these levels are required to produce operational emergency preparedness and response plans which they activate during emergencies/disasters. The National Civil Protection Plan forms the overall framework for the promotion, co-ordination and execution of emergency and

disaster management in Zimbabwe. The localised plans should dovetail in to the National plan (MLGPW &UD, 2006).

2.3.1.1 District level

At district level the Civil Protection Unit is chaired by the District Administrator, that is the District Civil Protection Coordinating Committee (Gonye, 2014). It comprises of the members from various government departments, for example, the police, the defence, and health and among others articulated in the Civil Protection Act. According to the latter the DCPCC is supposed to meet at least twice a month. However these rarely meet when there are no disasters reported. Usually challenges faced at this level are fund related, this is so because funds are very minimal or close to zero hence it makes it difficult to carry out training workshops or awareness campaigns.

2.3.1.2 Provincial level

At provincial level is the Provincial Civil Protection Coordinating Committee (PCPCC) which is chaired by the Provincial Administrator. Just like at the District level the PCPCC comprises of the members from other governmental departments such as the health department, the police, the defence and those from Environmental Management Agency. Attendance of meetings at this level is at its best level as all departmental provincial heads respond effectively.

2.3.1.3 National level

At national level is the National Civil Protection Coordinating Committee (NCPCC) which is chaired by the Director in the department of Civil Protection and is responsible for the formulation of the National Civil Protection Plan. The NCPCC as empowered by section (41) (2) of the Act executes civil protection functions. The NCPCC consists of senior Government officers from government departments, parastatals and NGOs.

2.3.2 Environmental Management Act (Chapter 20:27)

The Environmental Management Act of 2002 is generally concerned with the management or protection of the environment and as such this piece of act applies very well when a natural disaster occurs and in this case drought. According to the act its core functions are to protect the environment through the prevention of pollution, land degradation and crafting the National Environmental Plan. This act calls for the establishment of the Environmental

Management Agency (EMA). The main function of EMA is to participate in any issues concerning the protection and management of the environment and this include but not limited to suing (Environmental Management Act). It should be noted that some members of EMA such as the Directors are incorporated into the CPU.

2.3.3 Legislative challenges and practices

Political will is fully demonstrated by the existence of the legal enabling statute, which creates the conducive environment in which a dedicated disaster management department was laid. The institutional framework, appropriate policy development and legislative codes all flow from the corporate commitment. However, it is without challenges. The Government of Zimbabwe has not yet developed a database on disaster risk reduction. Information is still being managed at institutional level through sharing reports, minutes, newsletters, and email facilities (MLGPW &NH, 2006). The Department has no modern infrastructure that facilitates communication and networking between disaster risk reduction institutions and research centres. However, the recently developed bill has the provision to facilitate communication and networking through the establishment of a disaster management centre where relevant stakeholders would be housed and linked together (MLGPW &NH, 2006). It is noted that funds for the envisaged centre are still yet to be secured. By and large, information is disseminated through the press, by pamphlets and road shows. Budgetary constraints limit the use of the electronic media whose effect is far reaching. While the act provides for the establishment of the Disaster Fund, many a time, the Fund is not able to fulfil all disaster management needs throughout the year.

Where more resources are required in the event of major disasters occurring at any given time, the enabling legislation has a provision through which the Treasury can inject additional funding, but normally these funds are diverted from other developmental projects, which either have to be suspended or deferred. The finance budgeted by the government for a year is inadequate and as a result local provincial and district structures are not provided with a budget to finance these disaster management activities. It is therefore difficult to conduct these activities without proper funding. In addition, some parts of the country remain remote such that radio, television and telephone services are still poor to a point where it is difficult to share early warning on imminent disasters in those areas (Dube, 2008).

2.4 Institutional intervention

As stipulated by the Act, every citizen or institution has a role to play in disaster management in the country. As such, many institutions at district level are involved in activities to do with disaster management. Activities at provincial level are coordinated by the Provincial Administrator. For example, in Zimbabwe drought emergencies at provincial level such as Matabeleland South are coordinated by the Provincial Drought Relief Committee (PDRC), a committee comprised of district level stakeholders such as the District Administrator's office (DA), Agricultural Extension &Technical Services (AGRITEX), Livestock Production department (LPD), Veterinary Services department (DVS), department of Social Services (DSS), the Grain Marketing Board (GMB), the Rural District Council (RDC), NGOs and other relevant stakeholders that may be injected in the committee. However, activities of this committee are not pro-active and do not have the resources to carry out its mandate. The committee is reactive, only meeting when there is a disaster, which requires the distribution of maize and other inputs from either the NGOs or the government controlled Grain Marketing Board (GMB) (Dube, 2008).

As noted, various institutions were involved in drought management in rural Zimbabwe including government departments, traditional institutions and NGOs. The private sector was not very visible in drought management. A survey carried out by Ndlovu (2010) indicates that informal institutions have not played a major role in drought risk reduction. Their role (for example Chieftainship) has only been limited to food distribution activities. Ndlovu (2010) further observes that traditional norms and beliefs are no longer effective in reducing land degradation because law enforcement is now weak. This may continue for some time in future in view of the growing population pressure on the environment.

2.5 Players in the drought mitigation efforts

2.5.1 Government departments

A sector of a national or state government that deals with a particular area of interest for example under the Ministry of Agriculture is the department of Livestock Production (Mararike, 1999). The roles of the government departments in drought mitigation differ according to their ministries, roles of the government departments under the Ministry of Agriculture deals with farming training and livestock production schemes whereas local government through the District Administrator's office at district level convenes the

DCPCC and DDR meetings. According to (Ndlovu, 2010) the government departments he departments such as the Department of Social Services and RDC coordinated other players that worked with these households from registration to work within the district, introducing them to communities and joint implementation, monitoring and evaluation of activities. Departments in the Ministry of Agriculture such as AGRITEX, DVS and LPD mostly did the extension work.

2.5.2 Non- Governmental Organizations

According to the World Bank (1990) Non-Governmental Organizations include many groups and institutions that are entirely or largely independent of government and that have primarily humanitarian or cooperative rather than commercial objectives. They are private agencies in industrial countries that support international development; indigenous groups organized regionally or nationally; and member-groups in villages. NGOs include charitable and religious associations that mobilize private funds for development, distribute food and family planning services and promote community organization. NGOs are involved in different aspects of drought risk reduction many offering short-term assistance (relief services) that satisfied immediate needs. Some provided technical assistance and financial/material support for initiatives that helped communities in rebuilding their livelihoods. Major activities included, harnessing of surface and ground water, rehabilitation of water sources, small livestock support, agricultural inputs, supporting irrigation schemes, supporting conservation farming, promoting planting of drought tolerant crops, promoting small gardens, food relief and capacity building in various aspects of drought coping and risk reduction (Ndlovu,2010).

2.5.3 The Grain Marketing Board

According to Jayne et al (1998), in developing countries grain marketing boards commonly handle the strategic food reserves for emergency situations, and had the responsibility to import food in shortage seasons so as to maintain national food security. These state controlled boards therefore held most of their nations' inter-seasonal and inter-annual grain storage capacity (Matsive, 2012). In Zimbabwe, GMB is responsible for maintaining the Strategic Grain Reserve, offering farmer support services through inputs distribution services and specialist services, provide storage, handling and processing facilities for controlled products, orderly marketing of controlled products within any prescribed area, promotion of contract farming, offering milling facilities and bakeries as prescribed in Part

IV of the Grain Marketing, Chapter 18:14. Therefore the GMB is necessary in addressing drought related issues in Zimbabwe.

2.6 Challenges faced in drought mitigation

2.6.1Government departments

A number of challenges impede the implementation of drought coping and risk reduction initiatives by many institutions. Government departments are commonly constrained by inadequate resources (both financial and material) to implement programmes; they do not have the resources for training farmers. Most farmers lack the requisite knowledge and skills to manage their farming activities as commercial enterprises. The situation is exacerbated by the high extension worker farmer ratio, which stands at 1:600. Most of the extension personnel have left the department due to poor remuneration and those still hanging on are demotivated and lack basic support to carry out their duties such as relevant equipment and transport (WFP-Plan, 2009).

2.6.2 Non- Governmental Organisations

Most NGOs have a small number of staff, based at district level and not at ward or local level making monitoring of NGO projects weak. Challenges common to both NGOs and Government departments include political interference in day to day activities that sometimes derail implementation of drought risk reduction activities. The existing economic environment has also led to high staff turn-over in most government departments and shortages of inputs and materials required for drought risk reduction. The current global economic crisis will further exacerbate the situation as it has already started affecting funding inflows for some NGOs (Ndlovu, 2010).

2.6.3 The Grain Marketing Board

The recurrent droughts have made it difficult for communities to recover, resulting in a continuous need for drought relief. The strategic grain reserve for the country is a central government responsibility carried out by the Grain Marketing board, which is a parastatal. It maintains the reserve both in grain and in cash. Grain silos are situated in the northern parts of the country. However, a number of temporary sites are created to cope with emergencies. During sustained periods of droughts importation of grain takes place. Such importation

may require assistance from the international community through the UN-WFP donors and their implementing partners. The GMB, which used to be a strategic grain reserve had lost the capacity to provide for locals after the industry was deregularised (FAO, 2004). GMB used to enjoy the monopoly as the sole buyer of grain in Zimbabwe. Deregularisation of the industry saw entry of new players that out competed GMB and had since failed to buy enough grain for its strategic reserve mandate and left the population vulnerable in the event of a major drought (FAO, 2004).

2.7 Effects of drought

Climate variability is the single most important factor affecting the livelihoods of the people in the region, but drought risk is not yet well managed (Sear, et al, 1999). Severe droughts in 1980s, 1990s, and 2000s to date, have significantly reduced agricultural production and disrupted national economies. Concern is now growing that drought might become more frequent in the region as a result of global warming (Bang & Sitango, 2003). If this occurs it will worsen problems for vulnerable households, communities and economies. Drought has actually caused more socio – economic damage than any other hazard in the whole world (Wilhite, 2000. However, drought has no structural and physical impact, which to some extent has hindered the development of accurate, effective, reliable and timely estimates of its severity and ultimately, the formulation of drought contingency plans by many governments in Africa.

In disasters such as drought, a geophysical or weather related event is implicated in some way as a trigger event or a link in the chain of causes. Even when such a natural hazard appears to be directly linked to loss of life, there are social factors that need to be considered involved in causing people's vulnerability (Wilhite, 2000; Wisner, *et al.,* 2004). Vulnerability is a function of social, economic and political processes that determine how a hazard event would affect people in varying ways. Furthermore, human activities can modify biological events in the long run such as deforestation or many years later such as the introduction of new animal or seed. Until the emergence of the idea of vulnerability to explain disasters, many views have been of the idea that disasters are as a result of natural hazards (Wisner, *et al.,* 2004). Vulnerability is a function of factors that influence the degree to which someone's life, assets and livelihood are prone to damage by a discrete and identifiable hazard. Some people are more prone to damage or loss in the face of a different

hazard and variations in impact are also a result of differences in wealth, caste, ethnicity, gender, health and physiological status, disability and age, immigration status and types of social networks (Dercon, 2002)

2.8 Drought coping strategies

Coping is the manner in which people act within the confines of existing resources and range of expectations to achieve various means (Wisner, *et al*, 2004). It does not only involve the management of limited resources but how it is done in unusual, abnormal and adverse situations. Resources may include land, livestock, draught animals, seed for crops and labour. To mobilize resources people should be entitled to command them which can be through exercise of rights, using the market, calling upon obligations or even through theft and violence (Ndlovu, 2010). While the major objective of coping strategies is usually assumed to be survival in the face of adverse events, such an approach masks other important purposes as explained by Maslow's hierarchy of human needs (Wisner, *et al.*, 2004). It is important not to oversimplify and over-generalise the expectations and priorities of vulnerable people in disasters.

2.8.1 Traditional early warning systems

Traditional early warning systems are based on three precepts. Firstly, farmers must have detailed knowledge of when the major rains should arrive – understanding what is implied about the probability of future rain by variance in wind, humidity, and temperature from expected conditions. Secondly, farmers need to know how to interpret the behaviour of animals and plants, which serve as valuable indicators for subtle fluctuations in temperature and humidity. Appropriately interpreted, local communities can forecast major rains months before their arrival (Ndlovu, 2010). Similarly, the absence of these natural indicators suggests the absence of rain i.e. drought. Thirdly, observed historical trends allow for reasonable predictions of future weather patterns. However, the increasing severity and frequency of drought over the last decade has rendered this latter form of forecasting less reliable than it has been in the past (Pratt, 2006). However, the change in weather patterns has shifted the seasons, this is witnessed by the 2015-16 season where most parts of Zimbabwe experienced heavy rains late March when most of the crops had already dried up.

2.8.2 Building stocks of food

Building up of stocks of food and other saleable assets is cited as one important coping strategy of rural households (Dercon, 2002; Wisner, *et al.*, 2004; Ndlovu, 2010). Rural people who have access to land often store grain and other staple food. This is an important buffer against expected seasonal shortages, as well as prolonged periods of hardship. Livestock farmers may follow a strategy of increasing their herd size in years of good rains and grass availability in order to maintain the herd size in the inevitable bad years with high mortality. This coping strategy has been helpful a lot in the rural areas where people are seen stocking up grain and other crops from the previous season to help through the next season in case of drought. Therefore the building up of stocks as a coping strategy has enhanced food security in Zimbabwe. However, in most cases the crops stocked up are not enough to pull the people through the next season in case of a drought.

2.8.3 Assets disposal

A study done by Ndlovu (2010) in Bulilima and Mangwe districts of Zimbabwe observes that asset disposal has increased over the years with the selling of cattle and small livestock such as goats and chickens being the most popular coping strategy in the two districts. As much as selling of cattle s provides income during a period of drought, selling cattle does have the benefit of reducing the herd size so that not all livestock die due to a shortage of feed. Some cattle may be sold to buy supplementary feed to save other cattle during drought years. Although the selling and consumption of small livestock, especially chicken and goats, was common to most of the households who had them, this coping strategy did not meaningfully reduce the exposure of the drought effects to the people because of the small money they got on the market. However, it is important to note that if the selling of assets is dependent upon too much it increases the vulnerability to drought in the future as communities will not have enough productive assets to prepare for future droughts. Therefore it is of paramount importance to note that this coping strategy has a negative impact on food security in Zimbabwe as it sometimes increases the exposure to drought effects.

2.8.4 Diversification of production

Diversification of production is regarded as one most important risk-averse strategy with the farming people. Usually their production involves mixed cropping, intercropping, the

cultivation on non-staple root crops and use of kitchen gardens. This strategy provides a surplus in good years since it is normally planned on the basis of meeting subsistence needs in bad years (Wisner *et al.,* 2004). It should be noticed that diversifying production makes use of environmental variations and provides the best chance of an optimum yield under all variations of weather and plant pests. However, as much as it is a risky coping strategy where it is successful it has seen to be having a positive impact on food security, whereas where it fails it impacts the food security of Zimbabwe negatively

2.8.5 Income diversification

The way out for the poor in a drought prone area is the development of non-farm rural activities, which help to boost the income and thus enable households to fend for themselves. These activities range from gardening to craft production. Harrison (1997) noted that dry season gardening projects such as those in Niger launched by the Lutheran World Services are also a vital drought coping strategy. During the 1982-84 drought many rural households in Southern Zimbabwe generated income by harvesting, shelling and selling wild marula nuts, a species found in several countries in the region (Chenje, 1994). Studies carried out by UNEP in 2002; reveal that the Hausa, of Northern Nigeria, in drought years resort to craft production, which they sell to generate income to buy grain to fend for the households. Therefore it can be concluded that income diversification as a drought coping strategy has contributed much to food security in Zimbabwe.

Income diversification is very common among rural households of Zimbabwe these days. It becomes even more important following a drought that temporarily disrupts farm and livestock production. Black smiting, charcoal making, honey collection and crafts have increasingly become important since they do not suffer directly from the impact of drought or climate change. Wisner, *et al.* (2004) noted brewing beer as an important source of income, especially for women and drought reduction of beer ingredients can affect their income and nutrition. However, some of these coping strategies such as charcoal production can be effective in the short run. Whereas in the long run they result in de-vegetation, soil erosion and finally desertification. Henceforth these long run effects largely worsen the drought.

2.8.6 Buying and selling cattle

Davies (1996) indicates that buying and selling cattle is generally recognized as a common strategy to cope with income fluctuations due to drought in many rural areas. In Zimbabwe this coping strategy is popular in Matabeleland North and South where they do more of livestock farming than grain. However, this coping strategy does not apply in all the regions because not all or rather a large number of households do not own any. Dercon (2002) finds that only half the households in a sample in Western Tanzania own cattle, even though cattle are important in the farming system and in their culture. It is not that other households simply choose to enter into other activities; rather, investing into livestock requires a sizeable surplus: livestock are expensive. A cow, for example, costs about a fifth of an average crop income. Cattle ownership is generally determined by endowments in male labour and land, suggesting that those with a poorer endowment cannot generate sufficient means to enter into cattle rearing, leaving them relatively more exposed to income risk. More generally, the failure to cope with drought effects is not only reflected in household consumption. Effects on nutrition, health and education are also observed, as are intra household consequences. Children are often taken out of school in response to adverse income shocks; the result is lower accumulation of human capital (Dercon, 2002). Therefore this coping strategy does not apply to all families as some depend on other people's cattle for farming.

Ndlovu (2010) has observed that in many rural areas where livestock provide a major source of income, during the wet season rangeland forage is of adequate quality and quantity for livestock to thrive, but grazing declines from April onwards such that by August/September, livestock need supplementary feeding to sustain growth rates and prevent loss of summer weight gains and body condition. Some farmers meet this feed requirement from grown pastures or multi-purpose trees and crop by-products. After the catastrophic droughts of 1999/92 and 1993/94, the approach to handling drought has changed. Since then communal farmers have become more responsive to drought so that culling and selling some stock, lease grazing and hand feeding of animals for survival has now been widely adopted. The chosen course of action depends on the farmers' circumstances i.e. resources at his/her disposal, severity of the drought, market availability and veterinary movement restrictions. However it is still a common practice that a *"do nothing*" approach is the first strategy employed by all farmers. In the long term, the most sustainable approach to drought mitigation is establishment of *"strategic fodder reserves"* through planting of fodder crops,

conservation of forages and storage for use at strategic times. This should be accompanied by a pre-prepared drought plan (Chinembiri, 1999).

2.8.7 Migration

Migration has been cited by Dercon (2002) as one of the coping strategies in drought disasters. Migration comes with a lot of challenges though (Bradshaw, 2004). Following a disaster as has been the tendency worldwide many male head of households migrate resulting in an increase in the number of female headed households. The reasons are twofold: frustration at not being able to fulfil one's role as breadwinner; and the intention to seek work and send remittances to the family, even when they do not subsequently do so. For women who have to remain behind, the impact is twofold: not only await a remittance that take time to arrive, but also be left without subsistence resources, because in order to finance the migration, the household (i.e. the man) has to sell assets such as livestock or the house (Bradshaw, 2004). The impact on women of migration by male heads of household has more than just a financial dimension: women must assume headship of their households and the responsibilities that this entails. Therefore the migration of men leaving women as households heads leaves them with the responsibility of taking care of their families and since the men who would have migrated into cities do not get jobs there and there in order to support their families, women are forced to take action. In most cases women resort to prostitution.

2.8.8 Prostitution

Coping strategies may take forms, some of which may even be prescribed and discouraged by members of a social group or gender. Following destruction of livelihoods assets and means, women and children are at danger of using sex as a survival strategy (Natrass, 2002). It has been observed elsewhere that economic factors reinforce unsafe practices especially where sex is a currency by which African women and girls are frequently expected to pay for life's opportunities, as permission for crossing borders, passing a grade at school to a trading license (UNAIDS, 1999). Poverty exacerbates the situation by encouraging women to engage in sex as an economic strategy for survival (Nattrass, 2002). Therefore this coping strategy is not recommended even though most girls and women resort to it, especially nowadays with the spread of HIV and AIDS. However girls and women resort to it anyway

despite the outcomes of sickness. Therefore one can note that this coping strategy has not contributed much to the food and nutrition security of Zimbabwe.

2.8.9 Social support networks

In adversity people also rely on social support networks. These include rights and obligations between members of the same household and with other wider groups with a shared identity such as a clan or tribe (Dercon, 2002). Parents may influence strategic marriage partners for their daughters or sons into a comparatively wealthy family to call on resources in difficult times. At the same time, sources of household income other than the dominant one may be employed, such as casual labour, petty trading, cross border trading and artisanal work. However, as crisis deepens, sale of more productive assets such as ox for ploughing, agricultural implements and early marriages may have to be arranged. It is clear that these strategies do not seem to try maintaining an adequate food intake for a household but instead are aimed at preserving the means for continuing the household's livelihood after the drought. Therefore social support networks are aimed at ensuring survival for certain households, henceforth this coping strategy is very effective as it is relied upon in most rural parts of Zimbabwe, as such one can conclude that it is an important mechanism towards strengthening food security in Zimbabwe.

2.8.10 External Assistance

The government of Zimbabwe assists vulnerable households to cope with food deficit induced by droughts. Such assistance range from public works projects, supplementary feeding schemes, food aid and food for work. NGOS and social organizations are an important external assistance source for house hold drought coping strategies. In Tsholotsho district there are wider obligations from the whole community to assist those facing acute hunger and some public assistance and food aid from a number of Non-Governmental Organizations have been very helpful. As highlighted, food aid in Tsholotsho has been very helpful to meet food deficit requirements for many vulnerable households. It was observed that in the 2008/9 farming season WFP through Plan International provided food aid to an average of 125,000 beneficiaries per month (WFP-Plan reports, 2009) so as to avert hunger and starvation among the most vulnerable group in a district with an estimated population of 250,000 people (2002 census). Indeed it is important to note that external assistance through food aid from the government, NGOs and social organizations such as churches has been of

great help towards drought effects especially in rural areas of Zimbabwe and has enhanced food security. However, food aid has created dependency syndrome such that some households no longer see the need to cultivate their fields (Dube, 2008).

2.8.11 Sale of non-food crops and gold panning

Studies done by ZimVAC in (2010) reveal that for the past two seasons for the year 2008/9 and 2009/10, own cereal production has not been adequate for family consumption. As such households in Zimbabwe have been employing a number of coping strategies for consumption such as: casual labour, market gardening, sale of non-food crops such as tobacco and cotton, livestock sales and bartering, gold panning, remittances; most pronounced in districts closer to the borders with South Africa and Botswana, fishing near lakes, rivers and dams, petty trading, fruit sales; most pronounced in Mutasa and Chimanimani districts and non-agricultural employment (ZimVAC, 2010). The sale of non-food crops and gold panning has grown popularity in Zimbabwe as most people are resorting to it due to drought effects. Besides some people operating gold panning popularly known as *chikorokoza* illegally it has proven to be bettering people's lives in areas where it is practised. Therefore one can conclude that it is an effective coping strategy which has managed to enable food security in Zimbabwe.

2.8.12 Permaculture

Permaculture is a system of agricultural and social design principles cantered around simulating or directly utilizing the patterns and features observed in natural ecosystems. Farmers' responses to the effects of drought have been varied (Shumba, 2001). In the work done from some districts of Nyanga, Chipinge, Mudzi, Chivi and Gwanda districts of Zimbabwe farmers have tried a mix of strategies in risk reduction in the face of drought. It has been reported by Shumba (2001) that many farmers were learning permaculture and practising it, both in their gardens and fields. Permaculture helps them prepare for drought through land use designs that enhance water conservation and bio-diversity and this has enhanced food security in Zimbabwe.

In addition, a significant proportion of farmers also practise water harvesting. Farmers are harvesting water from rooftops and diverting water from natural springs into tanks. This ensures that they have a substantial amount of water stored up. In case of a drought the

stored water will be able to sustain them for about five months depending on the volume of the tank (Shumba, 2001). The water is also used for supplementary irrigation of vegetables and crops. Some farmers were digging infiltration pits along contours. Water collects in the pits during the rainy period. When the weather becomes dry, as in the case of early stoppage of rains, the water spreads underground, and is used by the plants. Crops can grow up to maturity by using this conserved moisture. The farmers in Nyanga and Chivi indicated that even if there were only five days of rain in the whole rainy season, the crops would reach maturity using conserved and harvested water in the pits (Shumba, 2001).

2.8.13 Reduction of the consumption size

People change their consumption patterns prior to drought situations. These strategies usually follow a sequence, starting with reduction in the number of meals eaten followed by increased consumption of wild and famine foods such as leaves and berries. About 119 different indigenous vegetable types and 36 mushrooms were identified as important food resources during drought years in Uzumba-Maramba-Pfungwe, Murewa, Chiredzi, Tsholotsho and Nyanga by the Community Technology Development Trust (CTDT) (Murimi/Umlimi, 1999). Therefore the reduction of consumption size by households has been an effective drought coping strategy as the people have also resorted to indigenous fruits and vegetables. However it is important to note that some villagers went to an extent of eating poisonous indigenous fruits and vegetables (Zvikomborero and Chigora, 2010).

2.8.14 in a nutshell these traditional strategies have environmental, economic and social components. Environmentally based strategies include ecological diversification (vale and stream bank cultivation), gathering of wild fruits, hunting and fishing, strict control of access to water and pasture, and in case of herders, mobility. Economic strategies to cope with food shortages include increased trade, production of crafts, brewing beer for sale, sale of livestock and household effects, growing drought-resistant crops, storage of foods, and, finally, migration. Social strategies include the increased borrowing of food through extended family links, food aid by the government, NGO's and social organizations, prayer to rainmakers, raiding, sharing, reducing meals, splitting herds, arranging marriages, prostitution, begging and finally stealing (Zinyama, Campbell & Matiza, 1988; Wisner, *et al.*, 2004)

2.9 Conclusion

In conclusion there are many institutions/organizations that are involved in drought mitigation right from the national level up to the grassroots level to enhance food security in Zimbabwe. While disaster committees exist from national to district level, the same committees are not vibrant at village level if at all. This is so because drought is a recurrent event, copying strategies are fast improving in the communities and sometimes vary from community to community depending on their regions. However, some coping strategies may take forms some of which may even be proscribed and discouraged by members of a social group or gender. Literature on drought coping reflects an identifiable sequence of coping strategies adopted by households. Households start with non-erosive to erosive ones as the drought severity intensifies.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter presents the guidelines and methods that are followed in gathering and analysing data. In this chapter is the research design, sample selection, sampling frame, methods of data collection, data analysis and ethical considerations. The researcher used documentary review whereby academic books, professional journals, articles and newspaper articles were broadly reviewed to get a better understanding of the impact of drought coping strategies on food security in Zimbabwe specifically in Tsholotsho district. Secondly, field research was conducted whereby questionnaires were administered to gather relevant data.

3.2 Research Design

A research design is a plan or blue print of how a researcher intends to conduct a study. These are the plans on sampling, methods of data collection and how data would be processed and analysed to give meaning to research findings (Blanche et al 2006). The study is aimed at outlining and explaining the impact of drought coping strategies on food security in Tsholotsho District so both qualitative and quantitative data was gathered. These different data gathering methods enabled triangulation, that is, the mixing of data and methods so that diverse viewpoints or stand points cast light upon the topic (Olsen 2004). According to Bryman (2001, 509) triangulation is the use of more than one method or source of data in the study of social phenomenon so that findings may be cross checked. Triangulation involves the use of both qualitative and quantitative data.

3.3 Sample selection

A sample is a smaller (but hopefully representative) collection of units from a population used to determine truths about that population (Field, 2005. Sampling involves the selection of the specific research participants from the entire population. The identified population by the researcher comprised of institutions involved with drought mitigation such as the government departments, Non- Governmental Organisations, village heads and the selected households in the district. To draw key respondents from the identified population, stratified random sampling and convenience sampling was used.

3.3.1 Stratified random sampling

According to the International Development Research Centre (2008) sampling was to split the population into classes or subgroups, that is, sections or segments. (Grady C et al. (2008)). The researcher employed stratified random sampling in each of the three livelihood zones that is at ward level one (1) ward was randomly selected, that is ward 13 and in this ward one (1) village was selected, that is Magama village. The researcher selected this village on the ground that it was convenient. The researcher chose 15 households and distributed one questionnaire per household. The institutions responsible for drought mitigation were each given questionnaires depending on the number of people reached present in the office. These institutions were selected on the assumption that drought mitigation is their mandate and they information on it.

3.3.2 Convenience sampling

According to the International Development Research Centre (2008) convenience sampling, as the name implies is a specific type of non-probability sampling method that relies on data collection from population members who are conveniently available to participate in the study. Convenience sampling was chosen by the researcher because it enables data collection to be done in short duration of time. The researcher selected actors in drought mitigation and households to distribute questionnaires to according to their convenience and this was an advantage to the researcher because it enabled the researcher to finish data collection in a short space of time. Households in the selected village were selected according to their convenience to the researcher and this was to the researcher's advantage as it had less costs on the movements.

3.3 Sampling frame

A sampling frame is a list of all the items in your population. It's a complete list of everyone or everything you want to study (Andale, 2014). Institutions involved in drought mitigation and food security were each interviewed using questionnaires. These included the District Administrators Office, the Grain Marketing Board, the Agricultural Technical and Extension Services (AGRITEX), local Non-Governmental Organizations, village heads and the villagers. These were the organizations from which the researcher chose 40 key respondents from.

3.4 Methods of data collection

Methods of data collection are the means which were employed by the researcher in extracting information. The researcher used documentary review and questionnaires to collect data for her study. Questionnaires were administered to the major actors involved in drought mitigation and the villagers and data from questionnaires was analysed. Qualitative data was gathered using documentary review.

3.4.1 Questionnaires

A questionnaire is an instrument comprised of a series of questions that are filled in by the respondents themselves (Niglas, 2001). Questionnaire surveys were one of the main data collection instrument used by the researcher. Other instruments were also used so as to compliment the major instrument, these are documentary review and in-depth interviews and these were used in an effort to substantiate the data acquired through the use of questionnaires. The later was chosen by the researcher because it gave the respondents enough time to answer the questions and without mixed feelings. The researcher distributed the questionnaires to the staff in the District Administrators office that is, the District Administrator and the Admin Officers. In the department of Agricultural Technical and Extension Services the researcher distributed the questionnaires to the Extension Officers responsible for the Provincial Food and Nutrition Security Council, in the Non-Governmental Organizations the researcher interviewed the Programs Officers, and in the village the researcher gave the village head and the chosen villagers questionnaires.

3.4.2 Documentary review

Documentary review refers to the analysis of documents that contains information about the phenomenon we wish to study (Bailey 1994). In document research, the researcher systematically analysed written records pertaining to drought coping strategies and its impact on food security. This enabled the researcher to be familiar with existing works and current discourse on drought mitigation in Zimbabwe. The researcher drew information from government publications such as Acts of Parliament (Civil Protection Act of 1989 (chapter 10:06), journal articles, newspapers, commentaries from organizations such as ZIMVAC and reports. The findings from document study pointed out challenges being faced by the people in managing drought in order to enhance food security in Zimbabwe and

provided approaches that can be used as target for possible recommendations on the future drought coping strategies in Zimbabwe particularly in Tsholotsho District.

3.5 Data analysis

In analysing data, the researcher transformed data into meaningful form in order to consider original research questions (Blanche et al 2006). Entailed here is the point that the research findings were analysed and presented so that they can be meaningful to the end users. The research utilized two methods to analyse the findings. These are Content Analysis and Statistical Package for Social Sciences (SPSS).

3.5.1 Content analysis

Content analysis enables researchers to sift through large volumes of data with relative ease in a systematic fashion (Stemler, 2001). This study employed content analysis the researcher analysed books, brochures, news reports, other written documents on the subject of drought coping strategies and speeches were analysed. The researcher used content analysis to examine trends and patterns in documents and this showed the frequency of recurrence of key ideas, phrases and concepts. The researcher identified and noted the presence of certain words, phrases or concepts within text and emerging patterns.

3.5.2 Statistical Package for Social Sciences (SPSS)

This is a computer based statistical program prevalently used in social science research that allows quantitative data to be managed and analysed (Bryman, 2001:508). In this study, the program was used to analyse the data from closed ended questions in questionnaires. The data was then grouped and categorized. SPSS enabled the researcher to determine frequencies in various responses to research questions. As a result, such frequencies were noted and were grouped into themes.

3.6 Ethical considerations

According to Nachmias (1992) when conducting research involving human participants one is usually required to pay particular attention to some considerations. For instance the significance of the study should be more important than any human costs involved, that, privacy and confidentiality. Henceforth the researcher made sure that the participant's privacy and confidentiality was respected at all times and risks were minimized. The

researcher recognised the rights of participants both as individuals and collectivises, therefore the information provided by the respondents cannot be used for non-research purposes. It is important to note that names for the participants are not provided in this research. Furthermore respondents participated on voluntary basis and no financial hand outs to the respondents.

3.7 Conclusion

This chapter highlighted the research methodology of the study. The study adopted the triangulation method where qualitative and quantitative approaches were used for an in-depth assessment of the impact of drought coping strategies on food security. The researcher used documentary review, questionnaires and in- depth interviews. In documentary review Acts of Parliament, journal articles and research papers were reviewed to gain a better understanding of the impact of drought coping strategies on food security in Tsholotsho District. Field surveys included questionnaire and in- depth interviews administration.

CHAPTER FOUR: PRESETATION AND ANALYSIS OF FINDINGS

4.1 Introduction

This chapter presents and analyses the research findings from documentary review, in- depth interviews and questionnaires. Research findings are presented using graphs and a thematic approach. The analysis of findings combines both qualitative and quantitative approaches. The presentation and analysis of findings is based on the themes: causes of drought, effects of drought, drought coping strategies, impact of drought coping strategies on food security, actors involved in drought mitigation, challenges faced by the actors and recommendations proffered to enhance food security.

4.2 Research findings

Most of the findings in this chapter are from documentary review and questionnaires. Informants involved in drought mitigation interviewed were from the District Administrators Office, AGRITEX, Non- Governmental Organizations, the Grain Marketing Board, the villagers and the village head. The table below shows the response rate to the questionnaires administered.

Table 1 Response rates to questionnaires administered.

Name of organization	Questionnaires administered	Questionnaires returned	Response rate
Local government (DA's office)	5	4	80%
AGGRITEX	5	4	80%
Non-Governmental Organizations	8	6	80%
Grain Marketing Board	5	4	80%
Village heads	2	1	50%
Villagers	15	10	67%
Total	40	29	73%

Table 1 shows that out of 40 questionnaires administered in the above mentioned organizations 29 were returned. The 29 questionnaires returned constitute 72.5 % response

rate which is sufficient to validate the proposition of the study. The 27.5% non-response rate can be attributed to non-cooperation of the respondents. In addition to this respondents had tight schedules due to the preparations for Independence Day Celebrations and preparations for Zimbabwe International Trade Fair (ZITF) hence they could not find time to attend to the questionnaires. It is important to note that the response rate was calculated based on the number of returned questionnaires.

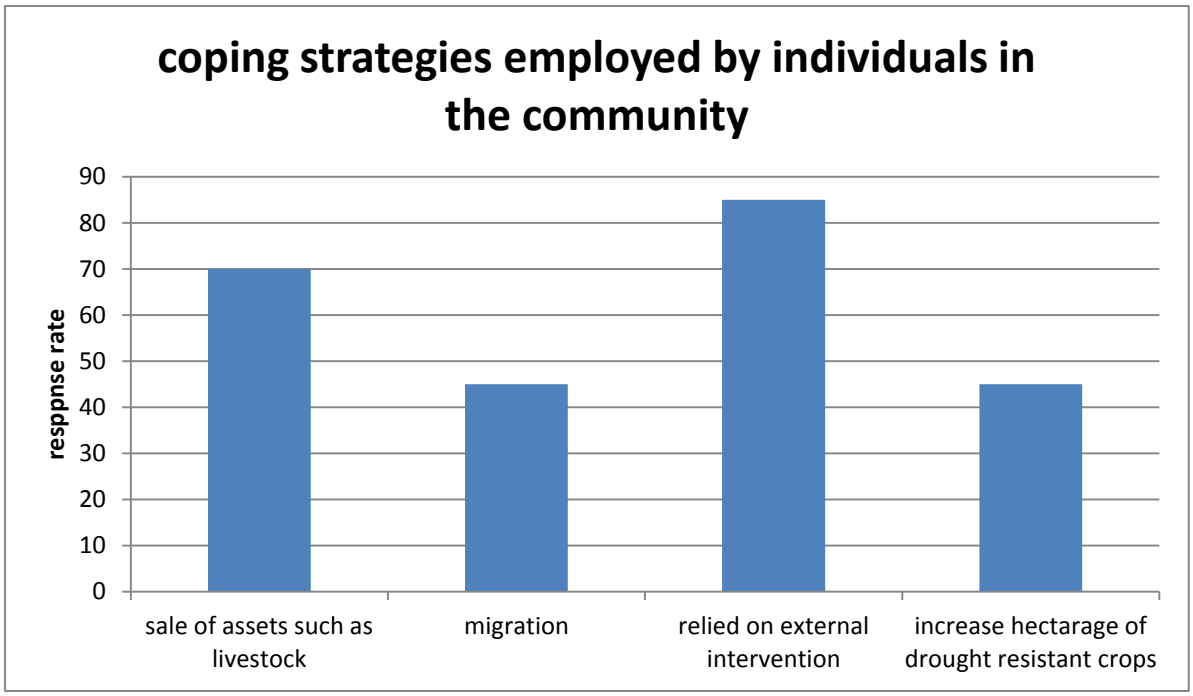
4.3 Drought coping strategies

This section serves to discuss the main drought coping strategies usually implemented by the people towards addressing drought effects in Tsholotsho district. In line with the above Dercon (2000) states that coping mechanisms for drought refers to the strategy applied by individuals, families, communities, institutions, firms and society at large or governments to cope with the negative effects of a drought.

4.3.1 Households' own coping strategies

Research findings revealed that families in the district adapt to a number of strategies in order to cope with the drought. Households in the district resorted to some coping strategies such as the sale of assets such as livestock, income diversification, migration, relying on social support networks and institutional intervention. However it is important to note that these findings are in line with remarks made Hutschinson (1992), Dercon (2002), Plan (2009), ZimVAC (2009) and Ndlovu (2010).

Figure 4.1 Coping strategies employed by the community

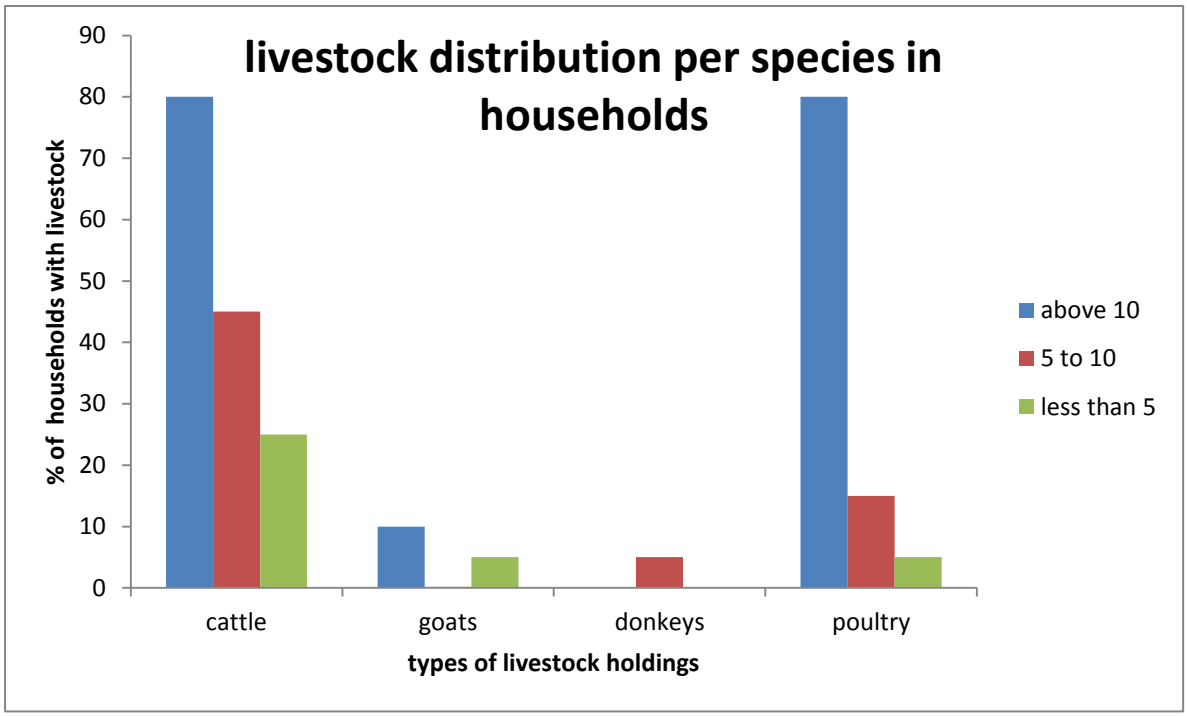


The research findings of the study as illustrated by figure 4.1 above shows that the major coping strategies employed by households were migration (45%), the selling of assets such as livestock (70%), increase hectare of drought resistant crops (45%) and the response rate of people relying on external help from institutions involved was (85%) while the sending of other members of the household to other relatives were not mentioned at all in research findings. This is as shown by figure 4.1 above. The most commonly sold asset was livestock. Hutschinson (1992) argues that coping may not proceed sequentially along a singular trajectory, but that households might pursue several strategies in corresponding.

4.3.1 Sale of assets for example livestock

The results of the study also showed that the people resort to the selling of assets especially livestock as a way of addressing drought in the district. Matabeleland province is well known for having a large number of livestock especially cattle as the people from there depend on livestock farming more than any other types of farming. 70% of the participants assured that indeed the individuals in the district heavily dependent on the sale of livestock. However it is important to note that in severe droughts the livestock is also affected which results in the selling of livestock worsening the vulnerability of drought.

Figure 4.2 Percentages of livestock per household



As reflected in the bar graph above in figure 4.2, households in Tsholotsho district are heavily reliant on livestock farming which is also strengthened by the reports of Scoones (1992) who argues that mixed farming of both dry dry-land crops and livestock production is a way of addressing drought. Most of the households owned a large number of cattle which was at 80% and poultry which was also at 80%. The study revealed that cattle and poultry were the most dominant livestock in the district. Goats and donkeys were the least dominant in the district because as illustrated by the bar graph most households did not own any donkeys whereas 15% of the population owned at least 5-10 goats. These findings are supported by Car (1997) who argued that in most cases when farmers are deprived of food by drought, they are forced to sell their livestock and their meager household goods. This practice is further more supported by UNEP (2002) which stated under drought conditions, households may resort to selling livestock in order to buy grain.

4.3.2 Increased hectares of drought resistant crops

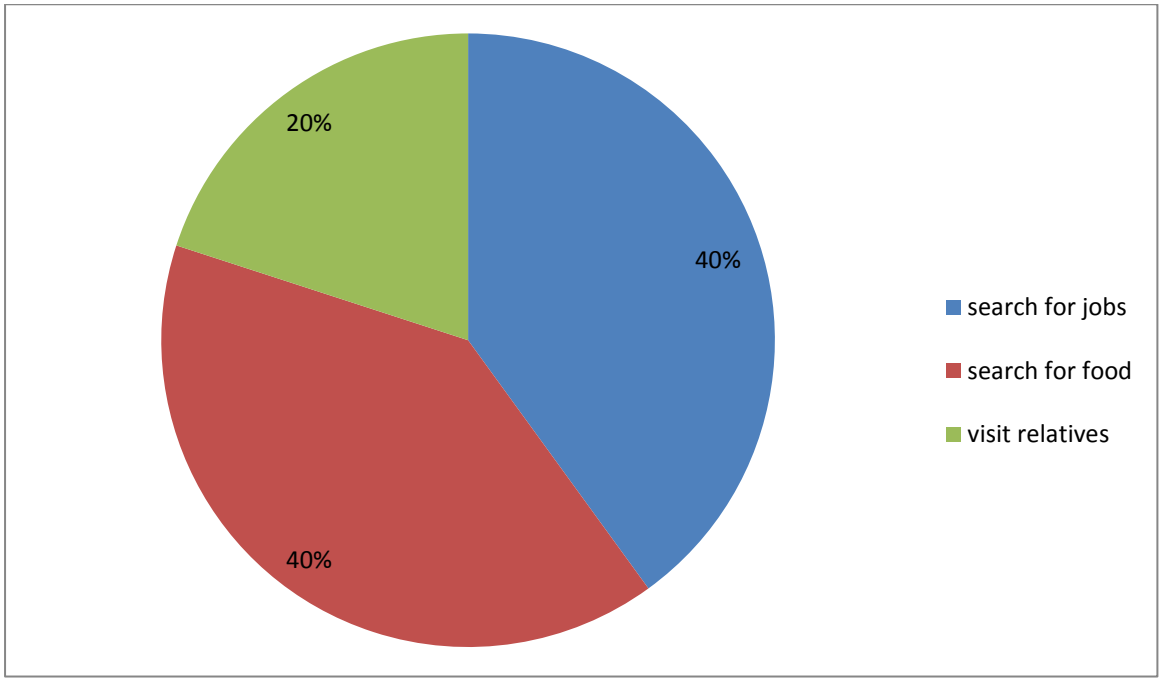
The study revealed that (45%) of households increased hectares of drought resistant crops in anticipation to drought (Figure 4.1).Yet the majority of households had an average household size of one to four members. The researcher assumed that the household size was small because of migration and the impacts of HIV and AIDS. This is assumption was in line with the research findings of Ndlovu (2010) who elaborates that migration due to the

economic decline and the devastating impact of HIV and Aids on the most economically active age group, has robbed farmers of the much needed household labor. Henceforth the people left in the community are of old age and are too weak to plant, cultivate their lands and even harvest. However, these strategies compare well with findings by a number of development practitioners and researchers as Amani and Maro (1991) argue that to improve food security in food deficit areas the production of drought resistant crops such as sorghum, and millet needs to be encouraged.

4.3.3 Migration

In the district people usually migrate to other areas when the drought situation prolongs. Research findings show that 45% of the people resort to migration, most of these migrations involve men and at worst cases women and children. Figure 4.3 shows the nature of migrations that take place during drought in Tsholotsho district.

Figure 4.3 Nature of migrations



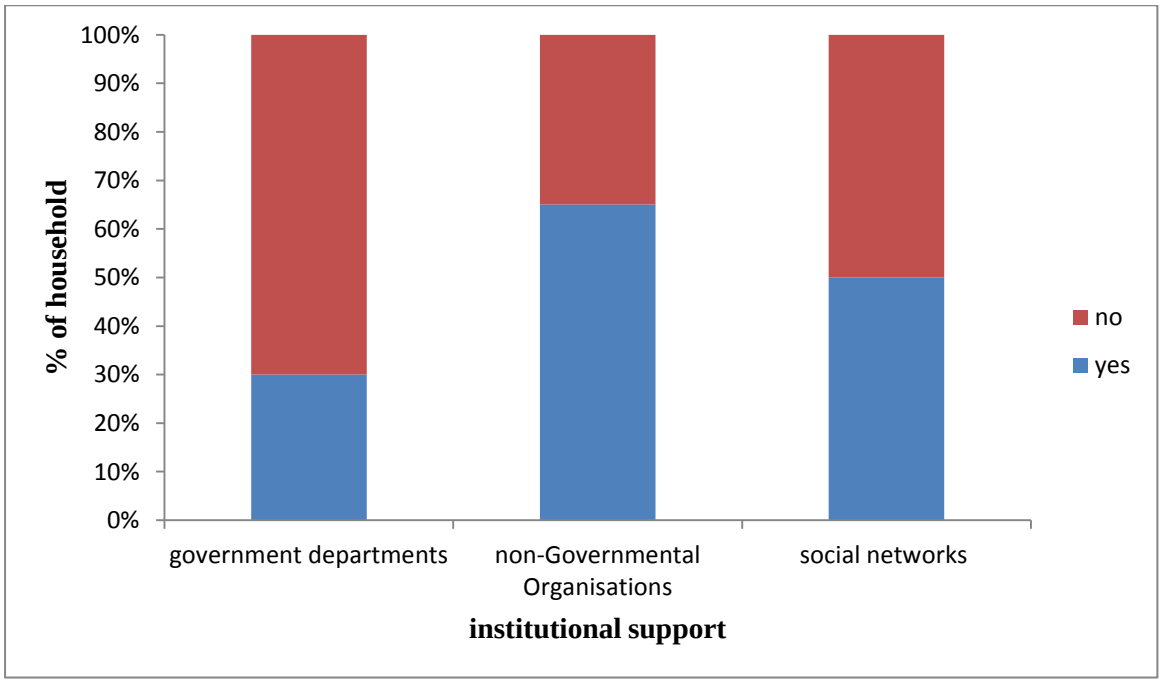
Questionnaire results revealed that the majority of these migrations take place within the male-headed families involving males going into towns and cities to search for jobs. Thus 40% of these migrations are for job searching whereby the majority of these males have even migrated to neighboring countries such as South Africa and Botswana. Since most males would have migrated women remain behind heading their families hence are left with

responsibility of taking care of their children. Therefore 40% of the migrations involve women going into cities such as Bulawayo in search of food. 20% of the migrations involve mostly children who migrate to relatives in other areas in an effort to run away from the worsening drought conditions. This is in line with the research findings of Sen (1981) studying the Sahelian drought who established similar trends of migration.

4.3.4 External intervention

The results of the research showed that the community is mainly based on food aid from the actors involved in drought mitigation such as the government departments, the Grain Marketing Board, social networks such as friends and relatives and the Non- Governmental Organizations which was (85%) as shown by the response of the participants on figure 4.1. However this shows that there is a tendency of dependency on aid than the individuals actually working on their own to address drought.

Figure 4.4 External intervention



As illustrated by figure 4.4 above there was a general feeling that there wasn't much support coming from the government departments as compared to the Non-Governmental Organizations and social networks in the district. Research findings established that NGOs and social networks in the form of friends and relatives were the most recognized

sources of support in the district in coping with drought. Food assistance came from those social networks while NGOs came in with food hand-outs, inputs and software packages in the form of training and capacity building of communities (personal communication). Findings here compare very well with work reported by Ndlovu (2010) on the trend of support from stakeholders and other role players. He notes that informal institutions have not played a major role in drought risk reduction.

4.4 Views on the impact of drought coping strategies on food security

The analysis undertaken in this section attempts to identify the impact of the coping strategies employed by the people in the district. In the research people were asked to state the effectiveness of the coping strategies employed. During the study, coping strategies were analyzed to determine whether they were able to withstand and offer resiliency to the effects of drought in accordance with people's perceptions and enhance food security in Matabeleland North. The results from the people's views on the effectiveness of the drought coping strategies they employed is presented in a table below to evaluate the effectiveness of the drought coping strategies and analyze the impact they had on food security.

Table 2 Impact of drought coping strategies on food security

Coping strategy	Effectiveness %
Growing drought resistant crops	60%
Migration	50%
External intervention	65%
Sale of livestock	60%

4.4.1 Growing drought resistant crops

According to the research findings growing of drought resistant crops as a way of addressing drought in the district was said to be 60% effective. The effectiveness of this strategy was used by the researcher to assess its impact on food security in Matabeleland North. According to the results growing of drought resistant crops had a great impact on food security. Of late droughts have been crippling the food security of Zimbabwe, however it is important to note that the employment of this coping strategy which enables the farming of crops such as millet and rapoko has contributed much to the enhancement of food security. This is in line with the writings of Makoti (2008) who states that growing of

drought resistant cultivars is not only logical but highly preferred technical thinking to foster increased food production despite persistent droughts and it ensures guaranteed livelihood of the community at all times.

4.4.2 Migration

Research findings reviewed that migration as a coping strategy employed by the people in the district has contributed 50% to the enhancement of food security in the province. The migrating of men in the cities and neighboring countries in search of jobs has enabled the people remaining behind to have a decent livelihood. This is so because they will be receiving money and commodities such as food from their relatives abroad and in the cities. Evidenced in the district was the moving of South African vehicles popularly known as *omalayitsha* delivering goods from peoples relatives in South Africa. Henceforth migration has indeed enhanced food security in the province. These findings are in line with the research findings of Shoko and Masendeke (2013) which states that men migrate to neighboring cities when the drought situation is prolonged.

4.4.3 External intervention

External assistance to households in the district comes from the government, social networks such as friends and relatives and from the Non-Governmental Organizations. Responses from the questionnaire as illustrated by table 2 showed that on all the coping strategies employed in the district external assistance contributed the most to the enhancement of food security in Matabeleland North. Research findings from the views of the people on the effectiveness of this coping strategy which was 65% revealed that external assistance has a great impact on food security in the province. This is supported by Shoko and Shoko (2012) in their research findings which states that Zunde RaMambo acts as a form of food security for the residents in the ward. Zunde RaMambo according to their study was under the chief's administration and received inputs and grain from GMB. Therefore this shows how great the impact of external assistance has on food security.

4.4.4 Sale of livestock

According to the research findings selling of livestock is 60% effective in terms of addressing drought related issues. These findings were used by the researcher to measure the

impact of this coping strategy on food security in the province. Therefore according to this finding ling of livestock has a great or rather positive impact on food security. Matabeleland North as a province is known for having regions that allow more of livestock production than any other form of farming. Therefore people usually rely on selling their livestock when drought prolongs. These findings are supported by Car (1997) who argued that in most cases when farmers are deprived of food by drought, they are forced to sell their livestock and their household goods. This practice is further more supported by UNEP (2002) which stated under drought conditions, households may resort to selling livestock in order to buy grain.

4.5 Actors involved in drought mitigation

Various actors were involved in drought mitigation in the district included were the government departments and Non- Governmental Organizations. Government departments working in the district as per research findings were departments in the Ministry of Agriculture such as AGRITEX, DVS and LPD, the local government through the RDC, Department of Social Services and the GMB. Non- Governmental Organizations active in the district according to the results of the research were World Vision, World Food Program (WFP), and ORAP.

4.5.1 Government departments

Questionnaires reviewed that the government departments had were responsible for capacity building of farmers, technical extension, dissemination of weather and market information, involved in food distribution and beneficiary selection. Departments from the Ministry of Agriculture had the mandate to work with farmers on agricultural extension services. The Department of Social Services and RDC coordinated other players that worked with these households from registration to work within the district, introducing them to communities and joint implementation, monitoring and evaluation of activities. Departments in the Ministry of Agriculture such as AGRITEX, DVS and LPD mostly did the extension work. Extension work entails the training of farmers, demonstrating appropriate agricultural practices, knowledge sharing and latest technology testing and dissemination.

The GMB serves as the national strategic grain reserve. Research findings showed that the role of GMB was to store and distribute inputs and grain from Government coffers. While

GMB has played a strategic role in grain storage and subsequent distribution in times of adversity many a time, GMB is not well resourced to buy all the produce from farmers who produce in excess. This is also confirmed by FAO reports of 2004. Even when the produce is delivered to GMB, payment to producers has taken too long at times stretching for months.

4.5.2 Non-Governmental Organizations

Research findings showed that the works of Non-Governmental Organizations has been a complimentary to the government efforts in addressing drought related issues. This showed that even though the NGOs had various works and projects in the district their works are viewed as a compliment to that of government departments. This tallies with writings of Zambia, (1989) who argues that the Government of Zimbabwe remains the duty bearer in disasters even though every legal persona is mandated to respond in disasters according to the Civil Protection Act.

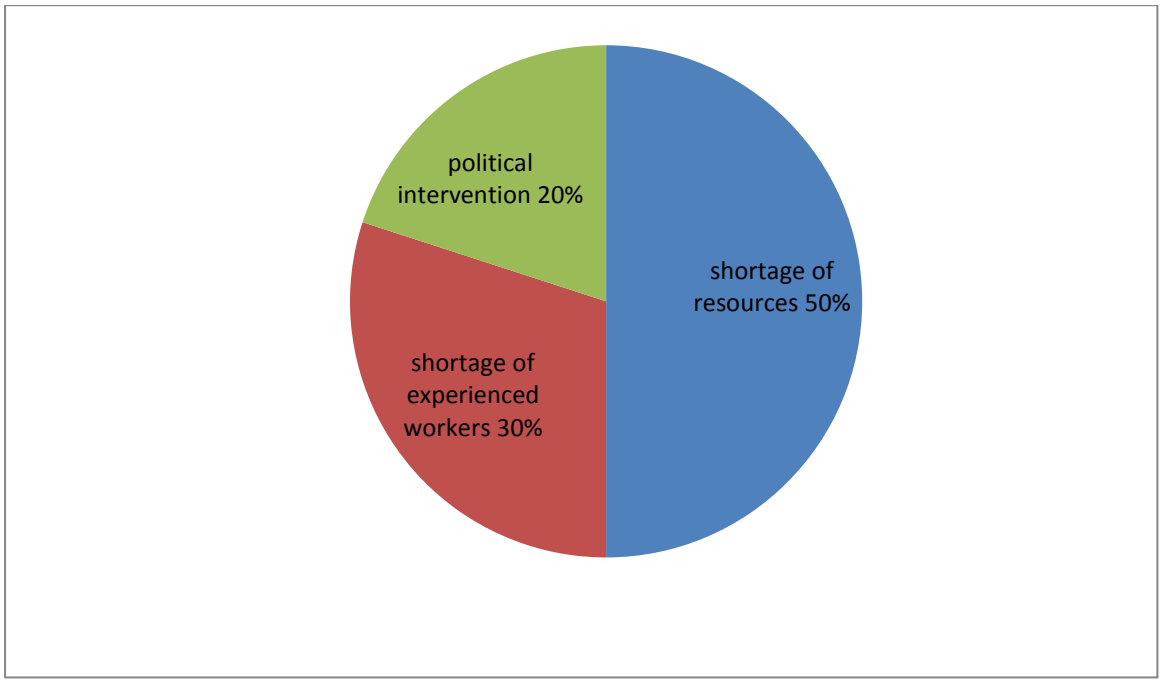
The results of the research revealed that NGOs were involved in various community projects that addressed risk reduction and response to disasters. In risk reduction and preparedness, NGOs such as Plan International and World Vision were found to be constructing and rehabilitating irrigation schemes in the district to address the perennial water challenges from rain-fed agriculture. They facilitated seed availability to communities through organizing agricultural inputs and technology fairs. In turn this directly compliments the works of the department of AGRITEX. Some livestock pass on schemes were also conducted by the same NGOs as a way of building drought resilience in the district, this complimented the works of the Department of Livestock Production. The World Food Program is most active in food distribution in the district as shown by the research.

4.6 Challenges faced by actors involved in drought mitigation

This section serves to show according to the research findings and explain the challenges faced by the various actors involved in drought mitigation in Tsholotsho District. The results showed that these actors encountered challenges such as lack of funds, political interference and shortage of experienced workers due to brain drain.

4.6.1 Challenges faced by government departments

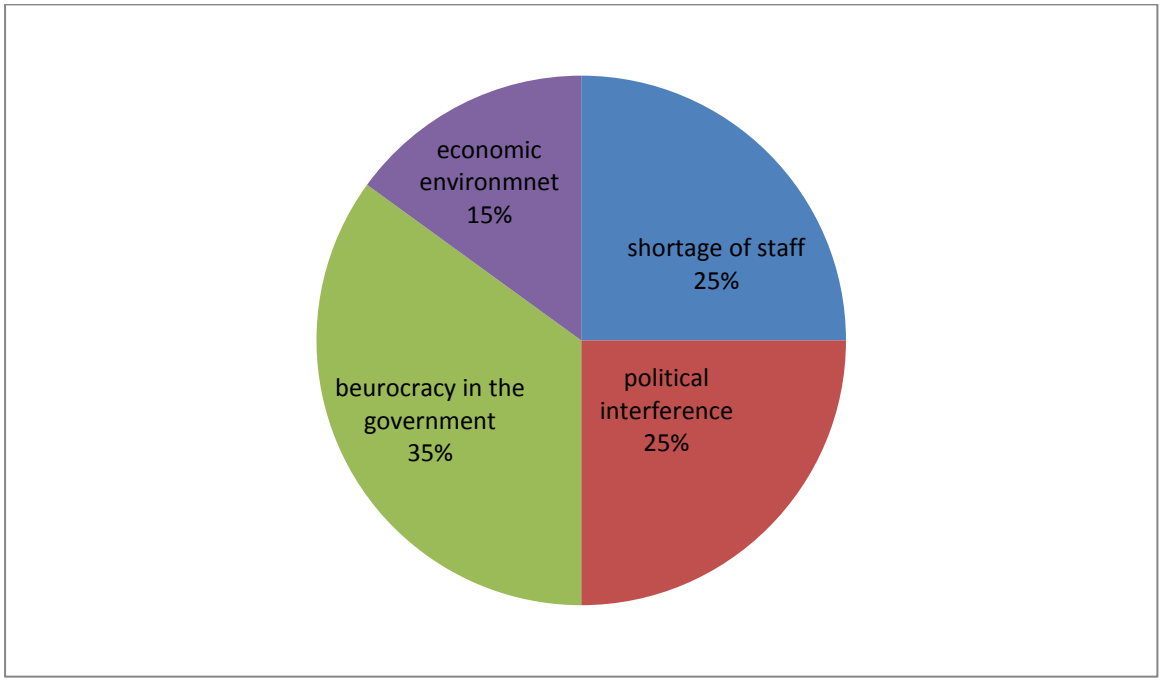
Figure 4.5 Nature of challenges faced by Government Departments



Major challenges shown by the responses to the questionnaires by representatives from these departments are illustrated by figure 4.5 above. 50% of the challenges faced by the government departments are shortage of resources such as transport and other consumables for farmer training. Four out five questionnaires distributed in the DAs office showed that the department faces a challenge of transport to distribute food to different villages in the district. This was reported to be due to lack or poor fuel distribution from the head office. This is in line with the research findings of Ndlovu, (2010) who also states that most government departments lack resources such as transport and fuel. 30% of the challenges which worsened the situation were the shortage of experienced extension workers due to brain drain and high staff turnover, which has led to the high extension worker farmer ratio which stands at 1:600. This is also seen in the research done by the WFP-Plan (2009) which suggests that most of the extension personnel have left the department due to poor remuneration, and those remaining behind are mostly demotivated to execute their duties. 20% showed that political interference into the running of the day to day activities of the government impeded the implementation of drought mitigation strategies.

4.6.2 Challenges faced by Non-Governmental Organizations

Figure 4.6 Nature of challenges faced by NGOs



As illustrated by figure 4.6 above, out of the six returned questionnaires from the NGOs responses showed that they faced similar challenges such as a challenge of having a small number of staff at district level and this made the monitoring of projects done in the district weak, political interference, the beurocratic nature of the government and the harsh economic environment. The study confirmed reports by Ndlovu (2010). The research also highlighted that there are common challenges to both NGOs and government departments which included political interference in day to day activities of their projects that sometimes disrupted implementation of drought risk reduction activities. The situation was also exacerbated by demands of a lot of paper work with RDC that delayed registration and project implementation. The existing economic environment also led to high staff turn-over in most government departments and shortages of inputs and materials required for drought risk reduction.

4.7 Coping strategies that can be adopted in the district

Research findings reviewed that coping strategies such as the consumption response to drought effects such as reducing the size of meals, skipping meals, consumption of wild fruits and food preservation were strategies advised by the respondents. People in the

community were recommended to add these coping strategies on top of those they already relied on. These coping strategies are supported by what the research findings of Ndlovu (2010) reviewed. These will be elaborated on below to jus provide brief notes of what will be happening.

4.7.1 Consumption response

Responses from the questionnaires distributed 70% of the people suggested that when drought prolongs families are advised to reduce the size of the food they eat either per day or per meal, to skip meals and to supplement some meals with wild plants and fruits. Wild plants are also important elements in food security during drought periods in Zimbabwe. Different indigenous vegetable plant types and mushrooms were also identified as important food resources that can be relied on when drought prolongs. Wild fruits such as *uxakuxaku, umny, idorofia, umganu* were said to be popular in the area. Therefore people were advised to resort to these in drought times. These findings are supported by the writings of Chigora and Zvikomborero (2012) who suggested that people have always resorted to the forest by eating wild plants and fruits provided by nature, which acted as a buffer to climate induced crop failure.

4.7.2 Food preservation

Research findings showed that people suggested food preservation as a drought coping strategy that can be adopted by people in the area. Food preservation involves the boiling and drying up of vegetables and wild plants and store for later use. This coping strategy is very effective because it enables people to store some food when they have surplus in preparation of the next seasons. Wild plants such as mushrooms and vegetables such as cabbages, covo, rape and ulude can be preserved. In addition meat from cows and goats can be preserved too. Mararike (1999) suggests that the households with dried vegetables and mushrooms are better able to cope with drought than those without because they need only grain to be able make a meal of sadza and relish. Therefore this coping strategy was recommended for people in the community as they cited that external assistance especially that from GMB usually provides them with grain for mealie-meal.

4.8 Conclusion

The study established that drought coping strategies go a long way in mitigating the impact and severity of droughts. From the results of the research it can be concluded that the capacity for coping with drought is a function of the external intervention, sale of assets like livestock, migration and growing drought resistant crops. A wide range of actors involved in addressing drought related issues played a pivotal role in drought mitigation, however, NGOs were the most active group. Coping strategies that were advised to be used was consumption response through skipping meals, reducing the size of meals and the use of wild plants and fruits as it has played a significant role in food insecure regions and continues to play an important role in drought periods. Preservation and drying of foods was also recommended as it ensures that people do not run out of stock during the dry period.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents conclusions and recommendations pertaining to the findings presented in the entire research. In this regard, there is need to bring together the generalizations that can be made about the impact of drought coping strategies on food security in Zimbabwe. The recommendations seek to realize the improvement of the Constitutional legal frameworks for effectiveness of drought mitigation. Recommendations thus focus on areas that need rectification as they are made on some grey areas that were identified by the research.

5.2 Summary of findings

This chapter seeks to provide a summary of the research findings that is briefly discussing all the aspects captured in chapter four. Summaries will be given based on each and every theme discussed in the study. Themes discussed in chapter four includes the coping strategies employed by the people in the district, the impact of drought coping strategies on food security in Tsholotsho district, actors involved in drought mitigation in the district, challenges faced by various actors involved in drought mitigation in Tsholotsho district and recommendations proffered to enhance food security in Matabeleland North.

5.2.1. Research findings on the impact of drought coping strategies on food security in Tsholotsho district reviewed that people in the district resort to sale of assets like livestock when drought prolongs because it serves as an income base. Migration to neighboring countries like South Africa and cities like Bulawayo in search of food and jobs, growing drought resistant crops as per research findings proved to be one of the few drought coping strategies used by the people in the district. External assistance from different actors who are involved in drought mitigation, however, almost everyone according to the research findings depended on external help from the government and NGOs as a way of coping with drought.

5.2.2 The research established that the coping strategies employed by the people in the district had a great impact on food security in Zimbabwe. The research findings showed how effective the drought coping strategies were in drought periods and this showed that they

contributed much to the food security in Zimbabwe. Research findings reviewed that external assistance contributed most to the food security followed by the growing of drought resistant crops and the sale of livestock. The last in the contribution to food security was migration as a coping strategy.

5.2.3 Various actors are involved in drought mitigation in the form of government, Non-Governmental Organizations and the people in the community themselves. Actors have led and implemented a number of risk reduction programmes to increase the communities' resilience to drought. Food distribution, livestock pass on schemes, agricultural inputs and market fairs, income generating activities, VS&L schemes and farmer training in various agricultural facets were revealed. The actors involved in drought risk reduction have done so with community involvement and participation, a key factor in sustainability of most of these interventions.

5.2.4 Actors in drought mitigation in the district face a couple of challenges which cripples their works to effectively implement projects that address drought related issues. Their work has faced a number of obstacles in the form of underfunding, lack of resources, staff turnover and political interference.in the case of NGOs they have been hindered by the beurocratic nature of the government when they are processing registrations of projects they intend to carry out in the district. At district level the NGOs has a challenge of lack of staff which impedes the monitoring and evaluation of projects implemented to address drought.

5.2.5 Research findings reviewed that there is need for people to adopt more coping strategies when drought prolongs. Mainly suggested drought coping strategies to adopt were to reduce the consumption size, skip meals, and gather wild fruits and plants and to preserve food in preparation for the coming seasons. Theses coping strategies were advised based on the fact that they go a long way in case of a drought. For example the preservation of food like the boiling and drying of vegetables helps in drought times because families will receive grain from institutions like the GMB and since the people would have preserved their vegetables they will have relish to have sadza with.

5.3 Conclusions

5.3.1 Research findings reviewed that people are mostly dependent on external assistance as a way of survival during drought times. Other coping strategies such as migration, sale of livestock and growing drought resistant crops are relied but the research showed that

external assistance has been relied on the most. Therefore one would conclude that people are heavily dependent on the government and Non-Governmental Organizations when drought strikes than coming up with more of their coping strategies since they understand their environment better than any other people.

5.3.2 Food security issues have become of much concern in the country of Zimbabwe following the effects of the El Nino droughts that have left the people of Zimbabwe poverty stricken. The study seeks to unveil the impact of drought coping strategies on food security in Zimbabwe, through the research it was seen that the drought coping strategies employed by the people in the district indeed contributed much to the food security in Zimbabwe. However relying on external assistance as a coping strategy proved to be much relied on and to be having a great impact on food security.

5.3.3 Actors involved in drought mitigation involve the various government departments, Non-Governmental Organizations and social networks such as friends and relatives. These actors have made relevant or visible contributions to addressing drought related issues in Zimbabwe looking at the fact the country's food security continues to be threatened by ongoing drought effects.

5.3.4 The government and NGOs involved in drought mitigation in Zimbabwe have and continue to face hiccups in implementing drought coping strategies in different parts of the country. In common these actors face a challenge of political interference in the running of their projects, and shortage of staff at district level. Government departments face a challenge of lacking resources such as transport and fuel which disables them from implementing projects in the districts right up to the household level. Whereas NGOs face challenges of registration by the local authorities as there is too much bureaucracy in the government.

5.3.5 In addition to the drought coping strategies already being employed in the district, the community was advised to use consumption response and the preservation of food as drought coping strategies so as to enhance food security in the province. These strategies have been recorded by other scholars as effective means of addressing drought situations.

5.4 Recommendations

In view of the conclusions written above the following recommendations can be made to various stakeholders.

5.4.1 People in the communities should deter from depending on the government or NGOs for drought relief but should build up their confidence in utilizing indigenous foods within their district. They should also aim to accumulate more production in good years in preparation for drought times. Non-Governmental Organizations are also recommended to complement their coping strategies with those of the people living in the area.

5.4.2 The government of Zimbabwe and the Non-Governmental Organizations involved in drought mitigation are recommended to keep on working towards addressing issues related to drought despite the challenges encountered to enhance food security. These actors in drought mitigation are recommended to make sure that communities are not only recipients of aid but also to be resourceful in programme implementation because their views and participation is important.

5.4.3 The government of Zimbabwe is recommended not to focus on crisis management but on risk avoidance in order to help households cope better with drought. It is also recommended to ensure that seasonal forecasts are disseminated and explained to farmers and advice on the types of crops to grow. Non- Governmental Organizations are recommended to understand the local coping strategies otherwise external humanitarian intervention will undermine them hence creating a dependency syndrome and unintended outcomes. The government is recommended to make sure that robust committees such as the DDR are created right up to the village level where the effects of drought are mostly seen.

5.4.4 The government of Zimbabwe is recommended to stay prepared in case of droughts, that is seek donations earlier and to stock grain that is enough for every citizen. NGOs are recommended to seek registration with local authorities earlier as the government still has not fully equipped to e-government which enables smooth running of documentation. Both the government departments and the NGOs are recommended to avoid politics interference in the implementation of the drought coping strategies such as food distribution as this will impedes the food from reaching the intended beneficiaries.

5.4.5 People in the communities are recommended manage their production with risk minimization principles in mind for example early planting or staggered planting dates. Furthermore they are recommended to supplement some meals with wild fruits in drought times. They are also recommended to preserve food through boiling and drying up vegetables such cabbages and rape.

5.5 Conclusion

The research sought to assess the impact of drought coping strategies on food security. The results of the research established that to a greater extent drought coping strategies have a positive impact on food security in Zimbabwe. Therefore one can conclude that indeed coping strategies such as migration, sale of assets such as livestock, growing of drought resistant crops and external assistance rendered by the government hand in hand with the Non-Governmental Organizations greatly contribute to enhancing food security in Zimbabwe. From the research findings it can also be concluded that the dependence on or the utilization of wild fruits and plants in drought periods enhances food security as it was recommended to the people in the community. The involvement of the government and Non-Governmental Organizations in drought mitigation enhances food security in the country, however it was also reviewed that they face many challenges during the implementation of drought coping strategies. Recommendations were proffered on how to encounter these challenges faced.

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Appendices

Appendix 1

Questionnaire for the actors involved in drought mitigation: The impact of drought coping strategies on food security in Zimbabwe. The case of Tsholotsho District.

My name is Daisy Mugwagwa studying Politics and Public Management at Midlands State University. I am carrying out a research on the impact of drought coping strategies on food security in Zimbabwe specifically focusing on Tsholotsho District. The questionnaire is designed to collect information on the drought coping strategies employed in the district. The information will help me understand the drought coping strategies as such this will bring out the impact of these strategies on food security in Zimbabwe.

I am kindly requesting you to complete the questionnaire anonymously in the spaces provided. You may take about 15minutes to complete the questionnaire. Be assured that the data collected from these questionnaires shall be used in absolute confidence and for academic purposes only.

Name of your Organization

…..……..

Position in the Organization

……

1. In your own view what are the drought coping strategies put in place by individuals in Tsholotsho District?
   ……
   ……
   ……
   ……
   .

2. What is the impact of drought coping strategies on food security in Tsholotsho District?
   ……
   ……

……
……

3. What are the other local actors involved in drought mitigation in Zimbabwe as a whole?

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……

4. What challenges do you face in implementing drought coping strategies in Tsholotsho District?

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……
..

5. What strategies can be adopted to enhance food security in Tsholotsho District?

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Thank you

Appendix 2

Questionnaire for the people in the community: The impact of drought coping strategies on food security in Zimbabwe. A case of Tsholotsho District.

My name is Daisy Mugwagwa studying Politics and Public Management at Midlands State University. I am carrying out a research on the impact of drought coping strategies on food security in Zimbabwe specifically focusing on Tsholotsho District. The questionnaire is designed to collect information on the drought coping strategies employed in the district. The information will help me understand the drought coping strategies as such this will bring out the impact of these strategies on food security in Zimbabwe.

I am kindly requesting you to complete the questionnaire anonymously in the spaces provided. You may take about 15minutes to complete the questionnaire. Be assured that the data collected from these questionnaires shall be used in absolute confidence and for academic purposes only.

Name of your District

…..……

1. In case of a drought, what coping strategies do you employ? List any four and give reasons.

   ……
   ……
   ……
   ……
   ……
   …….
2. Do you own livestock? YES NO
3. Show the number

Livestock type	Amount
Cattle	
Goat	
Donkey	

Poultry	

4. What is the impact of drought coping strategies on food security in Tsholotsho District? Rate in % the effectiveness of each strategy stated above.

   ……
   ……
   ……
   ……

5. What are the other local actors involved in drought mitigation in your district?

   ……
   ……
   ……
   ……

6. In your own what are the challenges faced by these actors in implementing drought coping strategies in Tsholotsho District?

   ……
   ……
   ……
   ……
   ……
   ..

7. Explain any of the challenges named above.

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

8. What strategies can be adopted to enhance food security in Tsholotsho District? List any 2.

   ……
   ……
   ……

Thank you