



**CASH TRANSFERS FOR INCREASING RESILIENCE OF
SMALLHOLDER FARMERS AGAINST DROUGHT:
A case study of rainfed agriculture in Shangombo District of Zambia's
Western Province.**

Thesis report submitted to the Van Hall Larenstein University of Applied Sciences of the requirements for the Masters of Science in Management of Development with Disaster Risk Management specialisation.

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DEDICATION

I am eternally grateful to my family and friends for giving me all the support I needed to successfully finish this thesis report. I can never thank you enough!

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ACRONYMS

COVID19- Novel Corona Virus

DMMU- Disaster Management Mitigation Unit of Zambia

GRZ- Government of the Republic of Zambia

IPC- Integrated Food Security Phase Classification

IPCC- Intergovernmental Panel on Climate Change

NDP- National Development Plan

UNDRR-United Nations Disaster Risk Reduction

UNOCHA- United Nations Office of the Coordination of Humanitarian Affairs

V2R -Vulnerability to Resilience framework

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ABSTRACT

This study explored the use of cash transfers for increasing resilience of smallholder farmers against drought. Smallholder farmers who are dependent on rainfed agriculture productivity in Shangombo District, Western Province, Zambia. Their main livelihood portfolio is from the maize crop which they mainly use for home food and sell surplus. Wilting of maize due to prolonged dry spells and repeat drought cycles cause high risks of food insecurity and income loss. And leads disruption or loss of livelihood assets among rainfed smallholder farmers in the study area. Hence the government and NGO's have been providing cash transfers to the drought affected smallholder farmers to increase their coping capacity and or reduce their vulnerability.

The study consisted of both the desk review which involved using secondary data sources and field survey which relied on primary data sources. Primary data was collected between July and August 2021. Explorative mixed methods research that used both qualitative and quantitative research techniques to analyse the data. Semi-guided interview guides to gather information from smallholder farmers and KI's. The research respondents were selected based on the non-random purposive sampling procedure. Data was presented and analysed using themes, Likert scale, SPSS version 27 to generate pie charts, tables, and histograms.

Findings indicate that social protection can be part of a proactive approach to managing drought induced vulnerability among smallholder famers. In particular, cash transfer programmes offer solutions to addressing food security and income of smallholder farmers. The paper helps close research gaps regarding the important roles cash transfer for addressing drought resilience among reliant smallholder famers.

Frameworks used in this study were the Pressure and Release Model (only pressure model used), 4 boxes stakeholders' matrix, VCA Matrix AND the modified V2R framework. Based on the findings, recommendations were presented to the problem owner at the end of the study about enhanced use of cash transfers for increasing drought resilience among smallholder farmers.

1.0 CHAPTER ONE

1.1 INTRODUCTION

This Chapter discusses the background of the study, problem statement and the study's significance. The study focuses on the use of Cash transfer Schemes to increase resilience against drought. The study was conducted in Shangombo District of Western Province, Zambia (Map1). The area of study is a rural district that has been experiencing repeated annual drought in the last 5 years (DMMU, 2021). Most of the population are smallholder farmers who depend on rainfed agriculture productivity. This population is highly vulnerable to stresses and shocks of drought resulting from loss of income and increased food insecurity (GRZ, 2021).

This study's commissioner and problem owner are the Disaster Management and Mitigation Unit (DMMU). The DMMU used findings of the study to formulate and implement collaborative cash transfer schemes for drought interventions. That are aimed at increasing resilience of smallholder farmers during and after drought.

1.2 BACKGROUND OF THE STUDY

In Zambia, most humanitarian aid has been driven by a top-down approach, where the government and organisations decide the most suitable intervention to increase resilient of smallholder farmers affected by natural hazards such as droughts (Matenga, & Hichaambwa, 2017; Lay, et al, 2018). The UNOCHA (2021) shows that Zambia has been experiencing 4 main categories of drought namely, meteorological (Climatological); hydrological drought (surface & ground water); agricultural drought (soil moisture); and socio-economic drought (human factors) (Agula et al, 2018; (UNOCHA, 2019). Drought disrupts livelihoods of small-holder farmers, endanger human life and food security, and hence requires interventions like cash transfers to increase their adaptive capacity. And the IPC, (2021) observed that 2.3 million Zambians were severe food insecure due to agriculture crop yield failure because of drought, this occurred in March 2020 (IPC 3 or above), which translates to 24% of the total population.

Chali, (2020) noted that the Zambian government and other humanitarian non-governmental organisations have been implementing an unconditional and conditional Social Cash Transfer (SCT) schemes for two decades. Ghorpade, et al (2021) stresses that since then government-run both conditional and non-conditional cash transfer scheme that are designed to alleviate acute poverty. Indirectly or directly leads to increasing resilience of smallholder farmers during and after drought. While strengthening smallholder farmers' resilience to drought, the consequences of the current Corona virus (COVID19) are worsening their adaptive capacity (Paul et al, 2021). Vulnerabilities such as food insecurity, lessens smallholder farmers' already unstable capacity to cope through drought shocks hence the need for cash transfer (Bowen, et al 2020).

1.2.1 STUDY COMMISSIONER

The Disaster Management and Mitigation Unit (DMMU) was established in 1994 as a government agency under the Office of the Vice President. The DMMU who are the commissioner and problem owner of this study are a specific government agency that delivers a safety net for the protection of citizens, assets, and the environment from disasters through a proactive, community-based, and multi-sectoral strategy that integrates disaster risk management into national development (DMMU, 2021).

Furthermore, the DMMU formulates and implements collaborative cash transfer schemes for drought resilience interventions with relevant stakeholders. The DMMU facilitates overall implementation and coordination of all disaster management activities and programmes in Zambia. DMMU is made up of two directorates; Disaster Risk Management and Operations. The Unit is headed by the National Coordinator, 3 Directors, 4 Assistant Directors and a number of officers under them. The Department is represented in all the 10 provincial headquarters and facilitated by the Regional Coordinator. DMMU is coordinated through the National Disaster Management Council of Ministers, Disaster Management Technical Committee of Permanent Secretaries and appropriate broad-based committees at Provincial, District and Ward levels.

The DMMU has been increasing resilience of people against climatic hazards such as floods and droughts since their establishment in the last two decades. Hence their aim for this study was to investigate the *use of cash transfers to mitigate the disruptive and destructive effects of drought hazards to increasing the adaptive capacity of vulnerable rain dependant smallholder farmers.*

1.3 PROBLEM STATEMENT

Repeated cycles of drought are predicted to increase the risks and uncertainties of rain fed agriculture productivity. Rain dependant smallholder farmers face climate risks that affect their food security needs and capacity to secure their livelihoods. Cash transfers for drought resilience is considered as one of the social protection schemes used for integrated disaster risk management. Cash transfers help build the resilience of farmers to shocks and stresses of drought (UNDRR, 2021: GRZ, 2021). Overtime, drought relief food assistance to cushion the food insecurity caused by drought has proven to be helpful emergency response. But not befitting the disaster management cycle hence smallholder farmers of Shangombo remain vulnerable to drought (Bowen et al, 2020).

The GRZ (2021), classified smallholder farmers to own at least 5 ha covering over 90% of the Country's farm households and over 70% of the total cropped area. Characterized by manual labor, few external inputs; no artificial irrigation system; highly reliant on rainfed cultivation (Del Ninno, et al 2021). In this category has a high number of female farmers and 3 quarters of the farm produce are consumed by their households while the other quarter is sold (Lay, et al, 2018).

The impact of drought on smallholder farmers of Shangombo is severe because most of the population's livelihood options are homogeneous. Consumption patterns are highly dependent on maize, its production and availability negatively affect household food security, since maize production has been declining due to repeated annual droughts (As et al, 2017). Food availability is highly seasonal and very limited during the hunger season, which lasts from August or September to January, as food stored from the previous growing season from November to April becomes exhausted (DMMU, 2021). Food insecurity and lack of income are particularly intense during and after drought (Chali, 2020).

1.4.0 Objectives

1.4.1 General objective

In view of the above problem, the study's main objective is to increase the resilience of smallholder farmers against drought hazards, through the effective use of cash transfers in their drought coping strategies.

1.4.2 Specific objectives

1. To identify smallholder farmer's coping mechanisms during and after droughts experiencing drought
2. To explore the effect of cash transfers on smallholder farmers increased adaptive capacity and or reduced vulnerability during and after drought.
3. To determine the programmes put in place by both national and local government for increasing resilience of smallholder farmers during and after drought.
4. To analyse the projects and programmes implemented by non-governmental organisations to increase the resilience of smallholder farmers against drought.
5. To develop recommendations that can be used to deliver effective cash transfers aimed to increase resilience among drought prone smallholder farmers.

1.4.3 Main Research Question

1. What are the experiences of smallholder farmers in Shangombo District towards the use of social cash transfer schemes to increase their resilience during and after droughts?

1.4.4 Sub-Research Questions

1. What are the smallholder farmer's coping mechanisms during and after droughts experiencing drought?
2. What extent do cash transfers increase smallholder farmers' capacity to adapt and reduce vulnerability during and after drought?
3. What are the programmes put in place by both national and local government for increasing resilience of smallholder farmers against drought?
4. What are the projects and programmes implemented by non-governmental organizations to increase the resilience of smallholder farmers against drought?

1.5 SCOPE OF THE STUDY

This study was conducted in Shangombo District of Western Province. The district is one of the drought prone districts in Zambia. The study used a modified V2R framework to examine how smallholder farmers use Cash Transfer Schemes to increase resilience during and after drought. The focus was on rain dependent yet drought prone smallholder farmers. Public health standards to COVID19 were followed to obtain reliable information from respondents. The researcher remotely engaged and trained 2 enumerators to obtain data from the respondents in the field. And used alternative mediums of data collection such as online interviews via Zoom for meetings or google forms questionnaire. Whatsapp messenger played an important role in obtaining quick real time data from the field. Participants of the research are smallholder farmers who access unconditional cash transfers from the government and other non-governmental organisations.

2.0 CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The previous chapter has shown the introductory background of this study. This chapter focuses on the literature review about the significance of understanding the context of small holder farmers' use of cash transfers to increase resilience to drought. Unravelling resilience, social protection for disaster risk management are presented before diving into the spatial scales of the literature emphasizing on the global: developing countries, Zambian and Shangombo context respectively. The chapter entails, literature overview and conceptualization.

2.1.2 Social protection for disaster risk management

Currently, policymakers have increasingly recognised that building resilience of smallholder farmers in developing countries demands strong and effective social protection schemes. Countries adhering to the Sendai Framework for Disaster Risk Reduction 2015-2030 and the United Nations Convention to Combat Desertification, in particular, have pledged to enhance social protection systems for disaster risk management.

The World Bank implemented a programme called "Social Protection Programs for Africa's Drylands." A case study of adaptive social protection systems, which include a variety of policies and programmes aimed at assisting poor and vulnerable households in mitigating the effects of climate change, particularly drought. As a result, household and community resilience were increase through access to income-generating interventions. This was done in Sahel region and the Horn of Africa that provide the closest example of how social protection programmes are used to build household resilience (World Bank, 2017).

In Zambia cash transfers are not new (ILO 2021), a social protection scheme was implemented by the Government to distribute the COVID-19 Emergency Cash Transfer (ECT) programme to support vulnerable households across 22 districts (UNDP 2021). GRZ (2021), states that additional support was provided to households that are already identified as vulnerable and therefore enrolled on the Social Cash Transfer (SCT) programme and by supporting additional households who are vulnerable because of the effects of COVID-19. UNICEF (2021) added that a household received about K400 (18.18 Euros) per month for six months through bi-monthly payments of K800 or tri-monthly payments of K1200 (54.55 Euros) or a one-off payment of K2400 (109.10 Euros).

Based on limited conceptual arguments and empirical literature on cash transfers for increasing resilience of smallholder farmers, this paper explored the roles cash transfers play to reduce vulnerability and increase capacity of smallholder farmers during and drought.

2.2 CASH TRANSFERS FOR DROUGHT RESILIENCE

Ghorpade, et al 2021 and Bowen, et al 2020, agreed that cash transfers are very important type of drought resilience interventions because they are cost-effective and increase the

capacities of smallholder farmers to cope with drought. Literature for this research depicted examples from randomly selected developing countries and Zambian contexts based on high frequency of droughts and low levels of resilience against drought.

2.2.1 GLOBAL CONTEXT; THE DEVELOPING COUNTRIES

In many developing countries, there is an emerging debate about cash transfers on whether aid should be delivered to individuals directly in terms of cash instead of in-kind food vouchers and aid (Holzmann and Jorgensen, 1999; Paul et al, 2021). Chali (2020) stated that cash payments made directly to poor and vulnerable households assist smallholder farmers to enhance food security raise (Porter & Goyal, 2017) and balance their income and livelihood portfolios during and after drought (Porter et al, 2016).

Repeated drought destroys financial, physical, social, human, and natural livelihood assets of rain dependant smallholder farmers (Gumiran et al., 2019; IPC, 2021). Drought also triggers acute poverty (Paul et al, 2021) and increases vulnerability of smallholder farmers (Kamara et al, 2018; Rigaud et al, 2018) through loss of income and food insecurity (Hallwright and Handmer, 2021; Acosta, 2017; Bowen et al, 2020). Hjelm et al, (2017) stated that the past 3 decades disaster relief interventions such as food aid and fodder are important but costly. Although they have dominated the humanitarian aid to meet the immediate needs of drought affected smallholder farmers (Kamara et al., 2018; Tesliuc et al, 2013; WFP, 2011). Unlike emergency relief, cash transfers increase smallholder farmers' drought coping mechanisms at any phase of the disaster management cycle (Walsh-Dilley and Wolford, 2015). In the recent past, there has been increased application of resilience to curb drought through increasing adaptive capacities of smallholder farmers (Kampamba, 2019; Chali, 2020).

Bowen et al., (2020); stated integrated risk management where cash transfer schemes management were used as an effective intervention to mitigate severe droughts and increase resilience of vulnerable communities pre, amid, and post occurrence of disasters in Asia (Jane et al, 2021; Kamara et al, 2018; Hallwright & Handmer, 2021). The successful use of cash transfers as a drought resilience strategy in the Asian context provides good basis of argument for this study. In Africa, governments and the international development sector have been committed to implementing cash transfer schemes to mitigate droughts. Porter & Goyal (2017) evaluated the influence on child nutritional outcomes of a large-scale cash transfer scheme, the Productive Safety Net Program (PSNP) in Ethiopia. The findings of the research are that children in cash-transfer households experienced improved nutrition. The cash transfer highlighted positive effects in cushioning and maintain the consumption levels of vulnerable households in during and after extreme drought (Acosta et al., 2017).

Stoeffler, et al (2019) investigated whether financial transfers assist families offset the welfare consequences of climate shocks in Niger. The findings were that households that received cash transfers were more resilience to drought as observed from the significance of savings, asset accumulation, and income stability in agricultural and off-farm livelihood activities (Acosta, 2017; Bowen et al, 2020). Porter et al, (2016) and Arnold, et al (2011), notes that cash

transfers are important schemes integrated in disaster risk management to reduce the vulnerabilities of smallholder farmers to cope and recover stresses and shocks of drought (Tesliuc et al, 2013: WFP, 2011).

Chali, (2020) traces as far back as 2006, when government ministers and senior officials of various multistakeholder institutions from various African countries and international donor community, convened in Zambia to discuss the case for enhancing Cash transfer in Africa. Discussed were pensions, microfinance, cash transfers, labour legislation, and so forth (Paul et al, 2021: WFP, 2011).

2.2.2 THE ZAMBIAN CONTEXT

Droughts and floods have cost Zambia more than US\$13.8 billion in disaster losses in the last 3 decades, amounting to a 0.4 percent reduction in yearly economic prosperity (Chali, 2020). Diseases and fatalities caused by COVID19, and macroeconomic disruption are seen as some of the key drivers of severe vulnerability and poverty (Paul et al, 2021). This problem has been caused more by climate risks, which are predicted to increase the repeated droughts (Gumiran et al., 2019: Kampamba, 2019) in Shangombo district and many other parts of Zambia.

Droughts are increasing affecting the food security and levels of malnutrition in Zambia (GRZ, 2021). Maize production is very prominent as it accounts for over 90% of the staple food in Zambia. Smallholder farmers are more vulnerable to drought because of dependability on rainfed production of agriculture crops (As et al, 2017). The Zambian government and other humanitarian agencies have been implementing both conditional and unconditional cash transfer schemes. Paul et al, (2021) observed a reduction in the levels of poverty on households receiving social cash transfer program as COVID19 response in Zambia. Their findings imply that a fully operating social cash transfer programme with the present and planned increased transfer levels could considerably alleviate poverty and reduce vulnerability. Currently, the government is using cash transfer to address the impact of both COVID-19 on the poor and vulnerable (DMMU, 2021). Zambia is already using cash transfer schemes to help reduce the poverty levels (Hjelm et al, 2017) among the poor and vulnerable households (Chali, 2020).

Arnold et al., (2011) indicates that poverty is a chronic stressor that can lead to poor physical and mental health. Findings illustrated that cash transfers are a public policy tool where strong and ongoing involvement may contribute positively to a variety of government and donor efforts (Paul et al, 2021: Chali, 2020) particularly in health, education, nutrition, food security and livelihoods. Hjelm, et al., (2017) examined whether government cash transfer programs reduced the levels of perceived stress and poverty among poor households in Zambia. They also observed that cash transfers decrease poverty and vulnerability and have

the capability to improve directly or indirectly to resilience, especially among drought affected smallholder farmers (Kampamba, 2019).

The Zambian government's position on integrated disaster risk management is stated in the 7th National Development Plan (7NDP) from 2017 to 2021; the government would build nationally suitable cash transfer schemes to ensure considerable coverage of the poor and vulnerable by building their resilience against climatic hazards (DMMU, 2021). The 7NDP, and various local policies, programmes and international agreements are in line with the Sendai Framework goal of substantially reducing disaster risk (UNOCHA, 2019).

Tesliuc et al. (2013) proposed for a comprehensive National Safety Net Program that includes cash transfers and public works to serve the lowest 20% of the population. The Zambian government's cash transfers have accepted 994, 000 households' country wide captured under social cash transfer schemes and are now part of the 2021. Government's medium-term spending framework annual cost is expected to be around \$100 million to service less than 2% of government expenditures (GRZ, 2021).

The department of social welfare has been delivering social cash transfer to households living in extreme poverty in Zambia. Households with chronically ill, physically challenged (blind, lame) chronically ill under palliative care k600 (55) then the vulnerable, single parent, child headed gets k300 (\$27) bi-monthly. Runs for lifetime for the physically impaired, lifetime for the chronically ill and for those that were selected because of looking after their children, once their last child reaches the age of 18, they stop considering them.

2.2.3 SHANGOMBO CONTEXT

Based on the IPC (2021) reported Shangombo District to have 6,073 people of the total population being food insecure. This entails falling under IPC Phase 4 food insecure between July and September 2020 as result of drought. The projected number of people to fall under IPC Phase 4 increased during the lean season to 9,274 for October 2020 to March 2021. The IPC also projected Shangombo to expect 6,355 people to be food insecure from May to September 2019 and an increase during the lean season to 13, 070 people between October 2019 and March 2020. Respectively, the figures projected account for over 10% of the total population who are vulnerable to during and after drought (GRZ, 2021; DMMU, 2021). The figures used are for when the district was one of the most severely drought hit and vulnerable districts in Zambia.

Government-run unconditional cash transfers, paid predictably every two months, are shown to have wide- ranging effects on ultra-poor households in rural Zambia. They significantly raise consumption and increase food security, children's schooling and material well-being, while at the same time strengthening economic capacity and asset ownership (Natali et al., 2018).

The concepts of this study were guided by the modified V2R framework below.

2.3 CONCEPTUALISATION

The Vulnerability to Resilience (V2R) framework which incorporates several frameworks were used to make a modified V2R to conceptualize this study. The V2R includes the sustainable livelihoods framework, disaster management cycle and climate change adaptation, into one integrated framework (Pasteur, 2011). DFID (2014) also defines resilience as the 'ability to anticipate, avoid, plan for, cope with, recover from and adapt to (climate related) shocks and stresses. The modified V2R cover the sub-research questions by focusing on the main research question: Main Research Question: "What are the experiences of smallholder farmers in Shangombo District towards the use of social cash transfer schemes to increase their resilience during and after droughts?"

The arrows show that despite the stresses and hazards of drought faced by smallholder farmers. Institutions such as the government and nongovernmental organisations implement cash transfers for increasing drought coping capacity through promoting governance and livelihoods which of smallholder farmers. In medium and long-term use of cash transfers address future uncertainties. As a result, cash transfers lead to achieving resilience outcomes for rain dependant smallholder farmers going by the arrows, in the short-term and medium-term, cash transfers address the hazards & stresses, livelihoods, governance, and while the long-term addresses future uncertainties which leads to resilience of smallholder farmers against drought.

The modified V2R conceptual framework, as depicted by the arrows in figure 1, demonstrates how institutions implement cash transfers leading to smallholder farmers' resilience against drought. The conceptual definitions in 1.6 provide guidance to understanding the modified V2R Below.

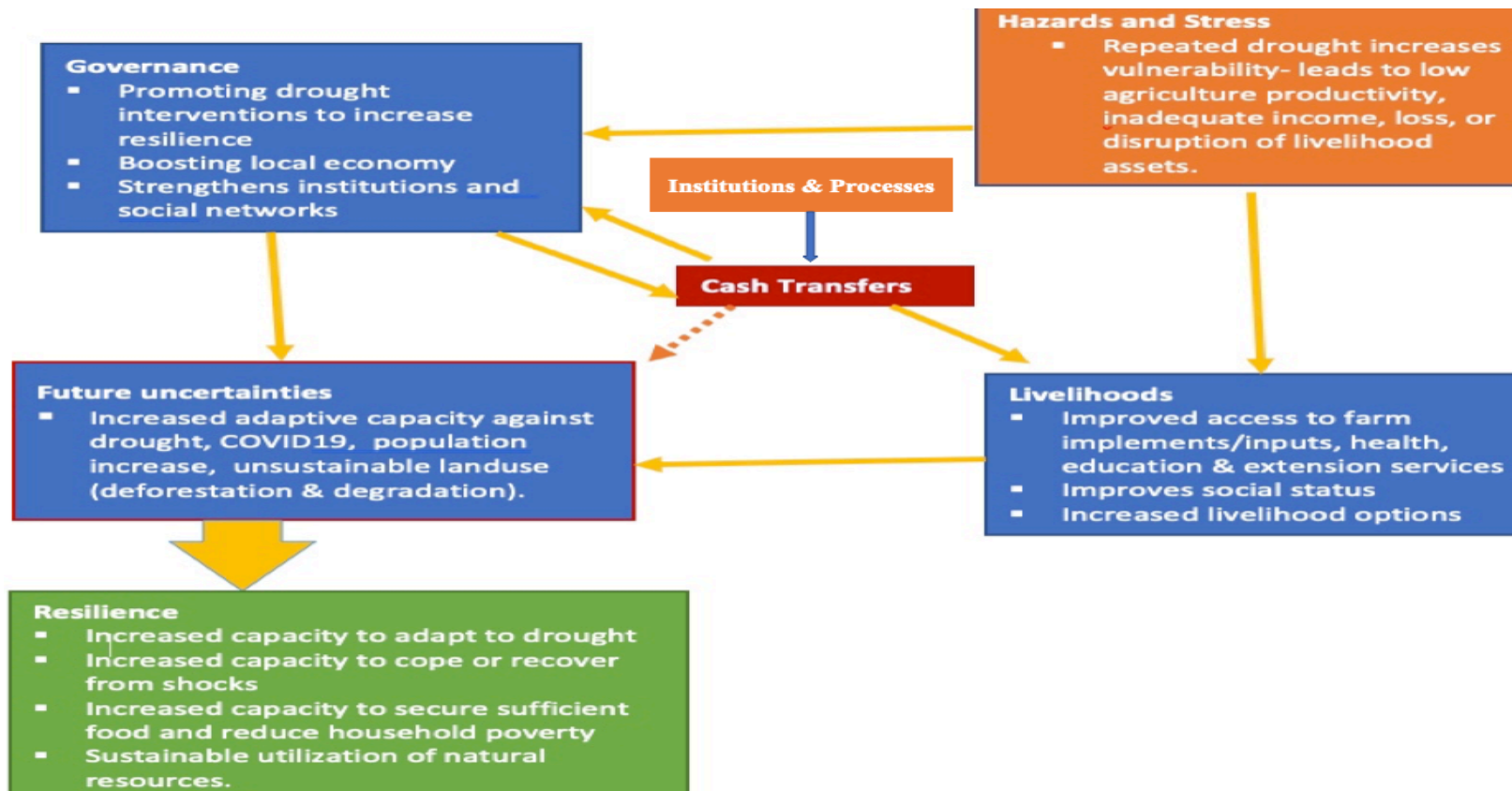


Figure 1: Modified Vulnerability to Resilience (V2R) Framework from Pasteur, (2011).

In this study cash transfer schemes are used as drought resilience interventions especially during and after drought. Figure 1 is the modified V2R framework aimed to help in guiding this study.

2.1.1 Unravelling Resilience

Resilience has different definitions depending on place, time, sector, and scale. However, to increase resilience of smallholder farmers against drought, international humanitarian organisations such as the Oxfam and the World Bank and many others including the academic world, views resilience with three lenses of resilience: adaptive, absorptive, and transformative capacity (Pasteur, 2011: World Bank, 2017). The three capacities are interconnected by enhancing individual, household, community, district, national, and social-ecological systems (Oxfam 2020). For instance, humanitarian action that uses cash transfers for drought resilience is likely to be enhancing the absorptive, adaptive, and transformative capacities of smallholder farmers. The 3 key resilience capacities guide this study's conceptualization.

Absorptive capacity refers to the ability to take deliberate proactive actions and cope with recognised shocks and stress. It is required because shocks and stress will continue to occur, such as as a result of severe drought induced by climate change. The goal of absorption capacity is to provide stability by preventing or limiting the negative impact of shocks on people, households, communities, livelihoods, and institutions (DFID, 2021).

The ability to make continual incremental changes through a process of constant adaptation, learning, and innovation is referred to as adaptive capacity. Accepting that change is unavoidable and often unexpected is an essential component of adaptive capacity (World Bank, 2017).

Transformative capacity is the ability to make intentional changes to prevent or reduce the causes of risk, vulnerability, poverty, and inequality, as well as to ensure a more equitable distribution of risk so that it is not unfairly incurred by people living in poverty or experiencing discrimination or marginalisation (UNICEF 2021).

2.1.2. DEFINITION OF TERMINOLOGIES

This research used some of the relevant terminologies of which it is vital to understand resilience capacities and research conceptualisation. There are different definitions from different scholars, but the definitions given below are suitable for the case of smallholder farmers in Shangombo.

Climate change is the change in the mean or the variability of the climates' properties and that persists for over a decade (IPCC, 2019)

Climate risk management is an integrated risk management approach combining climate change adaptation, sustainable development, and disaster risk management, an approach aimed at creating lasting solutions against disasters for individuals, households, communities, multi stakeholders, and the society (UNOCHA, 2019).

Coping capacity is the ability of people, organizations, and systems, using available skills and resources, to manage adverse conditions, risk, or disasters. The capacity to cope requires continuing awareness, resources, and good governance, before, during and after disasters. Coping capacities contribute to the reduction of disaster risks (UNDRR. 2021).

Disaster risk management is the use of disaster risk reduction policies and techniques to prevent new disaster risk, decrease current hazards, and manage risk exposure, hence increasing resilience building and reducing disaster losses (UNOCHA, 2019)

Drought is when below normal rainfall leads to prolonged dry spells causing damage to crops, drying up of water bodies and grazing grounds (Premand et al, 2020). Drought has four major categories: meteorological related to precipitation, agricultural linked to soil moisture, hydrological related above and below water and socioeconomic drought which is the effect of two or all drought types on community (IPCC, 2019).

Integrated climate risk management involves climate change adaptation, disaster risk management and social protection policies and interventions, as well as social safety nets for disaster coping and income redistribution measures such as social cash transfers (Hjelm, et al 2017).

Social protection also known as Social Security and or Social Safety Nets, refers to the various governmental and non - governmental interventions that aim to help households avoid experiencing vulnerability or poverty, respond to risks of moderate vulnerability or poverty, or cope with extreme vulnerability or poverty (Ghorpade et al, 2021). Cash transfers are non-contributory social protection schemes aimed at reducing acute poverty among vulnerable households (Holzmann and Jorgensen, 1999).

Unconditional cash transfers provide recipients more freedom to spend the money to meet their own priorities, but they carry the risk that the resources will be utilised for immediate consumption rather than being invested in ways that would allow recipients to enhance their livelihoods in the future (Ghorpade et al 2021).

Conditional cash transfers are aimed to address this issue by allowing beneficiaries to engage in activities that are likely to give long-term benefits (Premand & Stoeffler, 2014).

Resilience is defined as a household, community, or country's ability to predict, adapt to, and recover from the impacts of shocks to avoid or minimize vulnerability, safeguard assets, aid recovery, and support ecological, economic, and social growth (UNDRR. 2021)

Vulnerability is regarded as the likelihood of being harmed by unforeseeable occurrences or sensitivity to external shocks, and it broadens the traditional definition of poverty. The likelihood of being damaged by a shock is determined by a person's resilience to that shock (Pasteur, 2011).

3.0 CHAPTER THREE: DESCRIPTION OF THE STUDY AREA

3.1 Introduction

Chapter one dealt with the introductory background of the study. Chapter two presented literature review on the use of cash transfer schemes as a drought resilient intervention for small holder farmers on a global context and local scale. This chapter of the report gives a description of the study area in terms of geographical location, physical and social economic characteristics. The chapter further shows the ecological and climate features with an aid of Map1.

3.2. Area Description

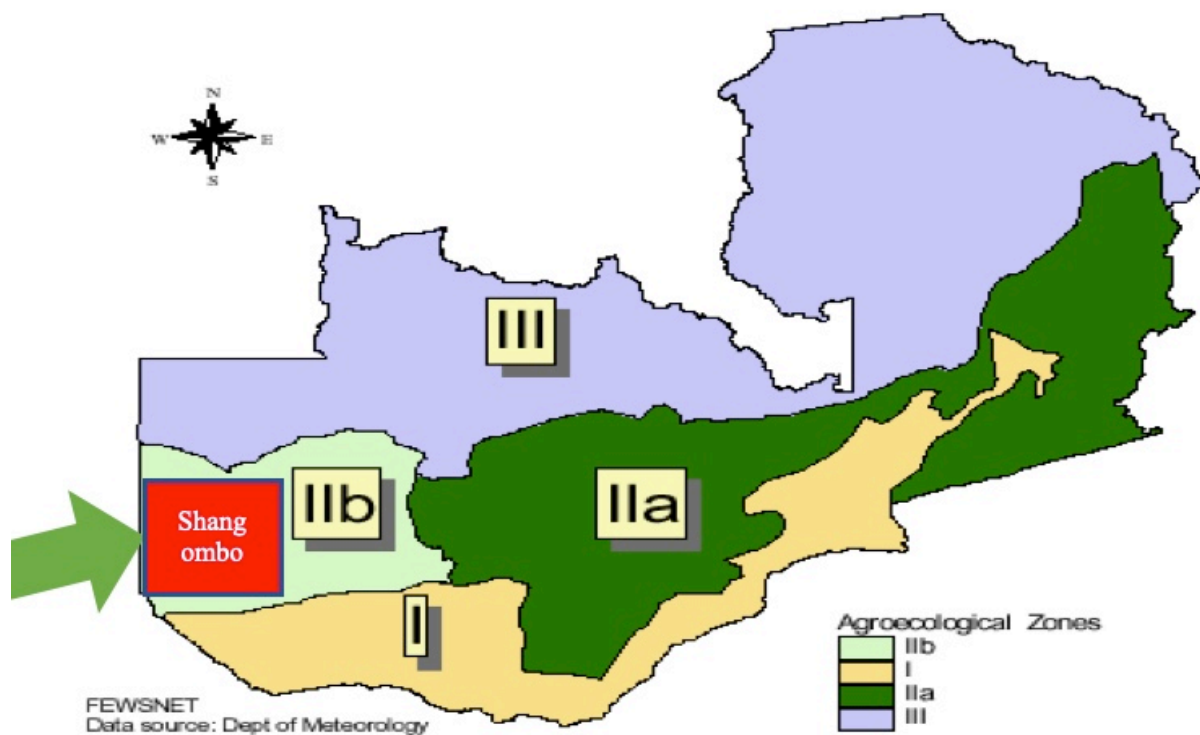
Shangombo is one of 16 districts in Zambia's Western Province. Being a rural district in the province's western region shares borders with three other districts: Sikongo in the north, Senanga in the east, and Sioma in the south. Shangombo also has a western international border with Angola.

Shangombo being a rural and remote district had a population of slightly over 84,000 and land area of 14,369 km² until the year 2012 when it split into two districts giving birth to Sioma District. Since then, the two Districts do not have distinct generic maps due to the ongoing boundary demarcation disputes. GRZ (2021) estimates the land area coverage of Shangombo District to be half from the initial with a population of approximately 42,000, divided into 20,000 males and 22,000 females distributed over 10,000 household. The current land use trend is dominated by traditional land tenure systems, with rain fed agriculture as the primary livelihood activity of smallholder farmers (Matenga, & Hichaambwa, 2017)

Apart from the district lacking integrated drought risk interventions like inclusive cash transfers, other vulnerabilities for smallholder farmers are caused by lack of rural financing initiatives, capacity building, value chains and access to markets, and inadequate infrastructure (Chali, 2020). And the consequences COVID19 on the already increasing of drought vulnerabilities (Paul et al, 2021).

3.2.1. Climate

Zambia is divided into three agro-ecological regions, referred to as Regions I, II, and III in the 2004-2015 National Agriculture Policy. Region II is subdivided into Regions IIa and IIb. Rainfall and the quality of soils differ across the regions. The majority of Western Province is in Region IIb, but the southern part of the province is covered by Region I. Region I receives less than 800mm of rainfall annually and is therefore suitable for drought resistant and irrigated crops, small grains, and livestock rearing. Shangombo District is classified under Region IIb as part of Western Province, which receives 800 to 1000mm of annual rainfall and consists of sandy soils. Sandy soils are drought risk to rain dependent smallholder farmers because of low soil water holding capacity during dry spells.



Map 1: Agro-ecological regions of Zambia. Source: (GRZ, 2021)

3.2.2 Governance Structures

Shangombo has three levels of government: the Central Government, the Local Authority, and the Traditional Authority. Civil society presence with a few non-governmental organisations (GRZ, 2021; DMMU, 2021). The four Boxes stakeholder matrix was used to ascertain the Key Informants for this study based on the High Power and High Interest category.

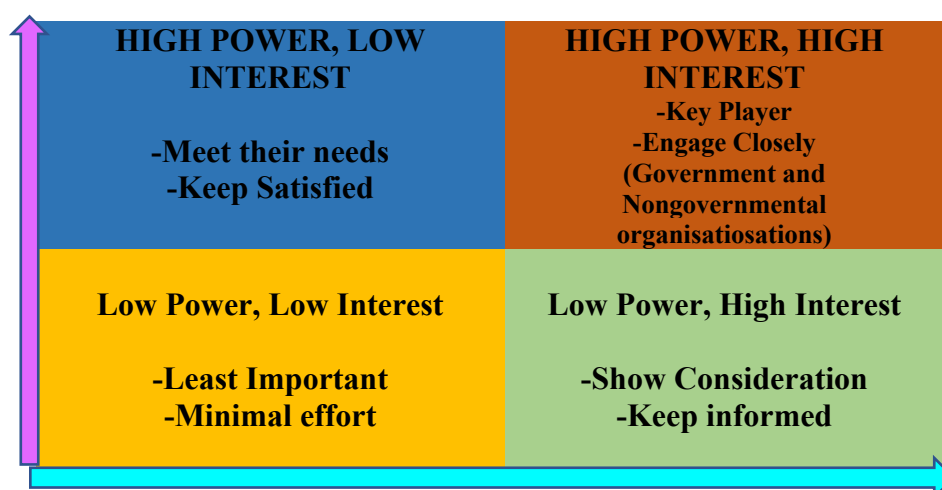


Figure 4: FOUR BOXES STAKEHOLDER ANALYSIS

SOURCE: FIELD DATA 2021

4.0 CHAPTER FOUR: METHODOLOGY

4.1 Introduction

This chapter discusses the methods that were used in the collection and analysis of relevant data to answer the general and specific research questions of the study. Beginning with the description of the research sampling design, sample size and sampling method that were used and reasons for applying them in this study. It also shows the processes of primary and secondary data collection techniques that were used to collect data and data validation method. At the end of the chapter, methods on how data was to be analysed and possible limitations and mitigations will also be presented. In view of that, the next section explains the research design and approaches used.

4.2 RESEARCH DESIGN AND SAMPLING

4.2.1 RESEARCH DESIGN

The research used mixed methods research consisting of qualitative and quantitative approaches. Subsequently this research adopted an explorative single case study approach. Mixed methods research is more comprehensive and usually includes a wide collection of data from numerous sources to generate themes, numbers, and figures about individual participants, including their experiences, views, and attitudes. Participants were selected using purposively sampling methods, provided that their households practiced rainfed agriculture, willing to answer research questions and spoke local language (Moser and Korstjens, 2017).

4.2.2 SAMPLING METHOD

Non-random Purposive sampling was used to select participants. Purposive sampling involves the researcher making a deliberate decision as to which participants and sample size can assist in collecting the necessary data (Agula et al, 2018). This method was used because it is simple, practical and offers an opportunity to create generalization from the data. In addition, it saves time, cost effective and increases reliability of the data collected (Denny and Weckesser, 2018).

4.2.3 SAMPLE SIZE

Thus, the sample size was purposively selected and consisted of 35 respondents through the process of saturation as suggested by Gumiran et al., (2019). The sample size is the representation of the population under investigation.

Selected clusters for this research were 30 smallholder farmers guided by (Paul et al, 2021) and five key informants were selected based on the stakeholders 4 boxes matrix. This sample size was purposively selected by the researcher to increase reliability of data collected. Four of the KI's (Development and Social Welfare, Agriculture, Local Authority, and Forestry) were from government departments and one (ADRA) from the non-governmental organisations. Gender sensitivity was exercised.

The 4 Boxes stakeholder matrix was used to ascertain the Key Informants for this study based on the High Power and High Interest category. 5 stakeholders are KI informants who directly work with smallholder farmers in promoting resilience programmes Stakeholders in the top

right corner matched as key players and engaged closely in cash transfers and drought resilience related programmes among smallholder farmers in Shangombo. The study's objectives did not focus on gender analysis but collected data from both male and female research participants. Specially smallholder farmers as respondents who happen to be more vulnerable to stresses and shocks of drought. Specialists are to be interviewed, and information from smallholder farmers will be collected using appropriate approaches (Chali, 2020).

4.2.4 PRIMARY DATA

Primary data used the semi-structured interview guide and observations to collect data from smallholder farmers affected by drought and key informant interview guides to collect data from experts facilitating cash transfers and resilience programmes. Experts are from either governmental or non-governmental organisations working with the smallholder farmers on policies or programmes aimed at increasing resilience during and after drought (Denny and Weckesser, 2018).

A thorough field survey was carried out with in-depth interviews using both open and closed-ended questionnaires between July 2021 and August, 2021. The questionnaires were tried before being tested in the field. To capture the dynamics of household on gender and socio-economic status of smallholder farmers, I attempted to interview both the male and female heads of home in each family. This was often not practicable in households with a single household head like widows or widowers or divorcees or when one of the household heads spends less time at home.

Sub-Research Question No.	Data Collection Tool	Respondents	Medium
1	Semi Structured Interview Guide/ Observations	Smallholder farmers	Face to Face
2	Semi Structured Interview Guide with the reference to the Capacity and Vulnerability Assessment Matrix	Smallholder farmers	Face to Face
3	Key Informant Interview Guide	Experts/ Smallholder Farmers	Face to Face/ Zoom/ Whatsapp/ Google forms
4	Key Informant Interview Guide	Experts/ Smallholder Farmers	Face to Face/ Zoom/ Whatsapp/Google forms

Table 1: Data collected as per sub research questions. Source: (FIELD DATA: 2021)

4.2.5 SECONDARY DATA

Both print and electronic secondary sources of data were used in this study. This involved collecting data by reviewing and analysing various existing documents relevant to the proposed study. Peer reviewed journals, books, official websites, and official reports include conducting of desk review of the relevant documents including project proposal document, annual work plan and budgets, indicators, baseline survey report and regional and country specific documents provided secondary data for this research (Jagnoor et al., 2019).

4.3 DATA ANALYSIS

Since this study was an explorative mixed approach research, it employed both qualitative and quantitative analysis methods where qualitative data analysis involved an inductive exploration of the data to identify recurring themes, patterns, or concepts and then describing and interpreting those categories in line with the research questions and objectives. Thematic analysis is a technique for identifying, analysing, and revealing patterns (themes) in data. For instance, drought, cash transfers and resilience were the themes of this study derived from research questions (Moser and Korstjens, 2017).

Quantitative data was analysed by SPSS software (version 27) for statistical analysis to generate pie charts, histograms, cross tabulations, and frequency tables. Additionally, a Likert scale was used to rank the programmes aimed at increasing resilience provided by both government and non-governmental organisations based on the responses 0=Not important at all/1=Little importance/2=Average importance/3=Very important/ 4=Absolutely Essential (Gumiran et al., 2019). The modified V2R framework was used to help to guide analyse the data collected to answer research the questions.

4.3.1 TRIANGULATION AND RELIABILITY

The systematic analytical methods used in this research enhanced data richness by linking the findings to the main research question and not assumptions. Even though the data was collected in Lozi the themes were translated into English but maintaining the originality of data collected. Semi-structured interview guides and observations were used to achieve data validation and triangulation. The researcher did not physically travel to the study area but engaged 2 research assistants to collect primary data from smallholder farmers and from experts. Then primary data was subjected to sifting or cleaning but maintaining the reliability of information.

4.4 Research Limitations

The researchers encountered some limitations from participants during the investigation. The following are the limitations faced and possible mitigation measures against each limitation. Some limitations cannot be mitigated but other tactful strategies were used to collect reliable data.

LIMITATION	MITIGATION
<ul style="list-style-type: none"> ➤ Some participants refused to give detailed answers while others withdrew ➤ Tension caused by political campaigns prior to and after elections ➤ Public health guidelines to contain COVID19 affected the ability of physical contact especially with Key Informants and Smallholder Farmers. ➤ Most people did not have internet access nor smart phones. ➤ 2 research assistant were engaged to tackle language barrier as the community does not understand the drought terminologies in English. ➤ The review of literature local level (Zambian context) proved futile. This is because there was generally little literature on the topic under study and this restricted the extensiveness of reviews in Zambian context. ➤ Informants expected that they be offered some compensation in monetary form after research. ➤ No control variables 	<ul style="list-style-type: none"> ➤ Participants were assured of privacy. ➤ The local research assistants got consent from the traditional leaders to be granted permission to interact with community without fear of being linked to any political agenda ➤ Adhered to all public safety rules of COVID19 and use appropriate data collection methods ➤ Research questions were translated into local language by a local research assistant ➤ Engaged the community, local research assistants to remotely collect data to curb the language barriers and traveling restrictions. ➤ Control variables are also treatment variables because research purposively selected recipient of cash transfers as participants

Table 2: Research Limitations and Mitigations. Source: (FIELD DATA, 2021)

Despite the above-mentioned limitations, reliable information was still gathered because participants who fully participated in the study provided relevant answers for each of the questions asked.

4.5 ETHICAL CONSIDERATIONS

Discretion about respondents' personal information and livelihood assets was exercised. The researcher guided the research assistants about establishing mutual trust, respect, confidentiality and asking for consent from participants what kind of information they want to be used in the research. Consenting assures accuracy of the research data generated.

Respondents were protected from any kind of harm, especially health safety relating to COVID19 infections. COVID19 public health guidelines were strictly be followed when collecting data. The researcher through remotely engaging the local research assistants reduced the risk of exposure and spread of COVID19.

5.0 CHAPTER FIVE: FINDINGS

5.1 Introduction

This chapter shows the results of the study conducted in Shangombo District on smallholder farmer's experience on the use of cash transfers to increase their resilience against drought.

5.1.2 Demographic Background

This section displays demographic information about the participants, such as their gender, age group, employment, and period of stay in Shangombo District.

5.1.3 Gender of Participants

Although research questions did not seek to address gender roles. Data linked to household gender was collected because drought affects both male and female. Out of 30 smallholder farmers as research participants, 56% of the women respondents submitted that their livelihoods are disrupted or lost by drought. While the 44% was represented by men. Despite the women having a higher percentage, both men and women experienced similar stresses and shocks of drought. Women help families adapt to drought by foraging for food, sharing saved resources, and taking care of the family while also contributing to the household income.

A household can be consisting of both male and female who contributed important information about cash transfers for increasing resilience of smallholder farmers against drought. Gender distribution of respondents is represented in the chart below.

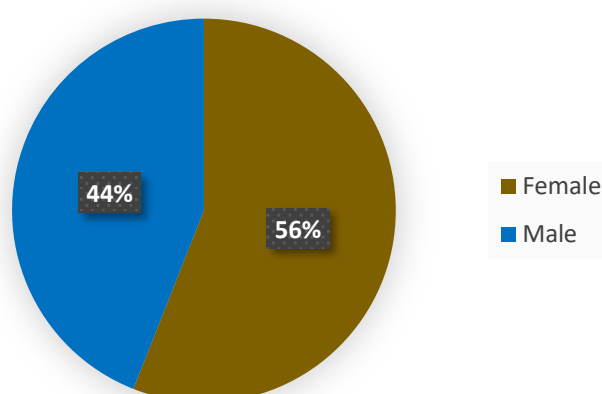


Figure 4: Respondents' Gender Distribution

SOURCE: Field Data (2021)

Despite evidence that gender-sensitive programmes are implemented to enhance the role of women, drought resilience, such programmes are not specifically centered on women smallholder farmers affected by drought.

5.1.4 Age of Participants

Results showed a tie in the adults of the age groups between 26-30 and 31-35 were more vulnerable to drought.

Following the illustration on gender, the table below displays data on the distribution of 30 smallholder farmers' as research participants by age group, frequency, and percentage.

Age Group	Frequency (F)	Percentage (%)
15 and below	0	0

16-20	4	13.3
21-25	6	20
26-30	10	33.3
31-35	5	16.7
36 and above	5	16.7
TOTAL	30	100

Table 3: Respondents' Age Distribution. Source (FIELD DATA, 2021)

5.1.5 Period of Stay in Shangombo District

A historical timeline was used to determine how long the smallholder farmers have been experiencing the stresses and shocks of drought. The information on the period of stay in the study area was necessary in determining the dependability of how smallholder farmers use cash transfers for drought resilience.

Number of years lived	Number of Participants	Percentage %
5 and less	3	10
6 to 10	12	40
11 to 15	11	33.7
16 and above	4	13.3
TOTAL	30	100

Table 4: Years lived in Shangombo by Respondents

Respondents in the age range between 6 and 10 ranked the highest number of respondents with 34.3 % followed by those in the range between 11 to 15 years with 31.4%. The age range 16 and above had 25.7% while 5 and less scored 8.6%.

5.2 Smallholder farmers' experiences of different types of droughts and coping strategies

5.2.1 REPONDENTS' DROUGHT AWARENESS

Out of the 30 smallholder farmers interviewed. 65% of the respondents indicated that aware about drought through social media, Radio and Television, 15% through primary or secondary Schools, 8% know through Traditional Knowledge while 2% are aware through Extension Officers. All though it is difficult to determine the onset of drought. The smallholder farmers have several mediums to know about the drought situation in their area. Access to information technology plays a great roll in early warning to reduce the stresses and shocks of droughts on the livelihood assets.

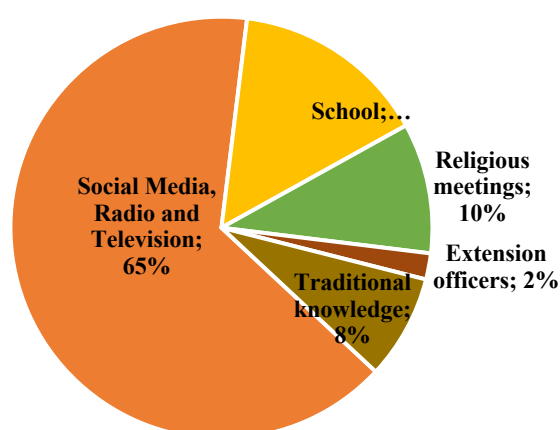


Figure 6: Respondents' awareness about drought SOURCE: FIELD DATA (2021)

5.2.2 TYPES OF DROUGHTS EXPERIENCED

. The highest frequency of 13 respondents agreed to have experienced agriculture drought, 12 respondents indicated to experience socioeconomic drought, 7 respondents experienced meteorological drought while least frequency of 3 respondents showed that they experience hydrological drought. The CVA below unravels drought stresses and shocks experience by both male and female smallholder farmers.

RESPONSE	PARTICIPANTS FREQUENCY
Leads to shortage of local food and hunger (Socioeconomic drought)	6
Drought is when there's poor or no rainfall (Meteorological drought)	7
Leads to drying up of rainfed crops, plants dry up (Agriculture drought)	13
Leads to drying up annual bodies (Hydrological drought)	4

Table 6: Responses to types of drought experienced SOURCE: FIELD DATA (2021)

5.2.3 Respondents' Livelihood Portfolios

Although the district being a rural based, the study highlighted several occupations linked to various livelihood portfolios. This is important in determining the local economic status such as employment and sources of income. Interestingly, rainfed agriculture production ranked first as main livelihood portfolio not just for providing household income but food security. 16 out of the 35 respondents of smallholder farmers were depended on rain fed agriculture crop production. This shows how vulnerable the households are to the impacts of drought.

This chart below describes the livelihood options of the study's participants. The livelihood options of the participants are significant to assist in determining the difference in use of cash transfers to increase resilience during and after drought.

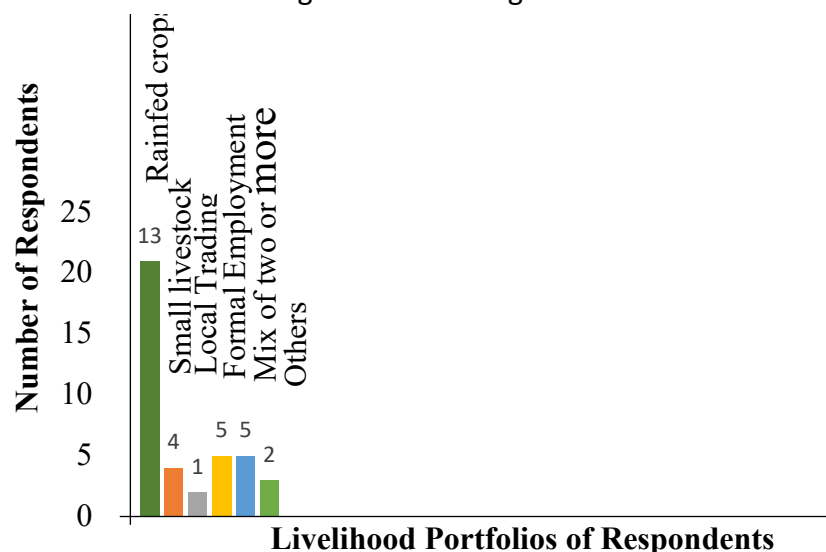


Figure 5: Livelihood Portfolios of Respondents

SOURCE: Field Data (2021)

30 smallholder farmers were interviewed. respondents interviewed had 6 diverse livelihood portfolios. The data collected showed that Rainfed crop production scored the highest number of 16 respondents while respondents practiced a mix of two or more and formal employment scored a 5 each. Those into Small Livestock accounted for 4 respondents. 3 Respondents with Others uncategorized livelihood portfolios. The lowest being scored by respondents in Local Trading.

5.2.4. Household Sources of income during and after drought

Interestingly, 23% of smallholder farmers indicated that part of their household income during and after drought come from cash transfers, remittances from rural-urban migration account for 19% while local wage labor accounts for 17%, Non-farm activities contributed to 13% of household income on average. Barter exchange 10 %, borrow from neighbors or relatives 9%, sale of livestock and others 2% were the lowest sources of income during and after drought based on 30 smallholder farmers interviewed.

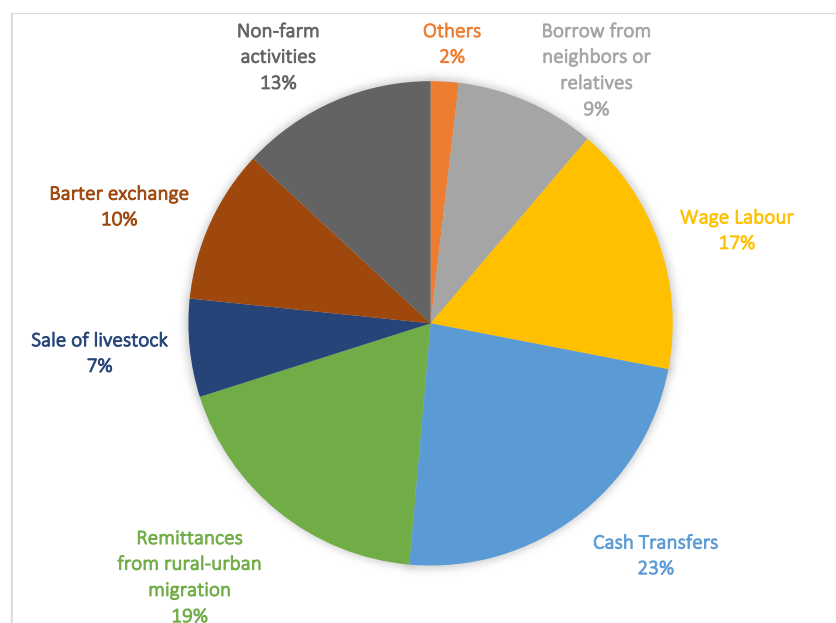


Figure 6: Sources of Household incomes

SOURCE: Field Data (2021)

5.2.5. Use of Cash Transfer during and after drought

The graph below showed the way households used cash transfers during and after the drought.

When small holder farmers receive regular cash transfers during drought they use in in the manner as indicated in the table below. During drought beneficiaries used higher than average percentage of cash transfers to purchase food with 96%, followed by securing children's education such as paying for fees and materials at 78% and livelihood portfolio diversification activities such as investing in off-farm activities at 63% while the lower-than-average cash transfers on household needs such as buying clothes, shoes, beddings for household members at 38%, health wellbeing such as medical expenses for sick household members at 30% and buying of farm inputs such as certified drought tolerant seeds of maize, sorghum, groundnuts at 26% based on 30 smallholder farmers interview.

The after-drought data a showed that cash transfers were more spent on food at 96%, and health wellbeing such as medical expenses for sick household members at 50%. While securing children's education such as paying for fees and materials at 15%, livelihood portfolio diversification activities such as investing in off-farm activities and household needs such as buying clothes, shoes, beddings for household members were a tie which scored 10%. And buying of farm inputs such as certified drought tolerant seeds of maize, sorghum, groundnuts at 5% out of the 30 smallholder farmers interviewed.

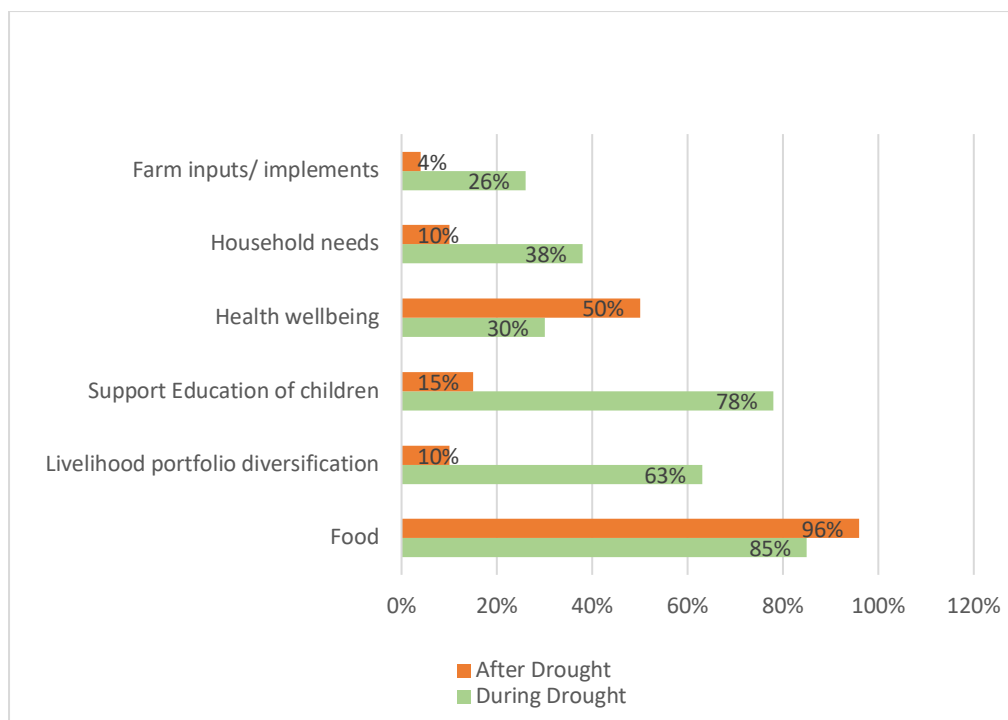


Figure 7: Use of cash transfers during and after drought

SOURCE: Field Data (2021)

5.3 Smallholder farmers' use of Cash Transfers to increase capacity and reduce vulnerability against drought

Drought puts the livelihood assets of Shangombo's rain dependant smallholder farmers at risk. Erratic rainfall coupled with prolonged dry spells leads to high vulnerability on rain dependant agriculture productivity. The table 7 below is a presentation of the IFRC (2007) toolbox. PRA methods such as seasonal calendars and social mapping techniques were used to gather reliable information related to the effect of cash transfers increased capacity and vulnerability during and after drought. Vulnerability and capacity are important measures of resilience (Pastuer, 2011) used in this study.

	VULNERABILITIES	CAPABILITIES
PHYSICAL/ MATERIAL (What productive resources, skills, and hazards exist?)	<ul style="list-style-type: none"> - Farmlands are exposed to dry spells and drought because they are rainfed dependant -Open water bodies like hand dug wells and dambos dries up leading to domestic and livestock water scarcity -Use cash transfers to expand farmland through slash and burn cultivation system which leads to deforestation and land degradation. -Wilting of maize leads to low harvest and food insecurity 	<ul style="list-style-type: none"> - Use Cash transfers to purchase climate-smart agriculture inputs or implements and drought tolerant seeds i.e. early maturing maize, sorghum, millet. - Use cash transfers to repair or maintain the mechanical hand pumps to supply domestic and livestock water -Use cash transfers to invest in conservation farming and agroforestry such as planting of multipurpose trees alongside timber trade livestock folder, fruit trees, fuelwood, restoration of degraded land. -Buy surplus food to last during drought to cushion food security and nutritional needs
SOCIAL/ ORGANISATIONAL (What are the relations and organisation among people)	<ul style="list-style-type: none"> - Girl children dropout of school to take care of the sick and siblings at home. -Women are overwhelmed with extra household activities as men tend to migrate to the nearest towns for jobs. 	<ul style="list-style-type: none"> - Use cash transfers to pay for school requirements (tuition, uniforms, and materials) and keep the girls in school. - Women and men use cash transfer to invest non-farm activities such as tailoring, beekeeping and carpentry,
MOTIVATIONAL/ ATTITUDINAL (How does the community view its ability to create change?)	<ul style="list-style-type: none"> -dependence on aid agencies to reduce household vulnerability. - Cash transfers promote laziness among drought affected households. 	<ul style="list-style-type: none"> -Cultural norms and religion guide the community on how to use cash transfers in a dignified manner -Invest cash transfers into other non-farm activities hence promoting livelihood diversification
Political/ Institutional (What are the institutions and processes that shape up the welfare of the community)	<ul style="list-style-type: none"> -Cash transfers for drought resilience disrupt the local economy i.e. high inflation - Replication of resilience-based programmes and projects implemented by governmental and non-governmental organisations leads to inefficient delivery -Cash transfers programmes are limited to a small target group of the population. 	<ul style="list-style-type: none"> -Cash transfer increases the purchasing power of drought affected households as such meeting the food and nutrition demands. - Strong traditional leadership structure to provide by-laws patterning to use of cash transfers to increase resilience -Collaboration of resilience programmes implemented by both governmental and non-governmental organisations for an inclusive coverage.

Table 7: CVA Matrix

SOURCE: FIELD DATA (2021)

However, vulnerability and capacity are determined in different ways, but this research linked vulnerability and capacity from the perspective of drought resilience. This study took into consideration livelihood assets that influence resilience of smallholder farmers. Livelihood assets at household level are physical i.e., infrastructure; natural i.e. land, rivers social assets like networks, religious groups; human assets i.e. traditional knowledge, health; and financial assets i.e. savings, cash transfers. The findings show that Shangombo smallholder farmers are extremely food insecure and susceptible to repeated cycles of drought.

The CVA Matrix showed that Shangombo's smallholder farmers rely on rain-fed agriculture for their livelihood. Repeated drought affects both their food security and income. Research findings show that vulnerability is highest in the regions with the high level of exposure, high level of sensitivity and low capacity. The continuing drought occurrence is expected to lead to increased poverty, vulnerability, loss or disruption of livelihoods. Resilience over a short, medium, and long term is decreased among smallholder farmers due to Farmland's exposure to prolonged dry spells and repeated drought because they are rainfed dependant. The findings from the CVA were fully explain through physical capacities /material, social/ organizational capacities, motivational/ attitudinal, political, or institutional;

5.3.1 Physical or material capacities and vulnerabilities

Respondents cited both physical or material capacities and vulnerabilities. The vulnerabilities were because of prolonged dry spells and repeated drought causing agriculture crops to wilt before maturity leads to food insecurity and low income and drying up of open water bodies leading to shortages of domestic and livestock water. Results showed that some households used cash transfers to expand farmland through unsustainable agriculture practices (slash and burn cultivation system) which leads to deforestation and land degradation. To reduce the vulnerabilities then capacity to cope during and after drought were mentioned by smallholder farmers. The results showed that smallholder farmers use cash transfers to purchase drought tolerant seeds such as early maturing maize, sorghum, and groundnut seeds to improve productivity during drought. These are conservation farming and agroforestry such as planting of multipurpose trees alongside timber trade livestock folder, fruit trees, fuelwood, restoration of degraded land. Most female respondents indicated that they- *"use cash transfers to buy surplus food to last during drought to cushion food security and nutritional needs of households."* To enhance domestic and livestock water supply, the smallholder farmers use cash transfers to repair or maintain the broken-down mechanical hand pumps sunk by the government and non-governmental organisations.

5.3.2 Social/ Organizational Capacities and Vulnerabilities

The results showed issues of concern with gender. During and after drought men and boys tend to migrate to the nearby towns to find jobs to sustain their households. A male smallholder farmer who is a victim of rural-urban migration had this to say- *".. going to the nearby town to find jobs is not a fairytale, the vulnerability gets worse because you've no*

money, food and homeless to some extent. Remittances are not always easy when you resort to forced labor and exploitation for survivor.” Hence, women remaining home are burdened with extra household activities alongside girl children dropping out of school to take care of the sick, old aged, siblings and unfavorable livelihood assets. Also this results into labor constrained households resulting into reduced agriculture productivity. This makes women more vulnerable to the stresses and shocks of drought.

5.3.3 Motivational/Attitudinal Capacities and Vulnerabilities

The results based on increasing capacities of smallholder farmers were attributed to dependence of households on aid agencies to reduce household vulnerability during drought. One of the research participants mentioned that – *“Food aid packages donated to them by the government and non-governmental organisations during drought makes more smallholder farmers more vulnerable to drought when the relief packages are not delivered in time.”* Another important issue highlighted was that cash transfers promote laziness among drought among affected households. Female respondents added that- *“they would rather buy enough food to cushion the food insecurity than use the cash transfer to diversify their livelihood options”*. Social cash transfers were used to increase the capacities of smallholder farmers by settling the school requirements (tuition, uniforms, and materials) of children, especially girls. One of the male respondents said - *“drought can affect our agriculture productivity not our daughter’s school activities, during or after drought our daughter stays in school and her performance is very good, thanks to the cash transfer scheme.”* The results showed that Women and men use cash transfers to invest non-farm activities such as tailoring, beekeeping and carpentry. In this case livelihood portfolios are increased using cash transfer which leads to increased capacity to cope with drought. *“..4 years ago, my household did not have the means to cope with drought, we bought a sewing machine with cash transfers, we earn a decent income from selling homemade sewed school uniforms for children....we are now investing in beekeeping and planting orchards of drought tolerant fruit trees.”*- added a female respondent.

5.3.4 Political/ Institutional capacities and vulnerability

Even though findings show that cash transfers for drought resilience may disrupt the local economy such as causing high inflation. Cash transfer increases the purchasing power of drought affected households as such meeting the food and nutrition demand and sustaining their income. Cash transfers programmes are limited to a small target group of the population. But enhanced collaboration of resilience programmes implemented by both governmental and non-governmental organisations. Reduces replication of resilience-based programmes and projects leading to inefficient delivery and leads to an inclusive coverage of recipients. One of the interviewees said that “cash transfers are not handouts; our household meets the food nutritional needs during drought”. The smallholder farmers have a strong traditional leadership structure to provide by-laws patterning to transparent use of cash transfers to increase resilience.

5.4 GOVERNMENT ORGANISATIONS RESILIENCE PROGRAMMES

The Department of Community Development is one of the government institutions providing programmes aimed at increasing resilience of Smallholder Farmers in Shangombo district. A key informant indicated that there are 4 resilience programmes namely, *Food Security Pack*, *Alejo Community Project*, *Village Banking*, and *Girls Education Women's Empowerment Livelihood Project (GEWEL)* being implemented as follows:

The *Food security pack (FSP)* has the objective of promotion of food security at household level of the vulnerable but viable smallholder farmers. The livelihood outcomes of the project are to increase food security and income at household level. The programme is ongoing, but beneficiaries stop receiving the package after two farming seasons and will be linked to agriculture department for smallholder farmers to access farmer input program (FISP). The *Alejo community support project's* objective is to promote programs on the reduction of poverty, economic empowerment and raising awareness on the dangers and effects of HIV/AIDS and other crosscutting issues such as gender inclusion. This project has a two years' timeframe with no specific target group but is open to all community members in the district. The Key Informant from Community Development Department added that "*resilience of smallholder farmers is built through capacity building of skills and knowledge of using smart agriculture and use of organic fertilizer in maize production. To diversify portfolios of smallholder farmers are trained in poultry management of village chickens*": *Village Banking project's* aim is to provide financial assistance to individuals that are in extreme poverty. Especially, women headed households have access to loans without collateral and at lowest interest rate. Additionally, the financial literacy and livelihood diversification improves the food security and income status of households. Although very minimal as the current loan being offered is not more than K3,000.00 (\$130.43) but through training in entrepreneurship and savings, households utilize the capital and knowledge to cope through drought: *Girls Education Women's Empowerment Livelihood Project (GEWEL)* objective is to increase access to livelihood support for women and access to secondary education for girls in extreme poor households. The project is running up to 2024 however, a household benefits only twice with a productive grant of K1,350.00 (\$55.00). Project ensures that sustainability is attained through the promotion of savings groups and mentorship programme such as training, entrepreneurship, savings skills, and acquisition of productive assets to diversify livelihood portfolios during and after drought.

Department of Agriculture facilitates the Farmer Input Support Programme (FISP) focusing on increase private sector participation in the supply of agriculture inputs to small scale farmers and increase to household food security and income through improve agriculture productivity. The government provides packages of drought tolerant crops (certified maize seed) and farming inputs (conventional compound D and Urea fertilizers). The project has been ongoing. On the other hand, the project promotes value chains of smallholder farmers by strengthening market linkages which results in diversification of livelihood portfolios through off farm activities. Another project implemented by the Department of Agriculture is aimed to increase resilience of smallholder farmers is the *strengthening climate resilience of agriculture livelihood (SCRALA project)*. To project builds climate resilience by increasing food security by facilitating poverty reduction interventions to smallholder farmers such as adoption of coping strategies through knowledge of smart agriculture and provision of small livestock.

The Forestry Department promotes community forest management programmes to promote sustainable forest management and utilization. Smallholder farmers have their capacities increased through livelihood diversification interventions in beekeeping, woodlot establishment, horticulture, and agro-forestry, propagation edible mushrooms, wild fruits, and tubers. The programme is ongoing and Capacity building in forest management and governance for sustainable utilization to reduce deforestation and land degradation.

The local authority as known as the council together with other partners implements the *Pilot project for climate resilience* which aims to promote climate resilience interventions to smallholder farmers such as promotion of climate smart agriculture practices, land tenure and acquisition of productive assets and stakeholders' engagement in integrated climate risk management.

Gender-sensitive programmes are implemented to enhance the role of women, drought resilience as evidenced by the GEWEL project by the Department of Community Development are specifically centred on women inclusive of those smallholder farmers or households affected by drought.



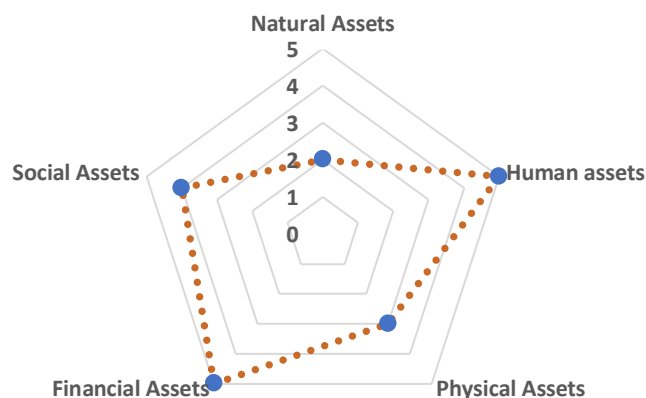
Picture 1: Research Assistant in an exchange with Respondents during data collection SOURCE (FIELD DATA: 2021)

The government institutions in Shangombo district are implementing various interventions to increase resilience among smallholder farmers, data showed that beneficiaries have acknowledged that these interventions increase their capacity to cope during and after drought. However, it is worth mentioning that some interventions are short term thus need for consideration of serious stakeholders' engagement and capacity building among the local community to increase resilience.

For instance, one of the KI stated that *‘social cash transfer is paid on bi-monthly basis but lacks capacity building of beneficiaries in terms of production’*. This entails that the beneficiaries are only financially supported but the design of the programme has not taken care of the imparting of skills to enhance livelihood diversification during or after drought.

KI-1 outlined that *‘the food security pack programme offer by the department of community development is good intervention although due to limited fiscal space the other component known as the wetland is not being implemented. This component used to play a critical role to assist communities to cope with drought. This component used to provide beneficiaries with farming inputs to grow certified drought tolerant maize crops to bridge the food insecurity in an event of drought during the rainy season. The programme is restrictive in the package given with much focus on fertilizer, cereal seed and legume seed’*. Further added by a KI.

Government resilience interventions were linked to the impact they have on smallholder farmers’ livelihood assets. Figure 8 below is based on the 0 to 5 Likert scale the smallholder farmers ranked the projects based on capacity to cope through the drought. Resilience programmes scored highest between financial and human assets, average on physical and social assets, while natural assets scored the least. Among the highest ranking, cash transfers increase resilience of smallholder farmers because they help households acquire farm inputs, food and pay for their children’s school requirements. Village Banking project increases resilience of smallholder farmers because it cushions the financial constraints among households during the time the district experienced the drought. The community forest management programme by the forestry department increases resilience of smallholder farmers by helping farmers restore their deforested and degraded, conserve and ultimately generate income to support livelihood diversification during and after drought. Lowest ranked were the SCRALA project and the Pilot project for climate resilience, despite being key projects in increasing resilience of smallholder farmers, the smallholder farmers cited that the two projects have short cycles hence adoption levels are low among households. The livelihoods pentagon of government resilience programmes illustrated in the figure below.



A KI added that *the cash transfer scheme increases household income and acquisition of basic needs*. The Social welfare department are the special institution implementing conditional *social cash transfer* schemes. The objective is to reduce extreme poverty specifically targeting the aged groups, disabled and extremely poor households with children above three years.



Picture 2: Solar Water Tank with Hand Pump to supply clean drinking water to the community SOURCE (FIELD DATA: 2021)

Picture 2 shows an interlinked water supply system with an overhead water equipped with a solar powered borehole installed at a public school. The tank supplies clean and safe drinking water to the surrounding school community and the production unit (school garden). In the same fence is a manual hand pump to supplement the water needs of the drought prone community. This water project is one of the drought resilience programmes to curb water, sanitation, and hygiene programme (WASH).

5.4 NON-GOVERNMENTAL ORGANISATIONS RESILIENCE PROGRAMMES

The Adventist Development and Relief Agency (ADRA) is a faith-based organisation promoting disaster relief interventions to smallholder farmers running for 2 years ending next year. ADRA's aim is to work with people in poverty and distress to create just and positive change through empowering partnerships and responsible actions during drought. Small scale farmers are trained in conservation agriculture, knowledge and skills in post-harvest handling, provide farming implements such as oxen-rippers and ploughs, provision of drought tolerant seeds sorghum, cowpeas, and early maturing maize seeds.

The ADRA project was ranked by the smallholder farmers based on the Likert scale 0 to 5 which was the basis of scaling the livelihoods assets. The livelihood assets in the pentagon of figure 9 show that the human assets scored highest followed by social assets then physical and natural assets were average. Financial assets scored the least. The programmes implemented by ADRA more tailored to ensure that communities are resilient to drought and communities recover the loss of livelihood assets that they incur during droughts. An Interviewee said" *ADRA provides also relief food in times of drought and floods to cushion on the loss that communities experience....they use already existing staff from agriculture and community development who are conversant with the communities and this strengthens the capacity of extension staff in knowledge and skills for effective community engagement.*" Another interviewee added that; *"the role the organisation is playing is critical role in increasing drought resilience among smallholder farmers, this is due to its nature of bringing on board both men and women who are smallholder farmers."*

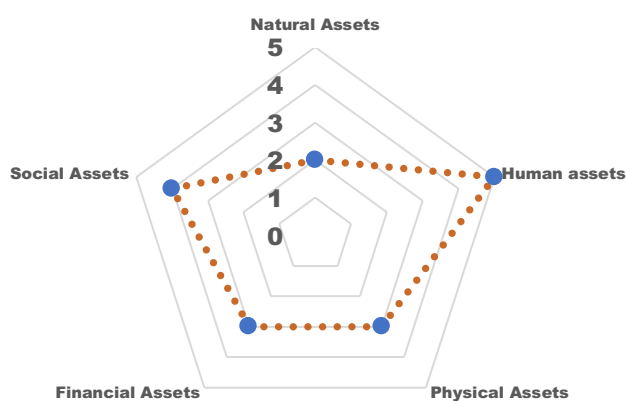


Figure 9: Non-governmental organisation's Resilience Programmes on Livelihood Assets SOURCE: Field Data (2021)

Finally, the interventions provided by both government and non-governmental organisations to increase resilience of smallholder farmers seem not to collaborate towards collaborating and implementing integrated drought risk management.

5.5 SUMMARY OF FINDINGS

Wisner et al. (1994) developed the Pressure And Release (PAR) Model to illustrate how disasters occur in this case drought. Hence the research findings were summarised using the PAR model. According to the PAR model, a hazard's socioeconomic context is crucial.

THE PRESSURE MODEL FOR SHANGOMBO

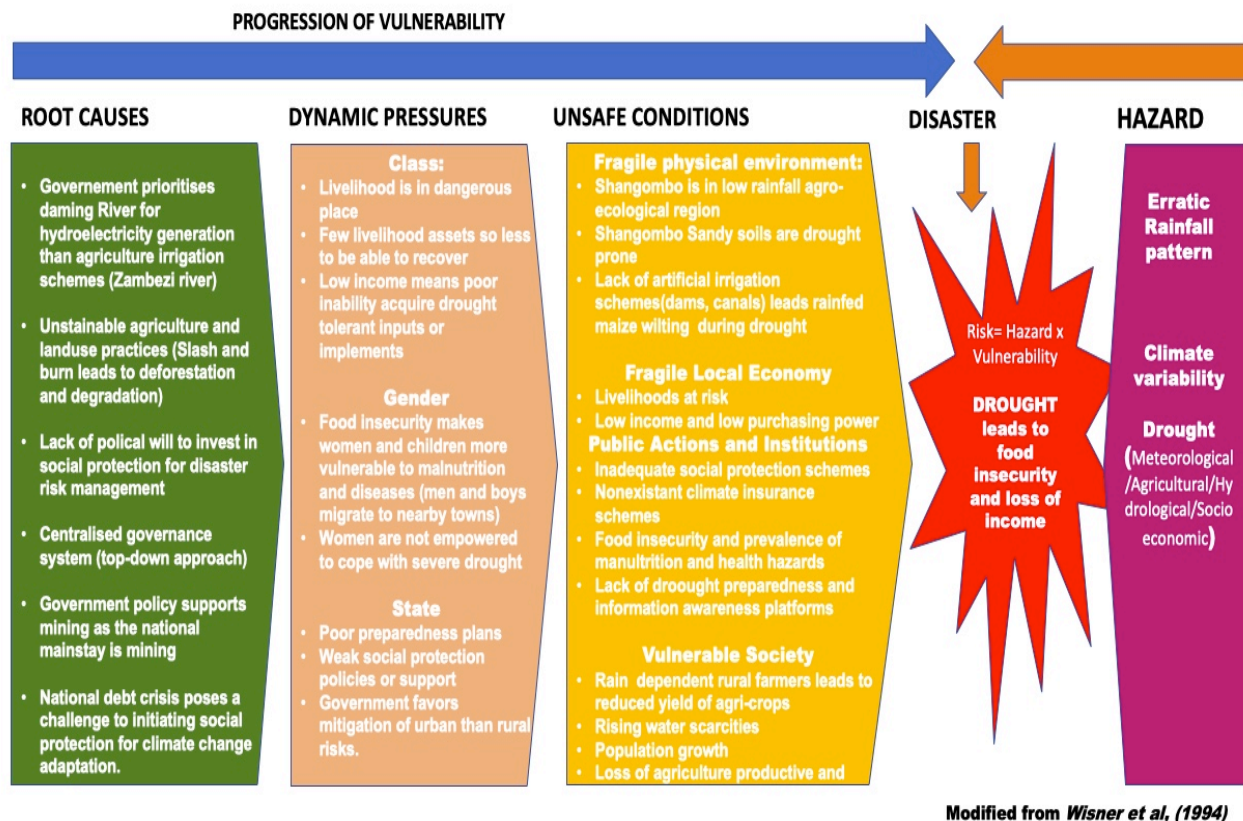


Figure 10: PAR MODEL SOURCE: Field Data (2021)

Disasters are more frequent in locations with inadequate governance i.e. root causes, fast change, and limited capacity .i.e. dynamic pressures and insufficient coping ability unsafe conditions. The PAR model depicts how root causes, dynamic pressures, and unsafe conditions interact with a natural hazard to trigger a disaster. The qualitative intersection of people exposed to a hazard and the degree of natural and consequential vulnerability, on the other hand, represents a more comprehensive viewpoint. Alexander (2000), as referenced in Blakie (2004), defined risk as $R = H \times V$ (Risk = Hazard x Vulnerability) which are highlighted in the PAR model above.

THE RELEASE MODEL FOR SHANGOMBO

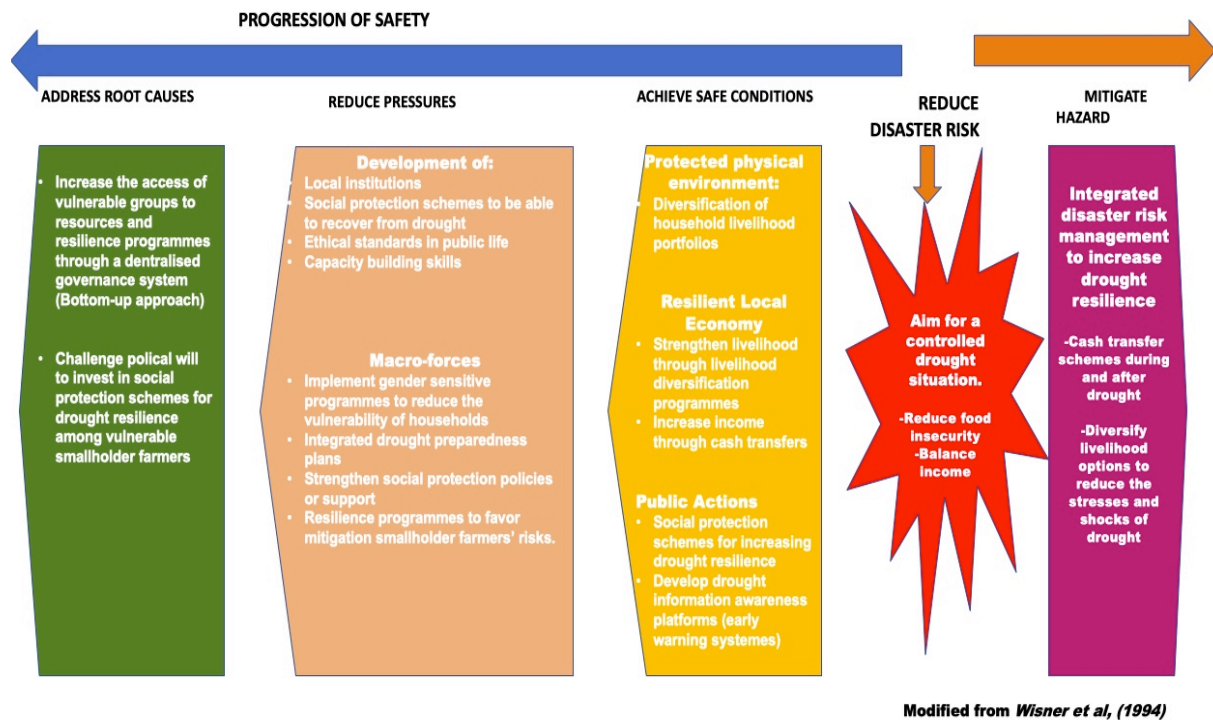


Figure 11: RELEASED MODEL SOURCE: Field Data (2021)

To reduce disaster risk, the "pressure" between hazards and vulnerabilities should be released. Hazards should be mitigated to lessen their severity and consequently have a lower impact on vulnerable Smallholder farmers. Vulnerability should also be reduced at many levels: actions should be carried out to shift "unsafe conditions" into "safe conditions," "dynamic pressures" should be reduced, and "root causes" should be addressed. The research findings are consistent with the Release model, which aims to establish a controlled situation and resilient smallholder farmers in areas where there is food insecurity, loss of revenue, disruption of livelihoods, and the ability to recover faster from any drought effects.

Chapter 5: Discussion of Results

This chapter is the discussion, keeping in view of the research results to between similarities or differences from other study findings provided in the study's literature review chapter. The chapter discussed the research results in line with the study's main objective which examined the use of cash transfers to increase the resilience of Shangombo's rain-dependent smallholder farmers. The researcher conducted the study remotely as per COVID19's pandemic public health regulations. I was unable to travel to Zambia from the Netherlands. However, two local research assistants were hired to collect data from the study area. Two research assistants are community members who followed cultural norms throughout the data collection process.

According to this research's findings the smallholder farmers are facing different types of droughts which leads to disruption in livelihood portfolios. Shangombo's smallholder farmers experience 4 main types of droughts ranging from shortage of local food which was termed as Socioeconomic drought; poor or no rainfall linked to Meteorological drought; drying up of rainfed crops, plants dry up related to Agriculture drought-stress and shocks leads to loss income and become food insecure when crops wilt; drying up of water bodies connected to hydrological drought- sanitation issues such as water borne diseases like dysentery and water shortage for both domestic and livestock consumption. Findings of the research indicate smallholder farmers' vulnerability is highlight influenced by agriculture drought ranked the highest seconded by socioeconomic drought. Kamara et al., (2018) conducted a research about drought resilience for smallholder farmers. The age group is more vulnerable to drought because of this the most productive age. Therefore, age usually as vital as gender was important in determining the quality of reliability of responses provided and identify the most vulnerable age groups. In this study, all participants were adult persons of age 16 and above (African Youth Charter by the African Union). These respondents were an appropriate representation of Smallholder Farmers' use of cash transfers for increasing drought resilience. As et al, (2017) supports the findings of the research as he indicate that more than 90% of Zambia's main diet is mainly dependant on maize. Rainfed smallholder farmers are more vulnerable to drought and require diversification of livelihood portfolio during and after drought. Similarly, Acosta, (2017): Bowen et al, (2020) agreed with their study results show that rainfed dependant smallholder farmers for crop productivity (maize) are vulnerable to drought. Therefore, cash transfers increase food security and balance income of smallholder farmers during and after drought.

Paul et al., 2021 conducted a study about the impact of cash transfers on households vulnerable to COVID19. His findings are that during a crisis, households use cash transfers to meet their livelihood and household needs as a coping mechanism. This study's results showed that during drought smallholder farmers use cash transfers to purchase food, followed by securing children's education such as paying for fees and materials, and

promoting livelihood portfolio diversification activities such as investing in off-farm activities and on the other hand cash transfers on household needs such as buying clothes, shoes, beddings for household members, health wellbeing such as medical expenses for sick household members and buying of farm inputs such as certified drought tolerant seeds of maize, sorghum, groundnuts. After drought smallholder farmers use cash transfers on buying food, health wellbeing such as medical expenses for sick household members, securing children's education such as paying for fees and materials, livelihood portfolio diversification activities such as investing in off-farm activities and household needs such as buying clothes, shoes, beddings for household members, and buying of farm inputs such as certified drought tolerant seeds of maize, sorghum, and groundnuts. The findings of the research are supported by Chali, (2020), in a study about cash transfers for reducing vulnerability amongst extreme poor households in Zambia. He indicates that cash transfer increase resilience especially' health, education, nutrition, food security, and livelihoods of smallholder farmers.

According to the results presented by the CVA matrix, Physical and material vulnerabilities showed that some smallholder farmers used cash transfers to extend farmland through unsustainable agricultural techniques like slash and burn cultivation system, resulting in deforestation and land degradation. Long dry periods and frequent droughts caused crops to wilt before maturity, resulting in food insecurity and poor income, while drying up of open water bodies caused residential and livestock water shortages. While Physical and material capabilities showed that, smallholder farmers are use cash transfers to boost agriculture production during drought by acquiring drought-tolerant seeds such as early maturing maize, sorghum, and peanut. These include conservation farming and agroforestry practices such as growing multipurpose trees with timber trading livestock, fruit trees, fuelwood, and land reclamation. The findings of this study are supported by the findings of Hjelm et al. (2017). They investigated whether government cash transfer programmes improved perceived stress and poverty among Zambian underprivileged families. They also observed that cash transfers reduce poverty and vulnerability and increase resilience of drought-affected smallholder farmers.

The findings revealed gender issues. During and after a drought, men and boys tend to relocate to adjacent towns in search of work to support their households. As a result, women who stay at home are burdened with extra household tasks, while girl children drop out of school to care for the ill, elderly, siblings, and adverse livelihood assets. This also leads to labor-strapped households, which reduces agricultural production. The findings revealed that both men and women use cash transfers to invest in non-farm enterprises such as tailoring, beekeeping, and woodworking. In this scenario, cash transfers are used to expand livelihood portfolios, resulting in enhanced capacity to deal with drought. Cash transfers boost drought-affected households' purchasing power, allowing them to meet their food and nutrition needs while still maintaining their income. Stoeffler et al., (2019) agrees as to the findings of this

research study as their research about applying social protection schemes such as cash transfers to reduce the effects of climatic shocks of smallholder farmers in the Sahel. According to their findings, households that received cash transfers drought resilience. As observed from the savings, asset accumulation, and income stability in agricultural and off-farm livelihood activities of smallholder farmers.

Rigaud et al., 2018 agrees to the findings based on the CVA matrix by stating that power, politics, institutions, and organisation play an important role in running of integrated drought risk interventions aimed at increasing resilience of smallholder farmers.

Various interventions are being implemented by government agencies in Shangombo district to build the resilience of smallholder farmers. Government resilience programmes based on the livelihoods assets pentagon rated highest in terms of financial and human assets, average in terms of physical and social assets, and lowest in terms of natural assets. Suffice to note that smallholder farmers use cash transfers boost the resilience of smallholder farmers by assisting households in buying drought tolerant certified maize seeds, food, and pay for children's school fees. The research findings agreed to Arnold et al. (2011) findings which demonstrated that cash transfers are a public policy instrument in which robust and continuous participation may favourably contribute to a range of government and donor activities. According to the research results, recipients recognise that these interventions improve their ability to cope during and after a drought. However, because some interventions are short-term, serious stakeholders' involvement and capacity building among smallholder farmers must be considered. Non-governmental organisation resilience programmes increase capacity of smallholder farmers by enhancing more of Human assets in the pentagon of livelihood assets, followed by social and physical assets, then financial and natural assets. Resilience programmes of both the government and non-governmental organisations complement cash transfers for drought resilience among. raindependent smallholder farmers. Gumiran et al., (2019) argues that repeated cycles of drought negatively affects financial, physical, social, human, and natural livelihood assets of smallholder farmers in developing countries. Cash transfers alongside livelihood diversification programmes balances the livelihood portfolios and balances the livelihood assets during and after drought. Porter & Goyal, (2017) where they similarly concluded that during and after drought smallholder farmers are exposed to different stresses and shocks hence cash transfers help increase the capacity to cope through drought. However, the research findings agreed by disclosing that cash transfers alongside livelihood diversification programmes by both the government and non-governmental organisations increase drought resilience during and after drought.

5.1 Reflection on Research Process

Part of doing research and writing the thesis was using primary data needed to establish the findings in the research. Finding primary data as useful information for the study was a very difficult subject. Research assistants were faced with a lot of resistance from research participants who withheld giving out useful information to shape up the topic of my research. During this period was my role was to prepare a meeting with the zoom meeting with the village head to grant my research assistant permission to collect data. This is the point of applying my conflict resolution skills. To avoid the situation from escalating I applied the collaborating style and in the end, they allowed my research assistants to collect data without any political party affiliation prejudice. I assured him the community members of my trust and confidentiality of the information provided. And how important this research is to the development of the community.

Through the long-distance process of collecting primary data, I eventually learned what the best approach was. When I was facing these challenges, I first talked to my supervisor to get some advice on what the best approach might be. She recommended some I involve the examination board. Was granted 4 weeks extension. All the extension left me feeling low and behind on the grad To begin with, data collection was the most challenging parts of the thesis report writing. From being restricted to physically travel to the field due to COVID-19 Public health guidelines to being declined to collect data because of political campaigns for national elections. I had false feelings of frustration when the extension to submit the thesis later came through but then I realized there's no one to blame but myself. I had to embrace the failure to complete a task on time. I took the blame, explore the systems or processes within the University to find solutions to this problem. And the solution was found. On the other hand, was very happy to have the blessings of the community to collect data in any resistance or interference despite the political tension at the time. I gave teamwork spirit to my research assistants so that they have the morale to collect primary data, which is more accurate, reliable, and dependable with the timeframe of the extended submission date.

Conducting thesis research remotely helped me build social and organizational skills including teamwork, effective communication, time management, and not to forget handling sensitive information with confidentiality and being neutral in presenting the views of research respondents. As a result of the thesis, my information and communication technology proficiency have improved. Although I did most of the work online. The skills acquired are the best fit for the practical work. To engage others through consultations but work independently as indicated in the Dublin descriptors. On another hand, this Master of Development cause has refashioned my mind. It is the positive change in behavior and attitudes as a person that will help me transform my family and society back home for the better. Use research and apply the concepts such as the Multistakeholder Processes, Gender Sensitivity and learned to help formulate lasting solutions to curb some of the most pressing climatic risks impacting my home country.

6.1 CONCLUSION

The research concludes that smallholder farmers are vulnerable to drought based on the findings. Cash transfers have the potential to improve smallholder farmers' ability to cope both during and after the drought. The major goal of the project is to strengthen smallholder farmers' resistance to drought hazards by incorporating efficient cash transfers into their drought coping techniques. The 1st specific objective was to identify various coping strategies. Smallholder farmers have a variety of coping mechanisms. Smallholder farmers' coping techniques are aided by social financial transfers and remittances from rural-urban migration. The 2nd specific objective was to "investigate the influence of cash transfers on smallholder farmers' enhanced capacity and/or vulnerability during and after drought." In the analysis, a capacity and vulnerability (CVA) matrix tool were employed. The study's findings show that employing cash transfers increases smallholder farmers' resilience to drought in Shangombo while decreasing their vulnerabilities. Gender was a factor in examining the vulnerabilities and capabilities. The 3rd and 4th specific objectives concerned resilience programmes carried out by both the government and non-governmental organisations. According to a livelihoods 'capital pentagon,' government interventions improve smallholder farmers' financial and human assets more than their social, natural, and physical capital. Non-governmental organisations, on the other hand, increases the ability of smallholder farmers through strengthening social and human assets more than financial, physical, and natural assets. This study's 5th specific objective presented gender-inclusive recommendations to help choose an effective drought resilience intervention. Inequality in decision-making capacities between male and female smallholder farmers was a major factor in choosing an effective drought resilience intervention.

6.2 RECOMMENDATIONS

Based on the research finding about the use of cash transfers for increasing drought resilience of rainfed smallholder farmers in Shangombo district, a few recommendations below are highlighted for the consideration of the DMMU:

- Smallholder Farmers in Shangombo district have limited coping strategies during and after drought; DMMU should try to improve those coping mechanisms that increase their capacity to adjust to drought. The DMMU could consider training smallholder farmers in climate smart agriculture such as zero tillage planting and disseminate drought awareness materials such as posters and stickers (in local language) of various coping mechanisms to secure livelihood assets.
- Cash transfers were unconditional or conditional, according to the research, provides an efficient drought resilience mechanism in Zambia. Cash transfers have been shown to strengthen drought resilience. Most smallholder farmers rely on cash transfers to supplement their income during and after a drought. The DMMU, in partnership with other agencies, should offer timely and transparent cash transfers to smallholder farmers that will complement livelihood diversification programmes.
- The CVA outcomes demonstrate Shangombo's strong structures, procedures, and institutions for novel low-risk, low-cost cash disbursement techniques. The DDMU requires investment in infrastructure for cash transfers, and coordination among the various interested stakeholders in Zambia from the public and private sectors, as well as civil society, is crucial to moving this agenda forward.

Recommendations for other stakeholders derived from research findings:

- Diversification of on-farm output appears to be a requirement for smallholder farmers to be less vulnerable to food insecurity. People's attitudes about off-farm production activities must be changed. They must cease considering them as activities that enhance agricultural output and instead assign them equal or greater importance than agriculture. This can enhance households' income from off-farm producing activities, reducing their vulnerability to food insecurity. It is advised that project funders and programme implementers ensure that their programmes are geared at assisting smallholder farmers with off-farm capacity building to enhance capability against drought.
- The Farmer Input Programme has a larger target group of drought prone smallholder farmers. It is imperative that the programme is redesigned to suit the needs of the intended beneficiaries unlike the top-down approach where smallholder farmers are not engaged in the choice of farm inputs but just provided with farming inputs. In the redesign, this may investigate making the programme mode of selection of inputs being electronic and broadening the category of inputs basing on regional need i.e drought tolerance early maturing maize seeds for Shangombo. This will increase efficiency of programme, saving more resources that be can be channeled towards increasing coverage of the vulnerable smallholder farmers.

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ANNEX 1.1: QUESTIONNAIRE FOR SOCIAL CASH TRANSFER DISTRICT SMALLHOLDER FARMERS
Academic Research (2021)

Research Introduction and Objective:

This research focuses on the impact of the Social Cash Transfer programme on its beneficiaries particularly, in Shangombo districts. The research project is part of the Disaster Management Mitigation Unit (DMMU), research. The implementation of this research is purely for professional information requirements of the interviewer and the designated Supervisory department of the Van Hall University of Applied Sciences, Netherlands.

There is a set of questions to be answered. Some of the information may contain personal data. You will not be asked for your name and contact details, but for purposes of analysis at a later stage, we will ask for your sex, gender and age. Should there be any personal data collected, it will be anonymized immediately. If there are questions that you do not feel comfortable responding to, you do not have to respond them. The data is collected purely for the purposes of this academic exercise, and the questionnaires will not be shared with other people. By participating in the research you will help the researcher understand the situation of resilience to drought in Zambia better. Participation in this survey is entirely voluntary and it will not be paid for. By responding to the following questionnaire, you allow your responses to be anonymously used for any purposes of this academic exercises.

No.	Question	Answer	Make Comments
Q0	Do you wish to take part in this interview?	1 – No 2 – Yes	
Q1	Are you personally aware of the Social Cash Transfer programmes in your district and community?	1 – No 2 – Yes 88 – Question not answered 99 – I don't know	
I. Personal Information and Traditional Sources of livelihoods			
Q2	What is your sex?	1 – Male 2 – Female	
Q3	How old are you?	_____ 88 – Question not answered 99 – I don't know	
Q4	Do you have any source of monthly income if any?	1 – farming 2 – Informal trading 3 – Street vending 4 – No source of income 5 – Family support 88 – Question not answered 99 – I don't know	

II. General Information and Social Cash Transfer Benefits			
Q 7	Name of District and Village:	District: _____ Village/Township: _____	
Q 8	How long have to stayed in Nshangombo?:	_____ _____	
Q 15	Explain how you have personally used the Social Cash Transfer programmes for drought resilience?	1 – Personal benefits..... 2 – Family benefits..... 3-Other benefits..... 88 – Question not answered 99 – I don't know	
Q 17	From the time, you first received Social Cash Transfer b, can you explain any other specific areas of life the Social Cash Transfer programme has contributed to and improved (social, education, health, jobs, others)	1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 88 – Question not answered 99 – I don't know	
Q 18	Are there some other specific areas of life you or your family feel have not benefited or improved from the Social Cash Transfer programme.	1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 88 – Question not answered 99 – I don't know	
Q 19	If they are some areas where you feel you or your family have not benefited from the Social Cash Transfer programme, what do you think is the reason?	1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 88 – Question not answered 99 – I don't know	
Q.V Coping Strategies in Response to Drought by smallholder farmers			

	Drought-tolerant crop cultivation (maize)	1.....	
	Lower extent crop cultivation	2.....	
	Tree plantation (Multi-purpose trees)	3.....	
	Sell of livestock	4.....	
		5.....	
	Rain water harvesting	6.....	
	Any other		
Q.V Recommendations and Suggestions Based on Community interactions with the Social Cash Transfer for increasing drought resilience			
Q 33	Overall, what suggestions do you have on the side of the SCT Officers, Others, and Government, with regards to improvements, poverty reduction, reducing vulnerability?	1 – 2 – 3 – 4 – 5 – 88 – N/A 99 – I don't know	
Q 34	Overall, how you rate the drought resilience provided by the government and nongovernmental organisations?	1 – 2 – 3 – 4 –	

Date:.....

Time.....

ANNEX 1.2 PROPOSED INTERVIEW GUIDE FOR KEY INFORMANTS

NAME OF RESPONDENT:

ORGANISATION WORKING FOR:

GENDER:

AGE:

DATE:

THEMES OF DISCUSSION : *PROGRAMMES THE DEPARTMENT IS IMPLEMENTING TO INCREASE RESILIENCE AMONG SMALLHOLDER FARMERS.*

1. NAME OF PROGRAMME

2. PROGRAMME (S) OBJECTIVE

3. TARGET GROUP OF THE PROGRAMME

4. ATTAINED RESULTS SINCE IMPLEMENTATION THE PROGRAMMES

5. STAKEHOLDERS LEVELS OF INTEGRATION IN THE IMPLEMENTED PROGRAMME

6. WHAT IS THE DURATION OF THE PROGRAMME (S)

7. SUSTAINABILITY MEASURES PUT IN PLACE OF THE IMPLEMENTED PROGRAMME (S)

Thank for your time.

APPENDIX 2: Clusters of farmers

TYPE OF FARMER	Hectares Cultivate (Ha)	Primary Tools / Implements Used	Demographic Considerations
1. Large Scale	20Ha and above	Depend on mechanization, improved seeds, fertilizers, chemicals, animal draft power or tractors.	Very few female farmers
2. Medium	Between 5 and 20Ha	hand hoes with oxen and tend to depend on external inputs and mechanization Both rainfed and artificial irrigation	small proportion of female farmers
3. Smallholder	5Ha converging over 90% of the Country's farm households and over 70% of the total cropped area	Hand hoes with very few external inputs. Low cost to no mechanized irrigation, highly dependent on rainfed cultivation	High number of female farmers

Table 2: Clusters of Farmer modified from Lay et al (2018)

APPENDIX 3 TIME SCHEDULE RESEARCH PROPOSAL

TOPIC:

Cash transfers for drought resilience: A case of Shangombo District, Western Zambia

STUDENT: 000024662

COURSE: MSc. MANAGEMENT OF DEVELOPMENT-DISASTER RISK MANAGEMENT 2020/21

ACTIVITY	TIME ALLOCATION						
	05/05/2021 to 10/05/2021	11/07/2021 to 13/07/2021	21/08/2021 to 23/08/2021	27/08/2021 to 05/08/2021	13/09/2021 to 16/09/2021	26/09/2021 to 28/09/2021	29/05/2021 to 10/10/2021
Literature review							
Preparation and submission of draft research proposal							
Supervisor's feedback							
Improving and submission of draft proposal thesis							
Supervisor's Feedback							
Final Draft Thesis preparation and submission							
Supervisor's Feedback							
Refining and submission of Final Research Thesis							

Final plan of action for the thesis report.

S/N	Activity	Timeline
1	Proposal Development	May 27, 2021, to 4 th July, 2021
2	Proposal Submission	July, 2021

3	Proposal Approval	July ,2021
6	Design Collection Tools	July 14,2021
7	Conduct Field research	28 July 2021 to 31 st August, 2021
8	Thesis Report Submission	6 th August, 2021

SUPERVISOR: ASTRID VAN ROOIJ

ASSESSOR: Dr. GERRIT-JAN VAN UFFELEN