

**MIDLANDS STATE UNIVERSITY**



**THE SUSTAINABILITY OF COPING STRATEGIES ADOPTED BY PEOPLE LIVING  
IN DRY LAND AREAS OF CHIVI NORTH WARD 4**

**BY  
ANGELINE HOFISI  
(R124563Z)**

**A DISSERTATION SUBMITTED TO THE FACULTY OF ARTS IN PARTIAL  
FULFILMENT OF THE REQUIREMENTS FOR THE BACHELOR OF ARTS  
HONOURS DEGREE IN DEVELOPMENT STUDIES.**

**GWERU, ZIMBABWE**

**MAY**

**2016**

## **Declaration**

I Angeline Hofisi of registration number R124563Z declare that, this research project is a result of my work and all other sources are duly acknowledged. It has not been submitted anywhere before for any degree purposes or examinations in any other university. It is submitted in partial fulfilment of the requirements for the Honours Degree in Development Studies, in the faculty of Arts at Midlands State University

**Midlands State University**

APPROVAL FORM

This serves to confirm that the undersigned read and recommended to the department of Development Studies Midlands State University for acceptance of a dissertation by

**ANGELINE HOFISI**

Supervisor.....

Date.....

Signature

Student.....

Date.....

Signature

RELEASE FORM

Name of Author

ANGELINE

HOFISI

**Title of Dissertation:**

The sustainability of coping strategies adopted by people living in dry land areas of Chivi district ward 4.

**Degree to which Dissertation was presented:**

BA Development Studies Honors Degree

Permission is hereby granted to the MSU Library to produce single copies of this dissertation to lend such copies for private, scholarly or research purposes only.

**Signed**.....

**Student**

**Date**.....

## ACKNOWLEDGEMENTS

This work owes a lot to several people who made selfless contributions towards its success. Firstly I would like to give thanks to God almighty for his sufficient grace and favor and for performing wonders in my life. I would like to acknowledge Higherlife Foundation (Capernaum Trust) for the scholarship they gave me from advanced level to tertiary level without asking anything in return. Thank you Dr. Strive and Deaconess Tsitsi Masiyiwa for giving hope to me and other Orphaned vulnerable children and I can now boldly declare that I am not an OVC but I am a History Maker destined by the spirit of God to do great things. I would also want to salute my supervisor Mr. C Munhande for being amazingly supportive, patient and available whenever I needed help. It was an honor working with him and I learnt a lot from him. Lastly I would not have been a better person at college without the love and support from my best friends Tatenda Muningwi, Lawrence Kamukapa and Talent Moyana. I also salute my fellow comrades in academics and friends Munashe Musemerwi, Rufaro Musiniwa, Tatenda Marufu Cephas Mandirahwe, Tafadzwa Mtopo, Allen Gwangwadza, (Ganz) Emmanuel Masodzi (sodz), Nyasha Siyakambuvi and Kevin Hundi (Sucre). I love you guys.

## DEDICATIONS

I would like to dedicate this dissertation to my grandmother Maria Chivige, Melody Chivige, Francis Murombedzi, my amazing father Mr. T Chivunga and my late mother who never lived to see my success.

## ABBREVIATIONS

## ACRONYMS AND ABBREVIATIONS

DFID	Department of International Development
FAO	Food and Agriculture Organization
FMD	Foot and Mouth Disease
IFAD	International Fund for Agricultural Development
MI s	Multilateral Institutions
NGO s	Non-Governmental Organization
SLF	Sustainable Livelihoods Framework
SSA	Sub Saharan Africa
UNEP	United Nations Environmental Programme
UNOCHA	United Nations Office of the Coordination of Humanitarian Assistance
WFP	World Food Program
ZIMVAC	Zimbabwe Livelihoods Zone Profile
ZERACC	Zimbabwe Environmental Research Adaptation to Climate Change

## ABSTRACT

*Drought is the major climatic condition that has been faced by people in dry lands .The aim of the study was to find out what people in dry lands of Chivi do in response to recurrent droughts that they face day to day as well as to investigate into the sustainability of the coping strategies adopted. From the interviews, questionnaires and observations that were used in the acquisition of data, the study discovered that eradication of drought vulnerability in Chivi remain an elusive goal. Indicators of drought vulnerability include poor meals and the general reduction of the number of meals per day, doing odd jobs for staple food ,the general skeletal appearance of livestock, death of livestock, high prices of maize just to mention a few. Households have adopted different coping strategies which include income response strategies, consumption strategies, and strategies on livestock, migration, and relocation to newly settled farms among other things. All the strategies adopted in the households are aimed at ensuring food availability. The coping strategies adopted have contributed much to the survival of the people but have not been sustainable in bringing about long term benefits but rather they are just relief measures employed on permanent problems. The study unearthed that in dry lands of Chivi where crop cultivation has failed, livestock such as goats and cattle plays a very important role in their livelihood activities. In trying to cope people face a lot of constraints which hinders the coping capacity of households in ward 4. These constrains include lack of capitals, (social, political and financial capitals), weak capacity to diversify their livelihood strategies as well as lack of knowledge on what livelihood activities should be implemented in their area.*

***Key words..... Drought, dry land areas, vulnerability, sustainability, coping strategies, Chivi***



## Contents

APPROVAL FORM .....	iii
RELEASE FORM.....	iv
ACKNOWLEDGEMENTS.....	v
<b>DEDICATIONS</b> .....	vi
ACRONYMS AND ABBREVIATIONS .....	vii
<b>ABSTRACT</b> .....	viii
<b>CHAPTER ONE: THE PROBLEM AND ITS SETTING</b> .....	7
INTRODUCTION .....	7
BACKGROUND TO THE STUDY .....	8
STATEMENT OF THE PROBLEM .....	9
THEORATICAL FRAMEWORK .....	10
<b>CONCEPTUAL FRAMEWORK</b> .....	12
Coping strategies .....	12
Dry land areas- .....	12
Drought .....	13
Sustainable development and sustainable livelihoods.....	13
AIM OF THE STUDY .....	14
RESEARCH OBJECTIVES .....	14
RESEARCH QUESTIONS .....	14
SIGNIFICANCE OF THE STUDY.....	15
LIMITATIONS OF THE STUDY .....	16
<b>CHAPTER 2: LITERATURE REVIEW</b> .....	17
Introduction .....	17
Vulnerability and drought .....	17

Coping Strategies.....	19
Income response strategies .....	20
Asset response strategies .....	21
Consumption response strategies.....	21
Migration .....	22
On-farm coping strategies and critique .....	22
Sustainable strategies.....	24
Constrains to people’s coping capacity .....	25
A general critique of literature.....	26
Conclusion.....	27
CHAPTER 3: RESEARCH METHODOLOGY .....	28
Introduction .....	28
Research Methodology.....	28
Qualitative research .....	28
Research Design .....	29
Description of the study area.....	29
Population.....	30
Sample design .....	30
Purposive Sampling .....	30
Sample size.....	31
Sample size determination .....	31
Sources of Data .....	32
Primary data.....	32
Secondary data.....	32
Data collection Instruments.....	32

Open –ended Questionnaires .....	33
Depth-Interviews.....	33
Observations .....	34
Data Collection Procedures.....	34
RESEARCH ETHICS.....	34
LIMITATIONS OF THE STUDY.....	35
Conclusion.....	35
CHAPTER FOUR: Data analysis, Presentation and interpretation .....	36
4.0 Introduction.....	36
Data analysis Procedures .....	36
Data presentation procedures .....	36
Demographic findings.....	38
GENERAL FINDINGS .....	39
Status of Households .....	39
Vulnerability.....	39
Asset ownership .....	39
Table 2: Illustration of asset ownership in the 5 villages studied .....	40
<b>COPING STRATEGIES ADOPTED.....</b>	<b>44</b>
Coping strategies for livestock .....	45
INCOME STRATEGIES.....	46
Fishing.....	46
Selling of livestock .....	46
Peace jobs / Maricho .....	47
Gold panning.....	47
Migration .....	48

Vending.....	49
CONSUMPTION STRATEGIES.....	49
Reducing the number of meals and quantity of food .....	49
Borrowing and Begging.....	49
Vegetable gardens.....	50
Collection of wild fruits.....	50
Collection of Mopane worms and ants.....	50
AID.....	51
Food aid .....	51
Monetary aid.....	52
Relocating to newly settled farms (mapurazi) .....	52
Distress coping strategies .....	53
Dropping children from school.....	53
Stealing .....	53
<b>A GENERAL ANALYSIS OF THE SUSTAINABILITY OF COPING STRATEGIES ADOPTED</b> .....	54
MAJOR CONSTRAINS TO PEOPLE’S COPING CAPACITY .....	56
Conclusion.....	57
CHAPTER 5: Summary, conclusions and Recommendations .....	58
Introduction.....	58
5.1 Summary of findings .....	58
<b>Recommendations</b> .....	60
Conclusions .....	61
REFERENCE LIST .....	62
<b>QUESTIONNAIRE</b> .....	69

Interview guide for key informants..... 73

## CHAPTER ONE

### THE PROBLEM AND ITS SETTING

#### *INTRODUCTION*

Agriculture is the major livelihood source in rural Africa. A vast majority of smallholder farmers in Sub Saharan Africa depend on rain fed agriculture for their livelihoods. However rain fed agriculture in most communal areas is affected by climate change mostly drought. According to Mapfugautsi and Munhande (2013), many small holder farmers affected by drought may have the least capacity to respond and may not be in a position to cope with the gravity situation caused by drought. The situation is worse in dry land areas which receive very little rainfall as low as 450 mm per annum or not at all even when other areas are receiving adequate rainfall. The problem in Chivi is not only drought but the area is not naturally suitable for agriculture especially crop production. This problem dates back as far as the colonial era where white people forcibly removed black Zimbabweans from their fertile lands to reserves. These reserves were characterized with very poor soils and dry lands where agriculture is almost impossible and Chivi is one these reserves. People in Chivi have always suffered from the effects of drought due to poor agro-ecological conditions in the region.

Available literature on drought indicates that the people whose livelihoods face recurrent and permanent risk will develop coping strategies to respond to and minimize risks to their livelihoods. These coping strategies are adopted and implemented firstly and mostly at household level although community and national coping strategies can be adopted as well. Coping strategies are taken as primary responsibility of a household and they differ among

households due to level of vulnerability, household asset ownership among. It can be noted that people in dry land areas when employing coping strategies, they seek to achieve the first level of development which is access to basic needs and mostly it is food they strive for. Therefore it is the purpose of this research to find out the different coping strategies adopted by people living in dry areas of Chivi district ward 4 as well as the sustainability of these strategies.

### ***BACKGROUND TO THE STUDY***

Drought is a recurrent climatic problem across Africa and even the world at large. The United Nations Office of the Coordination of Humanitarian Assistance (UNOCHA) states that severe drought affect millions of people in Africa mostly in Sub Saharan Africa such that millions of people are food insecure requiring emergency food aid. Such countries affected by severe drought and food insecurity include Ethiopia, Djibouti, Kenya, Somalia and some regions in Uganda as well as Zimbabwe. Dai (2011) is of the same view and suggests that severe multi - year droughts and prolonged droughts are reported to have occurred in Africa. In Zimbabwe areas such as Tsholotsho, Dete, Lupane, Mwenezi, and Chivi among others, have the highest vulnerability to drought.

As mentioned earlier on, food security challenges in Chivi have been worsened by the land alienation during the colonial era where black people were driven to reserves such as Chivi which are not suitable for agriculture. People were over populated in these areas with a population of about 70 people per square meter (Masendeke n.d). Chivi is also in natural region four of Zimbabwe which is characterized by erratic rainfall averaged below 450 mm per annum

as Danda (1999) put it across. According to UNEP (1996)'s classification of dry land areas, Chivi can be classified as a semi- arid area which is characterized by severe lack of available water and poor vegetation. According to Zimbabwe Livelihoods Zone Profile 2010 (ZIMVAC), Chivi is resource poor, rainfall is at least too erratic to produce reliable harvest and poverty is chronic.

### STATEMENT OF THE PROBLEM

Alleviating food insecurity remains a mammoth task in Zimbabwe especially in dry land areas such as Matabeleland South and Masvingo province. The drought rates in these provinces are very high such that larger populations are food insecure. Mapfugautsi and Munhande (2013) stated that 98% of male and female headed households in Chivi district were food insecure after the 2010/11 season and the percentage of those who were food secure was 1, 9%. FAO (2008) also postulated that Chivi is characterized by extensive crop failure and there are chronic dry spells which are resulting in livestock deaths. FAO further suggests that livestock loss is detrimental to long –term development because livestock is a key livelihood activity and asset especially in dry land areas where crop production has failed. ZIMVAC (2010) also revealed that zone 21 which include Chivi, Mwenezi, South Midlands Communal consequently receives relief which is distributed with regular frequency for example an estimated 4-7 years out of 10. Therefore it is the intention of the study to find out the survival strategies of the people in response to the above problems.

Comment [u1]:



## THEORITICAL FRAMEWORK

The researcher is going to use the sustainable livelihoods theoretical approach .This theoretical approach has received much attention from NGOs, MIs, research centers in recent years and these institutions have adopted it in their projects such as poverty alleviation , food security, environmental issues, disaster relief among other things .Sustainable livelihoods are seen as tools to rural development and poverty alleviation. The sustainable livelihood theory /approach has entered development discourse in the 1990s and with its emergency it has increased attention to poverty reduction especially in drought stricken rural areas, people centered approaches to development, sustainability in the political arena and development theory, Scoones (2009).The sustainable livelihoods theory will offer a significant base to this study .

Chambers and Conway (1992) have founded a definition of sustainable livelihoods that was later on adopted by various scholars and organizations in their projects. According to Chambers and Conway a livelihood comprises of the capabilities, assets (stores, resources, claims and access) and activities required for a means of living and a livelihood is sustainable when it can cope with and recover from stress, shocks, maintain and enhance its capabilities and provide sustainable livelihood opportunities for the next generation and which contributes net benefits to other livelihoods at the local and global levels in the short and long term. Carney (1998) in his publication talks about the DFID's sustainable livelihood framework that it presents a number of factors that impacts on livelihood strategies and outcomes and that these factors have got positive

relationships towards each other. The DFID's sustainable livelihood framework according to Carney (1998) have got livelihood assets or capital ( natural, social, physical, financial and human capitals). These capitals can be utilized for achieving self-determined outcomes of livelihood strategies in order to reduce the vulnerability of households and communities to shocks. The framework went on to say that access to capitals is achieved by transforming structures (that is levels of government, private sector and civil society) and processes which contributes to vulnerability of livelihoods and these include policies, power relations, laws among other things. In this study the livelihood strategies mentioned above will be taken as coping strategies and the causes of vulnerabilities being recurrent drought and the sustainability of livelihoods will be the sustainability of the coping strategies.

In support of the sustainable livelihood theoretical approach Ellis (1998) suggested that the resultant livelihood strategies are composed of a variety of natural resource based and non-natural resource based activities that ultimately have effects on livelihood security and environmental sustainability. In his later writings Ellis suggested that diversification is a positive strategy for decreasing vulnerability, supporting asset building and decreasing poverty while maintaining local natural resources. In this study diversification will be taken as different off-farm coping strategies adopted by people in dry land areas.

## CONCEPTUAL FRAMEWORK

### *Coping strategies*

Coping strategies are basically response activities that are employed to respond to a certain risk, stress, shock or vulnerability. FAO (1997) defines coping strategies as people's activities whose main aim is to meet their needs under conditions of extreme food scarcity including contingencies for the future. This study will look at drought coping strategies in dry land areas and according to [www.agriskmanagmentforum.org](http://www.agriskmanagmentforum.org) , coping strategies are those activities undertaken after an agricultural drought has occurred as losses arise. The source went on to say that coping aims to assist communities in dealing with the adverse effects of drought. The coping strategies in the area under study will be mainly non-farm coping strategies due to recurrent drought that the area is facing although some of the coping strategies are agricultural in nature especially animal husbandry. Meze- Hauksen (2000) postulates that coping strategies vary according to availability, subjective prospects of success, ecological zones, social and political restrictions. The scholar went on to say that the more stratified the household assets are the greater the choice of strategies available, the longer these strategies can prolong the period of food availability even under harsh conditions. (Meze- Hauksen 2000)

### *Dry land areas-*

In general dry land areas are characterized by scarcity of water which constrain the primary production and generate uncertainty in yield. UNEP (1996) suggested that dry land is not uniform and the areas differ in degree of water limitations and according to UNEP terminology

the four dry land subtypes are recognized as dry sub humid, semi-arid, arid and hyper arid. UNEP went on to say that an area is said to be arid when it is characterized by severe lack of available water to the extent of hindering and preventing plant and animal growth and development. Barakat (2004) is of the view that the concept of dry lands developed from arid lands and arid lands are regions where evaporation exceeds precipitation. In dry lands drought lasts for several years meaning that the extent of arid/dry land regions varies over time. The plant cover is thin and widely scattered and the soil quality is very poor for agricultural purposes. (Barakat 2004)

### ***Drought***

Drought describes a situation of limited rainfall substantially below what has been established as a normal value of the area concerned leading to adverse impacts on human welfare (IFAD 2009). Drought is usually a consistent problem in arid or dry land areas. The impacts of drought are usually felt in agriculture but although drought is a climatic condition its impacts on human life depends on social and economic capacity to cope.

### ***Sustainable development and sustainable livelihoods***

Brundtland Commission (1987) in Bennet (2010) defined sustainable development as development that meets the development needs of the present generation without compromising the ability of the future generation to develop. Carney (1998) in Bennet (2010) defines sustainable livelihoods as livelihoods that can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both in the present and future while not

undermining the natural resource base. In addition to that The DFID Sustainable Framework quoted in Bennet discusses that there are factors that impacts on livelihoods strategies and outcomes and these are capitals. The capitals include natural capital, physical, social, financial and human capital. All these capitals are pre requisite for sustainable livelihoods.

### ***AIM OF THE STUDY***

The aim of this study is to find out how people in dry land areas are coping or responding to a situation of agriculture failure and water scarcity which has undermined their livelihoods. The research will also go further to assess the sustainability of their coping strategies, that is the degree to which they bring long term benefits.

### ***RESEARCH OBJECTIVES***

The paper has five fold objectives which goes as follows

- To establish the level of vulnerability of people in ward 4
- To find out the different coping strategies adopted in the area
- To find out the major challenges to people's coping capacity
- To assess the sustainability of the coping strategies adopted
- To proffer sustainable solutions to the strategies

### ***RESEARCH QUESTIONS***

- Asses the level of vulnerability?

- What are the coping strategies in the area?
- How sustainable are the coping strategies?
- What are the major challenges to people's coping capacity?
- What can be done?

### *SIGNIFICANCE OF THE STUDY*

The findings from this study will contribute a lot to the available pool of research as it will open a new dimension as far as this topic and area of study is concerned. So many researchers in Zimbabwe focused on livelihood strategies adopted in dry land areas, the contribution of small grain crops in drought prone areas. Therefore it is the purpose of this study to go further and assess the sustainability of the coping strategies adopted. So this study will contribute more to the available pool of literature and will help other following studies. The recommendations from this study may help other dry land areas with the same problem as Chivi.

This study may also be helpful to the community under study. This is so through the researcher's engagement with the community through interviews, questionnaires or whatever method the researcher is going to use. For instance when asking about how they cope or survive and whether their coping strategies have long term benefits, this may open their minds and eyes to see the missing link to their development. They may find some areas they may develop to enhance the sustainability of their coping strategies. Suggested solutions will also help the community under study in their coping strategies or development projects. Apart from that, different communities may adopt some of the coping strategies that may be found useful to their respective communities.

### *LIMITATIONS OF THE STUDY*

Time was one of the major challenges that the researcher faced. This is because the researcher was trying to balance field work, research, and other commitments at school. However, to balance time, the researcher went for data gathering during the semester break because there was less pressure. Distance was also a limitation to the researcher since the research was carried out in rural areas where transport is very limited. So the researcher had to travel very long distances of about 8 km depending on the location and arrangements of some households. To reduce the distance travelled per day, the researcher looked for a place to stay over the two nights she spent in Chivi to avoid travelling back to Zvishavane and returning back to Chivi the following day.

## CHAPTER 2

### LITERATURE REVIEW

#### *Introduction*

Literature review refers to the selection of available literature on the topic which contain information, ideas, data, and evidence written from a particular standpoint to fulfil certain aims or express certain views on the nature of the topic (Hart 2001). Leedy and Omrod (2008) refer to it as a thorough re-examination of theoretical perspectives and previous research findings to the problem at hand. There are a plethora of reasons as to why literature review is important in doing research. These reasons according to Hart (2001) includes helping to identify work already done or in progress that is relevant to your work, help prevent from duplicating what has already been done as well as finding gaps in existing literature. The focus of this chapter is to give a brief of ideas and findings from previous studies that relates to this study as well as to show the gaps that exists and how this study is going to fill some of the gaps.

#### *Vulnerability and drought*

Vulnerability can be viewed as a function of social, economic and political processes that determine how a hazard event affects people in varying ways (Stefanski 2006). Ndlovu (2011) views vulnerability as a function of factors that influence the degree to which people's lives, assets and livelihoods are prone to damage by a discrete and identifiable hazard. Meze-Hauksen (2000) views vulnerability as the weakness or inability to cope with a specific situation or event. People in the dry land areas of Chivi are vulnerable from drought and poor soils which makes agriculture very difficult.

Many scholars agree that the level of vulnerability to drought differs among households due to their level of asset ownership, level of poverty and their capacity to cope. Dercon (2002) states that some people are more prone to damage or loss in the face of a different hazard and the differences in the impacts are also a result of differences in wealth, caste, ethnicity, age, disability, immigration status and types of social networks. In support of this view Wisner et al (2004) states that the poor suffer more from drought than



the rich or better families. Ndlovu (2011) went on to give a clear example that drought may cause destruction of crops and livestock but the rich may lose livestock in quantitative terms but still remain in a better position for restocking in the near future. In contrast the poor may lose all the animals they have and they become more vulnerable to future droughts and may even fail to restock again. Susman et al (1983) as cited in Meze-Hauksen (2000) relates vulnerability to the theory of marginalization which emphasized that vulnerability differs within social classes which according then implies that some people have to move to or live in risky areas because of lack of choices. Mariam (1994) as cited in Meze-Hauksen (2000) again says that vulnerability is created by social forces and is further exacerbated by intervening adverse effects of a physical nature. So in this study the different levels of vulnerability among households will be noted so as to find different coping strategies they employ depending on their capacities, choices and options available.

Wisher (2004) as cited in Ndlovu (2011) states that vulnerability aspects are short term and they change in the future due to life changes such as marriages, age, immigration status and occupation. These life events according to him influence to a larger extent the coping strategies of some people in adversity and they determine survival. From the above information, this study agrees to some extent with the fact that households are affected differently due to their varying levels of vulnerabilities and that households with more assets are affected less than the poor ones and that their coping strategies may differ. However this study will take into consideration the general sequence of coping strategies that all households adopt irrespective of the assets they own. This is because in dry land areas such as Chivi the rich –poor gap might not be big because these people share the same background as far as their problems are concerned and their livestock and crops may be affected equally. In support of this view ZIMVAC (2010) states that in Chivi soils are very poor and prone to erosion, and despite the area being suited better for animal husbandry this is not an agro-pastoralist zone and livestock diseases such as FMD and anthrax are endemic in this zone.

### *Coping Strategies*

There have been an overwhelming response from various scholars on coping strategies adopted by people affected by drought both seasonal drought and long term drought. Meze-Hauksen (2000) define coping /survival strategies as actions which people ,households or society undertakes to avert or cope to a crisis after a disruptive event has occurred. Many African countries adopt these coping strategies. Some scholars argues that coping or survival strategies vary according to social, environmental and political factors. For instance Meze-Hauksen (2000) is of the view that coping strategies which the scholar termed as survival strategies vary according to the availability, subjective prospects of success, culture, ecological zones, social and political restrictions. The Meze-Hauksen went on to say that the more satisfied the household assets are and the greater the choice of strategies available, the longer that these strategies can ensure prolonged time of food availability even under harsh conditions. This study agrees with many scholars that coping strategies in drought prone areas are mainly based on ensuring food security. Jerie and Matanga (2011) has it that in eastern and southern African drought has led to crop failure and several governments have sought for strategies for dealing with droughts and these evolve around food security for the affected communities. Zvikomborero and Chigora (2010) are also of the same view that the commands to food access as they quoted Sen (1981) are very important to coping with food insecurity because most coping strategies are adopted to ensure food security.

Apart from that Zimbabwe Environmental Research Adaptation to Climate Change as cited in Zvikomborero and Chigora (2010) gave two steps employed when coping with drought and food shortages. The first step is the maintaining coping response .This is whereby households try to secure their immediate needs as far as possible without depleting their capital and productive assets and this may be through borrowing and exchange within the community. The second step as highlighted can be viewed

as a distress strategy where there is depletion of household assets which will undermine households' long term capacity to cope to future droughts or famines.

The coping strategies that were adopted at national and community level in Southern Africa during the 1968-1975 drought include food aid from international community, continuous drought monitoring, importing food, as well as construction of dams, drilling borehole such that rural people have a source of domestic purposes, irrigation and for livestock. In addition, in countries like Kenya Eriksen et al (2005) noted that households and individuals specializes in one favorable activity such as employment or charcoal burning.

### *Income response strategies*

With reference to Zimbabwe, Ndlovu (2011) states that when people know an event may occur in the future in a similar pattern as it has happened in the past, they set up ways of coping with it. These risk-coping strategies according to him may also involve attempting to earn extra income when hardships occur. These strategies include relocation of labor, temporary migration, earning income from collecting wild fruits and gathering activities such as firewood collection. Masendeke and Shoko (2013) also agrees with Ndlovu through what they termed as income responses. Masendeke and Shoko (2013) postulates that the only way out for the poor in drought prone areas is to develop non-farm rural activities which helps to boost income and this enables households to fend themselves. The view that households needs to boost income in order to enable them to fend themselves supports Jeri and Matanga (2011) 's view that the coping strategies of people in drought prone areas of Africa evolve around securing food. The World Development Journal Number 26 (1993) discusses that income generating strategies by rural households in times of drought include gardening and craft production.

According to ZIMVAC (2010), some of the income responses or sources of cash in drought prone areas such as Chivi , Mwenezi and Midland South includes selling of small livestock , vegetables, legumes, mopane worms(harvested from the nearby newly settled areas) and handicrafts (stone and wood carvings)

along the highway as well as fishing . ZIMVAC went on to critique that while poor households employ the above strategies for cash, better-off often have a family member with a more permanent job in the skilled formal sector and some of their wage earnings are remitted home. ZIMVAC also states that in dry land areas the key to food security especially in Zone 21 which is in natural region 5 is the capacity of the household to earn enough cash to purchase food throughout the year

### ***Asset response strategies***

Masendeke and Shoko (2013) are of the view that there are asset response to drought whereby households sell their assets in order to get income or in some instances they may exchange assets and food. UNEP (2002) as cited in Masendeke and Shoko (2013) state that under drought conditions households may resort to selling livestock in order to buy grain. Jeri and Matanga (2011) did a research in Mberengwa on the effectiveness of ethno-science based strategies in drought mitigation. Some of their findings were that farmers' sell animals for income or sometimes exchange for grain. Cattle was found to be the main source of income followed by goats then donkeys. In addition ZIMVAC (2010) revealed that in zone 21 which include Mwenezi, Chivi and South Midland communal, livestock provide some safety net as they can be sold for cash to buy cereal and they supply some meat and milk.

### ***Consumption response strategies***

The researcher also weighed the applicability of other writer's line of arguments for instance the objection that people change their consumption pattern prior to drought situation and this according to Valdes (1981) include the reduction in the number of meals per day. FAO (1997) has it that the coping strategies usually follow a sequence such as the reduction in the number of meals followed by migration and then the sale of assets such as livestock. The study by Ndlovu (2011) on drought coping strategies in Mutasa district in Zimbabwe revealed that households have developed sophisticated ex ante (risk management) and ex post (risk coping strategies). Ndlovu went on to say that households have a tendency of reducing meal portions or go the whole day without food. ZIMVAC (2010) also supports this by stating that

households in dry land areas resort to distress coping strategies which includes reducing the number of meals and quantity of food consumed, reduced expenditure on healthcare and withdrawing children from school.

### ***Migration***

The researcher also appreciated the writings on migration as a response strategy in dry land areas. The study by Sen. (1981) on the Sahelian drought noted that pastoralists migrated down south in quite large number in a bid to reduce the impact of drought. A lot of scholars support this view for instance in Zimbabwe Jerie and Matanga(2011) in their study of Mberengwa on ethno-science based strategies in drought mitigation found out that migration in search of forage is one adaptation strategy adopted by 38% of the farmers studied in Mberengwa district . The farmers do this in an attempt to secure their livelihoods ( Jerie and Matanga 2011).Migration of farmers with their livestock is also done in Somalia in which 80% of the farmers practice that as well as in Ethiopia (Solomon et al 2007).

Apart from pastoralists, people also migrate in search of employment. ZIMVAC (2010) revealed that in drought prone areas there is increased migration. According to ZIMVAC the opportunities of work include local seasonal labor as well as temporary or permanent migration to local towns and South Africa.

### ***On-farm coping strategies and critique***

Many scholars believe that drought coping strategies are mainly on-farm coping strategies aimed at improving agriculture production and minimizing risks caused by climatic variations. Patnaik (2010) did a research on the distress situation in dry land areas and the impacts on livelihood pattern and the coping strategies. The paper by Patnaik reviewed the different coping strategies adopted by different dry land areas in India. The objectives of the paper were to understand the impact of drought on the livelihoods of the people in the dry land areas and to understand the different mechanisms adopted by people to avoid distress situation. Most of the societies in dry lands do not manage drought or distress situation in isolation from their overall farming system. This thinking by Patnaik makes one to raise a little debate

especially on the part that most societies in dry land areas do not manage drought in isolation from their overall farming system. This is not always the case in all dry lands because the degree of aridity differs and in some cases people resort to off-farm coping strategies. In critique of Patnaik's thinking firstly one can say that, dry land areas such as Chivi which can be characterized as semi-arid have failed in agriculture mostly crop cultivation.

Kapal et al (2003) agrees with Patnaik and many other writers. The research by Kapal discussed on-farm coping strategies which are aimed at development and adaptation of technologies to manage the impacts of drought. Kapal et al presented their strategies in three headings which are: pre-drought that is when there is a forecast on dry conditions and crops face severe water deficits. The second one is the mid-drought that is when crop fail and the third one is being post drought. The topics covered by Kapal et al (2003) are planting drought tolerant crops, preserving domestic water supply, water management such as irrigation and mulching. Well, the only slight similarity between Kapal et al and this study is that they both focus on coping strategies for drought prone areas. However one can see that the degree of drought in these two researches is different. In addition Kapal's area of study seemed to be those areas that do not consistently face drought but sometimes experience adequate rainfall. The case of Chivi is a bit different in the sense that Chivi has always experienced very little rainfall and mostly not at all so drought is a permanent situation which requires permanent coping strategies not seasonal coping strategies that were indicated by Kapal et al. However one is not totally disagreeing that farming coping strategies are adopted in dry land areas such as Chivi and some of this literature will be used.

According to a study done by Munhande et al (2013) in Chivi district some of the on-farm coping strategies noted include the use of small grains, conservation agriculture, crop diversification, the conservation of fodder for livestock, soil and water conservation, irrigation, gardening and the change of planting and harvesting dates. Even though this study was carried in Chivi district coping strategies differ

for example in ward 4 and 5 under study there is no irrigation and the irrigation that is a bit closer is not accessible to the people in the wards under study.

### ***Sustainable strategies***

A plethora of scholars have written a lot on sustainable livelihoods and in this study literature on sustainable livelihoods was used to understand the sustainability of coping strategies since coping strategies and livelihood strategies are interlinked. According to Chambers and Conway (1992) in Bennet (2010) a livelihood comprises of the capabilities, assets (stores, resources, claims and access) and activities required for a means of living and a livelihood is sustainable when it can cope with and recover from stress, shocks, maintain and enhance its capabilities and provide sustainable livelihood opportunities for the next generation and which contributes net benefits to other livelihoods at the local and global levels in the short and long term.

Many scholars agree that for livelihood strategies to be sustainable, they should be diversified. Ellis and Allison (2004), Elliot et al (2000) hold the notion that livelihood diversification might be an effective mechanism for decreasing pressure on natural resources. Livelihood diversification according to Ellis (1998) refers to the process that rural families and households use to create diversity in livelihood activities and social supports and these include household income diversity. The major potential determinants of diversification are survival, seasonality, social constraints, risk, changing markets, coping, adapting, vulnerability, migration and civil strife. Ellis went on to suggest that policy has an important role to play in diversification. This is through targeting vulnerable social groups by reducing risk, increasing rural service sector, providing micro-credit, considering non-farm activities, developing rural towns, increasing infrastructure and education and mostly increasing farm productivity. For Ellis et al (2000) resultant livelihood strategies are composed of a variety of natural-resource based and non-natural

resource based activities that ultimately impact livelihood security and the sustainability of the environment.

Bebbington (1999) proposed a framework for analyzing the sustainability of rural livelihoods. In this framework Bebbington commences with the issue of individual and household access to five capitals which are production, human, social, natural and cultural. Secondly there is the combination and transformation of these assets to create livelihoods. Thirdly there is the expansion of these assets through state, market and civil society determined relationships with other actors. Lastly the framework discusses the enhancement of capabilities to make life more meaningful and to increase the levels of influence in the governance of resources and transform resources into income.

Carney (1998) also presented a framework for analyzing livelihood strategies. The factors that influence livelihood strategies and outcomes according to DFID's Sustainable livelihood Framework (SLF) as stated by Carney are the vulnerability context that is shocks, trends and seasonality. The second factor is livelihood assets that is natural, social, political, financial and human capital. Lastly she talks of transforming

### ***Constrains to people's coping capacity***

When adopting coping strategies people in dry land areas face a lot of challenges to get the desired results from the strategies. These challenges have been analyzed by various scholars in this field of study. ZimVAC 's 2007 report states that most local coping strategies are disrupted or destroyed by harsh weather conditions such as dry spells ,cyclones among other things. This worsens the situation of the people already affected. In addition, Amarty Sen (1981) as cited in Zvikomborero and Chigora (2010) talks about food entitlement which according to him is the command over food. Amarty Sen depicted that people are not food insecure because there is insufficient food supply, but because they possess insufficient command over food or insufficient access to food. These command according to Amarty Sen includes trading, producing, inheritance and selling of labor. Zvikomborero and Chigora (2010)in their



writing further supports Sen.'s view by depicting that these commands to food are very important to coping with food insecurity caused by drought because most coping strategies are based on ensuring food security.

Nhemachena and Hassan (2007) in Munhande et al (2013) is of the view that lack of credit, rationing of inputs and lack of seed limit the ability of farmers to get necessary resources and technologies they might need to adapt climatic variation. In this same vein, Munhande et al (2013) depicted that small holder farmers lack the financial ability to start irrigations but rather they depend on NGOs for provision of such facilities. Therefore because their income sources are restricted, coping strategies that require capital are affected. Moreover, so many people die of HIV and AIDS in SSA and small holder farmers in Zimbabwe have not been spared. The epidemic has devastated the age group that is active in development activities that is between 20 and 60 (Munhande et al 2013). This has resulted in the decrease of food production due to reduction of the labor force in rural areas.

In some studies done in other drought prone areas of Zimbabwe, the gathering of wild fruits and plants was found to be the quickest coping strategy when famine occurs. In a study done by Zvikomborero and Chigora (2010) in Mount Darwin in Chitse and Kamutsenzere wards, people during the 2007/2008 drought were gathering and eating indigenous fruits such as mauyu and masawu. The study also found out that after the wild fruits were exploited people would resort to wild plants such as kasongo, munyanya, pfumvudza ,wild beans etc. The major challenge with these foods was that people felt ill, there were reports on swollen legs and stomach and wild beans caused diarrhea outbreak.

### ***A general critique of literature***

After all the above literature on coping strategies have been explored, gaps were identified and it is one of the purposes of this research to fill those gaps left by previous writers. Coping strategies are heterogeneous, they differ from place to place due to the degree of aridity in the area, level of asset ownership, the available social networks, state policies and interventions among other things. Therefore

because coping strategies are heterogeneous, the study aims to find out the coping strategies of people in ward 4 and 5 of Chivi. This area is unique in its own right and the coping strategies may differ from other areas that were studied before. Coping strategies that are adopted in other African countries, other districts and wards in Zimbabwe may not be the same as those in ward 4 and 5 of Chivi. So the study aims to find out the coping strategies in these dry land wards independently.

In addition to the above, the research also opened a new dimension of sustainability of coping strategies in dry land areas and this was also pointed by scholars such as Ndlovu (2011) who analyzed the effectiveness of drought coping strategies in Mutasa district. The question of sustainability is important in this study. Many researchers on drought coping strategies left out the issue of sustainability. They just researched on what coping strategies do people in dry land areas employ. The study will make use of the sustainable livelihoods framework to analyze the sustainability of coping strategies.

The study will also proffer solutions which are relevant to the area. Solutions from other previous studies are greatly appreciated but they might not be applicable to this area of study and may not be relevant to the felt needs of the people. The study will also go further to look at the major constraints to people's coping capacity and this issue has been left out by many previous scholars.

### *Conclusion*

The researcher has weighed the applicability of other scholars' line of argument as well as findings. These include non-farm and on-farm coping strategies, the sustainability livelihoods framework, constraints to people's coping capacity among other issues discussed above. Therefore with all the above literature at hand, it is the purpose of this research to fill some of the gaps left by previous studies. These gaps include the sustainability of coping strategies and off-farm strategies employed .

## CHAPTER 3

### RESEARCH METHODOLOGY

#### *Introduction*

Having considered that this research sought to find out the sustainability of coping strategies for people in dry lands, the study employed qualitative research. This chapter is on the research methodology used to gather information to answer the research questions and fulfil the research objectives discussed in chapter one. Therefore this chapter outlines how the research was carried out which includes the research design used, sampling, data collecting tools, sample size and population, description of the study area and research ethics that were observed.

#### *Research Methodology*

When one is undertaking a methodological research design, the advantages and disadvantages of the research methods are considered. Having considered the pros and cons of different research methods, qualitative research method was considered as the best since its advantages as far as this type of research is concerned outweigh other methods. The main objective of this study was to find out the sustainability of coping strategies adopted by people in dry land areas and due to the nature of the research qualitative approach was used. Qualitative design does not involve statistics but rather it focuses on descriptive information. In this study qualitative research is concerned with how people describe their experiences on drought, feelings on their vulnerability and thoughts on how they cope to drought and whether their coping strategies are sustainable. The data that was required is non –statistical but rather it is based on answering the what, how and why questions.

#### *Qualitative research*

Qualitative research according to Mandizora (2011) involves the examination and interpretation of observations for the purpose of discovering underlying meaning. This study is concerned about feelings of the people, experiences on drought, their interpretations of what is right for their survival and

explanations of the coping strategies they adopt. So in this type of research qualitative design was very relevant as it requires detailed explanations than just mere numbers. The sustainability of coping strategies cannot be quantified but rather they can be measured in terms of quality. Qualitative research design is concerned about opinions, experiences and feelings of individuals producing subjective data. In this study such information was obtained through unstructured interviews and open ended questionnaires as well as observations. The other major advantage of qualitative research in doing this study was that is not based on assumptions but helped to obtain real life situation that is on the ground. Gray (2009) stated that qualitative data are open to multiple interpretations and the interpretations can include the voice of those being studied as well as that of the researcher. Hence the researcher's voice helped in the analysis of the coping strategies that were discovered in order to establish their sustainability.

### ***Research Design***

A research design is basically a plan that guides the study in the process of data collection, data analysis and data interpretation. The study employed the exploratory case study design. Case studies according to Creswell (2009) are a strategy of inquiry in which the study explores events, activities, processes, or individual/s. Yim (1994) defines a case study design as an empirical inquiry that investigates a phenomenon within its real –life context such as individual life cycles. Exploratory case study concentrates on discerning the nature of problems and variables that relate to them. The reason why the study used the case study design is that this design studies a specific boundary system and in this case it is ward 4 of Chivi North. This study also wanted to explore the levels of vulnerability in Chivi, the coping strategies and the sustainability of coping strategies and exploratory design was considered as the best in achieving the stated objectives.

### ***Description of the study area***

The research was carried out in ward 4 of Chivi North district in Masvingo province which falls under natural region 4 in Zimbabwe. Chivi communal area covers 3534 square kilometers (Campbell et al 2002)

quoted in Mandizora (2011). This area is characterized by a high degree of aridity which has resulted in the death of livestock and food insecurity for people.

### ***Population***

A population is basically the total of all the individuals who have certain characteristics and are of interest to the researcher ([www.sagepub.com/sites/default/files/upm-binaries/41398.pdf](http://www.sagepub.com/sites/default/files/upm-binaries/41398.pdf)). Relmer (2011) in Nondo (2014) stated that it is the population of interest which the study aims to investigate. In this study the population of the study are the households of ward 4 in Chivi North as well as key informants which included the councilor of ward 4, and three village heads from Tsvakirai village, Tagwirei and Gwirai village. These people are prone to drought and poor ecological conditions and their livelihoods have been greatly affected. The households were selected to provide information about their everyday life experiences in regards to drought and what they do to cope. The councilor and three village heads were selected to provide an overview of the analysis of coping strategies adopted in their areas of influence as well as some specific information about the number of people which receive aid, the number of households in their villages among other issues. Ward 4 which is under study comprises of 21 villages and 6 VIDCOs which are A, B, C, D, E and F but only 5 villages were selected of study. The villages that were studied are Tsvakirai village, Gwirai village, Tagwirei village, Mabhuku village and Magwaza village. Tsvakirai village has a total of 25 households (some households are interdependent), Tagwirei has 165 households but there be close to 300 independent families in those households, Gwirai village has about 42 households, Magwaza village has about 63 households and Mabhuku has 39 households. The research was limited to one ward because of time and distance.

### **Sample design**

#### ***Purposive Sampling***

Sampling can be defined as a process of using a small number of items (people) of a larger population to make conclusions about the whole population (Zimkund 2003). A sample is a representative that

generalizes the whole targeted population because it is not feasible to study the whole population. In regards to the study the targeted population are households and leaders such as village heads and councilors in dry lands of Chivi district ward 4 .In purposive sampling, the researcher deliberately selects the subject against one or more characteristics in order to come up with a representative sample. (Gray 2009). This sampling technique helped in achieving a cross-section of the target population. The study purposively selected 5 villages out of 21 villages in ward 4. Patton (2002) stated that the power of purposive sampling lie in selecting information rich case. The study used this in selecting both poor and rich households. This was done by walking around and observing the type of infrastructure at households, the presence of cattle kraals and shelter for goats .This selection of both rich and poor helped in the realization of the differences in coping strategies adopted by different households. The study went on to used purposive sampling to select key informants which are 3 village heads and one counsellor who provided with a general overview of their areas of influence. This sample represented the whole ward and rich candid data was obtained and purposive sampling help to avoid generalization of findings.

### ***Sample size***

In this study 50 respondents were used as the sample. In the 5 villages selected a sample of 10 households from Tagwirei village and 9 households from each of the remaining 4 villages which are Tsvakirai, Magwaza, Gwirai and Mabhuku. Apart from the 46 households, 4 local leaders were also selected of study and these are the councilor of ward 4, and three village heads from Tsvakirai, Tagwirei and Gwirai villages.

### ***Sample size determination***

The sample size was affected by a quite number of factors. Firstly in qualitative research, the question of sample size is not important because any sample picked can represent the whole target population and help in the generalization of findings for the whole population so long the population has similar characteristics which are relevant to the study. Secondly time was also another factor. If the population

was bigger than the one selected, the researcher could have spent more days collecting data. Distances travelled was also considered in the selection of the sample. In rural areas households are not very close to each other as compared to urban areas and in Chivi gaps between houses have been exacerbated by the fact that some households have been abandoned and some people have migrated to newly resettled farms.

## Sources of Data

### *Primary data*

Primary data came in form of the data collection instruments used which are open –ended questionnaires, depth interviews and observations.

### *Secondary data*

This consisted of data that has been collected already by various researchers and readily available from other sources and this data is readily available and cheap for the researcher to get hold of. It helped to make primary data collection more specific and easy as well as purposeful. With the help of secondary data the researcher was be able to find out the gaps left ,deficiencies and what additional information needs to be collected. Secondary data helped the study to understand what the situation was before. The study made use of secondary data from ZimVac’s report of 2010 on the livelihoods zone profile of Masvingo, reports from FAO and scholars such as Campbell et al (2002) who provided with information on the description of the study area.

### *Data collection Instruments*

Data was largely collected using semi-structured face to face interviews, open ended questionnaires, field observations and the use of secondary data from previous dissertations topics, published articles and the internet. Besides visiting households, the researcher also engaged with the counsellor of ward 4 and 3 village heads who helped to highlight some of the coping strategies they know are common in their areas of influence. These authorities gave an overview of the area, this information includes common coping

strategies adopted by the people, the level of people's vulnerability in their areas of influence, challenges faced by people in trying to adopt coping strategies among other things.

### ***Open –ended Questionnaires***

Open ended questionnaires leaves a room for respondents to construct answers using their own words rather than to limit them by providing options where to choose from and some of the options may be irrelevant. O'Leary (2004) stated that respondents can offer any information/express any opinion they wish although the amount of space provided may be limited. In this study, open questions generated rich and candid data although it may be difficult to code and analyze. Since the research was carried out in rural areas and mostly to elderly people, the researcher could interpret the questions to Shona and wrote the responses on her own. The researcher helped the respondents by explaining some of the big words in development such as sustainability and vulnerability and this was done at every household.

### ***Depth-Interviews***

These are one on one interviews which helps to unveil underlying motivations and attitudes towards profound issues .Interviews were conducted to four people which were selected as key informants and these are the counsellor and village heads. The researcher used face to face Interviews which provided a direct interaction between the researcher and the respondents. The interviews were semi structured in order to provide a guide to the interviewer, however the interviewer did not stick to the written structured interview questions but could leave a room for respondents to explain further about the situation in the area. The interviewees could even go further to explain some of the things that were not asked and this was really helpful in the unveiling of some information that the study could not think of asking .The major advantage of depth interviews is that they are flexible and they helped to yield a very varied range of valuable data.



### *Observations*

This is whereby the researcher took a tour in the study area noting critical issues relevant to the study. The researcher visited the ward under study visiting their fields, rivers, boreholes, households, kraals, vegetable gardens and the whole area in general in trying to have an understanding of the area and then merge with the information from interviews and questionnaires. Hence the observations in the field became part of data.

### *Data Collection Procedures*

The researcher took some steps and procedures in order to make data collection successful and uninterrupted. From the time the researcher started data collection some of the steps taken includes getting an authorization letter from the university, seeking permission from the local leaders, sampling procedures and research ethics which were followed.

Seeking permission---the researcher was granted permission to carry out the study from the local authorities in the area of study. In seeking permission the researcher firstly engaged the councilor, then the village heads and lastly from the respondents. This made data collection much easier and safe.

### RESEARCH ETHICS

Due to the knowledge that the researcher has pertaining research ethics, the researcher observed all the research ethics which include the rights of the participants to privacy, confidentiality, anonymity and informed consent among other rights. In trying to uphold the right to confidentiality of participants, the researcher did not use names of participants in questionnaires and interviews but rather participants were named as respondents or participants using numbers (e.g. participant or respondent 1). The researcher sought consent first from participants and did not use force or manipulation to make the people participate in the study and in addition the researcher did not use gifts or money to manipulate participants. Emotional and physical harm was also avoided by the researcher.

Apart from the rights of participants, the researcher also tried by all means not to plagiarize and this was done through acknowledging sources and extraction of primary and fresh data through questionnaires, interviews and field observations.

### LIMITATIONS OF THE STUDY

Distance was one of the major limitations faced since the research was carried out in rural areas where transport is very limited. So the researcher travelled very long distances of about 10 km between the villages which were selected and this depended on the arrangements of some households. To reduce the distance travelled per day, the researcher looked for a place to stay for the two nights she spent in the area. This was done to avoid travelling every day from Zvishavane to the villages.

### *Conclusion*

The targeted population were households in ward 4 and in order to fulfil the aim of the study, qualitative design was used. Ward 4 has 21 villages but to select the representative of the whole population, simple random and purposive sampling techniques were used. The study made use of 50 respondents from 5 villages and from each village households were selected randomly.

## CHAPTER FOUR:

### Data analysis, Presentation and interpretation

#### ***4.0 Introduction***

In order to give meaning to the findings of the study, this chapter focuses on analyzing and presenting data that was collected. The objectives of the study were to establish the level of vulnerability of people in ward 4 and 5, to find out the different coping strategies adopted in the area, to find out the major challenges to people's coping capacity, to assess the sustainability of the coping strategies adopted as well as to proffer sustainable solutions to the strategies. This information was gathered through questionnaires, interviews and observations.

#### ***Data analysis Procedures***

This research is qualitative in nature so the study will give in-depth explanations from the answers of respondents. To complement these explanations data that has been collected will also be presented using tables. These tables will summarize some of the variables in this study as well as give meaning to the findings. There will be the use of demographic findings represented in tables which will represent the gender and household status of the respondents.

#### ***Data presentation procedures***

A total of 50 respondents were engaged, 46 were households and 4 were local authorizes (village heads and councilor). 46 respondents answered open ended questions and 4 participated in interviews. Due to the ages of household heads, the researcher interpreted the questions to Shona and wrote the responses on her own. The questionnaire had 4 parts or subheadings which were derived from the objectives of the study. The first part required information on household profile

and asset ownership. The questions includes who heads the household, occupation status, size of household ( adults and children),the number and type of livestock that the household owns as well as the ownerships of other assets such as wheelbarrow, scotch-cart etc. The second part sought to find out the level of people's vulnerability to drought. The questions asked on how people define drought inn their own context, indicators of a households vulnerability to drought, source of water for livestock, its proximity and availability, how long have people in that area been experiencing drought and what areas have been affected as a result of drought and dryness of the area.

Furthermore part 3 of the questionnaire required the respondents to give detailed explanations on the coping strategies adopted which are on and off-farm strategies. The questions provided a platform for the respondent to give reasons as to why the household does not adopt either on-farm or off-farm strategies. Some of the questions under this section also asked about whether the household receive remittances and food aid as well as to explain whether these two are effective to address the impacts of drought. The questionnaire went on to ask on the sustainability of the coping strategies and constraints to coping capacity.

**Demographic findings**

**Table 1: *Illustration of the household's status of the respondents***

<u>Household type</u>		<u>Marital status</u>	
<u>Household head</u>	<u>Number of households</u>	<u>Marital status</u>	<u>Number of households</u>
<u>Female</u>	<u>27</u>	<u>Single</u>	<u>9</u>
<u>Male</u>	<u>16</u>	<u>Married</u>	<u>21</u>
<u>Child</u>	<u>3</u>	<u>Widow</u>	<u>16</u>
<u>Total</u>	<u>46</u>		<u>46</u>

A total of 46 respondents (households) answered the questionnaire. The researcher categorized the respondents as illustrated above according to the type of household that is female, male and child headed. This was done because there are gender and age dynamics in adopting coping strategies as well as in determining the sustainability of coping strategies. The female headed households are those mostly with widows and abandoned wives. Male headed were mostly those with both parents present, only in rare cases could one find a male headed household without a woman/wife in it.

## GENERAL FINDINGS

### *Status of Households*

Questionnaires were distributed to 46 households. Many households in the area are female headed followed by male headed then very few child headed households. Of the total population studied no one was employed in the formal sector but a lot of people are self-employed. Most men are builders and while most women (mostly single and widowed) are vendors at the local township known as Madzivadondo.

### Vulnerability

#### *Asset ownership*

In order to establish the level of people's vulnerability in the dry lands of Chivi, the study sought information about asset ownership of the people in ward 4. This thinking was adopted in respect of Chambers and Conway (1992) assertion that a livelihood comprises of the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. This implies that the absence of assets or inadequate assets renders a household more vulnerable. The questions on asset ownership required respondents to tell how many different livestock species does a household own as well as other assets such as scorch cart, wheel barrow, plough and other assets that the household may have. The research unearthed that so many people do not own much livestock especially cattle, one of the reasons why they do not have cattle is that a lot of cattle died of hunger and diseases especially in the in 2015 and 2016.

The study unearthed that the area is better suited for livestock as compared to crop cultivation. Many households own livestock but even the percentage of those who do not own livestock such

as cattle and donkeys is also greater. The following is a table showing asset ownership in the 5 villages studied

*Table 2: Illustration of asset ownership in the 5 villages studied*

Livestock specie/ Asset	Ownership of assets out of 46	households without assets out of 46
Cattle	24	22
Goats	39	7
Donkeys	10	36
Poultry	41	5
Scotch-cart	9	37
Wheel barrow	17	29

Primary source

The main reason that people gave for not having cattle is that their cattle died of hunger and diseases especially during the 2015-2016 season and only a few people stated that they had sold their cattle and some do have the capital to buy cattle. In one village called Tsvakirai one participant explained that she had 5 cattle and they all died this year of hunger and the other household indicated that out of the 7 cattle they had, 3 died this year. Of all the 46 households studied, 13 households indicated that their cattle died this year alone.

Table 3: Illustration of the average number of livestock ownership in ward 4

Livestock specie	Average number of livestock ownership	Number of households out of 46
<b>Cattle</b>	1-4	10
	5-8	7
	9-12	3
	13-16	4
<b>Goats</b>	1-5	4
	6-10	15
	11-15	11
	16-20	7
	21-25	2
<b>Poultry</b>	1-8	10
	9-16	22
	17-24	9
<b>Donkeys</b>	1-6	10

Primary source: Questionnaires



Respondents have revealed that cattle serves a great role in their livelihoods and even the councilor of ward 4 supported this by stating that the value of cattle in maintaining the stability of households as far as livelihoods are concerned, cannot be replaced by anything else. For those who have cattle, it was noted that only 6 households had more than 10 cattle. This implies that even more than half of the population had cattle, the people have very few cattle. This indicates that people in the dry lands are to a larger extent vulnerable to drought as it culminates to the inevitable extinction of their herds, thereby increasing insecurity of their livestock assets.

In a bid to avail information on drought vulnerability in the area, questions were asked on how people define drought in their own context and experiences, and give indicators of drought vulnerability of a household among other questions. A plethora of definitions were given by respondents and among them are:

- Shortage of food
- Shortage of food for both people and livestock
- Inadequacy or lack of everything including food , income and poor health
- Persistence of erratic rainfall which jeopardize agriculture production and scarcity of drinking water to an extent that people travel to other areas to look for food throughout the year –*'kushuzha'*
- Drought is when a family lacks harvests too feed on and when livestock lacks grazing and free adequate drinking water.

These are the definitions given by different respondents. In general although their definitions slightly differs, all of them always ended up talking of food insecurity and water scarcity .They termed drought as *'zhara'*. All the respondents admitted to be vulnerable to drought although the

degree and extent could differ depending on the diverse coping strategies adopted by a household and assets owned. Some respondents stated that drought has become a norm in the area since crop production has failed. One respondent answering a question on the extent of vulnerability in their households noted that:

*‘drought has become a norm in our area since year in year out we end up supplementing water for cattle and our food , in fact nowadays we buy food throughout the whole year since we no longer rely on harvests. Things used to be better in the early 2000s going backwards but now we receive very little rainfall which lasts for about two months or less. Drought is now part of us and we have always been vulnerable to an extent that very soon we will be used to it and some of us are already used to it.’*

Another one noted that;

*‘We are all vulnerable to drought but I would say in Chivi if you do not have any means to get money you will be more vulnerable than anyone else especially if you do not receive food or monetary aid from CARE or’ mudyandigere’ from the government’.*

The councilor indicated that approximately nine out of ten households are largely vulnerable to drought and only one out of ten is less vulnerable to drought. The councilor went on to say the fewer people who are less vulnerable to drought are those people who get support from their children, husbands or relatives in urban areas or in other countries.

The study also sought to find about the indicators of drought in Chivi and the following are the indicators given by respondents including the village heads and the councilor as well as from the observations done by the researcher.

- Poor meals and reduction in the number of meals per day
- Doing odd jobs for the staple food
- High prices of maize meal in the area (\$10-\$15 per bucket)
- The general skeletal appearance of animals
- A household with little food and no livestock to sell when things gets worse
- Death of livestock especially cattle
- A peasant who thinks every day on how to feed family and livestock owing to futility of farming toil because of persistent erratic rains
- Cannot help extended family
- Always borrowing or begging food
- Dry fields with no plants grown and dry immature crops

### **COPING STRATEGIES ADOPTED**

Many coping strategies adopted in the area are income response. The reason is that crop cultivation has failed and people buy food throughout the year so they need income to buy grains. Therefore to make food available in a household, income is needed more than anything else hence the adoption of more income responses. Farming responses have been abandoned by more than three quarters of the population in ward 4 due to water scarcity. Priority is now shifted to securing livestock and gaining income in-order to make food available.

### *Coping strategies for livestock*

The study revealed that not only people are affected by the prolonged distress situation in the area, their livestock are also affected especially cattle. Therefore survival strategies for cattle are also adopted. In order to prevent or minimize the death of cattle due to hunger, the people in Chivi ward 4 now practice pastoral agriculture. People take their cattle to places with rich grazing land and water and these pastures include Stokeri and some reserved areas in Nhema district. These places are very far from their villages and the estimated distance was 40 plus kilometers. They stay there for months until situations gets better and if not they do not return their cattle but rather they take turns. These turns are termed as '*madzoro*' whereby some go home for a week and bring food while others remain in the grazing areas with the cattle .Of the population studied 27 households have adopted this strategy to ensure the survival of their cattle and this strategy is a newly discovered strategy for livestock.. This strategy greatly helped in the survival of cattle and some cattle have even increased in reproduction as compared to previous years. The rivers and streams in the area include Gohondo River, Nyarutedzi River, Musiri stream among other as well as smaller dams. The local water sources for livestock quickly dries up causing water shortages for animals and thus when people go to the above mentioned places. There is also the use of borehole water for livestock but however this causes pressure at boreholes because large numbers of people drink from the same sources. However some of the cattle herders stated that in the first days only few people could go with their cattle to the reserves in Stokeri and Nhema so there was no pressure in those grazing lands. Nowadays the places are reported to be overpopulated with cattle and soon enough the cattle will over exploit all the grass in the area resulting in people going back to point zero again.

Apart from that, the other coping strategy for livestock noted explains why people have many goats as compared to cattle. Goats are more drought resistant. So some people found it wise to keep goats. One respondent in Gwirai village on the question about whether they adopt on-farm coping strategies noted:

*‘The answer is two-sided, some of us we try because we have adopted the idea of keeping resistant animals like goats and donkeys since crop cultivation has failed and cattle are more prone to drought. On the other hand as far as crop cultivation is concerned some of us are now hopeless and just let nature take its toil’.*

## INCOME STRATEGIES

### ***Fishing***

Fishing is one of the survival strategy adopted by some households in ward 4 but it is not a widely used strategy, only a few households adopted it. The respondents confirmed that they travel as long as 20km to Denge dam. It is an illegal activity so people go there during the night so that they won't be caught. Of the total population studied only 9 households practice fishing. Fishing is mainly done for income and these people who practice it make reasonable money which helps their families. People who practice fishing reported that although fishing helps in gaining income, it is not a sustainable solution for establishing income security in a household.

### ***Selling of livestock***

This is a widely adopted strategy in ward 4. People sell their cattle, goats and poultry. The sale of goats is very high, followed by poultry then cattle. The study noted that households will resort to selling cattle when things get really tough. Firstly the household look for other means to cope but

when there are no more options the household would resort to selling cattle livestock. The sale of livestock is more like an emergency exist. The selling of livestock plays a very important role in the survival of people in dry lands. Goats are sold from \$ 40 and when desperately they sell them for \$ 30 while cattle are sold for \$250 depending on the fitness and weight of a beast. The income plays a special role in the buying of food and payment of school fees. However respondents revealed that in the 2015-2016 farming season, cattle were dying of hunger and people were forced to sell their cattle for as low as \$60-100. The selling of livestock may compromise the ability to cope in the future especially when a households sells all the livestock hence it is not a sustainable solution in dry lands but rather it is a relief strategy.

### ***Peace jobs / Maricho***

Poor households mainly adopt this strategy and these poor households mainly include widowed households and child headed households. These are peace jobs done in better / richer households and the work include fetching firewood, fetching water, watering gardens, herding cattle among other odd jobs. People who do '*maricho*' get money, groceries or clothes in return. Some respondents suggested that they survive or cope because of *maricho*. This is beneficial to those who have little or no livestock, people who do not receive any external support. Peace jobs are usually done by people who have a low internal coping capacity. People go as far as to the newly settled farms to look for peace jobs.

### ***Gold panning***

A lot of people have resorted to gold panning in Mberengwa and Shurugwi which they named it '*chikorokoza*'. This strategy is mainly adopted by men starting from teenage boys. From the questionnaires administered in households, the study found out that 20 of the household studied

have one or more members of their family doing gold panning. Although this strategy is illegal and has resulted in the many arrests, it has contributed much towards promoting food security and income security in so many households that practice it. The researcher had an opportunity to engage some of the gold panners in the households studied and they stated that this strategy is risky and sometimes people come back home empty handed but sometimes it pays off. Although they mentioned that its risky they said it is a risky worth -while than remaining at home watching the rest of the family dying of hunger and children not going to school.

### *Migration*

A lot of teenagers up to middle aged people have migrated within and outside Zimbabwe. Of the population studied 37 households indicated that they have at least one member of the family who migrated. The reasons for migration are push factors. People migrate without even a guarantee that they are going to get a job wherever they are going. Most people have been pushed by the fact that there are not much agricultural activities being done in the area so they would rather migrate that stay at home doing nothing. Many people have migrated to towns within Zimbabwe and to South Africa and Botswana for employment but due to the high unemployment rate in Zimbabwe many people who migrated within Zimbabwe have resorted to vending in the streets. Many girls who migrated are house maids and selling at flea markets mostly in Zvishavane town.

One of the disturbing issue about migration in this area is that many children dropped out of school to migrate into towns for employment, while some of them have resorted into prostitution in these local towns. Migration helps in complementing other coping strategies adopted by a household. People who have migrated support their families back home. However migration as a coping strategy have not proved to be sustainable although it contributes in the survival of

people. Many parents have reported that most of the girls who migrated would come back home pregnant. This increases the number of dependents in household increasing the poverty of a household. In addition people who migrate could go for a long time without supporting their families back home. Migration has also promoted prostitution for girls who could not get jobs thereby resulting in HIV/AIDS to a younger generation.

### ***Vending***

This strategy is commonly adopted by women in the area. Women are vending at Madzivadondo town-ship which is along Masvingo-Bulawayo road. They sell fresh roasted mealie cobs, tomatoes, cabbages, fruits among other small goodies. This is an income response but it will always go back to putting food on the table. This is one of the better strategies as respondents confirmed that they make better money which to some extent enables them to feed their families although the money is not enough to address the impacts of drought.

## CONSUMPTION STRATEGIES

### ***Reducing the number of meals and quantity of food***

This is one of the distress strategies adopted. People reduce their consumption due to food shortages. The study unearthed that most people eat two meals per day that is one light meal in the afternoon and a proper one in the evening while some households eat once per day. This is done to save food so that it may cover more days.

### ***Borrowing and Begging***

Borrowing or begging are widely used coping strategies among residents of ward 4. Households borrow from each other things such as money and groceries. The village head of Tsvakirai village stated that every household has something to borrow from the next household and that is



what keeps people going in such a dry land because nobody has everything. The village head went on to say that poor households go around begging for every meal they eat especially when things are worse.

### ***Vegetable gardens***

People have vegetable gardens along rivers and near boreholes. Vegetables are mainly grown for consumption purposes although some grow them for selling. Vegetable gardens are very important for the provision of relish and income. These gardens are seasonal, they do not last throughout the year due to water shortages. Some other villages find it hard to have gardens because they are far from the river and these are mostly people from Gwirai and Magwaza village.

### ***Collection of wild fruits***

Wild fruits are collected to supplement their diets as well as for selling. These indigenous fruits include sumha, African chewing gums (*matohwe*), and amarula (*mapfura*) and are usually collected with women. *Sumha* and *matohwe* are collected and sold in Zvishavane town. This contributes something to the food and income security of the households but not many people practice this. This strategy is not a sustainable solution to the problem of drought because the income they get is very little and also these fruits are seasonal which means that it is a short term strategy.

### ***Collection of Mopane worms and ants***

Mopane worms (*madora*) are collected in newly settled farms along Zvishavane –Masvingo road. *Madora* and ants (*majuru*), serves a dual role. They are for consumption and for income. Mopane worms and these ants are dried then consumed or sold in Zvishavane town.

## AID

### *Food aid*

ZIMVAC (2010) revealed that zone 21 which include Chivi, Mwenezi, South Midlands Communal consequently receives relief which is distributed with regular frequency for example an estimated 4-7 years out of 10. Aid is one of the major things that have contributed largely to the coping and survival of people in dry land areas such as Chivi. Many respondents confirmed this by stating that, 'without food aid drought would have resulted in many graves due to hunger'. CARE international through WFP is the major source of food aid (food for work) in the area. It used to be CARE and Redcross but Redcross have closed down its assistance in the area. CARE gives maize meal and cooking oil to its beneficiaries.

However, although food aid assists people in getting access to food, it is very far away from being a sustainable solution. The councilor portrayed that aid only benefits about a quarter of the whole population, Tagwirei village has 165 households and only 42 households benefit, Tsvakirai has 25 households and only 7 households benefit, Gwirai has 42 households and 9 benefit and lastly Magwaza has 63 households and only 17 households benefits.. Even for those who receive aid from CARE, the aid is not sustainable. Sustainability is all about bringing long term benefits and food aid has failed to deliver that .One respondent thus explained that;

*'Not being ungrateful for I am, aid do not go a long way in eradicating or alleviating the nefarious jaws of drought. Come to think of it, even if it aids me, what about my cattle that I intend to keep and sell so that my children go to school'*

In addition juxtaposing aid with the conditions of Chivi, it is erratic too because respondents stated that sometimes CARE withdraw its aid without even forewarning people and they even said that there are rumors that it might withdraw very soon. CARE used to have so many beneficiaries in the area but now it benefits just a few and it might narrow the numbers again.

### ***Monetary aid***

Elderly people also receive monetary aid from Social welfare which is commonly known as ‘*mudyandigere*’ in the area. The amount is \$6 per head which is received after every two months in a household. This aid has benefited many women headed households. It has helped largely in the promotion of food security and income among its beneficiaries. However although the beneficiaries acknowledged that the aid was helpful, they stressed that it is not effective enough to address the long term impacts of drought and future problems because it was withdrawn in March 2016. The former beneficiaries looked very insecure about their future because there were now used to receive the money and they were not eligible to receive food aid from care because of that monetary aid. These elderly people are not active and strong to do adopt other coping strategies and now that they do not receive either monetary or food aid, they are going to starve. Therefore it becomes crystal clear that aid is not a sustainable coping strategy because it is not reliable.

### ***Relocating to newly settled farms (mapurazi)***

Many people from Chivi ward 4 relocated to newly settled farms in 2000’s land reform program. Mr. Francis Murombedzi exposed that as a result of poor farming conditions in Chivi many

people relocated to newly settled farms commonly known as *mapurazi*. These farms include Lundi North, Lundi South, Final Extension, Woodlands, and Hippo Pools among others. The relocation of people improved their livelihoods because of the availability of good grazing pastures for livestock. People in ward 4 have so many relatives who relocated to these areas and for years they have been relying on them for peace jobs/maricho, firewood, mopane worms, as well as grains because their yields are much better comparing to Chivi. In addition some people in ward 4 relocated their cattle to these farms where their relatives are. This system is locally known as *kuronzera*. Their cattle are kept there for years to prevent their vulnerability to drought in Chivi as well as minimizing their deaths.

## Distress coping strategies

### ***Dropping children from school***

Out of 46 households who directly participated in the study, 8 of them had their children dropped from school and out of the 8 households two were child headed. These drop outs are as a result of drought so instead of investing the money in children's education parents rather find it wise to buy food and feed the family. One respondent suggested two that of her children dropped out of secondary school because the little money that she could earn from selling was better off used in buying food than in paying school fees. This is one of the distress coping strategies that the study found out. The village heads confirmed that parents who are very poor prioritize food than education of children and it is actually a desperate move they take in response to hunger.

### ***Stealing***

The councilor and village heads stated that due to high levels of drought in the area, people especially males have resorted to stealing. They rob people and steal livestock or anything that

can be sold. The situation was worsened by the fact that the local police post at Chigwikwi was closed.

## **A GENERAL ANALYSIS OF THE SUSTAINABILITY OF COPING STRATEGIES ADOPTED**

The study observed that many coping strategies that are adopted by people in dry lands are not sustainable because they are just done to put food on the table for that particular day. They are temporary measures applied on a permanent problem Chambers and Conway (1992) in Bennet (2010) has it that a livelihood is sustainable when it can recover from stress and shocks, maintain its capabilities and assets and also when it can provide sustainable livelihood opportunities for the next generation and which will therefore contributes net benefits to other livelihoods in the short and long term. It was the objective of the study to find out whether the coping strategies brings long term benefits. Respondents confirmed that the degree of drought in the area has forced people not to think about the far future but rather about what should be done for that particular moment. All the coping strategies discovered have nothing more but short term benefits. This is because Chivi and many other dry lands are very resource poor. For a coping strategy to be effective and sustainable, there is need for resources especially natural resources and other resources such as capital and investments. The coping strategies are too weak to produce sustainable outcomes. For instances, the vegetable gardens in the area are too small and there is no irrigation to help people do gardening at a larger scale.

When adopting coping strategies, people in dry land seek to achieve their basic needs first and in the context of Chivi the first and most important basic need that people seek to have is food. This

is the reason why they adopt poor coping strategies aimed at putting food on the table. One old woman stated that “*it is food that we really need, if we get it we will be ok*”. The village head of Tagwirei village postulated that;

*‘ from the early 2000s going backwards, people used to harvest food that could sustain them for up to eight months and beer brewing was one of the major income response strategy. People could only think about how to get income because food was available .Beer brewing has long been abandoned and hunger is hovering around the neck of almost every household ‘*

The other stumbling block to the sustainability of coping strategies in Chivi area is lack of diversity. Households lack the ability to diversify their coping strategies. For instance those who receive aid could only depend on aid for survival. They do not try other means in case that strategy fails. People in dry lands lack the capacity to diversify. This is because when they get money, all they think of is buying food. Sen (1984) in Bennet (2010) talks of capabilities as freedoms of individuals or households to choose pathways and participate in activities that increase their quality of life as well as the ability to feed oneself. Households in Chivi lacks the above freedoms to choose pathways and increase their quality of life. Without these freedoms, capabilities and diversity, coping strategies ceases to be sustainable.

In addition, Ellis and Allison (2004) suggests that diversification is a positive strategy for decreasing vulnerability, supporting asset building and decreasing poverty. Diversification decrease pressure on local natural resource. Therefore what makes the coping strategies unsustainable in many households in Chivi is lack of diversification of coping strategies. People

have a tendency of repeating the same strategy over and over again, they lack the drive to explore new and different things probably because they do not want to risk the little they have.

#### MAJOR CONSTRAINTS TO PEOPLE'S COPING CAPACITY

In trying to employ coping strategies, people in dry land areas face some challenges that compromise their ability to cope and this has a negative effect on the effectiveness of their coping strategies. The councilor of ward 4 stressed that some people in Chivi lack the knowledge of what is appropriate and relevant to their area as far as coping to drought is concerned. Year after year people buy seeds and plough their seeds but the crops die without even growing to knee level. They try to farm as if they are farming in normal ecological conditions, with normal rainfalls. It seems as if some people have not yet learnt some lessons from previous years or decades. The councilor went on to say that the type of maize is very poor and not appropriate for the region. So lack of knowledge has been and is the major constraint, every year people waste money and labor trying to do the impossible.

Apart from that the high degree of water scarcity makes it difficult for people to do gardening. Of course people have their gardens along rivers but however the water does not sustain these gardens throughout the year. Some people who have the gardens have stated that these gardens mostly operate from January to June and these are gardens along Nyarutedzi River. Those along Gohondo River only operate from January to April. Therefore in as much as people try to grow vegetables for relish and for selling, water scarcity makes it almost impossible because rivers dry up quickly. In addition scarcity of water hinders people from adopting on-farm coping strategies. In the past people were taught to plant drought resistant crops such as sorghum, rapoko, *mhunga* and cow pea (*nyemba*) as well as a farming method locally known as

*'dhigaudye'*. In recent years due to worsening climatic conditions these on-farm coping strategies have failed. This has made it impossible for people to reduce their vulnerability.

Lack of capital is another major constraint to people's coping capacity as indicated by the councilor of ward 4. He stated that there is no inflow of capital into the district as compared to other districts. Capital is necessary to achieve self-determined outcomes of coping strategies and reducing vulnerability to shocks and problems of seasonality. These capitals are mostly financial, social and political capitals. There are no sustainable projects that are done in the area only aid. Capital is needed to improve the coping capacity of the people.

### ***Conclusion***

People in dry lands of Chivi are to a larger extent vulnerable to drought. Crop cultivation have failed and many coping strategies that are adopted are non-farm strategies. These strategies are summarized as asset response strategies, consumption strategies, strategies for livestock and income strategies. The widely adopted strategies are income strategies which are aimed at establishing income security to a household in order to buy food. Livestock plays a greater role in the survival of the people in ward. However all of the coping strategies adopted have proved not be sustainable and in bringing long term benefits. The coping strategies in the area are mainly relief measures which are applied to temporary problems thus why they cease to be sustainable



## CHAPTER 5

### Summary, conclusions and Recommendations

#### **Introduction**

This chapter summarizes the major findings from the study and makes recommendations. The recommendations are on the major problems discovered by the study in the area of study. The problems to which the study is going to make some recommendations include the problem of water scarcity, recommendations on how people can improve their coping capacity and reduce their vulnerability, recommendations on concerned stakeholder

#### ***5.1 Summary of findings***

Drought remains a mammoth issue in Africa especially in dry land areas. People in dry land areas have tried to adopt coping strategies but it seems as if their high level of vulnerability to drought will never become history due to weak coping strategies they adopt. The objectives of the study were to establish the level of vulnerability of people in ward 4 ,to find out the different coping strategies adopted in the area ,to find out the major challenges to people's coping capacity and to assess the sustainability of the coping strategies adopted. In regards to the level of vulnerability of people studied, the study unearthed that people in dry lands are largely vulnerable to drought and they have experienced this vulnerability of decades. The indicators of drought vulnerability include death of livestock especially cattle, crop failure, dry rivers and dams, food insecurity and many other things discussed in chapter 4.

In a bid to reduce this vulnerability to drought, people adopt various coping strategies. These coping strategies are mainly non-farm coping strategies and to many families the coping strategies are solely non-farm strategies. When adopting coping strategies, people seek to achieve food security. Income responses are also done mainly to purchase food. Such coping strategies include small vegetable gardens, fishing (not in local dams), selling livestock, collecting wild fruits, selling/vending, remittances, reliance on aid, pastoralism, peace jobs /*maricho* among other strategies. Coping strategies in this area are largely not sustainable. Although the problem in the area is long term the strategies employed are just temporary measures to achieve immediate goals. The coping strategies in the area are too weak to produce long lasting results.

Livestock plays an important role in coping. A household that lacks livestock is more vulnerable as compared to a household with livestock although they are all vulnerable to recurrent droughts. Selling livestock especially goats is the widely adopted strategy in the area since many households own goats. However the selling of livestock may affect the ability of a household to cope in the future if all livestock are sold. The selling of livestock is complemented by other coping strategies mentioned above but however all the strategies adopted are done at very small scale and their effectiveness is questionable. Resources are the major constraint to people's coping capacity. Rainfall is too erratic so there is need for irrigation but there is lack of capital resources which are financial, social and political capitals. All these capitals are prerequisite for rural development and for sustainable rural livelihoods.

## Recommendations

- Since rainfall is too erratic in Chivi district, there is need to establish irrigation schemes in ward 4 at least two irrigations per ward. The irrigations will help in the establishment of food security and income security in the district through agriculture.
- The study has also noted problems of scarcity of water for domestic use and for livestock. People travel long distances up to 4km to a nearby water source especially if rivers have dried up. Therefore the study recommends on the establishment of solar powered boreholes and water pumps. This will reduce the scarcity of water in boreholes. Dams are no longer relevant in the area because of rainfall shortages but rather people should look for underground water
- NGOs should not only come with food aid in the area because the problem requires more than just food aid. In fact food aid have made people to be reluctant and dependent. NGOs should implement sustainable projects in the area such as income generating projects, projects for livestock among other projects. In the current development discourse, it is no only about intervention but about sustainable intervention. Projects should leave the beneficiaries better off than they were before and the beneficiaries should be able to continue without the NGO.

### *Conclusions*

Although drought is a mammoth issue in dry land areas, people always look for strategies to reduce its impacts. In Chivi drought has been experienced since people started to live in the area after the white colonial regime drove people to these reserves where agriculture is almost impossible especially crop cultivation. So for decades people have been living there and livestock has been the major livelihood source in the area . The coping strategies in the area are not sustainable in eradicating hunger and in delivering long term benefits. It was noted that the coping strategies adopted by the people studied are just temporary measures to put food on the table for that particular day. All the coping strategies adopted are done to ensure food security.

There are major challenges affecting the people's coping capacity and these include capitals, scarcity of water, lack of capacity to diversify, lack of knowledge on what is appropriate and relevant to the area among other challenges.

## REFERNCE LIST

- Barakat H.N (2004) Arid lands: Challenges and hopes; Earth System, History and Natural Variability, Volume 3, Department of Botray, Faculty of Science
- Bebbington A. (1999), Capitals and Capabilities: A Framework for Analyzing Peasant Viability , Rural Livelihood and Poverty; World Development, 27 (12)
- Bennet N. (2010) Sustainable Livelihoods from Theory to Practice: An Extended Annotated Bibliography for Prospective Application of Livelihoods Thinking in Protected Area Community Research of Protected Area and Poverty Reduction Alliance Working Paper Number 1, Victoria, Canada
- Brundtland Commission (1987) in Bennet N. (2010) Sustainable Livelihoods from Theory to Practice: An Extended Annotated Bibliography of Prospective Application of Livelihoods Thinking in Protected Area Community Research of Protected Area and Poverty Reduction Alliance Working Paper Number 1 , Victoria , Canada
- Campbell et al (2002)
- Carney D. (1998) ,Sustainable Rural Livelihoods: What Contribution Can We Make ? London; Department for International Development

Chambers R. and Conway G (1992) Sustainable Rural Livelihoods: Practical Concepts for the 21<sup>st</sup> Century. IDS Discussion Paper 296 Retrieved April 11, 2016 from <http://catalogue.nia.gov.au/Record/1913332>.

Dai A (2011) ,Drought Under Global Warming: A review; Wiley Interdisciplinary Reviews: Climate Change, 2

Danda (1999)

Dercon S. (2002), Income Risk, Coping Strategies and Safety Nets; World Institute of Development Economic Research, Discussion Paper Number 20002/22, United Nations University

DFID (2006) Reducing the Risk of Disasters, Helping to Achieve Sustainable Poverty Reduction In a Vulnerable World: (unpublished paper), A DFID Policy Paper.

Ellis F. (1998), Household Strategies and Rural Livelihood Diversification. Journal of Development Studies 33 (1)

Ellis F and Allison C (2004), Livelihood Diversification and Natural Resource Access; LSP Working Paper 9, Food and Agriculture Organization of the United Nations

Elliot et al (2000)

Eriksen S.H, Brown K and Kelly P.M (2005), The Dynamics of Vulnerability: Locating Coping Strategies in Kenya and Tanzania; The Geographical Journal Volume 171, Issue 4

FAO (2008) Livelihood Support Programme, Food Agriculture Organization of the United Nations, Retrieved March 13 2016, from <http://www.fao.org/es/esw/lsp>

FAO (1997) Socio-economic Impact of Small holder Irrigation Development in Zimbabwe Retrieved March 21 2016 from FAO Corporate Document Repository: <http://www.fao.org/docrep/x5594e00.htm>

Hart C (2001) Doing a Literature Search, London, SAGE Publications Limited

IFAD (2009) Drought Coping Mechanisms and Poverty, Insights from Rain-fed Rice Farming in Asia; Research Institute, Philippines

Jerie S and Matanga E. (2011), The Effectiveness of Ethno-Science Based Strategies in Drought Mitigation in Mberengwa District of South Zimbabwe, Journal Of Sustainable Development in Africa, Volume 13 Number 4

Kapal D, Bang S, Askin D and Allen B (2003), Drought Response: On-Farm Coping Strategies National Agriculture Research Institute (NARI)

Leedy P.D and Omrod J.E (2008) Practical Research: Planning and Design, 9<sup>th</sup> Edition; Upper

Saddle River, NJ, Merrill Prentice Hall

Mapfugautsi R and Munhande C (2013), Climate Risk and Small- holder Farmers in Zimbabwe:

A Case Study of Chivi District, International Journal of

Humanities and Social Science Invention Vol 2 Issue 5

Marian (1994) in Meze -Hauksen

Masendeke A (n.d) SARD Initiative Retrospective Study- Chivi Food Security Project,

Masvingo, Zimbabwe; A case Documentation of SARD Initiative

Implemented by ITGD

Masendeke S and Shoko K (2013), Drought Coping Strategies and Their Effectiveness: The Case

Of Ward12 in Mberengwa District Zimbabwe; International

Journal of Social Science Studies, Volume 2, Number 1

Meze-Hauksen E (2000) Mitigation Caused by Climate Change: How Vulnerable are People In

Dry land Areas, A Case Study of Ethiopia, Department of Geography,

University of Bergen, Norway

Munhande C, Mapfugautsi R and Mutanga P (2013), Climate Risk Management: Actors,

Strategies and Constraints for Small holder

Farmers in Zimbabwe; A Case of Chivi



District, Journal of Sustainable Development

In Africa Volume 15, Number 8

Ndlovu B (2011), Drought Coping Strategies at Mutasa District in Zimbabwe; Disaster

Management Training and Education Centre for Africa, University of

Free State

Nhemachena and Hassan (2007) in Munhande C, Mapfugautsi R and Mutanga P (2013), Climate Risk Management: Actors, Strategies and Constraints for Small holder Farmers in Zimbabwe; A Case of Chivi District, Journal of Sustainable Development In Africa Volume 15, Number 8

O'Leary (2004)

Patnaik I (2010) Distress Situation in Dry land Areas; Impacts on Livelihood Pattern and the

Coping Strategies: A Review

Relmer (2011) in Nondo (2014)

Scoones I (2009), Livelihoods Perspectives and Rural Development; Journal of Peasant Studies,

36(1)

Sen. A (1981) Poverty and Famines, An Essay on Entitlements and Deprivation; in

Zvikomborero M.E and Chigora P (2010), An Analysis of the Coping

Susman P, Okeefe P and Wisner B (1983) Global Disasters, a Radical Interpretation. In

Interpretations of Calamity from the Viewpoint of Human Ecology, in Meze-Hauksen E (2000)

Mitigation Caused by Climate Change: How Vulnerable are People In Dry land Areas, A Case Study of Ethiopia, Department of Geography, University of Bergen, Norway

Solomon S, Qin D , Manning M, Alley R.B, Berntsen T, Bindoff, N.L, Chen Z ,Hoskins B.J, Matsuno T and Wratt D (2007): Technical Summary In : Climate Change 2007 ; The Physical Science Basis. Contributing of Working Group1 to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change; Cambridge University Press, Cambridge UK, New York.

Somekh B and Lewin C (2011, 2<sup>nd</sup> Edition), Theory and Methods in Social Research; London,

SAGE Publications Limited

Stefanski R (n.d), World Meteorological Organization; Overview of Drought Preparedness and

Coping Strategies, Geneva

UNEP (1996), A Bulleting of a Word Events in the Control of Desertification, Restoration of

Degraded Lands and Reforestation, 29

UNEP (2002), Africa Environment Outlook, Past, Present and Future Perspectives, Earth Print

Limited, UK

Valdies E.D (1981), Food Security for LDCs, A Westview special study, Westview Press,

London

Wisher et al (2004) in Ndlovu (2011)

World Development Journal Number 26, January 1993; Pergaman Press , Uk

ZimVAC (2010) Zimbabwe Livelihoods Zone Profile; ZimVAC

Zvikomborero M.E and Chigora P (2010)

Zimkund (2003) to

[www.agriskmanagmentforum.org](http://www.agriskmanagmentforum.org)

## QUESTIONNAIRE

My name is Angeline Hofisi, an undergraduate student within the Department of Development Studies at Midlands State University. As part of the study programme, students are expected to engage in a field research and produce a dissertation covering their areas of interests. Therefore I am conducting a study on the sustainability of coping strategies adopted by people living in dry land areas of Chivi North ward 4 and 5.

I guarantee that the information gathered in this exercise will be strictly for academic use only and the confidentiality of respondents will be respected. I would like to request for your participation in this exercise. You are free to decide not to answer any questions that seem uncomfortable or to pull out of the interview if you wish to.

Thank you in advance.

### **Household profile**

- 1 Who is the head of the household?
- 2 What is the employment status of the household head?
- 3 How many are you in this household? Indicate the number of children and adults.

### **Asset ownership**

4 How many of the following livestock species do you own?

Cattle	Goats	donkeys	Poultry	sheep	other	

5 Do you have the following assets?

Wheelbarrow	Scotch-cart	plough		

Other (please specify)

**Drought vulnerability**

6 What is your source of water for domestic use, is it always available throughout the year and how accessible is it in terms of proximity?

7 What is the source of water for your livestock, is it always available throughout the year and how accessible is it in terms of proximity?

8 In your own words how do you define drought?

9 Do you think you are vulnerable to droughts and to what extent?

10 How do you define someone who is vulnerable to drought?

11 What are the indicators of drought vulnerability in this household?

12 How long have you been experiencing drought?

### **Coping strategies**

13 Do you adopt on-farm coping strategies?

If yes what are your on-farm coping strategies?

If not give reasons why you do not?

14 Do you have non-farm coping strategies?

If yes what are they?

If not give reasons why you do not

15 Do you receive any remittances?

16 Do you receive any aid? If yes who gives you that aid and quantify the aid

17 Is aid effective to address the impacts or effects of drought?

### **Sustainability of coping strategies**

18 How do you define sustainability in relation to coping strategies?

19 Are your on-farm coping strategies sustainable? Give reasons to your answer.

20 Are your non-farm coping strategies sustainable? Give reasons to your answer.

### **Constraints to coping capacity**

21 What problems or hardships do you face in trying to adopt on-farm coping strategies?

22 What challenges do you face in adopting non-farm coping strategies?

23 What are some of the solutions do you think can improve you coping capacity and reduce your vulnerability to drought.

Interview guide for key informants

1 What is the state of livestock ownership in this area?

2 How do you define drought in the context of Chivi?

3 To what extent are you vulnerable to drought and what are indicators of drought vulnerability in this area?

4 Do people adopt on-farm coping strategies and what are they. If not give reasons

5 What are the coping strategies in the area?

6 How many people receive aid in the villages under study and comment on the effectiveness of aid to address the impacts of drought in households?

7 How would you define sustainable coping strategies in the context of Chivi? And comment on the sustainability of coping strategies adopted in the area.

8 What are the major constraints to the coping capacity of people in this area?