



Midlands State University
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**ASSESSING THE IMPACT OF TOBACCO FARMING IN POVERTY
ALLEVIATION: THE CASE OF SMALL HOLDER CENTENARY FARMERS**

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DEDICATION

I proudly dedicate this work to the almighty Lord for His grace and love without Him it would not have been possible to complete this research. I also dedicate this research to my one and only daughter Ruvarashe Taderera for the spared time and love you gave me during the course of the research. God bless you love you forever Ruva.

TO MY DAUGHTER

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ABSTRACT

This paper presents a review on the literature of tobacco farming on the observed research on the impact of tobacco farming on the livelihoods of smallholder farmers as well its impact on poverty alleviation. In this study I drew on the existing academic structure on tobacco farming in Zimbabwe. An examination of the factors that led farmers in partaking tobacco farming was carried out on 86smallholder farmers. The case was in Centenary District. This study was therefore initiated with the aims to (i) to establish the significance of tobacco farming in sustaining livelihoods. (ii) to evaluate socio economic challenges faced by smallholder tobacco farmers (iii) to determine and analyse the impact of coping strategies employed by small holder farmers. Qualitative research method was used because it is flexible and it managed to give an in-depth analysis of the impact of tobacco farming in Centenary. Purposive sampling was used to select the smallholder farmers. Questionnaires and interviews were used to collect data. The findings shows that tobacco farming improved the livelihoods and has alleviated poverty on smallholder farmers through impacting better income, improved household food security, increased asset ownership, better standard of living, improved household assets, creation of employment and improved housing structure but however though tobacco farming has improved livelihood it has caused land degradation and premature deaths due to lack of protective clothes farmers suffered from diseases such as green tobacco sickness.

ACRONYMS

AGRITEX-	Department of Agricultural, Technical and Extension Services
EMA-	Environment Management Agency
FAO-	Food and Agricultural Organisation
GDP-	Gross Domestic Product
GMB-	Grain Marketing Board
GTS-	Green Tobacco Sickness
LSC-	Large Scale Commercial farmers
MTC-	Mashonaland Tobacco Company
NGO-	Nongovernmental Organisation
SSC-	Small Scale Commercial farmers
TIMB-	Tobacco Industry Marketing Board
UNCED-	United Nations Conference on Environment and Development
UNDP-	United Nations Development Programme
ZTLC-	Zimbabwe Tobacco Leaf Company
ZTA-	Zimbabwe Tobacco Association

Contents

Contents

RELEASE FORM.....	1
ABSTRACT	4
ACRONYMS	5
1.1 Background to the study	7
1.2 Statement of the Problem.....	8
1.3 Objectives.....	8
1.5 Delimitations /Delineation	9
1.6 Limitations	9
1.7 Theoretical framework.....	9
1.8 Conceptual Framework	9
1.9.4 Assumptions.....	9
1.11 Justification of the Study	10
1.12 Chapter summary	10
CHAPTER TWO	10
LITERATURE REVIEW.....	10
2.0 Introduction.....	10
2.1.2 Smallholding.....	10
2.1.3 Common characteristics of smallholder farmers.	11
2.1.4 Small-scale Tobacco farming in Zimbabwe.....	11
2.1.5 The context of smallholder farming in South Africa	11
2.2 Establishing and assessing the significance of smallholder farming in sustaining livelihoods in Centenary.	11
2.2.1 What is the significance of Smallholder farming?	11
2.2.2 Economic importance of tobacco crop in Zimbabwe	11

2.3 Environmental Concern	12
2.2.4 Change in the Grower base.	12
2.3.5 Other factors.....	12
2.3.6 Sustainable forest resource use in tobacco producing areas	12
2.3.8 Improved energy interventions/ Improvements in barn technology	13
2.3.9 Use of alternative source of fuel	13
2.3.1 Meaning of Livelihoods	13
2.3.2 How smallholder farming sustains livelihoods in Centenary.....	14
2.3.4 Child labour	17
Gender and ownership of agricultural resources issues	17
2.4 Objective 3: To determine and analyse the impact of the coping strategies employed by the smallholder tobacco farmers in poverty alleviation.	19
2.4.1 Coping Strategies defined	19
2.4.2 Emotion-Focused Coping	19
2.4.3 Problem-Focused Coping	19
2.4.4 Coping strategies for smallholder tobacco farmers.....	20
2.4.5 Coping mechanisms	21
2.4.6 Adaptive strategies.....	21
2.4.7 Current coping strategies and adaptation measures to climatic variability.....	21
CHAPTER THREE.....	22
RESEARCH METHODOLOGY	22
3.1 Type of research design	22
3.2 Sampling procedure	22
3.2.1 Purposive Sampling	22
3.2.2 Convenience sampling	23
3.3 Data collection	23
3.3.1 Interviews	23

3.3.1.1	The Interview Process	23
3.3.1.2	Recording Interview Data	23
3.3.1.3	Length and Timing of interviews	23
3.3.2	Desk Research.....	24
3.4	Research Ethics	24
3.4.1	Informed consent.....	24
3.4.2	Confidentiality	24
3.4.3	Privacy/ Autonomy	24
3.4.4	Protection from harm	24
3.5	Chapter Summary	24
	CHAPTER FOUR.....	24
	DATA PRESENTATION, AND ANALYSIS OF RESEARCH FINDINGS.....	24
	4.0 Introduction.....	24
	4.1 Research Findings	24
	4.1.1 Objective1; to establish the significance of tobacco farming in sustaining livelihoods.	24
	Table 3 Factors that Influenced Tobacco Cultivation	25
	4.1.3 Reasons for prioritizing tobacco farming in land allocation.....	25
	Table 4 Type of House of the respondents	26
	Table 5 Farm inputs and their sources	27
	4.1.7 Off-farm Income	28
	Table 7 Farmers’ response on their access to off-farm income	28
	Source of Off-farm Income	28
	Table 8 Sources of off-farm income	28
	Table 9 Regularity of respondents’ off-farm income.....	29
	Table 10 Education Levels of Household	29
	TABLE 13: Summary of the quantity of firewood and costs to the environment for farmers in Centenary.....	31

Pricing and Grading System used to Calculate Farmers' Earnings	32
4.3 Objective 3: to determine and analyse the impact of coping strategies employed by small holder farmers.....	32
4.3.1 Diversified Farming	32
Table 14 Crops grown by respondents	32
4.3.2 Irrigation schemes.....	32
4.4 Summary.....	33
5.0 Introduction.....	33
5.1 Summary of findings.....	33
5.1.1 Objective1: To establish the significance of tobacco farming in sustaining livelihoods.	34
5.1.2 Objective 2; To evaluate socio economic challenges faced by smallholder tobacco farmers	34
5.1.3 Objective 3: To determine and analyse the impact of coping strategies employed by small holder farmers.....	35
5.2 Conclusions.....	35
5.2.1 Objective1: To establish the significance of tobacco farming in sustaining livelihoods.	35
5.2.2 Objective 2; To evaluate socio economic challenges faced by smallholder tobacco farmers.	35
5.2.3 Objective 3: To determine and analyse the impact of coping strategies employed by small holder farmers.....	35
5.3 Recommendations	35
BIBLIOGRAPHY	36

CHAPTER ONE

1.0 Introduction

The research have analysed on a broad scale the effectiveness of smallholder tobacco farming on poverty alleviation in Centenary. The introductory for the purposes of the study focused on the following areas; background to the study, statement of the problem, research objectives, research questions and framework of the study

1.1 Background to the study

It is no secret that the Zimbabwean economy is severely struggling and this means poverty levels are rising. Tobacco is increasingly becoming an important cash crop and is a common feature of improving the livelihood of small holder farmers in Zimbabwe. The Zimbabwean fast track land reform programme in the year 2000 has been characterised by radical reconfigurations of land, production, economy and livelihoods in the rural landscape (Mavedzenge et al 2010) and brought about benefits and challenges as well as costs.

It's disturbing to note that 85% of the Zimbabwean population is unemployed. As such the majority of Zimbabweans are living in poverty whereby they are lacking the resources to meet the basic needs for healthy living such as food, shelter, health access and clothing. Hence small scale tobacco farming has compensated for that it has seen a reduction in poverty levels.

Traditionally Zimbabwe's agriculture sector was dualistic; on the one hand there was the commercial sub-sector comprised of large-scale farms producing cash crops such as tobacco and grain, on the other the small-scale producers who grew food crops, especially maize. This food fed the country and there was even surplus for export to other countries in the region.

The government's land reforms dismantled the existing system of land distribution and severely damaged the commercial farming sector, which was an important source of exports and foreign exchange, and which provided employment for about 400,000 people in rural areas. The old system was geared to large-scale production and the transition to smallholder production has been slow and painful. However with the economy suffering, tobacco farming has improved livelihoods despite setbacks.

The economic crisis of the past decades has prevented substantial capital investment, and new enterprises have been slow to emerge. Agricultural production in general has suffered as a result of weak support services, lack of credit, and acute shortages of essential inputs such as seeds, fertilizer and fuel. In drier areas water scarcity is a major challenge for farmers. Productivity can be improved only through investment in agriculture water management, particularly small-scale irrigation and water harvesting. Many smallholders are struggling to continue farming, and only a minority in some areas have been able to establish viable enterprises.

Drought has exacerbated an already difficult situation and has made it harder for farmers in dry areas to raise their productivity brought irrigation equipment in order to curb the drought crisis. Food insecurity continues to worsen both for urban and rural populations but luckily for tobacco farmers they are able to buy grain in case a food crisis arises. Zimbabwe has become a net importer of food products and many millions of people are now dependent on food aid. Yet the strained relationship between Zimbabwe and large parts of the international community has also restricted donor engagement in the country.

It is estimated that at least 3 million Zimbabweans (over 20 per cent of the population) have left the country since the economic crisis started in the late 1990s. This decline in human resources has also made it more difficult for the country to recover from the on-going crisis, and has slowed down the delivery of social and public health services. However, those privileged enough to be land owners have tried to suppress the issue of migration through creating employment through tobacco farming. This is because tobacco is a crop that needs attention throughout the year. However, growing tobacco has many environmental challenges make farming increasingly difficult, including deforestation, land degradation and soil erosion. In some areas poor mining practices have led to toxic waste and heavy metal pollution leakage.

Tobacco is a cash crop grown widely in developing countries automatically making it ideal crop for smallholder farmers. It is consumed worldwide and has been cultivated in Africa since the end of the 16th century though commercial cultivation began around the 19th century. The expansion of tobacco farming has been encouraged and financed by major cigarette companies around the world, especially in developing countries.

1.1.1 Types of Tobacco

Many kinds of tobacco are grown in the world, with a variety of uses. The types of tobacco vary according to tobacco classes in various countries and elements such as manipulation of nitrogen fertilization, plant density, time and height of topping, harvesting and curing are added to favourably influence the usability of the cured leaves for specific products. Some of the most common types are listed below.

1.1.1.1 Virginia

(40 % of world tobacco production) Virginia is high in sugar and low in oils. The colour of the leaves ranges from bright lemon yellow to medium brown; the lighter colours being spicier in flavour and the darker coloured leaves having a deeper and complex taste. Virginia is used almost entirely in cigarette blends. Some of the heavier leaves may be used in mixtures for pipe smoking. Some English cigarettes are entirely composed of Virginia tobacco. Major producers in the world are China, U.S.A., Brazil, India and Zimbabwe.

1.1.1.2 Burley

(11 % of world production) It is high in oil, low in sugar and has a nutty type of flavour. Burley is usually light air-cured, derived from the White Burley which arose as a mutant on a farm in Ohio in 1864. Burley is used primarily in cigarette blends. Some of the heavier leaves are used in pipe blends and also for chewing. Cured burley leaf is characterised by low sugar content and a very low sugar to nitrogen ratio (high nicotine). This is enhanced by high amounts of nitrogen-fertilisers, harvesting at an early stage of senescence and the air curing process allows for oxidation of any sugar which may have occurred. Main producers: U.S.A., Italy, Korea, Brazil, Mexico and Zimbabwe.

1.1.1.3 Maryland

It is a neutral type of tobacco with a mild flavour. Maryland is another usually light air-cured type. It is used in some American blended cigarettes and to a greater extent in certain Swiss

cigarette blends. Maryland tobacco is extremely fluffy, has good burning properties, low nicotine and a neutral aroma. Producing countries: U.S.A. and Italy

Tobacco growing in the country was introduced in the late 1930s and has increased tremendously over the years. Tobacco is, Zimbabwe's customary export crop, and had the largest increase from 8 537 farmers in 2000 to 60 047 farmers in 2015 (TIMB, 2012). Smallholder tobacco farmers are contracted to tobacco companies who buy the dried (cured) leaf from them. BAT offers them crop inputs and advice, and buys leaf from them once dried (cured). The crop inputs provided are usually given to farmers as loan which would later be deducted from their final earnings. The price farmers receive for their tobacco leaf is dependent on the tobacco companies' evaluation of its quality.

The Zimbabwean government, as most other developing countries treasures the tobacco firms because of the revenues generated by the tobacco firms through taxes remitted. In fact, between the tobacco firms, the farmers and the government, it is the government that is the greatest beneficiary (Eliis, J 2002). While there are many advantages to tobacco farming such as salaries and wages for the employees and farm workers, and government revenue through taxes; it may also have adverse effects. Efrogmson and FitzGerald (2002), noted that although tobacco growing provides funds for basic existence, it keeps the poor entrenched in a cycle of poverty. Example can be seen from smallholder tobacco farmers complained that they are intimidated by the tobacco companies and as a result they accept any amount paid to them. This has created a situation where farmers sell tobacco at very low prices. As a result, farmers are barely making a living, producing a crop that is labour and input intensive and at the same time brings with it health and environmental dangers (WHO, 2004, 2008a and 2008b).

On the other hand, land under tobacco has continued to grow rapidly at the expense of traditional food crops and livestock activities, with high demand on wood-fuel, serious health issues, and demanding in terms of the farmer's time. The main reason for this is more farmers are drawn to tobacco farming due to availability of inputs that are being offered by the companies (Kibwage et al, 2009). These tobacco issues have led to increased poverty levels in regions where tobacco farming is practiced. Three quarters of the people in Centenary have been growing tobacco for over a decade, and today they are still languishing in poverty. It is

for these reasons that smallholder tobacco farmers in Centenary area can barely afford three meals in a day, decent shelter, or send their children to school (Anaya, 2010). Further, tobacco farming has been seen as a less profitable crop in comparison to the time spent in its production. According to Oongo (2002), earnings from tobacco are not commensurate with the input by the farmers. This was also concluded by Ochola et al (2007) that tobacco farming is not only labor intensive, but also involves the entire family including school children. This not only makes the tobacco households less educated, but also leaves little time to plant food crops.

In addition to the land issues, food security has been worsening because of the ways tobacco companies have been marketing themselves over the years. According to Kimani (2006), BAT entices farmers to grow tobacco in place of traditional food and spend money on feeding their addictions rather than their families. Most small holder farmers are facing food shortages because of tobacco production since farmers spend most of their time in tobacco farming at the expense of food crops, which they eventually buy from surrounding districts at very high prices (Franker.J, 2009). In this research the researcher focused on the impacts of tobacco farming on poverty alleviation. The study focused on both the negative and also positive impacts and, analysing the surroundings of small holder tobacco farming if they are beneficial to their livelihood. The researcher also come up with recommendations to try and improve livelihood and reduce poverty in Centenary.

1.2 Statement of the Problem

There are several risks related to tobacco growing which are well known, these include green tobacco sickness which ends in dermal absorption of nicotine, which is exacerbated during the handling of wet leaves. According to Efroymsen and FitzGerald (2002) tobacco cultivation has defeated the very purpose of agriculture which is to provide food and enhance quality of life; instead it causes disease, disability and premature death.

Although tobacco companies provide inputs to the smallholder farmers, earnings from tobacco farming are not commensurate with the time and effort that the farmer has put to make sure there is good harvest of the crop. This is because tobacco cultivation is monitored from seedbed preparation all the way till the curing process. The affected farmers are, therefore, not in a position to feed, educate or cloth their families adequately.

Snell (2003), in his report on 'Economic and Social Impact of Leaf Tobacco Production' stated that tobacco farming involves severe, arguably irreversible costs to farmers and their families, all which are leading to worsen and perpetuate the conditions of poverty of the farmers. Smallholder tobacco farmers are also trapped in debt cycles providing them no option but to keep cultivating the crop irrespective of the long-term, veiled hazardous consequences and questionable economic gains. It is because of these reasons that tobacco contributes to poverty of individuals and their families more than it benefits them (Ellis et al, 2007).

It is evident that despite the studies done on the negative impact of tobacco cultivation, a good number of farmers still cultivate this cash crop. This study therefore identified the socioeconomic challenges that tobacco farmers faced during and after cultivation of the tobacco crop in Centenary. The study also looked at the coping mechanisms employed by tobacco farmers in Centenary and established the contracted tobacco farmers who would stop tobacco cultivation and adapt alternative crops to cultivate.

1.3 Objectives

The study seeks to achieve the following objectives:

1.3.1 To establish and assess the significance of smallholder farming in sustaining livelihoods in Centenary.

1.3.2 To evaluate socioeconomic challenges faced by smallholder tobacco farmers.

1.3.3 To determine and analyse the impact of the coping strategies employed by the smallholder tobacco farmers in poverty alleviation.

1.4 Research questions

1.4.1 What is the importance of small holder tobacco farming and how is it sustaining livelihoods?

1.4.2 How and to what extent are the socioeconomic challenges affecting smallholder farmers?

21.4.3 How are poverty alleviation strategies being employed by the smallholder farmers enabling them to cope?

1.4.4 What form of government assistance is rendered to smallholder farmers and how is it impacting the lives of the farmers?

1.5 Delimitations /Delineation

The researcher chose the Centenary because there are numerous small holder tobacco farmers from the area. The place is close to Harare where the researcher is stationed. The research was carried out in a space of three months from July to September 2016.

1.6 Limitations

Financial constraints may act as a hindrance towards collection of data, however will find an affordable place to stay in the area to cut transport costs. Time can also be an impediment towards the research as I am employed, however will ask for leave days to devote more time to my research. The problem of locating the traditional leaders of the area and the reluctance by some potential participants to take part in the research due to their work commitments in farms however the researcher will look for appointments with the participants and at times the researcher will help the respondents in the farms for example cultivating while caring out the research interviews.

1.7 Theoretical framework

The research was mainly based on the theory of sustainable development. The theory effectively give an assessment on tobacco farming in Centenary and how the farmers are benefiting from tobacco farming in alleviating poverty. Sustainable development theory was defined as “...*development that meets the needs of the present without compromising the abilities of future generations to reach their own needs.*” (WCED, 1987:43 Ch2).According

to Bruntland sustainable development link the economic development and environmental stability (Bruntland 1987). Tobacco farming has improved the livelihoods of the present hence supporting the future generation with a sustainable cash crop which alleviate poverty, however it also important to note that tobacco possessing damages the environment through continuous cutting down of trees which they use in curing tobacco. The continuous cutting down of trees during the curing process have caused deforestation and land damages hence this might affect the future generation's sustainable development through tobacco farming because of damaged environment. The main pillars of sustainable development are social, ecological and economic, the theory states that or the three pillars are important and one should not be favoured at the cost of others.

1.8 Conceptual Framework

The conceptual framework used in this study emanates from the relationship between tobacco farming, livelihoods and poverty alleviation as is the issue of concern. It has been noted that, besides deforestation, tobacco production and other agricultural practices are causing serious damages to the environment. However, this study focused more on the economics of tobacco farming and its implications on poverty alleviation and giving a brief insight on the environment issue. Smallholder tobacco production is the key agent that affects the environment. There had been an increase in the number of contracted smallholder farmers since the mid-2000s and this sector produced a fairly significant proportion of the national crop. Livelihood was clearly defined by Ellis (2000) in attempt to bring together various definitions defines livelihood as: A livelihood comprises the assets natural, physical, human, financial and social capital, the activities, and the access to these mediated by institutions and social relations that together determine the living gained by the individual or household. Livelihoods of smallholder farmers are going to be assessed using the following indicators, employment creation, income generation, household food security, the standard of living, farm asset ownership, household asset ownership and infrastructural development.

Smallholder farmers are defined in various ways depending on context, country and ecological zone (Machingura, 2007) For example, Dixon et al, (2005) suggest that smallholder farmers face limited resource endowments relative to other farmers in the sector, A more

comprehensive definition identifies one key characteristic of smallholder farmers as that they have access to land as means of livelihoods whilst relying primarily on family labour for production (Ellis, 1988).

1.9 Definition of key terms

1.9.1 Poverty

Poverty is defined in many definitions such as relative poverty is when someone's resources are below the average. Absolute poverty does not change over time; it is also dangerous to human life (Grusky2006). The researcher is going to use the definition of relative poverty in her research. Relative poverty is the situation in which people lack the minimum quantity of income needed in order to sustain the normal standard of living in the society in which they live (Miliband et al 1974) Relative poverty changes over time and is the easiest way to measure poverty in a community or a country.

1.9.2 Alleviation

Alleviation is the reduction of poverty in Centenary; growing cash crops such as cotton and tobacco in Zimbabwe have helped in reducing rural poverty. Alleviation in this research is reducing rural poverty through tobacco farming and supporting the livelihoods of people in Centenary.

1.9.3 Small holder farmers

Small holder farmers are defined as farmers who own small portion of land on plots which they grow sustenance crops and one or two cash crops and they depend on almost on family labour. Small holder farmers are defined as livelihoods creators in poor rural areas and they are also providers of food security at family levels. Smallholder farmers have access to land as means of livelihoods and depend on family labour for production (Ellis, 1988).

1.9.4 Assumptions

Farmers would not be willing to honestly divulge their earnings from tobacco growing. The traditional leadership and farmers had reservations that the researcher is up to no good. The researcher assumes that tobacco farming practiced in Centenary is alleviating poverty on smallholder farmers and the farmers are not relying on donor aid in their livelihoods such as food aid.

1.10 Scope of the Study

The research was carried out in Centenary Mashonaland Central Province which is one of the tobacco growing areas in Zimbabwe. Tobacco companies give contracts to small holder farmers to grow tobacco and later when its harvest times the crop, they sell the dried (cured) leaf to these companies. This study therefore, seeks to explore the benefits of smallholder tobacco farmers contract farming and assess if they are benefiting. According to Leaver, J (2010) earnings from tobacco are not commensurate with the input by the farmers. As a result, farmers are barely making a living, producing a crop that is labour and input intensive and at the same time brings with it health and environmental dangers (WHO, 2010, 2012a and 2012b). This study therefore, identified the socio-economic challenges among smallholder tobacco farmers in Centenary.

From studies done earlier, tobacco farming was said to bring no profits to tobacco farmers and that people still languish in poverty even after cultivating the crop for decades. The study therefore focused on the sources of income of small holder tobacco farmers in Centenary; and frequency of getting money from these sources. This enabled the researcher to know how the smallholder tobacco farmers in the area of study coped with the issue of tobacco farming not providing them enough money to cater for their living.

1.11 Justification of the Study

This study will help Government, Non-Governmental Organizations and donors to formulate and design policies, strategies and enact laws that could alleviate poverty and maintain

adequate household food security enabling other affected areas to embrace the skills to solve the problem of poverty amongst smallholder farmers.

1.12 Chapter summary

For the Purposes of this study the researcher gave a detailed background to the study which outlined issues that relate to smallholder tobacco farming in poverty alleviation. The problem statement highlighted the problem and issues arising from it. The objectives and research questions for the purposes of the study were formulated. The significance of the study covered the researcher, the smallholder tobacco farmers as other researchers. Assumptions made by the researcher were outlined. Key terms were defined for the purposes of the study. Boundaries for the study in different aspects were given by the researcher under scope of the study and justifications made. Limitations to the study were given that may hinder or affect the study. The next chapters will focus on Literature Review, Research methodology presentation and analysis of data and a summary of findings, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter of the research will deal with a review of relevant literature that has a bearing on the research and will expose the gaps that exist in the literature under review. The literature under review will be guided by the research objectives in order to link the chapter with the objectives of the research. The chapter will cover the following areas, the definition of smallholder farmers, smallholding, characteristics of smallholder farming, small-scale tobacco farming, economic importance of tobacco crop in Zimbabwe, meaning of livelihoods, how smallholder farming sustains livelihoods, and the coping strategies of smallholder tobacco farmers.

2.1 Definition of Small holder farmers

According to The Department of Agriculture, Forestry and Fisheries, South Africa, (2012) smallholder farmers are defined in various ways depending on the context, country and even ecological zone. Often the term ‘smallholder’ is interchangeably used with ‘small-scale’, ‘resource poor’ and sometimes ‘peasant farmer’. In general terms smallholder only refers to their limited resource endowment relative to other farmers in the sector. Small holder farmers are defined as livelihoods creators in poor rural areas and they are also providers of food security at family levels.

Smallholder farmers have access to land as means of livelihoods and depend on family labour for production (Ellis, 1988). Mutami (2015) is of the view that smallholder farmers are identified as farmers who are in communal areas, resettled small scale areas (Makoni District), and small scale commercial areas in Mazowe who own less than 35 hectares of land. His definition refers to specific areas of his study.

Cousins (2009) defines smallholder farmers as those farmers owning small-based plots of land on which they grow subsistence crops and one or two cash crops relying almost exclusively on family labour. The term “smallholders” is widely understood to include small farmers who do not own or control the land they farm. Often, the term “out growers” is used

to refer to smallholders who are in a dependent, managed relationship with an exporter. Coelli and Fleming (2004) concur with Cousins as they define Smallholder farming as farms that are operated by farm families using largely their own labour. The Fair trade Labelling Organisation (FLO) (2005) defines a smallholder as a producer who is dependent on family labour as a basis for its definition.

The above definitions imply that smallholder farmers are poor and own small tracts of land, relying on manual family labour and farming as a means of subsistence and only sell surplus harvests of one or two kinds of crops that they produce. In the past the common term for small-scale farmers who rely mostly on household labour, and who sell at least part of their produce for cash, was 'peasant', and this still a key term for some analysts (Akram-Lodhi and Kay 2009, Hebinck and van Averbek 2007, Ploeg 2008). These definitions view the smallholder farmers as being somehow outside of a commodity based economy.

Bernstein (2010) argues that smallholder farmers in the contemporary world cannot reproduce themselves outside of commodity circuits that are of markets for agricultural inputs, outputs and consumer goods, even when production involves family labour and no wage labour is hired, and a large proportion of output is used for home consumption. Cash income is needed to purchase many other goods for purposes of both production and consumption. Ploeg (2008) adds that if cash income from marketed farm produce is insufficient to meet these needs, then family members will have to engage in other forms of livelihood in addition to farming, such as wage labour, crafts or petty trading, in order to achieve their simple reproduction. 'Simple reproduction' here means both daily reproduction (maintaining the means of production and levels of consumption) and generational reproduction (raising the next generation of family labour).

2.1.2 Smallholding

Christina et al (2013) postulate that smallholding is a small farm and point out that in third world countries, smallholdings are usually farms supporting a single family with a mixture of cash crops and subsistence farming.

2.1.3 Common characteristics of smallholder farmers.

There are a number of characteristics common to smallholders, whether or not they control the land they farm or the commodity they produce, as detailed in the Ethical Trading Initiative (ETI) Smallholder Guidelines (2005):

- They produce relatively small volumes of produce on relatively small plots of land.
- They may produce an export commodity as a main livelihood activity or as part of a portfolio of livelihood activities.
- They are generally less well-resourced than commercial-scale farmers.
- They are usually considered to be part of the informal economy (that is they may not be registered, tend to be excluded from aspects of labour legislation, lack social protection and have limited records).
- They may be men or women.
- They may depend on family labour, but may hire workers.
- They are often vulnerable in supply chains

Tittonell et al (2012) add that smallholder farming is characterised by an integrated set of cash cropping and subsistence food cropping activities. The above definitions of smallholder farmers are not country specific but apply basically to African and Asian countries and as such they are not Zimbabwe specific and there is a gap in definitions.

One of the main characteristics of production systems of smallholder farmers are of simple, out-dated technologies, low returns, high seasonal labour fluctuations and women playing a vital role in production. Smallholder farmers differ in individual characteristics, farm size, resource distribution between food and cash crops, livestock and off-farm activities, their use

of external inputs and hired labour, the proportion of food crops sold and household expenditure patterns (South Africa Department of Agriculture, Forestry and Fisheries, 2012).

2.1.4 Small-scale Tobacco farming in Zimbabwe

Many books have been written about tobacco farming. Zimbabwe is the largest producer of tobacco in Africa. Pedersen (1992) takes the view that tobacco agricultural processing and marketing functions in Zimbabwe, as in many other African countries, have traditionally been centrally controlled through the marketing boards and are little developed in small towns. Pedersen (1992) shows that agricultural produce and marketing is controlled and this therefore makes the small towns which practice farming to slowly develop.

Leaver (2004) outlines that the increased participation of small scale farmers in tobacco production was followed by declining yields (Leaver, 2004). (Minot, 1986) adds that the involvement of small-scale farmers in agricultural value chains is slowed down by lack of construction resources, credit limitations, minimum use of machinery and market limitations that hinders farmer's access to markets.

The above scholars clearly show that tobacco farming practiced by small holder farmers after the land fast track process is characterized by low yields and market imperfection in some parts of Zimbabwe however, it is important to note that the land fast track program to some extent has improved women farmer's livelihoods as it increased their production hence promoting food security and helping them to move out of poverty. Wainana, Okello and Nzuma (2012) postulate that smallholder farmers have low trading control when it is equated to the well-resourced profit-seeking businesses (Wainaina, Okello & Nzuma, 2012).

2.1.5 The context of smallholder farming in South Africa

Socio-economically, most smallholder farmers in South Africa are poor, less educated and reside in rural communities with less developed infrastructure which locates them in the so called second economy (Jacobs 2008). Many of these communities are usually governed by male traditional chiefs, while up to 80% of the active producers are females (FAO 2002). In South African rural areas almost all the land is communally owned and administered by a Traditional Authority (TA), and it is mainly for subsistence purposes. The communal ownership of land in these areas tends to diminish its commercial value, especially within a

neo-liberal orientation that underlies commercial farming in South Africa, which promotes competition and individuality. The above characterisation of smallholder farmers is specifically in relation to South Africa, a different country from Zimbabwe and so there exists a gap in that the Zimbabwe specifications are not catered for here.

The above characterisation of smallholder farmers brings them across as being small scale in nature and basically that they depend on farming as their means of livelihood and thus sell surplus in order to augment their meagre resources. The above characteristics therefore help to come up with an overview and a general understanding of smallholder farmers.

2.2 Establishing and assessing the significance of smallholder farming in sustaining livelihoods in Centenary.

2.2.1 What is the significance of Smallholder farming?

There is need to establish and assess the importance of smallholder farming in Centenary in order to determine the impact that farming has on the lives of the people. According to The Financial Gazette (August 2013) the performance of the agricultural sector determines the overall level of people's living standards and development of the economy. The sector provides livelihood to over 70 percent of the population and a third of the country's labour force is employed in the agricultural sector. This view implies that the majority of Zimbabweans are employed in the agriculture sector.

Hawkins and Cross (2013) argue that smallholder farmers are creating new local economies – currently small-scale, but with clear opportunities for generating further economic linkages. generate an economic dynamic that creates investment and employment. According to the Department of South Africa Agriculture, Forestry and Fisheries (2012) smallholder farmers can play an important role in livelihoods creation amongst the rural poor. Even though Smallholder production is important for household food security, the productivity of this sub-sector is quite low. Poor yields may be one of the reasons why urban and rural households either abandon or are uninterested in agricultural production. Furthermore, the Department of Agriculture, Forestry and fisheries (2012) argues that there is therefore a need to significantly increase the productivity of smallholder farmers to ensure long term food security. This can be achieved by among others encouraging smallholder farmers to pursue

sustainable intensification of production through improved inputs Although this refers to South Africa it can also be generalized to Zimbabwean smallholder farmers.

2.2.2 Economic importance of tobacco crop in Zimbabwe

Chivuraise (2011) in the research on Zimbabwe smallholder farming points out that the Tobacco crop is one of the top ranked crops in Zimbabwe in terms of output and returns. There are some of the periods where tobacco was ranked the first in terms of its contribution to GDP. Chipika and Kowero (2000) highlighted that agriculture's contribution was 14% (for the period 1975 – 1994) to the country's GDP on average and it was ranked second to manufacturing which contributed 24%. However, agriculture accounted for about 40 – 60% of manufacturing sector inputs and comprised of 40% of Zimbabwe's exports (Keyser, 2002).

Tobacco production is economically important as it is exported and thus generates foreign currency. In Zimbabwe, it also accounts for about 30% formal employment and manufacturing contributing 16% (Mumbengegwi, 1998; Chipika, 1998). Due to variable weather conditions, agricultural production fluctuated year by year but its contribution to GDP remained around 17 percent for 1985-1998. Maravanyika, (1998) argues that agriculture has increased at a rate that is similar to that of the national economy. The output of agriculture increased by 15% in 2009 and 34% in 2010, as a result of the increased tobacco output (African Economic Outlook, 2011).

The agricultural sector plays an important role in the development of the Zimbabwean economy, through its impact on the overall economic growth, households' income generation and food security (Mlambo and Zitsanza, 2001). It provides income and employment for about 70 per cent of the population, 60 per cent of the raw materials required by the industrial sector and is the largest export earning sector, by contributing about 45 per cent of total export in most years (Bautista et al, 2002). The sector accounts for 25 per cent of the total workforce in formal employment while contributing an average of 17 per cent of Gross Domestic Product (Tekere and Hurungo, 2003).

The composition of the agricultural exports is highly diversified ranging from crops, cereals to horticultural and meat products. The major agricultural exports include tobacco, cotton, tea, coffee, beef, sugar, horticultural products and maize depending on the rainfall pattern.

Tobacco is the single largest foreign currency earner; accounting for about 50 per cent of total agricultural export earnings. The Zimbabwean agricultural sector is dualistic, comprising large and small scale-farmers. Until recently, the large scale sector comprised about 4000 large scale farmers with sophisticated production systems and occupying 11 million hectares of land primarily located in the areas of high agricultural and economic potential (Tekere and Hurungu, 2003). The communal and small-holder farmers on the other hand occupy areas of lower natural potential in agriculture in terms of rainfall, soils and water for irrigation (Sithole, 1996). Generally, the communal farmers produce mainly for home consumption while the large-scale farmers produce for commercial purposes. As a result, while the main agricultural produce from the communal or small holder farmers include the staple maize, groundnuts, cotton, beans, vegetables, meat and milk, commercial farmers concentrate on cash crops such as tobacco, horticultural products particularly cut-flowers, coffee, maize, groundnuts, sorghum, sugar, soybeans, sunflower, cattle for slaughter, pigs, goats and sheep.

Juana and Mabugu (2005) argue that based on the dualistic nature of agriculture in Zimbabwe and the 1991 micro SAM, the sector was divided into two sub-sectors; large scale and small-scale agriculture. The large-scale agriculture consists of crops, livestock and forestry activities and small-scale agriculture consists of the same activities, but carried out by small holders, mostly for home consumption. These production activities contributed immensely to export earnings in Zimbabwe. The sub-divisions in Agrekon, Vol 44, No 3 (September 2005) Juana & Mabugu 348 the agricultural sector helped to identify the agricultural activities that contribute more to growth in income generation and economy-wide production.

Farmers are the solution to poverty and hunger. They make up the majority of the population in the world's developing countries. And they are some of the hardest-working people on the planet. According to Experts decision systems (2009) agriculture has always been the largest employer of the Zimbabwean economy ever since it was the bread basket of Southern Africa. The 2012 Census showed that the highest proportion of employed persons had their occupations in agriculture (50 percent). This is more or less the same considering the mid-1980s when agriculture employed about 53% of the population.

Agriculture occupied a central place in the Zimbabwean economy, contributing 15 to 18 per cent of Gross Domestic Product (GDP). It contributed over 40 per cent of national export

earnings and 60 per cent of manufacturers are dependent on agriculture for raw materials or as a market for inputs. This shows that agriculture has been and will always be the backbone of this nation and deserves great attention. The performance of the agricultural sector determines the overall level of people's living standards and development of this economy. There is a group (perhaps a large group) of farmers that though as individuals may seem insignificant but are believed to be the greatest asset to this sector. This is your small scale and communal farmer.

Makuvaro (2014) adds that agriculture is pivotal to the development of most countries in southern Africa, including Zimbabwe, with the sector contributing significantly to the Gross Domestic Product of these countries. The sector also provides labour to the majority of people and most rural populations in these countries derive their livelihoods from agriculture. Shamani (2015) argues that economic development is a complex process replete with paradoxes. One prominent paradox is witnessed in the area of agriculture. According to IFAD's 2013 report on 'Smallholders, Food Security and the Environment', an estimated 2.5 billion people who manage 500 million smallholder farm households provide 80 per cent of the food consumed in much of the developing world, particularly South Asia and sub-Saharan Africa. Further, agriculture constitutes the main source of livelihood for nearly two-thirds of the African population and smallholder farmers' account for more than 90 per cent of Africa's agricultural production. IFAD's Director of Environment and Climate Change Grainger-Jones (2013) advocates the second route: "Smallholder farmers hold a massive collective store of experience and local knowledge that can provide the practical solutions needed to put agriculture on a more sustainable and equitable footing. To place these smallholders at the forefront of a transformation in world agriculture they need appropriate support to overcome the many challenges they face". (See report on the release of IFAD's document "Smallholders, Food Security and Environment" in Mongolia, 4 June 2013). We simply cannot throw the baby away with the bathwater.

Nally (2013) postulates that the planet today is a home to 500 million smallholders. Together these small farmers support 2 billion people, account for 97 per cent of agricultural holdings, and produce food for a substantial proportion of the world's population. Most of these people operate outside the formal business economy, farming to meet their own needs for food staples and selling small surpluses for extra cash. Audate (2014) states that with the

increasing pressure on natural resources due to climate change and population growth, small-scale agriculture is one of the best tools to ensure global food security. Small-scale farming has proven sustainability benefits, and studies show that smallholder farmers play an important role in poverty reduction.

UNCTAD Secretariat (2015) provides the following reasons why smallholder farmers are important: There were many good omens for smallholder farmers in 2014. Indeed, the contributions of family farmers and smallholders to food security, poverty reduction and sustainable development were specifically recognized by the United Nations General Assembly when it declared 2014 as the International Year of Family Farming. The African Union in turn proclaimed 2014 as the Africa Year of Food Security. Building on this momentum, the UNCTAD Commodities and Development Report 2015 carries the issue of smallholders into 2015, a pivotal year for the international development agenda. The report focuses on those who farm areas of about 2 hectares of landholding or less, and argues that smallholders are key actors in the quest for a more inclusive and socially and environmentally sustainable agricultural development model. The report states that by their sheer number, smallholders should warrant specific attention in the aspiration to “leave no one behind” in the efforts to be deployed in the achievement of the forthcoming SDGs.

Notwithstanding diversity of contexts and data constraints, according to the International Fund for Agricultural Development and the United Nations Environment Programme, about 2.5 billion people are employed, partially or entirely, in 500 million small farms worldwide. With regard to geographic distribution of small farms (that is, less than 2 hectares), data from the Food and Agriculture Organization of the United Nations (FAO) covering the 2001–2004 period suggest that about 87 per cent of these are in the Asia and Pacific region, 8 per cent are in Africa, 4 per cent are in Europe and less than 1 per cent are in Latin America.

There are, for example, about 45 million small farms in Africa, many of which consist of subsistence farmers that rely entirely or partially on family labour, which is comprised mainly of women. Smallholders supply about 70 per cent of Africa’s total food requirements and provide around 80 per cent of the food consumed in both Asia and sub-Saharan Africa. Furthermore, smallholders in several developing countries produce the bulk of these countries’ main agricultural exports. For example, in Ghana cocoa production is dominated

by thousands of smallholder producers cultivating less than 2 hectares per farm. Owing largely to its smallholders, Ghana produces an estimated 20 per cent of the world's cocoa, making the country the second largest producer in the world, with cocoa exports accounting for about 40 per cent of its foreign exchange earnings and for 8–12 per cent of its gross domestic product, smallholder farmers are central to the achievement of food security objectives balanced with sustainability considerations.

Joemat-Pettersson (2012), Minister of Agriculture, Forestry and Fisheries argued that small holder farmers have a pertinent role to play in the fight to eradicate the triple challenges facing South Africa outlined as Unemployment, poverty and food production as well as indicating that smallholder farmers, alongside commercial farmers play a crucial role in assisting government ensure that there is enough food for every citizen of South Africa, whether rich or poor, in an urban or rural dwelling or employed or unemployed,” she said. South Africa has the privilege of a commercial farming sector that has worked tirelessly to feed both our country and the African continent. Furthermore, South Africa enjoys global standards for the quality of its foods, with the export market appreciating the goods that is produced.

Tobacco production in Zimbabwe has improved living standards of small holder farmers since it is one of the cash crops that attract a higher selling price compared to other cash crops such as cotton. Historically tobacco was the only significant export product in the economy and has lead value of agricultural production from the late 1920s (Rukuni, et al, 2006). This shows how tobacco production in Zimbabwe has improved the livelihoods of small holder farmers in Zimbabwe since Virginia tobacco is highly rewarding in monetary terms however Virginia tobacco is linked with high cost of production.

Mumbengegwi et al (1998) emphasize the economic importance of tobacco crop in Zimbabwe as tobacco production attracts foreign currency through exporting the crop. It also creates about 30% formal employment as well as contributing 16% to the manufacturing industries. (Mumbengegwi et al 1998). Keyser outlines the cost and profitability of tobacco farming, as he indicates that tobacco farming is critically important to Zimbabwe's economy and that it generates USD 600 million in foreign revenue each year which is equal to 10 per cent of the GDP and 30 per cent of total exports (Keyser 2002).

Keyser (2002) highlighted how the tobacco crop is benefiting the commercial and smallholder farmers but he however centred more on commercial farmers, however the researcher will analyse whether tobacco farming is benefiting smallholder farmers in Centenary by reducing poverty. Tobacco crop is a high profit crop as compared to cotton and maize because it creates development through generating foreign currency by exporting the crop. From the above findings by different researchers it can be ascertained that Smallholder farmers are a huge significance in the economy of any country and that their importance cannot be over emphasised and that they play a critical role in the economies of various developing countries. However still a gap exists as to how tobacco smallholder farmers in Centenary have a significant role to play there as well as in Zimbabwe at large.

2.3 Environmental Concern

Lambin (2003) has noted that, one of the major consequences of tobacco production in the Third World results from considerable energy requirements of the flue curing and the fire curing processes. Curing is defined as a carefully controlled process used to achieve the texture, colour and overall quality of a specific tobacco type (Sauer and Abdullah, 2005). Madeley (1993) has cited curing as the primary way in which tobacco contributes to deforestation. While there are different methods of curing, it is the aforementioned curing processes whose high energy/fuel requirements have resulted in extensive deforestation by small holder tobacco farmers. In flue-curing, heat is introduced into a barn via pipes from an exterior furnace like radiators connected to the central heating system. This controlled heat allows the leaves to turn yellow/orange, at which point they are fixed, contained a high amount of sugar. Virginia tobacco is flue cured. On the other hand, fire curing follows the same principle as producing smoked ham. Brushwood is burned under the leaves, drying the tobacco and producing a smoky fragrance. This type is mainly used in some tobacco pipes.

While natural gas or oil is often used in some tobacco growing countries in the developed world, wood fuel is still prevalent in the less economically developed world, for example in Brazil, much of Africa, India, Thailand and the Philippines. It has also been noted that in such countries wood that is used to cure the tobacco is sourced from indigenous forests. Picked as green leaf, every type of tobacco must be cured to obtain the characteristic taste, aroma and

colour to preserve it for storage, transport and processing (Geist, 1997). When tobacco leaves are picked from the field, they have to undergo through the energy intensive drying curing process in a specialised barn where the heated air is circulated to extract moisture from the tobacco leaves (Mongora, 2012). Coal or wood is used to fuel these barns. The drying process takes about seven days to adequately cure the tobacco (Sauer and Abdallah, 2005). Wood is less efficient than coal and therefore the curing process demands an excessive amount of firewood. As such, tobacco curing entails considerable wood consumption which inevitably results in extensive deforestation in areas or regions where the crop is grown.

There are widely divergent views on the extent of global tobacco industry's use of fuel wood. It should however be clarified that wood use consumption rates is classified in three measures namely specified fuel consumption (SFC) expressed in kg of wood used per 1kg of cured tobacco, in cubic metres per tonne of tobacco produced or cubic metres per farm. Small scale tobacco farmers usually specify the wood use in number of poles or cubic metres or stacks or codes. According to the Bellagio Statement on tobacco and Sustainable development, an estimated 2 000 hectares of forests and woodlands are cut down each year because of tobacco farming (WHO, 2013). Geist (1999) propounded that the annual amount of wood required for tobacco farming in 1990-1995 on a global scale is 11,4 tonnes and half of this is for the purposes of curing flue cured tobacco. Presumably this is not provided from own and legitimate sources (5, 7 million tonnes) but taken from open, accessible common land and native forests.

In Southern Africa alone, an estimated 140 000 hectares of woodland used to disappear annually into the fires necessary to cure tobacco which accounted for approximately 12% of deforestation in the region (Bellagio Statement of June 1995) in (WHO, 2013). Recent deforestation studies in Southern Africa have revealed that of the forests which are cut down each year for tobacco growing, the majority of this (69%) is used as fuel while the remainder is used for constructing barns and racks including those which are not used for air cured tobacco which does not require fuel (Abdallah et al., 2007). One study on tobacco production in Malawi finds that tobacco growing accounting for 26% of deforestation between 1990 and 1995 (Bunderson and Hayes, 1995).

Another study reports that in the Urombo tobacco growing region of Tanzania tobacco farmers use an average 23m³ of stacked wood for curing per season (Mangora, 2006). It is estimated that where wood is used as a fuel for curing tobacco 19, 9 cubic metres of it are used to cure one metric tonne of tobacco (Abdallah et al, 2007). In Zimbabwe an estimated 62% of the Virginia tobacco produced is cured using wood fuel (TIMB, 2011). Except in assisted contract schemes, the majority of wood used for curing is obtained from indigenous forests. It has been noted that curing a tonne of tobacco consumes almost three times the wood a person requires per year. It has also been discovered from a study conducted in the country that tobacco curing consumes 38% of total wood used in the locality (TIMB, 2011). As such, growing stock for wood is estimated to have declined from 845 to 657 million cubic metres from 1990 -2011 (TIMB, 2011). The Herald (06 March 2012) has estimated that over 46 000 hectares of forests were destroyed while 1.38 million cubic metres of firewood were burnt to cure part of the 127 million kilograms of tobacco delivered to the auction floors in 2011. It has therefore been noted by Geist (1999) and Abdallah(2011) that in Malawi, Tanzania , Zimbabwe and Uganda the deforestation caused by tobacco cultivation is especially serious and is not only a threat to biodiversity but also to the sustainable production of tobacco itself. Wood shortages as a result of deforestation in the main tobacco growing areas are threatening both the volume and quality of the output of tobacco (Jafee, 2003).

2.2.4 Change in the Grower base.

Deforestation is also significantly attributed to the sudden change in the grower base (large scale to small holder) which has in turn led to a major shift in the source of energy to cure tobacco, that is, from a traditional coal with wood now being predominantly used as an alternative (UNITAB –FETRITAB, 2013). The influx of new and inexperienced small holder tobacco farmers has resulted in tobacco production that uses an inefficient curing system. It is estimated that a barn with well insulated walls, roof and floor can save 10-20% of fuel consumed per cure. The majority of small holder tobacco farmers rely solely on firewood to cure their tobacco (Chifamba and Chikwati in the Herald of 16 March 2012). Coal and electricity and the associated infrastructure are beyond the reach of the majority of small holder farmers. Thus the farmers are left with no option other than the indigenous forests. The newly resettled farmers use mainly firewood to cure their tobacco instead of the coal burners used previously and so efficiencies that had been achieved were lost. According to the

International Tobacco Growers Association (ITGA) the firewood use of flue cured (Virginia tobacco) ranges from an Specific Fuel Consumption (SFC) as low as 5kg and as high as 130kg (Mangora,2012). A small holder farmer produces up to 1400kg of tobacco per hectare needing about seven tonnes of firewood to cure his/her crop. Cumulatively these tobacco farmers chop about 5, 3 million trees each year to support their production in Zimbabwe (Red Orbit, 2007).

2.3.5 Other factors

In Tanzania, forest clearance was incentivised by multinational tobacco companies which provided inputs to the peasants and increased producer prices. This therefore became an incentive for clearing more land in order to produce more tobacco. Land clearing by farmers increased and 19% of the farmers cleared new land for tobacco within 4 years during the 1990's (Yanda, 2010). Tobacco curing can also aggravate deforestation through the need for wood to construct curing huts. Such structures need to be replaced after every one or two years. In Malawi, apart from being used for curing tobacco, wood is also used for building 'curing huts' which unfortunately need to be replaced after a couple of years (Richard and Knausenberger, 1998).

In most developing countries, deforestation is worsened by the fact that wood is the sole source of fuel particularly for upcoming inadequately funded farmers. In the majority of such countries, there is yet no other alternative source of fuel to cure tobacco (Mongora, 2011). As already alluded to where coal and electricity are available, the small scale tobacco farmers cannot afford to acquire it and as a result they resort to indiscriminate cutting down of trees. The United Nations Food and Agriculture Organisation (FAO) has acknowledged though without providing details the consequences of tobacco related deforestation in the form of fuel wood among rural populations in the developing world. Although deforestation was not explicitly calculated by considering tobacco production and forest availability, the figures suggest most Asian tobacco growing countries and selected African countries have general fuel wood shortages and therefore are likely to experience accelerating deforestation. The ITGA Report (1997) even indicated that developing countries will continue to use wood as curing fuel since no cost effective alternative has emerged.

2.3.6 Sustainable forest resource use in tobacco producing areas

The escalating pace of deforestation emanating from tobacco production related activities has become a cause for concern not only to environmentalists but also to all stakeholders in the affected regions particularly in developing countries. As such, quite a number of measures have been suggested and in some cases employed by the tobacco industry stakeholders in an effort to foster sustainable forest resource use in areas where the golden crop is produced. The degree of success of efforts made towards this noble cause would however vary from one country to another.

2.3.7 Self Sufficiency in wood supply/production

In order to reduce deforestation, farmers need an enabling environment to achieve self-sufficiency in wood production (Bunderson and Hayes, 1995). Establishment of regularly harvested sources through afforestation is the key to self-sufficiency in wood supply. Tree planting must be practised on a massive scale to meet the growing wood demand from tobacco farmers. During the early 1990's in Tanzania the Tanzanian Tobacco Board (TTB) established what it called an afforestation strategy in tobacco growing areas. However in seven years' time, only a total of 10 460.85 ha of planted forests were established which was far much below what was annually cleared. It was discovered that only 7% of Tanzanian flue cured tobacco growers had their own fuel wood plantings (Mangora, 2012).

The post-Independence Zimbabwe Government also introduced the rural afforestation program managed by the Forestry Commission (Red Orbit, 29 May 2009). In 2011, a target of planting 10 million trees was achieved in a massive replanting programme though it is doubted as to how many of those trees survived subsequent veld fires whose perpetrators go undetected. Following the UNDP Report of 1997, the government devised a National Strategy which sought among other things to encourage reforestation, to increase agro forestry and to encourage non consumptive use of forests (Masara, 2012). Despite such efforts the country continued to lose forest cover at an accelerated rate between 2005 and 2012.

Similarly in Kenya, the BAT has set a precondition that one can only become a tobacco farmer after an agreement to plant 1000 eucalyptus trees a year on their land (Tobacco

Forum, February 1991). However this was hindered by the fact that many farmers prefer to use trees such as eucalyptus for building purposes and so continue to plunder native forests (Fraser, 1991). It has also been established that generally farmers are not prepared to plant trees today, that will be ready to harvest in about 5 years' time. Thus the call to plant exotic trees seems not to be heeded by the majority of farmers in the developing world (Mangora, 2012). However, in the event that the afforestation and reforestation exercise is fully and seriously adopted, it is the key to sustainable forest resource use in tobacco growing areas.

2.3.8 Improved energy interventions/ Improvements in barn technology

Wood use efficiency can be improved for virtually all types of tobacco. The designing of more efficient barns that use less fuel is crucial to sustainable tobacco cultivation (British American Tobacco (BAT) (2012). In Zimbabwe the multinational conglomerate, BAT introduced a rocket barn in an effort to contribute towards reducing deforestation associated with tobacco curing. A rocket barn decreases wood use while improving the amount and quality of tobacco cured since it is 50% more efficient than the conventional barn thus creating benefits both to the producer and the environment

.The rocket barn makes use of timber off cuts that can be obtained from forest concerns. This goes a long way to spare huge and mature indigenous trees from being cut for the purposes of curing tobacco. In Malawi, living barns (burley tobacco sheds from live trees) that replace upright poles reduced wood use by 66%. With improved furnaces (such as the Malawi slot furnace) the high wood consumption of the flue-tobacco can be reduced by 1/3 (Fraser, 1986). Gains in efficiency for fire cured tobacco are limited to proper curing management.

2.3.9 Use of alternative source of fuel

Use of alternative sources of fuel for curing tobacco goes a long way in redressing deforestation in tobacco growing areas. This is particularly applicable to most developed countries and a few developing countries. For example in some countries, there is growing use of agricultural waste. China appears to have an energy transition from wood to coal based curing technologies about two decades ago (Zhang, 1998). Locally available fuels may be used and they include gas, saw dust, coal and candle nut shells or liquid petroleum as well as coffee or rice paddy husks. Solely relying on wood as a source of fuel for tobacco curing as is the case in most developing countries will undoubtedly aggravate deforestation.

Any measure that may be adopted needs to be backed by carefully designed policies and legislations. There is need to enforce laws and policies whose purpose is to promote sustainable forest resource use in tobacco production by deterring unsustainable practices. In Zimbabwe, to enforce such policies and laws are statutory bodies like the Forestry

Commission, Agritex and the Environmental Management Agency. The Forestry Commission is currently proposing a statutory provision under the Tobacco Wood Energy Programme where farmers would be forced to reconsider their tobacco options. It is strongly advocating that farmers should establish their own source of wood energy in the form of fast growing exotic trees which are renewable as compared to indigenous trees (Chifamba and Chikwati, 2012). The TIMB has since started to supply registered growers with eucalyptus seeds under this initiative. The Environmental Management Agency (EMA) is a statutory body tasked with the management of the environmental resources for the country. The EMA has already started to take action against people who are caught cutting down trees illegally including doing so for the purpose of curing tobacco. The indiscriminate cutting down of trees is a criminal offence which attracts a penalty of up to US\$300 per trees. All this is done in the pretext of upholding sustainable tobacco production. However it should be noted that policies only become effective if religiously enforced

2.3.1 Meaning of Livelihoods

A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base. (Chambers & Conway, 1991). In order to better understand how people, develop and maintain livelihoods, the UK Department for International Development (DFID, 2012), building on the work of practitioners and academics, developed the Sustainable Livelihoods Framework (SLF). This framework is an analysis tool, useful for understanding the many factors that affect a person's livelihood and how those factors interact with each other.

- The SLF views livelihoods as systems and provides a way to understand:
- the assets people draw upon

- the strategies they develop to make a living
- the context within which a livelihood is developed
- those factors that make a livelihood more or less vulnerable to shocks and stresses.

Livelihood assets:

Assets may be tangible, such as food stores and cash savings, as well as trees, land, livestock, tools, and other resources. Assets may also be intangible such as claims one can make for food, work, and assistance as well as access to materials, information, education, health services and employment opportunities. Another way of understanding the assets, or capitals, that people draw upon to make a living is to categorize them into the following five groups: human, social, natural, physical, financial, and political capitals.

Box 1.

Livelihood Assets

- ❖ Human capital: Skills, knowledge, health and ability to work
- ❖ Social capital: Social resources, including informal networks, membership of formalized groups and relationships of trust that facilitate cooperation and economic opportunities
- ❖ Natural capital: Natural resources such as land, soil, water, forests and fisheries
- ❖ Physical capital: Basic infrastructure, such as roads, water & sanitation, schools, ICT; and producer goods, including tools, livestock and equipment
- ❖ Financial capital: Financial resources including savings, credit, and income from employment, trade and remittances

Livelihood context:

Livelihoods are formed within social, economic and political contexts. Institutions, processes and policies, such as markets, social norms, and land ownership policies affect our ability to access and use assets for a favourable outcome. As these contexts change they create new livelihood obstacles or opportunities.

Box 2.

Livelihood Contexts

- ✧ Social relations: The way in which gender, ethnicity, culture, history, religion and kinship affect the livelihoods of different groups within a community

- ✧ Social and political organization: Decision-making processes, civic bodies, social rules and norms, democracy, leadership, power and authority, rent-seeking behaviour

- ✧ Governance: The form and quality of government systems including structure, power, efficiency and effectiveness, rights and representation

- ✧ Service delivery: The effectiveness and responsiveness of state and private sector agencies engaged in delivery of services such as education, health, water and sanitation

- ✧ Resource access institutions: The social norms, customs and behaviours (or ‘rules of the game’) that define people’s access to resources.

- ✧ Policy and policy processes: The processes by which policy and legislation is determined and implemented and their effects on people’s livelihoods.

Livelihoods are also shaped by the changing natural environment. The quality of soil, air and water; the climatic and geographic conditions; the availability of fauna and flora; and the frequency and intensity of natural hazards all influence livelihood decisions.

Livelihood strategies:

How people access and use these assets, within the aforementioned social, economic, political and environmental contexts, form a livelihood strategy. The range and diversity of livelihood strategies are enormous. An individual may take on several activities to meet his/her needs. One or many individuals may engage in activities that contribute to a collective livelihood strategy. Within households, individuals often take on different responsibilities to enable the sustenance and growth of the family. In some cultures, this grouping may expand to a small community, in which individuals work together to meet the needs of the entire group.

Livelihood Vulnerability:

The strength of a given livelihood is not only measured by its productive outcomes, but equally by its resilience to shocks, seasonal changes and trends. Shocks might include natural disasters, wars, and economic downturns. Availability of resources, income-generating opportunities, and demand for certain products and services may fluctuate seasonally. More gradual and often predictable, trends in politics and governance, technology use, economics, and availability of natural resources, can pose serious obstacles to the future of many livelihoods. These changes impact the availability of assets and the opportunities to transform those assets into a “living”. Under such conditions, people must adapt existing strategies or develop new strategies in order to survive.

Livelihood Interdependence:

One final important characteristic of livelihoods is their interdependence. Very few livelihoods exist in isolation. A given livelihood may rely on other livelihoods to access and exchange assets. Traders rely on farmers to produce goods, processors to prepare them, and consumers to buy them. Livelihoods also compete with each other for access to assets and markets. Thus positive and negative impacts on any given livelihood will, in turn, impact others. This is a particularly important consideration when planning livelihood assistance.

Organisations like the World Bank, International Fund for Agricultural Development (IFAD) and the International Food Policy Research Institute (IFPRI) have been in the forefront to understand these challenges. Bienabe et al (2014), IFAD (2003), Minot and Hill (2007), and the World Bank (2007) have concluded that four categories of constraints are important and include:

- ❖ Constraints associated with high costs of transaction that raise marketing costs.
- ❖ Constraints associated with the riskiness of agricultural production especially in respect to new products.
- ❖ Constraints associated with the riskiness of marketing of agricultural produce in the presence of poor infrastructure and or high price variability.
- ❖ Constraints associated with weakening of primary markets and or bargaining power of producers and sellers.

Damary (2009) in his research on Kenyan smallholder farmers, concluded that all the socio-economic factors including sex, age, household size, highest levels of education, occupation and income affected the food crop and livestock production. Furthermore, food production was higher among females than males and increased with improvement in some socioeconomic factors of the farmer's technology use was low among the smallholder farmers and limited food production. Some of the environmental factors limited food production.

Dumary (2009) points out that the study established that in the recent years, rainfall distribution had become irregular and insufficient thus posing a challenge for the smallholder farmers in the study area. The present study indicates that socioeconomic factors, technological and environmental factors, limited food production and improvement in these factors are one of the ways that could enhance food production and hence food security. The gap that exists here is that this study refers particularly to the Kenyan situation although it concerns challenges of smallholder farmers in Africa at large.

Nyambeki (2013) in his study of Kenyan smallholder farmers argues that the main socio-economic challenges identified during processing and cultivation of the crop were tobacco pests and diseases, labour shortages and health problems. Among the problems faced during marketing of tobacco crop, the most mentioned problem was that the tobacco company charged exorbitant

prices for farm inputs like seeds, fertilizers, chemicals and even firewood; delayed payments, low prices and poor tobacco leaf grading system.

Tobacco farmers in this area engage in other off-farm activities to boost their tobacco cultivation earnings. Also, farmers have diversified their farming to enable them sustain food for the household. Most farmers would prefer to shift from tobacco farming and adapt other alternative crops as tobacco cultivation is both time and labour intensive. This study although carried out in Kenya can be generalised to the Zimbabwean context.

Conservation and management of land and water resources for sustainable intensification of agriculture and poverty reduction in many developing regions has remained one of the most challenging policy issues for a long time. The increasing degradation of agro ecosystems gradually deprives the poor of key productive resources and affects communities whose livelihoods heavily rely on utilization of these resources.

Degradation of land and water resources gradually diminishes the capacity of individual farmers and communities to undertake critical investments needed to reverse the situation. This in turn reduces opportunities for addressing nutritional and other necessities and depletes the ability to buffer shocks, thereby increasing vulnerability of livelihoods. The potential nexus between worsening poverty and degradation of natural resources also raises fundamental questions on strategies for poverty reduction, equitable distribution of income and inter-generational equity. These challenges are highest in many developing regions representing the intersection of hot-spots of widespread poverty and fragile ecosystems (e.g., arid and semi-arid areas, highland regions) (Pender and Hazell 2000; IFAD 2001; Shiferaw and Bantilan 2004).

Mpandeli and Maponya (2014) identified different challenges facing poor-resource farmers in the study sites of Limpopo in South Africa for the past five years were identified; these include inadequate access to productive resources, price of inputs such as herbicides and fertilisers, market access and cost of transport. All the above-mentioned challenges facing poor resource farmers in the study sites hinders agricultural development in the Vhembe district. In order to maintain high levels of production and quality it is necessary for farmers to access all the required inputs. Some farmers indicated that, with the launch of the

Comprehensive Agricultural Support Programme (CASP) by the Department of Agriculture, they can overcome some of the challenges mentioned.

CASP offers a wide range of support services including financial support, purchase of inputs, infrastructure development, training and capacity building. Results from the farmer focus group and surveys indicated that at least half of the farmers in the Tshakhuma, Rabali and Tshiombo areas identified the high price of inputs as the first major challenge including, for example, high price of fertilisers, seeds and herbicides. During the focus group farmers mentioned price of inputs, market, cost of transport and irrigation as the major challenges in the Tshakhuma, Rabali and Tshiombo areas. The results from the focus group and surveys are also remarkably similar in all the three study areas. Focus group discussions were held twice in the Tshakhuma, Rabali and Tshiombo areas. Effective market interaction was the second most important challenge viewed by respondents in the Tshakhuma and Rabali areas. At least 17% of the respondents in the Tshakhuma and Rabali areas viewed market problems as an obstacle to market their products in a formal market.

Some farmers indicated that they were willing to supply the market but there was limited market access and those who did have market access made it difficult for other farmers to send their products to the market by purposely increasing the transport cost (McIntiure & Delgado, 1985; Ngqangweni, 2000; Makhura, 2001) and Mpandeli (2006). Another 13% of the respondents in the Tshakhuma and Rabali areas viewed irrigation as the third major challenge in their farming business. At least seven per cent of the respondents in the Tshakhuma and Rabali areas indicated that the cost of transport was the fourth major challenge in the Tshakhuma and Rabali areas. The occurrence of droughts and floods did not emerge as key constraints; rather the structural issues of access to markets and service appeared to be key. The results indicated that the majority of farmers consider price of inputs, irrigation and market issues as major challenges across all sites, particularly Tshakhuma and Rabali. In the Tshiombo area at least more than 30% of the farmers viewed irrigation as the fourth major challenges compared to the other two sites.

Farmers in the Tshiombo area faced a number of different challenges to farmers in the other study sites that deserve particular mention. Here at least 30% had access to irrigation water, even though some farmers were misusing and mismanaging water resulting in a shortage of water, especially during drought periods. Tshiombo farmers are still using cemented furrow

irrigation system and this resulted in some water being lost through seepage, drainage and evaporation. Some farmers indicated that periods of water shortage are also caused by the low water pressure system installed by the Department of Water Affairs. Other farmers stated that the problem was with the farmers themselves because some farmers who had plots closer to the dam were unreliable and trustworthy.

They took hours to give other farmers access to irrigation water with some only receiving water after long periods of time. These were usually farmers who had plots several kilometres away from the dam and who were often the victims of the irrigation politics in the area. At least 17% of the respondents in the Tshiombo area viewed credit availability as the third major challenge. Previously these farmers used to obtain credit from the Venda Development Corporation before it was disbanded. During that period Tshiombo farmers managed to produce good - quality products that met market standards because they had enough capital. Currently the institutional set up has changed; the majority of farmers are finding it difficult to access enough capital even though the provincial Department of Agriculture has got several financial support programmes.

Less than five per cent of the respondents in the Tshiombo area viewed availability of inputs, especially seeds, as a major challenge over the past five years, compared to farmers in the Tshakhuma and Rabali areas. This may be due to the fact that the majority of farmers in the area have been trained to produce hybrid seeds by experts from Agricultural Research Council-Summer Grain Institute and Madzivhandila College of Agriculture. Some of these farmers have indicated that they are using hybrid seeds as part of the adaptation strategies, these hybrid seeds produce good yields. As in the previous case, floods, extreme temperatures and droughts were not regarded as challenges by Tshiombo farmers, even though in the year 2000 the majority of farmers had lost large production volumes due to floods. More detailed information obtained from farmers is provided below to expand on some of the inputs illustrated in previous sections (for example credit and finance and market interaction). In all the three study sites crops were not only grown for consumption, but also for commercial purposes.

The majority of the farmers in the Tshakhuma area sold their products to the local market and to “others” for example, to friends and neighbours. Only small numbers of farmers had

access to mechanisms to distribute their products to different markets such as local, provincial and national markets. These factors were also highlighted by Makhura (2001) it looks like the situation has not changed since early year 2000. Farmers in the Tshakhuma area were not marketing their products to provincial and national markets as they have indicated that lack of market information and transport and also limited access due to the distance to the market.

At least 82% of the farmers distributed their products to local markets in the Tshakhuma area. Another two per cent of the respondents indicated that they were distributing their products to relatives, friends and neighbours for non-profit purposes, especially when there was good production, in order to avoid unnecessary www.ccsenet.org/jas Journal of Agricultural Science Vol. 6, No. 4; 2014 139 losses. The majority of these farmers in the Tshakhuma area were heavily dependent on their crops to generate a source of income. Some of the farmers in the Tshakhuma area indicated that today their biggest clients or customers are informal traders and street vendors in villages around Tshakhuma, Tshalovha, and Lwamondo. Markets utilised by farmers in the Vhembe district. (a) Tshakhuma, (b) Rabali and (c) Tshiombo areas the results indicated that the majority of the farmers (33%) in the Rabali area are distributing their products to the local market; they stated that they were producing products that meet local market standards and other products are produced for household consumption.

Of all the farmers interviewed, none of them supplied the provincial market or the national market. The fact that these farmers did not have access to the competitive market denied them opportunities to compete with other commercial farmers. Three per cent of the farmers interviewed indicated that instead of distributing their products to the local market, they shared with relatives and neighbours who were not farming and the remaining products were to ensure household security. During the formal surveys in the Tshiombo area, it was found that 90% of the respondents produce products for households only, although some of these farmers shared their products with friends, relatives and neighbours. This resulted in them having a high loss of production if they produced high volumes of products.

The majority of these farmers in all the study sites indicated that they were willing to distribute their products to the market but had difficulties because of the strict requirement in the formal market for example demand for high-quality products and this it was also

highlighted in other studies (Coase, 1960; Bembridge, 1994; Delgado, 1999; Holloway et al., 2000; Makhura, 2001). Only two percent of the respondents indicated that they were supplying provincial and national markets. It is important for Tshiombo farmers to be encouraged to start producing high-quality products that meet the market standards because they have access to irrigation and they can also produce their own hybrid seeds.

Some of the macro structural constraints facing farmers in these areas have been explained by several researchers. One key constraint that is closely linked to the past is access to land and land ownership. In South Africa, the historical and political complexity of the land issue, rights and entitlement makes the question of land tenure very relevant. Most landholders, including farmers, maintain that without secure tenure, through title or certificate of occupancy, evidence of ownership or rights over property on that land is not guaranteed (FOA/ ARDRI 1996 and www.ccsenet.org/jas Journal of Agricultural Science Vol. 6, No. 4; 2014 140 Makhura, 2001). No particular member of the community has individual rights or access to land, especially as no registered title deeds have been given at any point in time (Van Averbeke et al., 1998). Secure land tenure is a necessary pre-condition for the adoption of long-term sustainability of farming practices (Van Averbeke et al., 1998; Makhura, 2001).

Different forms of tenure systems and land ownership - tribal, state ownership, trust land, quitrent and freehold - are present in all three study areas. The land tenure system in the former Venda homeland is primarily dominated by communal land. Community members, in accordance with the recognised traditional communal system of land tenure, use most of the lands in the tribal communities (Romuld & Sandham, 1995; Mudau, 1997; Sweet, 1998; Makhura, 2001; Mpandeli, 2006). In the interest of intensive use of irrigated land, it is important that landholding households that are no longer interested in or no longer capable of producing on their allocated land make their land available to other households seeking access to more land (Van Averbeke et al., 1998; Stevens, 2012).

As mentioned previously, farmers who are farming in a communal area have a shortage of equipment, lack of capital and land to grow enough crops. The communal farming sector has limitations in the use of technology and external inputs for example planting maize without using fertiliser. The majority of the farmers (73%) in the Tshakhuma area farmed on private land, while only 12% farmed on communal land. Some parts of the Tshakhuma area were given to people through the land redistribution programme. The “other” 12% occupied

mountainous areas, and these farmers planted their crops on steep slopes due to insufficient land availability. These types of farmers obtained land through the local chief (Figure 4a). The local chief is responsible for land allocation and these have caused some discomfort amongst some farmers due to nepotism and favouritism.

Some of the farmers in the Tshakhuma area claim that even though they are farming in steep slopes, they have the potential to produce good-quality products. Farming in steep slopes is a cause for concern to local agricultural experts, because as time goes on, the area could become unproductive due to soil erosion and the leaching of nutrients which will affect farmers and also enhance land degradation. Nearly 92% of the farmers in the Rabali area farmed on communal land, and at least eight percent used private land. Those on private land were from the chief's family. In the Rabali and Tshiombo areas, for example, there were no farmers farming on the resettlement land because of unavailability of the resettlement programme in both areas. On this communal land, the former Venda homeland administration built a traditional irrigation system in the area to give farmers access to irrigation water.

In the Tshiombo area 98% of the respondents farmed on communal land, while two percent of the respondents farmed on private land. Both Tshiombo and Rabali farmers farmed on communal and private land. None of the farmers interviewed in the Tshiombo area occupied resettlement land. Rabali and Tshiombo irrigation schemes were leased to the community through the local chief by the government. In both areas there were no farmers who owned the plots permanently except the local chief. This was a renewable lease agreement between the two parties. Farmers in the Rabali and Tshiombo areas paid R12 every year to the government as lease agreement in order to continue farming.

The above study leaves a gap for this research in that the study was undertaken in South Africa and not in Zimbabwe and as such some of the issues researched are different to the Zimbabwean situation. In general, though there are plenty of similarities of the challenges faced by Smallholder farmers in both Zimbabwe and South Africa.

Magadlela (1997) who carried out a research on smallholder farmers in Nyamaropa in Zimbabwe, argued that most small-holder farmers in Zimbabwe are in communal areas with poor climatic conditions. Generally, Nyamaropa farmers have their own special or specific

problems. The area is low (with an altitude of 850m), and most of the time it is hot and dry during the tobacco curing months of March, April and May. For most of the smaller producers, when tobacco is in the barn this is one of the most trying stages in the whole process of burley tobacco production. They regard barn handling as the critical time of the gamble they call tobacco curing, a time when one either creates the opportunity to make money or loses the value of the crop. While curing is a crucial part of the process, if it is done well, there is one more stage that needs subtle technical know-how on how to deal with possible failures.

In Nyamaropa some women specialised in tobacco grading and worked for, and advised, others at this stage of the process. About grading, Kille says, 'Having worked hard to produce a good crop of burley, many growers do not realise its full financial potential due to poor grading and presentation' (Kille, May,1987). Magadlela (1997) further identified the following challenges that smallholder tobacco farmers were faced with:

Organisational issues

The organisation of tobacco farmers has been a problematic area in Nyamaropa. There is the Air-Cured Tobacco Association (ACTA), which has elected representatives, called tobacco councillors, resident in various districts where there is burley production. They are supposed to liaise with farmers on one side and dealers or merchants on the other, while representing farmers' interests. In Nyamaropa, farmers say that they do not get to hear much about tobacco marketing systems because their councillor does not communicate very well with them on what is taking place in the industry.

2.3.4 Child labour

One big issue within the tobacco industry is child labour. It is customary to have the entire family helping in farm work, and it is often required for the farming business to work out for a smallholder farmer. While the occurrence of child labour is very high, it is not labelled as something negative among many farmer families. It is viewed as necessary, as the children have to learn to manage farming, so they can provide for themselves when they grow up (Kalimanjira, October 2010, pers. comm.). Not only children in families of smallholder

farmers work in the tobacco fields. In the larger estate farms, there can be entire families working as tenants in the tobacco fields. Often the children have to work as hard as everyone else for the family to make ends meet economically. Estate owners are supposed to provide food and shelter for their tenants. However, when the monthly labour is distributed among the tenants, some families have to go without both income and food rations.

Children working in tobacco field in Malawi (The Namibian, Internet, 2011). In many cases poverty is the reason why children take employment on tobacco plantations. Some do it to help get money and food for their family. Sometimes the children work to get money so that the family can afford the inputs required for their own agricultural business. However, this stops them from helping at the family farm, which results in a bad harvest for the family. Thus, the children have to go work at a plantation the following season as well, resulting in a catch 22. Food and clothes were two important reasons given when children were asked why they work at a tobacco plantation. While situations at home have forced some children to seek employment to help provide for themselves and their family, other children work just for the meals that the employers provide. For many of the children interviewed in Clacherty (2009), school was important, but many of them described the problems with secondary school not being free. Working part-time in order to pay for school fees is another reason why some children take employment in tobacco estates (Clacherty, 2009). Laws have been implemented in Malawi, including the signing of the UN Convention on the Rights of the Child, which prohibit child labour and states that children have to go to school. Still it remains common with children working part or even full time in the fields, as many families try to combine education for the children with them helping out in the farm work during high season (Kalimanjira/ Anna, October 2010, pers. comm.)

However, 4,7% of the children working within the agricultural sector do not attend school at all (Clacherty, 2009). Education is an important part of development, but as a consequence of the high rate of child labour, many Malawian children miss out on their right to go to school. Not only does this limit the children as individuals, as they lack education and knowledge that enables them to choose their own path in life, but it also continues the situation of farmers resorting to tobacco as their only “secure” means of income. When the children of tobacco farmers are kept out of school to learn the ways of tobacco farming, their future holds little chance of other means of self-sustainment.

Poor prices

The President of ACTA, together with the Chief Executive, visited Nyamaropa irrigation scheme after the 1995 season, which turned out to be a disaster for many farmers. There had been word that many farmers wanted to stop growing tobacco because of its poor prices.

Poor representation

Some smaller tobacco growers expressed concern about representation at national bodies or associations. This sprung from the fact that they are in the same organisation of burley producers with large-scale farmers. The feeling was that they have different interests, and may not be fully understood by their bigger colleagues whose priority in farming is to make money, and not just to survive. Plot sizes were cited as the main distinguishing feature between the two types of farmers, and the hint was that they were too different to be in the same organisation.

Gender and ownership of agricultural resources issues

Smallholder farmers rely on different resources for their livelihoods. Resource limitations coupled with household characteristics limit the ability of most farmers to adopt strategies to improve agricultural production. Resource ownership in smallholder areas varies over time. Females often have lower accesses to agricultural resources compared to males (Quisumbing, 1995; Peterman et al., 2011; Croppenstedt et al., 2013). According to the Sustainable Livelihood Framework (SLF; DFID, Chambers, 1989; Scoones, 1998), resources required for sustainable livelihoods include human, natural, financial, physical and social assets. Human capital include active labour force, health, knowledge and skills while natural (and agricultural) capital includes access to common property resources, land and produce, water and aquatic resources and biodiversity. Financial capital includes income, credit, remittances and insurance and physical capital includes infrastructure such as housing and road networks, transport, energy, communications, tools and technology such as tools and equipment for production, seed, fertiliser, pesticides and traditional technology. Social (and political) capital includes social status, discrimination against women and social links. The World Bank refers to social capital as ‘the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions’ (The World Bank, 2011).

Smallholders often have limited access to financial capital and credit (Maddison, 2007; Deressa et al., 2009, Nhemachena and Hassan, 2007). Access to financial capital and access to credit enable farmers to buy inputs such as feed, seed, fertilizers as well as farm equipment and other assets. Women often have limited access to cash and credit (Doss, 2001). Reasons for lower accesses to financial capital by females compared to males include low participation in cash crop production (Mackenzie, 1998), low productivity and lack of collateral to access credit. In Kenya, Mackenzie (1998) noted that females tend to focus on producing food rather than cash crops.

Physical capital asset constraints often encountered in smallholder areas include lack of appropriate equipment (Nhemachena et al., 2010). Agricultural equipment ownership often differs between men and women in male-managed households and between MHHs and FHHs. In seven districts in Manicaland and Mashonaland East Provinces of Zimbabwe female head households FHHs were more disadvantaged than MHHs with respect to control of agricultural resources (Nyikahadzoi et al., 2012). Lower incomes of FHHs compared to MHHs, and legal and social traditions can contribute to low levels of resources in FHHs. After the death of the head of household females may receive fewer resources in favour of male relatives. Cultural and social traditions may make women reluctant to press for their rights (Kameri-Mbote, 2006). Females can sell some of their productive assets due to financial distress after death of spouse. Further low income of FHHs may also limit the buying power required to purchase agricultural equipment.

Livestock ownership is most often an indicator of wealth in African smallholdings. Livestock are also important sources of draft power and a source of animal manure for soil amendments. In southern Africa, large livestock is traditionally owned by males and small livestock by females. Njuki and Mburu (2003) showed that in Kenya, Tanzania and Mozambique, women are more likely to own small livestock such as poultry, sheep, and goats than large livestock such as cattle and buffaloes. In poor rural Indonesia, Peru, and in Kenya men were largely responsible for ruminants particularly if the livestock were for market purposes, for example cattle (Valdivia, 2001). Meanwhile women's roles in the management of small ruminants differed. In Kenya, males had control over decisions to sell for women-owned livestock (Njuki and Mburu, 2003). Males usually inherit large livestock. Therefore, females often own less livestock compared to males, in Botswana

males were shown to own and use significantly more draft power compared to females (Oladele and Monkhei, 2008).

Natural capital constraints often include availability of resources such as land, (Maddison, 2007; Deressa et al., 2009). Land is an important natural asset with respect to ownership (type), land size as well as quality of land owned. In Zimbabwe, males typically have larger land-holdings compared to females (FAO, 1997).

Inheritance or social norms in many African communities can result in females losing part or most of the land after death of the spouse. Females in several countries in South America own land mostly through inheritance and males own land through markets and inheritance (Deere and Leon, 2003). Arguments are that lower land areas of FHHs are proportional to smaller families and fewer resources such as labour that these households have. Government policies in some African countries have improved women's access to land. Short-term impacts of a pilot land regularization program in Rwanda, for example included improved land access for legally married women (Ali et al., 2013).

Human capital constraints of smallholder farmers often include low education levels (Maddison, 2007; Deressa et al., 2009). Higher education levels are often associated with increased access to credit, and technology adoption. Since households in many African countries prefer to educate males than females, male household heads are often more educated compared to female household heads (Meinzen-Dick et al., 2010; Quisumbing, 2003). Advocacy for equal opportunities for girls and boys has, however, contributed to increased education of females. In addition to education and knowledge constraints, African smallholdings often have labour constraints (Nhemachena et al., 2010). Available family labour influences adoption of technologies and farm management practices. Female-headed households FHHs, in particular often have less male adult labour due to the absence of the 'male'. Based on survey data of 300 households in Zimbabwe Horrell and Krishnan (2007) showed significant differences in available family labour (primarily for maize production) between MHHs and FHHs only (MHHs - 4.14, de jure - 3.97, and de facto - 3.12). Other human capital constraints in smallholdings include availability of extension advice (Valdivia et al., 2001), lack of knowledge on farming strategies (Maddison, 2007; Nhemachena and Hassan, 2007, Nhemachena et al., 2010) and low experience (Below et al., 2010).

Farmer formal and informal organisations and farmer-oriented institutions are a source of social capital. Farmers' roles and integration in these groups measure social capital. Functions of farmer groups include collective action in farm production. Collective action often increases resource management and agricultural production (Quisumbing, 2003, Meinzen-Dick et al., 2002). Resources that can be mobilized by internal social capital include agricultural equipment such as draft power, access to financial capital through credit, and even transport to markets. Membership to rural institutions or farmers' groups increased food security of the FHHs (Kassie et al., 2014). Social capital facilitated participation in collective action initiatives and influenced individual soil conservation efforts in rural Kenya (Willy et al., 2013). Men are more likely to belong to productive as well as social associations, which enhance their adaptive capacity. Meanwhile women's levels of participation may be lower due to social and cultural barriers. Social barriers can reduce adaptive capacity and limit adaptation (Hulme et al., 2007; Adger et al., 2009). Mobility in smallholder areas increases access to markets and access to meetings that facilitate or increases social networks of farmers. Depending on location, women often have limited market access due to low mobility. Men for example can use bicycles while few women are able to use bicycles (Kassie et al., 2014). Other non-climatic constraints that smallholder farmers often experience include market-related constraints, costs of inputs and low producer prices amongst other factors

Marketing blues

The next section looks at the 'trials and tribulations' of tobacco marketing encountered by small-holder farmers in auction floors, based on two visits to the Mutare auction floors for the 1995 marketing season. Mutare is almost 200 km away from their homes. Some farmers could not afford to travel to and fro if their tobacco was not bought on the first day of auctions, and had to find accommodation somewhere in town. I travelled with one tobacco farmer, whose production, handling and marketing I was following closely. We left Nyamaropa at 5 am; other farmers had already gone by buses which left as early as 3 or 4 am. We got to the floors at 8 am and found people waiting for the business to start. When it did, there were low prices for almost all grades, small-holder farmers were complaining. They argued that their representative was not helping them at all; that their large-scale commercial colleagues were getting all the help they needed and their prices were always high.

Some employees at the floors said that there was war among buyers concerning who wants to buy how much and how. The story was that Tabex wanted to push farmers towards a monopoly of the market, others wanted the market to be open, and some wanted the auction floors closed. Some buyers were said to have links with some bigger farmers to keep their prices good. These were just allegations going around the floors among small-holders.

Some said that large-scale farmers applied too much fertiliser, and their tobacco had high nicotine content. Small-holders' tobacco was better in that respect because of less chemical inputs. Some small-holder farmers were withdrawing their bales claiming that their tobacco did not get the price it was worth, and they waited for another auction day with better prices.

The licensed buyers, class A, were as follows: Tabex, Zimbabwe Leaf Tobaccos, Stancom, Dibrill Brothers (jointly with Mashonaland Tobacco Company), and Export. Then there were what were called Pin Hookers merchants who bought tobacco, stock up, and then resold to larger buyers when prices were good. Some farmers were saying that Tabex was 'killing' auction prices on purpose so that it would force the industry to revert to the old consortium system that they used some years back, when it had a lot of control over producer prices. At the close of business on 26 June, the maximum price at which tobacco had been bought was US\$2, 70 per kg, and the minimum was US\$0, 05 per kg. Most of the tobacco was bought before mid-day.

Some of the smallholder farmers from Nyamaropa did not have anywhere to sleep since they had no relatives in town. There were times when there were mix-ups in selling days and they had to spend longer periods sleeping either at relatives' or friends' places around town, or in the open sheds at the bus terminus. To add to the suffering, tobacco sales take place in winter in Zimbabwe, and farmers have to withstand the cold from the bus stations to the auction floors and then to the bus terminus for the night bungled up together, especially women farmers, to share the warmth. Normally, after selling they can get their cheques in the afternoon of the selling day, between 1 and 3 pm. However, it is still not easy for them to make bank transactions and then catch the bus home in a few hours.

Some of them prefer to take the bus home instead, and give their cheques to local businessmen with whom they make special arrangements about payments. After mid-day at the auction floors, only Black small-holder farmers can be seen loitering around the auction

floors, mainly at the reception area. Here there is a restaurant from where they hardly buy any food because they say it is too expensive. Instead, they go to a kiosk outside the auction floors yard for refreshments, waiting for their cheques to be processed. When the time finally comes, names are called out, the farmer goes and signs for the cheque (they can pick up a relative's or a friend's cheque that way too) and leaves.

Some of them smile at the figures on their cheques, others grimace, and almost all of them are curious to know what the next farmer got. This becomes big news at home back in the irrigation scheme where some figures are purposely inflated. In Nyamaropa itself, the rest of the 1995 marketing season was characterised by complaints from farmers some of whom said that they were not going to grow tobacco during the next season, but they would wait and watch how others perform.

Before the meeting I met the tobacco councillor. He told me that the Zimbabwe Tobacco Association (ZTA) is based in Harare and is the top organisation for all tobacco growers, including growers of both burley and Virginia. Then there is the Flue-Cured Tobacco Association (FCTA) and ACTA. He went on to point out a few things about their industry to me: 'Auctions are mainly for burley and Virginia. The marketing system has been the sore spot for most tobacco growers; in 1980 there was a consortium system dominated by one buyer, Tabex.

There were problems with time, the buyer never bought more than 2 000 bales a day. Auctions are faster, but there are problems with buyers too. Some buyers know each other and seem to set particular prices for the day, and there is not enough competition among them, with Tabex still dominating. The Burley Marketing Association (BMA) is the marketing agency for ACTA.' He went on to say, 'Small producers are not in a good position, they have small pieces of land, small production levels, less knowledge of the crop as seen by their poor grading skills.

To make matters worse, buyers are said to link up and discuss how to get the best deals from farmers who do not seem to be that united. Some foreign buyers are rumoured to have been refused entry to buy tobacco (but this could not be confirmed), with the excuse that there was very little tobacco this year. Councillors deal with all aspects of tobacco production and marketing, recruitment of labour, training, and payment. They basically lead districts. I am in

district 9, and I have been here as a councillor for 14 years. I have also worked in the same capacity in Malawi, where small-holder farmers produce a lot of high quality tobacco.

The structure of our organisation is such that at the bottom there is the grower, then the tobacco committee which organises farmers on grievances, and on transport. At this level Agritex assists farmers in production, treatment and handling of the crop. We work with Agritex although they think that we side line them . . . There are about 300 burley tobacco growers in Nyamaropa irrigation and dry land area' ' (Basira, tobacco councillor, Nyamaropa area, 19 Sept., 1995, personal communication).

Mutami (2015) postulated that smallholder farmers in Zimbabwe face a number of challenges ranging from lack of land tenure security, poorly-designed input supply programmes which push production costs, and a lack of effective producer organisations which can represent the different needs of smallholder farmers. Furthermore, another variant in smallholder agriculture in Zimbabwe is income. Income tends to be lower in communal areas where crop output is low and livestock sales are low due to huge transaction costs.

One interesting finding of the study is that average income within resettled A1 farmers is increasing at a faster rate than that of resettled small-scale A2 farmers. This has been explained by a number of issues. First A1 farmers have just 6ha of land while their counterparts have an average of 35ha of land, and thus their operations tend to be intensive. Second, most A1 farmers have been increasing land under cash crops, particularly tobacco, as they take advantage of reforms in the tobacco industry, such as input provision and marketing. Respondents in Mazowe (A2) indicated that since 2010, inputs are increasingly difficult to access, as most programmes for input provision have scaled back or have collapsed due to the liquidity crunch in the country. Respondents from the Ministry of Agriculture pointed to the high default rates on loans accessed in banks, which have led them to be snubbed by local financial institutions.

2.4 Objective 3: To determine and analyse the impact of the coping strategies employed by the smallholder tobacco farmers in poverty alleviation.

2.4.1 Coping Strategies defined

Weiten and Lloyd (2008), Snyder (1999), and Zeidner and Endler define coping strategies as the psychological coping mechanisms which are commonly termed coping strategies or coping skills. The term coping generally refers to adaptive (constructive) coping strategies. That is strategies which reduce stress. These refer to the specific efforts, both behavioural and psychological, that people employ to master, tolerate, reduce, or minimize stressful events. Davis (2012) postulated that a coping strategy is a conscious effort to solve a personal or interpersonal problem that will help in overcoming, minimizing, or tolerating stress or conflict. Physiological changes that occur when you face perceived threats in certain situations. These situations are known as stressors. When your stress response is triggered, a series of changes occurs within your body.

Furthermore, Davis (2012) added that a coping strategy is a conscious effort to solve a personal or interpersonal problem that will help in overcoming, minimizing, or tolerating stress or conflict. The two main categories of coping strategies are emotion-focused coping and solution-focused coping.

2.4.2 Emotion-Focused Coping

Emotion-focused coping changes a person's emotional response to the stressor. Emotion-focused coping techniques are focused on reducing the negative emotional responses we might experience because of stressors.

Some examples of emotion-focused coping strategies are:

- Letting off steam by venting to friends or family
- Keeping yourself busy to keep your mind off the stress or
- Seeking encouragement, moral support, sympathy, and understanding from others
- Turning to rigorous activities like sports to distract attention from the stressor

People are more likely to adopt emotion-focused coping when they don't think their actions can affect the stressor itself, so they alter their response to the stressor. This is like when a friend says something that hurts your feelings. What he or she said may make you feel badly about yourself, and you may spend a lot of time and mental energy thinking about it. Talking

to other people about the situation or engaging in other activities may help you deal with the emotional stress of that encounter.

2.4.3 Problem-Focused Coping

Problem-focused coping is about trying to deal with the stressor itself so as to avoid the stress response it is causing. Problem-focused coping involves finding practical ways to deal with stressful situations.

Some examples of problem-focused coping strategies are:

- Put other activities on hold in order to concentrate on and cope with stress or
- Actively try to remove or work around the stressor
- Wait to act until the appropriate time
- Seek concrete advice, assistance or information

Kwraford (2008) identified constructive coping strategies:

Constructive coping strategies

1. Appraisal focused coping where some believe A (the event) = C (the feeling) but forget about B (our beliefs) that can cause catastrophic thinking – ‘shoulds’, ‘musts’, , ‘always’
2. For example, the media’s emphasis on incidences such as terrorist attacks and disasters can produce an irrational fear of the likelihood of their involvement in these events. However, chances of dying through disease or car accidents are more likely (Weiten et al,2009).
3. Humour - production of more positive emotions; seeing the lighter side. People who engage in positive reinterpretation have often experienced personal growth from traumatic events using humour. C)
4. Problem-focused (PF) - facing problems head-on, clarifying, generating and evaluating alternative courses of action and monitoring results.
5. Seeking help and time management are common methods. Seeking help and social support is an effective strategy. Social resources include family and friends or professional help can be sought from a therapist, counsellor or psychiatrist.

'Who is living in your head' by Goulding (2006), provides the use of imagination exercises to become aware of negative self-talk, identify and label the 'villains' and then shrinks them incorporating the use of humour. These can be applied to major stressors like marital separation, jail, personal injury, fired at work, pregnancy and retirement. D) Emotion-focused (EF) – ability to become aware, regulate and express emotions through understanding and reasoning.

Common strategies of coping are expressing emotions with others, writing It down, forgiveness, exercise and meditation. A person aware of physiological changes might sense changes in their muscular- skeletal system (muscle tenseness) and apply breathing techniques to buffer the anxiety cycle in the beginning (Borysenko, J. 1987). Another strategy created by Steiner (2008), is Emotional Literacy (EL) that provides clear constructive ways of EF application by methods of surveying your emotional landscape and then talking about them to others. People would need to be able to differentiate feelings to use this strategy.

Interaction of coping strategies is considered a secondary appraisal from which a person's flexibility in using different strategies according to the multiple environmental demands is shown in empirical research to have an overall reduction in observable stress (Sideridus, 2006), Weiten et al (2009), provide a useful application for behaviour modification; that is a systematic approach through applying the principles of conditioning.

The change strategy steps involve; being specific about your problem area, gathering data (though self-observation), designing a program with the use of an identified reinforce, execution, evaluation and ending both EF and PF coping is used in the strategy known as 'stress inoculation' (Corey G, 2001). Cognitive based, the therapist teaches a person rehearsal and skill acquisition. Examples are "how can I prepare? "How can I confront and deal with? "How can I cope with feeling overwhelmed?" and "how can I make reinforcing self-statements?"

2.4.4 Coping strategies for smallholder tobacco farmers

According to Regassa (2011) it is believed that agriculture is the most susceptible sector to climate change. This is attributed to the fact that climate change affects the two most

important direct agricultural production inputs, precipitation and temperature. Climate change also indirectly affects agriculture by influencing the emergence and distribution of crop pests and livestock diseases, exacerbating the frequency and distribution of adverse weather conditions, reducing water supplies and irrigation; and enhancing severity of soil erosion (McCarthy et al. 2001).

These will have cumulative effects on household level food security status. Through time, poor and hungry populations become less resilient to stress and disasters as they rely a great deal on the natural environment and lack the capacity and the resources required to recover from disasters (Oluoko et al, 2011). Societies are dynamic and they use all possible strategies to reduce the vulnerability to climate induced food insecurity. In the climate change literature, the Intergovernmental Panel on Climate Change (IPCC) identifies three components of climate vulnerability: exposure, sensitivity, and the capacity to adapt (McCarthy et al. 2001). Within this framework, the coping capacity is a dimension that cannot be neglected (Siri et al, 2005) there are two kinds of responses to crisis, mainly resulting from food insecurity and hunger: coping mechanisms and adaptive capacity.

2.4.5 Coping mechanisms

Coping mechanisms are the actual responses to crisis on livelihood systems in the face of unwelcome situations, and are considered as short-term responses (Berkes & Jolly 2001).

2.4.6 Adaptive strategies

Adaptive strategies are the strategies in which a region or a sector responds to changes in their livelihood through either autonomous or planned adaptation. Coping mechanisms may develop into adaptive strategies through times (Berkes & Jolly 2001). Adaptation studies have often emphasized measures to reduce sensitivity by, for example, changing to forms of agriculture that are less climate sensitive, thus reducing the need for coping (Siri et al, 2005) One of the most common methods for identifying food insecure households or regions is to look at the frequency and types of coping strategies as they are used to offset threats to a household's food and economic resources in times of hardship (Corbett, 1988).

Studies in developing countries documented that households employ a range of coping strategies during sustained food insecurity and hunger. For instance, the most important

seasonal strategies include choice of cropping patterns to spread risks involving mixed cropping, cultivation of secondary crops, particularly root crops, off-farm income earning, selling productive assets, constricting food intake, and migration (Richard, 2009; Arun 2006); use of common property resources; changes in consumption patterns; share-rearing of livestock; and mutual support networks (Tony, 2009).

There is increasing demand for vulnerability and response assessments in view of identifying the susceptibility of populations to food insecurity. Studying household responses to climate induced food insecurity and hunger can also play an important role in improving our understanding of the impact of long-term climate change and of measures to facilitate adaptation. Previous studies of the coping strategies of small-scale farmers have argued that these strategies vary between households and also over time according to choices, objectives, opportunities and constraints (Siri et al, 2005).

2.4.7 Current coping strategies and adaptation measures to climatic variability.

Mutambanengwe et al (2012) identified a number of coping strategies by Zimbabwean smallholder farmers in response to climate change: In response to observed changes in weather patterns and absence of previously known local indicators, farmers in both communities confirmed to having shifted their normal agricultural practices to minimise risk and maintain crop productivity. Changes in harvesting dates, crop spacing and crop diversification were also mentioned as measures put in place to cope with climatic variability.

In Wedza, the most preferred coping strategy was growing more than one crop type and variety in the same piece of land (52%), followed by increasing inter- and intra-row spacing for maize and legumes to reduce competition for soil moisture, while about 12% confirmed having changed their cropping calendar, while opening new fields was a strategy adopted by about 5% of the farmers.

In Makoni, at least 45% of the farmer had changed their cropping calendars to include dry planting, early and late planting outside the normal planting time. Also of significance were increasing intra- and inter row spacing for different crops (25%) and combining different crop types and varieties was taken up by >20% .

Other options included shifting harvesting dates to include early harvesting as soon as the crop reaches physiological maturity, and late harvest to minimise post-harvest losses associated with attaining the required moisture content before marketing of produce. Early planting was perceived as being dependent on field type, and was associated with sowings before or on the first effective rains.

Farmers' cropping calendars in Makoni and Wedza smallholder farming areas. However, a significant relationship between level of education of household head and coping strategy ($\chi^2 = 44.9$, $df = 16$, $P = 0.000$). Farmers were able to identify windows of planting operations defined as 'early' (before the 2nd week of November), 'normal' (mid-November to mid-December), 'late' (mid-December to year end) and 'very late' (any time into the new year) There was however, a time lag in the planting windows (dates) by farmers in Makoni relative to those identified in Wedza , .

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2.5 Conclusion

The chapter came up with discussions and analysis of various literatures related to the research topic and explored the various gaps that exist in this literature. The meaning of smallholder farming was discussed at length by various scholars. The significance of smallholder farmers was also discussed and gaps related to the Zimbabwe situation. The chapter highlighted the economic importance of small-scale tobacco farmer in Zimbabwe. The meaning of livelihoods was explored and linked to how smallholder farmers sustain livelihoods; finally the issue of coping strategies of smallholder farmers was highlighted by several authors.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

In this chapter the researcher will present a detailed description of how the study was carried out. The study covered a number of aspects namely being; research design, target population, research instruments, data collection procedures, data presentation and analysis procedures and a summary of the chapter

Research methodology is the study of methods used to obtain data from a research project (Bell, 1993). According to the American Heritage Dictionary (2000), methodology can properly refer to the theoretical analysis of the methods appropriate to a field of study or to the body of methods and principles particular to a branch of knowledge

3.1 Type of research design

The study was conducted within the qualitative paradigm. The definition of qualitative design is broad and hence it's become more and more difficult to find a common definition of qualitative research which is accepted by the majority of qualitative research approaches and researchers. Qualitative is no longer just simply "not quantitative research", but has developed an identity (or maybe multiple identities) of its own. Qualitative research is intended to approach the world "out there" (not in specialized research settings such as laboratories) and to understand, describe, and sometimes explain social phenomena "from the inside" (Gibbs, 2007).

According to Richards (2005) "if you are working qualitatively it is usually because the question being asked does not clearly indicate what data you need to answer it. This does not mean you don't know what you are doing rather you are adopting a flexible approach to a situation to be understood. The situation has to be understood in its context, so the record must retain that context. Otherwise you risk losing that understanding".

The qualitative research approach was chosen in view of the exploratory nature of the study aiming at describing the personal understanding of small holder tobacco farmers with regards to poverty alleviation. This approach was thought to be the most appropriate considering the objective of the study as it is flexible and gives quality and depth information of tobacco farmers. One of the major distinguishing characteristics of qualitative research is the fact that the researcher attempts to understand people in terms of their own definition of their world.

A qualitative approach focuses on the subjective experiences of individuals and it is sensitive to the context in which people interact with each other (Babbie & Mouton, in Green, 2003). Qualitative method will give the researcher more information about tobacco small holder farmers in Centenary and how they are benefiting from tobacco farming. The researcher selected qualitative methodology because it is flexible and it gives quality and depth information of tobacco farmers.

The researcher's research tools are questionnaires, interviews and field diaries, the researcher will use the tools to document the views of the farmers and other informants with important information to the research.

3.2 Sampling procedure

The participants who were involved in the study were drawn from Centenary ward 21 and palms ward 28 smallholder tobacco farmers. Where there are about two hundred and fifty farmers and the researcher managed to meet with eighty six farmers. The choice of the location was based on practical reasons of accessibility because the researcher resides in Harare which is close to the research area.

3.2.1 Purposive Sampling

In this research the researcher is going to use purposive sampling method which is a form of non-probability sampling in which decisions concerning the individuals to be included in the sample taken by the researcher, based upon a variety of criteria which may include specialist knowledge of the research issue, or capacity and willingness to participate in the research (Oliver; 2006). Purposive sampling will be used because it focuses on particular

characteristics of a population that are of interest, which will best enable respondents to answer the research questions.

3.2.2 Convenience sampling

Convenience sampling will also be used to sample the population during the study. According to Yin (2004), convenience sampling is when participants are chosen simply due to the fact that it may be easy to access them and they are willing to participate in the study. Some of the locations could not be accessed while amongst those populations that were accessible

3.3 Data collection

The study used both primary and secondary sources of data. Primary sources of data were through direct communication with the contracted small scale tobacco farmers, with focus group discussion and interviews as the methods of data collection. Primary data provided first-hand information which also assisted in filling the identified gaps and supplemented the secondary data. Secondary source of data was acquired from the AGITEX, journals and books written about Zimbabwe tobacco farming .

3.3.1 Interviews

The researcher is going to carry out interviews so as to obtain information about smallholder farmers in Centenary. Interviews are aiming at how tobacco has helped the smallholder farmers in alleviating poverty. This study utilized what Rubin & Rubin (1995) termed cultural interviews. According to Rubin & Rubin cultural interviews “are about hearing how people see, understand, and interpret their world”. In cultural interviews, the researcher spends most of the time listening to what people say rather posing detailed and focused questions. In contrast, topical interviews are focused on subjects that the interviewer has chosen, involve more active questioning and rapid exchange and are more concerned with matters of fact and less with shades of meaning than cultural interviews. The interviews were

conducted with the aid of an interview guide in the form of semi-structured, open-ended questions. The interview guide served as a map for the path that would be followed by the researcher when dealing with the specific issues considered relevant to the field of study (Green, 2003). Neuren (cited by Green, 2001) points out that themes and concepts, rather than variables, serve as the analytical tools for qualitative studies.

According to Holloway & Wheeler (1996:56) the interview guide focuses on particular aspects of the subject area to be examined. “Although researchers aim to gain the participants perspective they must remember that they need some control of the interview so that the purpose of the study can be achieved and the research topic explored” added Holloway & Wheeler (1996). The interview guide was divided into three (3) sections, namely the respondents’ personal characteristics, the respondents’ challenges faced and the researches coping strategies on poverty alleviation. The interview guide was written in English but it was translated into Shona during the interviews.

3.3.1.1 The Interview Process

“The purpose of interviewing is to find out what is in and on someone else’s mind. We interview people to find out from them those things we cannot directly observe” (Patton, in Greenfield, 2002). Usually qualitative research interviews tend to involve relatively little structure and control by the researcher. Digressions by participants are expected and are generally regarded as useful because they lead into topics that often are more productive than those that the researcher might have introduced. Getting participants back on track is done only if it becomes apparent that they are avoiding topics that need to be discussed and that are believed to be within their emotional tolerance for discussion (Yegidis & Weinbach, 1996).

3.3.1.2 Recording Interview Data

Before conducting an interview, the researcher should decide how the interview will be recorded. The following questions should help to determine which form of recording is appropriate for the research (Greenfield, 2002):

- How sensitive are the issues you the researcher wish to address? If the roles were

Reversed, would the researcher feel comfortable being interviewed?

- Does the researcher have the ability to record the interview in note form?
- Does the type of interview that the researcher is adopting require him/her to make notes to act as probes about certain topics as they arise?

3.3.1.3 Length and Timing of interviews

Field & Morse (in Holloway & Wheeler, 1998:56) advises that interviews should not be continued beyond an hour. However, Holloway & Wheeler (1998:56) feel that the length of time depends on the participants. According to them the researcher must suggest an appropriate amount of time so that participants can plan their day. Other participants, particularly older people or physically weak people might need to break off after a short while, say 20 or 30 minutes. Participants such as children cannot concentrate for long periods of time.

All the interviews took approximately 30 to 45 minutes. The interviews were arranged at the “participants’ convenience”. The researcher and the participants’ ensured that there were minimal disruptions, for example those interviews which were conducted at the participants’ houses, efforts were made that they were conducted when the participants’ children were at school or there was someone at home to take care of them. During some of the interviews the participants agreed to “put their cell- phones on silent mode or switch them off completely”.

3.3.2 Desk Research

Desk research which is classified as secondary research involves the summary, collation and/or synthesis of existing research rather than primary research, where data is collected from, for example, research subjects or experiments. It can therefore be treated as the most convenient starting point of research for any organization. The main advantage why the researcher found it important here to use desk research is that literature and information on tobacco farming and poverty is available. The researcher will make use of several sources for information. These include Journals, Periodicals, Magazines, Newspapers, Published Electronic Sources, and E-journals.

3.4 Research Ethics

According to Walton Research that includes human beings or participants raises ethical, issues. Research ethics are interested in the study of ethical issues that are raised when people are involved in the research. There are three important objectives in research ethics. The first objective is protecting human participants. The second objective is to make sure that research is directed in a way that helps the interests of individuals, or a society. The third objective is to study specific research activities and their ethical security on issues such as the management of risk, protection of confidentiality and the process of informed consent (Reamer2006).

Research ethics are codes or guide lines that try to reconcile value conflicts (Reamer 2006). Research ethics have codes and police that need to be followed when caring out a research. The research ethics were codified by the Nuremburg code in 1947. The researcher followed all the codes and guidelines of ethics. Respondents are to be treated with respect and they must be protected. In this research used the code of informed concert before interviewing them about tobacco farming in Centenary. Informed concert means that people asked to participate in the study must know what they are getting involved in before they participate. The following codes guided the writer in her research, honesty the researcher did not deceive the despondency, and confidentiality the researcher protected confidential communication among the respondents. The researcher will avoid discrimination against the respondents on the basis of race, gender and ethnicity.

3.4.1 Informed consent

This is a case where subjects in a study are informed about the research so that they make decisions regarding participation. The Researcher visited the three wards in Centenary under study and sought permission first and explained the purpose and procedures of the study. The researcher explained her sampling methods and informed the subjects that they could say no to the participation.

3.4.2 Confidentiality

Respondents to the questionnaire were assured of the strictest confidentiality with regards to their participation. No names would be mentioned in the findings of the research but rather a use of acronyms in their place, otherwise referred to as blind referencing.

3.4.3 Privacy/ Autonomy

The subjects were alerted to their human rights to choose the nature and how far they can go in answering or taking part in a study. The subjects were assured they could withdraw anytime they felt uncomfortable about the study.

3.4.4 Protection from harm

The researcher assured participants that they would be safe from any nature of harm such physical and emotional as the research would only be used for upgrading smallholder farmers.

3.5 Chapter Summary

The chapter dealt with the following critical aspects that began with an introduction of areas that the researcher had looked at covering the entire study that revealed how the researcher conducted herself in the following area; a detailed research design followed, subjects/ target population that stated figures and other specifics, the research instruments were identified and justified, data collection procedures were covered in detail, data presentation and analysis procedures were also covered as well as the conclusion to the Chapter

CHAPTER FOUR

DATA PRESENTATION, AND ANALYSIS OF RESEARCH FINDINGS

4.0 Introduction

This chapter presents findings regarding the impact of tobacco farming on smallholder farmers in Centenary. The chapter will present qualitative findings of the research. Moreover, the chapter will also have comments and analyses of the data presented and expose any contradictions discovered by the researcher in the findings.

4.1 Research Findings

4.1.1 Objective1; to establish the significance of tobacco farming in sustaining livelihoods.

Centenary farmers in Mashonaland Central Province ventured into tobacco farming, which before was an exclusive cash crop for white commercial farmers. The land reform program benefited the people in Centenary as they have ventured into tobacco farming which has seen a great improvement in their standard of living. There are about 250 smallholders, the researcher managed to interview 86farmers and tobacco is increasing by a growing role for farmers who traditionally used to venture into maize production as well animal husbandry and other low paying small grain. These tobacco farmers were inspired by the lucrative process of tobacco in the international market; therefore, the Centenary farmers are now enjoying a new lease of life. Table 1 below shows the increase of smallholder tobacco farmers in Centenary.

Table 1: Representing the increase of small holder tobacco farmers in Centenary

Year	Number of small holder farmers growing tobacco in Centenary as a major crop
2000	78

2005	90
2010	158
2015	250

4.1.2 Factors that Influenced Tobacco Cultivation

In order for farmers to select any type of crops to farm it requires some thought and planning. According to (Roberts 2006) more farmers are likely to take up a crop that has been grown in the area for a long time as this means there is equipment and the climatic conditions are favourable.

The above study also reported that other factors that farmers should always consider before taking up a crop include the labour pool and access to market. Labour pool here refers to access to reliable and productive labour. The researcher therefore, sought to find out the factors that influenced farmers to start tobacco cultivation in the area. This was to enable the researcher compare the extent to which the original intentions of the farmers to take tobacco farming had been realized.

TABLE 2: SHOWS THE CROPS THAT WERE MAINLY GROWN IN CENTENARY DISTRICT

Crop	Average Area a grow(Ha)	Area Standard Deviation(Ha)	Minimum Area Grown(Ha)	Maximum Area Grown(Ha)
Maize	1.72	0.95	1.00	4.00
Soybeans	1.60	0.80	00	2.50
Groundnuts	0.49	0.37	0.00	2.00

Tobacco	1.17	0.38	0.50	1.00
Total land	6.62	4.50	2.50	25
Total Arable Land	4.35	2.10	2	14

SOURCE: Centenary AGRITEX 2012

Farmers grew maize, soya beans, groundnuts and tobacco, with maize occupying a larger area, four hectare and the smallest area the farmers grow maize was a hectare. One of the interviewed farmer Mr Musingwini an agriculture extension officer said that before the fast track land reform programme of 2000 farmers grow tobacco with some growing the crop on a half hectare and others up to a hectare through he highlighted that tobacco is labor intensive hence that period they need to grow a small area as well most farmers lack-knowhow as well machinery and chemical

Table 3 Factors that Influenced Tobacco Cultivation

Factor	Frequency	Percent
Incentives from Tobacco Company	47	54.7
Anticipated ready market	20	.1
Promotion from Government Agricultural Officers	5	5.8
Culture/inheritance	9	10.5
Availability of land	8	32.6
There was no other cash crop by then	20	23.3

From the findings, the majority of all the responses got from those who were interviewed said that they started tobacco farming because of incentives from tobacco companies while which were very attractive. Whilst others got into tobacco farming because of anticipated ready market. Just after the land reform program farmers were promoted to the position of

agricultural officers by government. Some farmers shed light as to why they were practising was because of inheritance of the farm land. On the other hand, some of the responses from the respondents interviewed said they started tobacco farming because of availability of land per cent said there was no cash crop by then that was promising. The findings corroborate a study done by Kein (2006) that stated most farmers would be attracted to a given crop if it has market. In addition, Kato (2009) reported that many farmers are too poor to afford seeds, fertilizer and other inputs to improve yields. From the findings it could be said that the tobacco company then was aware of the needs of farmers on farm inputs and market for their produce hence used it as strategy to influence more farmers in growing the crop.

4.1.3 Reasons for prioritizing tobacco farming in land allocation

The researcher sought to establish the reasons why the farmers prioritized tobacco farming in their land allocation. During the FGD, majority of the farmers said that they had dedicated a better percentage of their farms to tobacco cultivation because of the incentives provided to them by the tobacco company in the form of farm inputs and loans, and also the ready market. This could lead to negative effect on household food security especially in times of poor yields as corroborated by the findings of a study done by Claude (2003) on the negative effects of tobacco farming.

Palm village was typically made out of pole and mad hence majority of the houses were constructed from poles and mad as well having the thatch roofing. In ward 21 few houses were made of farm brick and having asbestos roofing as this was narrated that about five houses have corrugated iron sheets roofing hence you could easily count because they were very few. Mr Nyamburi indicated that there were only few households that were having Blair toilets at the household whilst the majority in ward 21 using the bush system. Residents pointed out concerning that fiscal matter run-off into unprotected drinking water sources during the rainy season.

Palm settlement area were serviced by Chiripiro Primary School which is located on a neighbouring farm, hence other families sent their families to school in the nearby communal areas to Budiro and a little further to Chidikamwedzi. Chidikamwedzi and Budiro are estimated to be 15 kilometres from the farm which actually was very difficult for young children to take day to and from school. Most families have sent their children in the old communal homes as in the towns so they can attend school therefore they join their families

during school holidays. The nearest secondary school is Centenary High School which was considered very expensive that very few framers from ward 24 and can afford to send their children there.

In terms of production in ward 21 most farmers were specializing into maize production as well they used to do subsistence farming were by they would produce some maize or groundnuts to feed themselves then if there are some surplus they would exchange with others who would be specializing into animal husbandry and they could travel for 25 to 30 kilometres in exchange of meat because there were no farmers who were into animal husbandry hence the area lived for many years with butter trade to have descent meals since maize production was their major agricultural crop. Furthermore, very few smallholder farmers were practicing mixed farming they will keep cattle for meat and cultivation, they would also keep sheep and goats for meats.

There were no boreholes in ward 21 hence residents rely on unprotected wells for drinking water, cooking and other household's users. The water was not safe for human consumption. Only three homesteads had a protected well and five families in the close neighbouring had of the household also have access to the wells. According to Headman Nyamburi during rainy season, problems of diarrhoea arise as well typhoid because sanitation was very poor this was because only four household have access to a Blair toilet while the rest rely on the bush. This resulted in that water runoff into the dam contaminates the water leading to high incidences of water-borne diseases

Furthermore the nearest clinic was located 10 kilometres from the area whilst Centenary District Hospital is 20 kilometres from Palms village hence this was very difficult for farmers to travel in cases of emergency as well for pregnant women and also during crisis of water-borne disease therefore according to Mr Musona a smallholder farmer explained that before the advent of tobacco farming many families lost their beloved ones because they lacked health care assistance during 1995 cholera attack this was because health services are located too far from the resettlement area.

The Tobacco farming has been practiced in Zimbabwe since time immemorial and the absence in its literature the next pragmatic question in what effect it has on smallholder

livelihood and poverty alleviation. Few published articles indicated that smallholder farmers benefited positively through better incomes they receive after sale, improved household, acquisition of assets, food security, employment creation both formal and informal, improved household assets, improved standards of living since they are able to send their children to better schools and universities and improved housing structure. This is in view of the basic needs approach to describe the levels in poverty.

Tobacco farming provides the most dependable source of income hence according to the report of TIMB (2014) in Centenary the reliability and the long term trend of tobacco growing's contribution to household income is important. From the contracted 86 tobacco growers interviewed in that paper reported that tobacco farming was their most steadfast income source and for 14 out of 15(96%), income from tobacco had either increased or drastically increased overtime. The farm labourers have also said tobacco was their most important income source. The major types of assets owned by the tobacco smallholder farmers in Centenary include farmland, cars, tractors, domestic animals and houses in towns like Mazowe, Mvurwi and also in the big cities like Harare.

Small holder farmers involved in tobacco fairly in Centenary have indicated that takings from their tobacco output have enabled them to improve household income in terms of cash as well raise assets such as number of livestock, good houses, motor cycle, bicycles and milling machines this has been observed in Palms ward 21 which is now becoming a major area of tobacco production TIMB (2012) annual report. Tobacco farming has managed to create employment at a local level both permanent and hired labour which have improved the standards of living of people in Centenary (MTC Report 2013).

4.1.4 Tobacco's impact on smallholder farmers

4.1.4.1 Assets

Back then only a few elite people could afford cars, but ever since many people embarked on tobacco farming there was a sudden change of lifestyles. The majority of the people now own cars. Mr Madzinga one of the tobacco smallholder farmers said after being frustrated by low prices fetched by maize, he decided to try his luck by growing the golden leaf. He further said although he had little knowledge of how to grow tobacco he was not discouraged “ I started

growing tobacco about six years ago and my life has extensively changed for the better, I used to grow maize and groundnuts for many years but our main buyer the Grain Marketing Board(G.M.B) was failing to pay us for the delivered produces” he also highlighted that he grows a small portion of maize for family consumption Mr Madzinga said he did not regret growing tobacco as the decision was producing results, he further said that last year he managed to sell about 49 bales of tobacco at around US\$4 a kilogram which was actually a good price, The farmer said he also acquired farming implements and machinery from the produces of tobacco sales. “Within the few years that I has been into tobacco farming so far I have managed to acquire a tractor and beefed up my cattle herd and also built a new house” he said.

In addition, another tobacco farmer Mrs Lucia Manunura supported Mr Madzinga sentiments and she added that farming tobacco has improved her livelihood as compared to the years she was planting soya beans. She said this year she had obtained 20 bales which was top-grade despite infrequent rains, she was hopeful that they would get quality harvest.” said Mrs Chibekeswa who have harvested 25 bales stated that farming tobacco has been beneficial to us; our lives could have been somewhere if we started growing it 10 years ago she said. The study carried out in Centenary District, tobacco farming was seen to alleviate poverty. However some farmers are struggling to make ends meet as the tobacco farmers could barely afford decent shelter for their families (Anaya, 2010). The different types of poorly built houses in Centenary were seen by the type of houses of the respondents. The findings are in table 4.5 below. Among the interviewed respondents only one did not respond and the house was not next to the farm.

Table 4 Type of House of the respondents

Type of house	Frequency	Percent
Traditional grass thatched/Mud walled house	1	1.2
Iron-sheet roofed with mud walls	3	3.5
Semi-permanent House(Iron roofed, mud walls but plastered)	30	35.3

Permanent House(Bricks/Stones/Tiles/Iron-roofed)	51	60.0
Total	85	100.0

4.1.4.2 Income generating projects

In addition, the existence of tobacco farming in the area such as Mazowe, Muzarabani and Mvurwi has created other income generating activities and opportunities, these include buying and selling of cattle, cattle trade, selling of firewood for tobacco curing from private owned forests, building of guest houses, institutionalizing of small grocery shops and buying of milling machines. Income from tobacco farming or smallholder farmers improved livelihood thereby reducing the levels of poverty in Centenary. The positive about the contribution of tobacco growing to household income is also reflected in the view of tobacco growers about the relationship between tobacco farming and household food security.

4.1.4.3 Food Security

The survey by (MTC 2014) report in Centenary smallholder farmers are food secure from income from tobacco sales therefore most of smallholders also reported that in their view tobacco cultivation either improved or radically improved food security. The tobacco workers in the district made it very clear that working in tobacco cultivation had reduced their levels of poverty and increased income and also ensuring household food security. Mr Nhodza explained that he grows a small portion for maize which is meant to cater for his family in order to cater for food crisis; however he preferred buying maize as he wants to maximise huge profits from his land.

4.1.4.4 Investors

The introduction of contracting farming to tobacco farmers allows farmers access to some form of credit to finance production inputs. In most cases it is the sponsors who advance credit through their manager. However, provision can be made with commercial bank or

government agencies through crop liens that are guaranteed by the sponsor. When substantial investment is required of farmers such as packing, tobacco barns or heavy machinery banks will not normally advance credit without guarantees from the sponsor this has contributed immensely to the reduction of poverty in Centenary. The table below gives a brief summary on the benefits of contract farming as compared to non-contracted farmers. Compulsion to source farm inputs from the tobacco companies' previous research had established that tobacco companies have a tendency to compel farmers to source farm inputs from them. This had the effect of making the farmers to buy the farm inputs at an unnecessarily high cost (Patel et al, 2007). This study therefore sought to establish how the farmers got their farm inputs. Data was collected through interview schedules with individual farmers and the findings are as per table 4.12 below.

Table 5 Farm inputs and their sources

		Self	Tobacco Companies	Local shops	Other farmers	tobacco	Total
Fertilizer (DAP)	Frequency	13	58	6	1		78
	Per cent	16.7	74.3	7.7	1.3		100.0
Fertilizer(CAN)	Frequency	13	60	4	1		78
	Per cent	16.7	76.9	5.1	1.3		100.0
Fungicides (Blue Copper)	Frequency	11	52	7	1		71
	Per cent	15.5	73.2	9.9	1.4		100.0
Seeds	Frequency	16	57	2	2		77
	Percent	20.8	74.0	2.6	2.6		100.0
Pesticides (orthene)	Frequency	12	55	4	1		72
	Percent	16.7	76.4	5.5	1.4		100.0
Pesticides (Lannate)	Frequency	12	54	4	1		71
	Percent	16.9	76.1	5.6	1.4		100.0
Hessian bag for	Frequency	17	46	3	0		66
	Percent	25.8	69.7	4.5			100.0

transporting tobacco							
Labour	Frequency	72	1	4	0		77
	Percent	93.5	1.3	5.2			100.0
Fire wood	Frequency	72	1	2	0		75
	Percent	96.0	1.3	2.7			100.0
Water pump	Frequency	40	8	7	0		55
	Percent	72.7	14.6	12.7			100.0
Water can	Frequency	51	4	7	0		62
	Percent	82.3	6.4	11.3			100.0
Furnace and pipes	Frequency	29	37	1	2		69
	Percent	42.0	53.6	1.5	2.9		100.0

The data indicated that the tobacco company provided the farmers with farm inputs in form of loans which they were supposed to repay them immediately after they sold their produce to the company that had contracted them. Majority of the farmers received their fertilizers, agrochemicals, the hessian bags and seeds from the company that contracted them. The labor, firewood, water pumps and water cans were largely acquired by the farmers themselves.

4.1.4.5 Employment creation

The growing of tobacco also plays a positive role in improving the livelihood of smallholder farmers through employment creation. The growing of tobacco is a 12month period which requires full time dedication. Most people nowadays are getting money through tobacco farming instead of involving themselves in theft.“ Hence it was so interesting when one of the top farmers confidently stood and reported that, I am really thanking the government who allowed us to venture into tobacco because male family heads are now taking care of their family better than before “one of the farmers interview highlighted that he has 20 people who work for him.in a bid to curb the problem of poverty smallholder tobacco farming creates employment. Palms being on the North-eastern slope of Centenary has fertile soils making agriculture the primary means of sustenance. The residents are basically mixed farmers but with emphasis on crop production (Dolan, 2002). Farmers who engage in the agribusiness can either engage in full-time farming or be absentee farmers, managing the farm but have

people working in the farms. The researcher therefore sought to find out the main occupation of the respondents. The findings were as per table 6 below.

Table 6 Main Occupation of the respondents

Main Occupation	Frequency	Percent
Farming	59	71.2
Informal sector employment	9	10.8
Retail business	9	10.8
Formal sector employment	6	7.2
Total	83	100.0

From the findings, it was seen that majority of the respondents practise farming as their main occupation. This could be because land is the main source of livelihood in Centenary and in line with the land distribution. A few of the respondents had informal sector employment as their main occupation while those who had retail business were it was established that only a few of the respondents were in formal sector employment. This percent who were in formal sector employment could be the young people (who engage in rural-urban migration. This means that most of the youths are more likely to be engaged in other occupations in urban centres instead of farming. The issue of high unemployment rate in Zimbabwe has further contributed to a few number of people in the formal sector in the centenary area.

4.1.7 Off-farm Income

This study also sought to find out whether tobacco farming is a reliable source of income for Centenary farmers. The reliability of farming as a main source of income is normally indicated by the extent to which people engage in off-farm income activities (Richards 2006). For this reason, the researcher sought to find out whether the respondents had off-farm income. The findings were as per table 4.7 below.

Table 7 Farmers' response on their access to off-farm income

Off-farm income	Frequency	Percent
Yes	55	79.7
No	14	20.3
Total	69	100.0

From the findings, majority of the respondents who responded had off-farm income while a few individuals had no off-farm income. This could be as a result of off-farm income being an important component of livelihood strategies among rural households in most developing countries (Ruben and Van den Berg, 2001). The findings could also be according to a study done by Kijima et al (2006) that saw off-production.

Source of Off-farm Income

Bobbing (2009) in this study on the driving forces for income diversification and household access to different off-farm activities in Zimbabwe found that almost 90 per cent of all households sampled had at least some off-farm income; on average, off-farm income accounts for 50 per cent of total household income. Sixty-five per cent of the households were involved in some type of off-farm employment, 44 per cent in agricultural wage employment, 40 per cent in non-agricultural wage employment, and 50 per cent in self-employed non-farm activities. Self-employed activities were the dominant source of off-farm income, accounting for almost one fourth of overall household income.

The above study also established that the share of off-farm income is positively correlated with overall income. The relatively richer households benefit much more from the off-farm sector. The share of off-farm income also increases with farm size, suggesting that there are important complementarities between farm and off-farm income. Households with little

productive assets and those who are disadvantaged in terms of education and infrastructure are constrained in their ability to participate in more lucrative off-farm activities (Bobbing 2009). The researcher therefore sought to find out the sources of the off-farm income from the respondents who had. The results are shown in table below. From those who had off-farm income, only 55 respondents confirmed their sources of off-farm income.

Table 8 Sources of off-farm income

Source	Frequency	Percent
Personal Salary	10	18.2
Micro-enterprise(mills, shop, kiosk)	11	20
Income/Salary from family member/Remittances	19	34.5
Local merry-go-rounds	10	18.2
Micro-finances/banks	2	3.6
Friends	3	5.5
Total	55	100

This study found out that the respondents who had off-farm income were from personal salary such as government related employment they were involved in. whilst some got their off-farm income from micro-enterprises such as shops and mills. The majority of the respondents said they got their off-farm income from their financially well-off children and siblings. On the other hand, another source of income was from local merry-go-rounds while, some of the respondents relied on credit which they got from micro-finances such as banks. Whilst some had to beg from friends receiving hand outs. That is how they got off-farm income. Reason for fewer farmers having micro-finances such as banks as their source of income could be because the financial institutions hardly give funds to farmers as they see it as lack of collateral and high risk (Magati, 2009). Most people living in rural areas rely on their educated and financially stable children and siblings to assist and this also applies to majority of the small holder tobacco farmers in this area. This is because most of the families

that engage in off-farm activities are usually the best-off families who probably have highly educated members too (Bobbing, 2009).

4.2.9 Regularity of the Off-farm Income

Given that off-farm income is mainly meant to increase the household income (Bobbing, 2009), the researcher sought to establish the regularity of the off-farm income for those respondents who had. Table 4.9 below shows the findings.

Table 9 Regularity of respondents' off-farm income

Regularity	Frequency	Percent
Regular	20	36.4
Irregular/Occasional	29	52.7
None	6	10.9
Total	55	100.0

From the findings the people that had off-farm income said their off-farm income was regular whilst the majority said their off-farm income were irregular or occasional. Whilst a few of those who had sources to accessing off-farm income said their off-farm income was neither regular nor irregular. The regularity of the off-farm income could be determined by the source of one's off-farm income. As indicated only ten people did have a regular salary as an off-farm income. The rest of the people had off-farm income coming from irregular sources such as entrepreneurship and hand outs from family members.

(f) Education

Education is one of the major factors that determine poverty levels. Most farmers are now able to send their children to better schools. Mrs Chapanduka states that besides all the labour at the end she manages to make ends meets. Ever since she switched to tobacco farming her annual income has mushroomed from about US\$600 for one harvest of maize a year to US\$4 500 for single tobacco crop. The work is tiresome but is able to feed my family and pay

school fees for my children; one is even at university level which the quality of life of smallholder farmers has changed positively because of tobacco, one of the interviewed farmers Mr Chiriga who was the household head, a married man and looking after his parents. Income earned from tobacco sales enabled Chiriga built a modern, asbestos-roofed seven roomed house at the farm homestead in 2011. In that same year he bought five cows, he also bought an ox-drawn cart in 2012 and replaced the brushwood fencing of the family homestead with a steel fence in 2011. Also bought furniture, a television and radio set. In the beginning of 2013 he gave his wife Lorraine start- up capital to embark on cross trading to South Africa and Zambia, with some of the profits generated, supplemented by Chiriga's tobacco income, she expanded their portfolio of non-farm activity by opening up a chicken project. He was also able to pay fees US\$320 per term for his siblings to boarding schools such as St Alberts near Centenary. Chiriga was pleased with his household's progress with only six years in tobacco farming, I was content because all one needs are possessions which allow one to have a decent living that is livestock, capital, equipment such as plough, harrow and scotch-cart, even good health remember being able bodied these days is wealth, my household is also food secure.

However, the issue of child labour is a growing concern in some parts of Centenary. Richard (2007) revealed that tobacco farming involves the entire family including school going children making tobacco households less educated. Despite the fact that in Zimbabwe primary education is a basic human right hence it is compulsory and accessible. This has led to many school age children getting primary education. The government also reduced the amount of school fees charged for secondary level education in the year 2008. This has created more opening for Zimbabweans especially school age children who have been able to attend school up to secondary level over the past ten years than before the year 2002 (Glennerster et al, 2012). For these reasons, the study sought to establish levels of education among tobacco household members. The findings are shown in table 4.4 below. Percentage of household members has been calculated out of the 86 respondents interviewed.

Table 10 Education Levels of Household

Level of education	Frequency	Percentage
None	11	12.8
Primary	38	44.2
Secondary	29	33.7
College/university	8	9.3
Total	86	100.0

This study found that majority of the households had members who had reached primary education level. According to Wilcox (2012), married people are usually financially better off hence can afford to provide formal education to the members of the household. Another group of respondents had secondary education level while percent had no formal education background. The study also showed that college or university level of education had the least household members (The reason for a small number of people having university or college level of education could be attributed to a number of factors. Firstly, as Richard (2007) had argued, tobacco farming tends to involve everybody in the household including school-going children. This might be the cause of people dropping out of school system before they reached university and college levels.

Gender

Small capitalist farmers have emerged from tobacco farming and so far, from the survey conducted in Centenary by researcher shows an intra-household democratized decision making process with regards to the allocation and utilization of resources within the household. This is a stark departure from a highly patriarchal decision making process which used to exist in the area therefore results show that in Centenary women constitutes the majority about 64% of farm labourers on tobacco farms though on the negative impact of tobacco it has actually caused most males to migrate seek employment in urban areas or across the borders leaving behind women staying in farm compounds.

Food Security

A tobacco farmer always has selection of crops to grow to increase household food security thus affording at least three meals a day as well having variety of meals such vegetables, meat and beans, furthermore the growth of tobacco farming has enabled diversification into the activities that are non- agricultural for instance Mr Chikala another prominent tobacco farmer in Mawali ward 28 has been able to buy mini bus and have now diversified into providing transport to the secluded community they live in. Tobacco farming increases portfolio of activities and assets for small holder farmers in Centenary and also led to deagrarianization and a higher income which intends result in higher crop productivity. The production of tobacco has improved the infrastructure of people in Mawali ward 28, due to the income from tobacco the farmers are now able to build large houses and also have decent toilets. Mr Chitsa another interviewed tobacco farmer indicated that before the coming in of tobacco farming people in the area practiced bush system which was a threat to their health since they do not have money to build toilets. The farming of tobacco has also led to the surfacing of grocery shops nearby, the construction of roads although they are dust roads, the building of schools and clinics.

Another interviewed farmer a former soldier Mr Jonasi said “What I have achieved in seven years that I have been hear what I have failed to achieve is more than 30 years as a soldier and as a transport operator, I may not have achieved it in the next 20 to 30years if it was not tobacco farming. Tobacco farming has enabled me to acquire the machinery I needed, the 12.5m long irrigation tower for US8500 and a 100 kva generator to power it, with the income I am receiving from tobacco I will venture into horticulture since I have an irrigation system. Mr Jonasi also boasts of 75 cattle, 100 goats and 5 sheep. He employs 20 permanent workers and 20 casual thereby curbing the issue of unemployment.

On gender dimension male and female smallholder farmers have emerged from tobacco farming and so far groundwork result from survey in Palms ward 21 shows and intra-household democratized decision making process with regards to the allocation and utilization of resources within the household are carried out by female, hence this is stark departure from a highly patriarchal decision making process which existed in Zimbabwean societies.

Smallholder farmers involved in tobacco farming in Centenary have indicated that proceeds from outputs have enabled them to invest in farming machinery such as tractors, animal drawn plough, water pump and social capital such as sending their children to schools and health centres. Furthermore, another outcome has been the enhancement of household food security, household income and the creation of employment at local level as the distribution of income since growing tobacco is labour intensive and most companies pour money upfront for the hiring of labour (Centenary Field Survey 2016)

Furthermore, tobacco farming has improved the asserts of many tobacco farmers such as cars, cattle this was evidenced by Mr Kadiki who was also interviewed tobacco farmer who used to be a general dealer but he said when he ventured into tobacco farming and he became a full time tobacco farmer hence the profit he earns from tobacco pushed him to start the transport operating system, right now Mr. Kadiki is proud of having five commuter omnibuses which transport people from Harare to Centenary as well Centenary to Mvurwi this actually enabled him to send his children to universities such as University of Zimbabwe therefore this shows the positive impact of tobacco farming in poverty alleviation in Centenary.

4.2Objective 2; to evaluate socio economic challenges faced by smallholder tobacco farmers

Table 11 farmers’ response on whether they experience socio-economic challenges

	Frequency	Percent
Yes	69	80.2
No	17	19.8
Total	86	100.0

From the findings above majority of the farmers stated they were facing socio-economic challenges while only few were content and were not facing any socio-economic challenges. This study therefore sought to establish the socio-economic challenges faced by farmers.

Tobacco Farming Challenges

Prior research had established that cash crop farming, tobacco included, had the tendency to lead to a number of economic challenges in the society (Sen, 1999; Kinyanjui, 2002). According to a study done by Shah and Vaite (2002) smallholder tobacco farmers do not attract economies of scales due to the low levels of investment they practice which makes them in constant debts. In addition to this, Kweyuh (1997) reported that continuous monitoring of tobacco involves sleepless nights especially during curing process causing serious strain in the family relationships. The health of tobacco farmers is also put at risk as tobacco farming requires a lot of fertilizers, fungicides and pesticides that could cause diseases, disability and premature death (Efroymsen and FitzGerald, 2002).

Table 12 Socio-economic challenges faced by tobacco farmers

Problems encountered in processing and cultivation processes	Frequency	Percent	Problems encountered in marketing	Frequency	Percent
Total Respondents	61	100	Total Respondents	60	100
Conflict/ dispute among farmers and tobacco companies	4	6.5	Low prices	37	61.7
Poor soil fertility	14	22.6	Delayed payment	51	85.0
Floods	4	6.5	Delayed / late procurement of tobacco	23	38.3
Drought	7	11.5	Inadequate extension services	13	21.7
Wild animals	6	9.7	Poor classification or grading	38	63.3
Tobacco pests and	53	85.5	Transportation	15	25.0

diseases			problem		
Time constrains	27	43.5	Theft from tobacco go downs	6	10.0
Labour shortages	41	66.1			
Health problems	28	45.2			
Hail stones	3	4.8			
Fire outbreaks	11	17.7			

Environment

Tobacco farming in Centenary has left vast forest land barren, risking denudation due to the massive cutting down of trees by small-scale tobacco farmers who use firewood to cure their tobacco. Although technically it is nothing close desertification. Land degradation in which a relatively dry land region become increasingly arid, typically losing its bodies of water as well vegetation and wildlife hence it is clearly deforestation. Observation in Centenary shows that deforestation is underway due to the cutting down of trees by small holder farmers without sufficient reforestation therefore natural or intentional restocking of forests and woodlands that has been depleted which actually raising fears of widespread damages to the habitant, biodiversity loss and aridity, something that has adverse impact of bio-sequestration (capture and storage) of the atmospheric carbon dioxide. Deforestation hence on a larger scale cause soil erosion, some areas can be degraded into wasteland causing extinction of flora and fauna, changes to climate conditions, desertification and displacement of population as this has been observed in Centenary and in the past through the fossil record.

According to Forestry commission in Centenary district tobacco farming has increased land degradation in the area hence as farming activity tobacco farming is characterized by frequent soil tillage, removal of waste crop material from the fields by livestock grazing or burning and in many cases, mono-cropping (Chigonda 2008). In addition, conventional tillage entails intensive ploughing and turning of the soil using tractors and plough hence his obvious implication on soil organism and antecedent moisture for example soil organism get exposed

to excessive solar radiation, while moisture loss gets accelerated through the exposure of a larger surface area, therefore this means that plants experience moisture stress much earlier than expected. Furthermore, soil inversion enhances the oxidation of soil organic matter. Apart from that soil turning leads to reduced infiltration and aeration as a consequence of the resultant soil compaction therefore tobacco farming as an activity has led to the exposure of soil to erosion agent.

Tobacco farming has caused a lot of damages to the environment hence in Centenary firewood is used as fuel to cure tobacco leaves not only that but also in the construction of curing tobacco. Land degradation has also been caused by tobacco plant which leaches nutrient from soil, as well pollution from pesticides such as acephate 75SP, chlorpyrifos 48EC, and fertilizers applied to tobacco fields. Therefore, farmers often used pesticides that are highly toxic on their crop which tends to destroy the environment.

Soil erosion

Another effect of tobacco farming is soil erosion. The trees bind the soil and absorb water with their roots. Trees also have a protecting effect as they halt the speed of falling raindrops. When allowed to hit the ground unstopped at velocities of up to 9 m/s, the individual raindrops break loose soil particles up to 2 mm in diameter. With fewer trees to cover and bind the soil, it is more easily eroded and washed away by rain. While agriculture of course implies some kind of vegetation cover in the area being farmed, these crops seldom give much shelter to the ground. Especially since the two important crops maize and tobacco are seasonal crops, they provide no shelter during the onset of the rainy season. Some perennial crops such as tea prove to protect against rain splash erosion but not to the degree that natural forest cover would. The steep topography of Centenary makes the erosion of the frail soil occur even faster (Mkanda, 2000).

Beside destabilizing the ground and thus causing potential damage and destruction on infrastructure and human settlements, the erosion also means that nutritious soil is washed away. Much of the agriculture in Centenary is conducted on hill slopes and other unsuitable areas. The soil in such farmlands, having been worked and thus being looser is more prone to

both sheet erosion caused by surface runoff and so-called channel erosion such as rill and gully erosion.

Cost to the environment

There are some costs that are associated with damages due to tobacco farming hence these costs calculated based on the quantity of firewood used per hectare and the cost of firewood per scotch cart. Looking at negative impact on tobacco smallholder farming that the cost to the environment is based on the cost of firewood which represents the value of the tonnes that the farmer cut. In coming years in Centenary, farmers environmental cost due to the production of tobacco in the district is going to increase ranging from US\$20 to US\$800 per hectare with an average of US200. Therefore, with the speed in which trees are being cut in Palms village ward 21 the quantities the farmer could use will range from 1 to 10 scotch cart per barn for curling tobacco and this can be translated to the costs based on the price of scotch cart which is pegged at US\$20.

TABLE 13: Summary of the quantity of firewood and costs to the environment for farmers in Centenary

Variables	Averages	Standard deviation	Lowest	Highest
Quantity barn/ scotch cart	4.2	1.5	1	10
Environmental cost US \$/ha	150	125.5	10	500

Health

The tobacco leaf has significantly improved the livelihood of the people in Centenary, however the smallholders still face challenges such as health problems. The cultivation of

tobacco has or increased risk of injury and illness hence children and adults who are mainly women working in tobacco farms frequently suffered from green tobacco sickness (GTS) hence which caused by dermal absorption of nicotine from contact with wet tobacco leave therefore GTS is characterized by symptoms that include nausea, vomiting, weakness, headache, dizziness, abdominal clamps and difficulty in breathing as well as fluctuations in blood pressure and heart rates, this situation is worsened by the, large and frequent application of pesticides such as Butramex 36EC, Ethephon 48SL, N-Decanol 79EC and Toptab 33 EC to protect the plant from insects and disease has also noted that has caused a lot of damages to human such as poisoning skin and eye irritation and other disorder of the nervous, respiratory system as well as kidney hence this has actually decreased the life expectancy of many tobacco farmers as well laborers in Centenary.

The chemicals being used are very dangerous cases have been reported whereby women when faced with a challenge always take the chemicals as a means to end their lives. Mrs Mabhande shed light on this issue as she is a nurse at Centenary Clinic point out that many people committed suicide and most of them they consume tobacco chemicals which are highly poisonous this has resulted in the increase in child headed homes which results in an increase on the numbers on orphan vulnerability thus increases the poverty levels.

Technology

Farmers noted that the price to acquire the necessary equipment for tobacco farming is pricey. The challenge then rises because they use out-dated equipment, the process becomes long and the need to hire more workers arises. The disadvantage is that farmers then use more money on paying labourers this then reduces their profits.

Dependency on Tobacco Farming

A problem with heavy dependence on one single crop is that situations can arise, both in a short and a long-term perspective that affect the market value of tobacco. This can be both profitable tobacco market is hard, as developing countries Zimbabwe. While extreme weather and unstable political situations can have sudden and unexpected effects on the production of tobacco, trends within the market can have long-term effects for a heavily tobacco-dependent

country and costly both for individual tobacco farmers and the entire country. Short-term effects that can affect the market value are for example weather conditions that affect tobacco production in other countries. If less tobacco can be produced, and supply cannot meet demand, it means a higher price in a simplified economic model. Around the world gives more tobacco to the market, which will lower the general price of tobacco. The competition on the global

Corruption

Corruption has proven to be the main factor that affect people's livelihood in the in Centenary by Auction officials, farmers indicated that they have been asked to pay bribes so that their tobacco is positioned tactically on the floors or to have the price at contractors' floor fixed. Tobacco farmers have been notified by auction officials of stop orders established on their crops before a sale and have side marketed crop to avoid them lots of orders did not go through year by year therefore this has been increased seriously compromising the order system, hence this can clearly show that the future of the people's livelihood as a result of tobacco farming is going to be affected greatly because smallholder farmers are now facing huge setbacks that mightly resulted them to stopping to pursue tobacco farming because of these problems at auction floors.

One of the Challenges mentioned by small holder tobacco farmers was that they had labor shortages as tobacco farming was labour intensive. Also a lot of time was spent on cultivation of the crop. The researcher therefore sought to find out the estimated number of days spent and costs incurred to ensure one got a good harvest from the crop. The number of days spent and costs incurred were calculated per acre of farmland since this was the minimum size of land which would yield profits. The labour type has been specified according to the people involved in the operation being carried out. Some operations were carried out by the family or household members, while others required hiring people to assist in the operations.

According to the study by Eden (2010) in order to totally account for the production cost of a crop, it is important to treat family labor as if it was hired and cost it. Therefore in order to fully account for the total cost of tobacco production, family labor should be treated as if it was hired and given cost. From the findings, tobacco farming occupied a lot of the farmer's time in terms of days spent working to ensure good harvest. To be precise, it occupied 227

days a year. Those farmers who settled for family labor incurred less costs. This was because instead of paying someone else to do the work, the household members worked on it together. This meant that work was done at no material cost, but some of the family members ended up missing out on other important opportunities in life. Tobacco farming tends to involve the entire family thereby denying the children the opportunity to comprehensively attend school.

Late or non-supply of inputs

Farmers have begun complaining about inputs supply, most smallholder farmers reported that inputs would often arrive late or not all. Tobacco farmers at times miss the opportunity to plant in time and often obtain lower yield which compromise potential income and the ability to repay input loans. In previous year 2006 most inputs were in short supply and even the best organized companies such ZTLC had challenges in securing inputs hence failure to secure and deliver inputs can make the differences between success and failure of tobacco smallholder to be affected a lot due to lower input supply which the area is facing. This thus raises questions if tobacco promotes sustainable development.

Congestion at Auction floors.

Most smallholder farmers indicated the congestion at tobacco sales floors been a major problem. Mr Muzeza highlighted that they face difficulty at the auction floors and his health is deteriorating considering his age. He is forced to wait long queues and at times there is no service rendered which results in frustration for the farmer. This then pushes the farmer to enter into dealings with bogus dealers at auction floor in order to sell their tobacco and this will result in theft. Farmers also indicated out that because of congestion at floor if the weather changes and it rain their plant will loose quantity therefore booking system should be fully implemented to avoid farmers turning up at auction floors without booking also eradicate corruption of booking officials.

Pricing and Grading System used to Calculate Farmers' Earnings

Dried tobacco was classified into grades and thereafter priced according to those grades by the contracting company. Respondents complained of the classification or grading system

that the tobacco company used to determine the prices of the dried tobacco. According to the participants of the FGD, grading of tobacco leaf was done by the tobacco company. Pipe tobacco is composed of several different kinds of raw tobacco, and in each raw tobacco there are different grades. The names of the raw tobacco were common knowledge, but the grades were decided by the tobacco company. As explained by the farmers in the FGD, the grades were based on the tobacco leaves position on the plant, the leaf's degree of ripeness, the colour of the leaf and the smoke from the leaf; its strength, aroma, roundness and purity.

The researcher established that tobacco farmers had a problem with the grading system done by the tobacco company because of the number of grades present, lack of training of farmers on proper grading, the prices per grade were very poor and the farmers never participated fully in the exercise. There is likelihood that the tobacco company used this to their advantage since they decided the farmers' dried tobacco grades; they had the freedom to decide on the amount to pay the farmers whether fairly or unfairly to suit their wishes. In addition, another challenging aspect is the correct pricing that affects tobacco farmers in Centenary hence this affecting people's livelihood. Mr Zimunya stated that pricing was a serious cause for concern as they were not favourable considering that they were contracted farmers. The companies which give them inputs such as ZTLC are taking most of their profits and most of the farmers are about to ditch the cop as they are no longer benefiting but rather it's proving to be an expense

4.3 Objective 3: to determine and analyse the impact of coping strategies employed by small holder farmers.

4.3.1 Diversified Farming

From the researcher's field visit, it was observed that the tobacco farmers who had bigger farms had a portion of land allocated to food crop farming. They were growing the food crops for household consumption although some of it was sold. Those who did not have a portion of land allocated to growing food crops planted vegetables like kales along the edges of the tobacco farms.

The researcher sought to establish the type of crops that tobacco farmers in this area regarded as very important and the ones they have grown to boost their income. The findings are

presented in table 4.22 below from a total of 62 respondents. The remaining respondents had miscellaneous responses.

Table 14 Crops grown by respondents

Crop	Frequency	Percent
Maize	14	22.6
Beans	10	16.1
Ground nuts	7	11.3
Sweet Potatoes	2	3.2
Tobacco	12	19.4
Soyabeans	5	8.1
Sorghum	2	3.2
Tomatoes	3	4.8
Total	62	100

The problem that was also observed by the researcher was that although some of the food crops grew into healthy crops others did not. During the FGD, the farmers said that this happened due to the fertilizers applied to tobacco plants. The above observation during FGD was corroborated by Kibwage et al (2009) study where it was documented that excessive use of fertilizer on tobacco farm was a factor that led to inability of the soil to sustain the growth of other crops. Those who did not grow food crops bought from the local market.

4.3.2 Irrigation schemes

Due to the climate change being experienced farmers have resorted to irrigation this in effort to curb the problem of delayed rainfall and achieve a great harvest. Speaking to Mrs Mashamba she highlighted that she bought irrigation equipment so as to avoid poor harvests.

However, the challenge is that is that it is not all farmers who can afford to buy the equipment for irrigation.

Cooperatives

Apart from food security, the researcher also sought to establish other ways by which tobacco farmers coped with the issue of potential exploitation by the tobacco company. During the FGD it was established that there was a tobacco farmers' cooperative society in the area. This was managed by the officials democratically elected by farmers themselves. Unfortunately, the members' participation in the co-operative management was poor. For example, in the excerpt below, it was noted that the contracted farmers who were members in the cooperative had never attended any meeting neither had they gotten a chance to air their issues and concerns.

4.3.3 Black markets

Due to the congestion and delayed services at the auction farmers resort to black markets in a bid to access cash fast. This has a negative impact as they are duped and given fake money. The disadvantage is that they may not get enough capital for the next farming season.

Credit

Most small holder tobacco farmers do not have much collateral they end up using their land as collateral in a bid to acquire credits. This might seem to be their solution to cope with the demands of the crop. The challenge rises due to the unpredictable rainfall patterns resulting in a low yield yet with a debt to cover. The farmer might end up losing their land which is their only source of livelihood.

Coal

Tobacco curing is a process that requires a lot of firewood. Due to the strict levels implemented by EMA farmers have resolved to use coal instead of firewood. However, the challenge is that it is costly and delays in supply further frustrated the farmer which then affects the harvest.

4.4 Summary

In this chapter the researcher presented the findings of the study based on the objectives formulated for the study in chapter one. The chapter shed light on the performance of smallholder tobacco farming in tobacco alleviation bringing out the positive impact and the challenges faced by farmers and how they try to resolve their challenges in a bid to alleviate poverty in Centenary.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMENDATIONS

5.0 Introduction

The researcher came up with a summary of findings from the research conducted in chapter three. This involved analysis of information obtained from various sources of data used by the researcher. Again the researcher came up with conclusions made from the research data. Finally, the researcher came up with recommendations from the findings. The researcher grouped the findings under the research objectives so as to ensure a complete analysis of the research. The researcher also identified the gap for further research

5.1 Summary of findings

5.1.1 Objective1: To establish the significance of tobacco farming in sustaining livelihoods.

The researcher came up with a number of findings which have been summarised as follows:

- Smallholder farmers in Centenary, ventured into Tobacco farming as a result of the Land reform program as well as being inspired by the profitable tobacco markets on the international front.
- To support the basic needs approach theory, published articles indicated that smallholder farmers benefited positively through better incomes they receive after sale, improved household, acquisition of assets, food security, employment creation both formal and informal, improved household assets, improved standards of living since they are able to send their children to better schools and universities and improved housing structure.
- Tobacco farming provides the most dependable source of income for a majority of contracted smallholder farmers and that tobacco farming was their most steadfast source of income.

- The Smallholder tobacco farmers in Centenary own major assets which include farmland, cars, tractors, domestic animals and houses in towns like Mazowe and in the big cities like Harare.
- Small holder farmers involved in tobacco fairly in Centenary have been enabled through takings from their tobacco output to improve household income in terms of cash as well raise assets such as number of livestock, good houses, motor cycle, bicycles and milling machines.
- Ever since many people embarked on tobacco farming there was a sudden change of lifestyles as compared to when they were growing soya beans.
- Smallholder tobacco farmers grow a small portion of maize for family consumption.
- The existence of tobacco farming in the areas such as Mvurwi, Mazowe and has created other income generating activities and opportunities, these include buying and selling of cattle, cattle trade, selling of firewood for tobacco curing.
- Tobacco cultivation either improved or radically improved food security.
- The introduction of contracting farming to tobacco farmers has enabled farmers to access some form of credit to finance production inputs.
- The growing of tobacco also plays a positive role in improving the livelihood of smallholder farmers through employment creation.
- Most farmers are now able to send their children to better schools.
- Small capitalist farmers have emerged from tobacco farming and as such an intra-household democratized decision making process with regards to the allocation and utilization of resources within the household

- A tobacco farmer always has selection of crops to grow to increase household food security.
- The growth of tobacco farming has enabled diversification into the activities that are non- agricultural.
- The production of tobacco has improved the infrastructure of people in Mawali ward 28, due to the income from tobacco the farmers are now able to build large houses and also have decent toilets.

5.1.2 Objective 2; To evaluate socio economic challenges faced by smallholder tobacco farmers

- Tobacco farming in Centenary has left vast forest land barren, risking denudation due to the massive cutting down of trees by small-scale tobacco farmers who use firewood to cure their tobacco.
- Deforestation is underway in Centenary due to the cutting down of trees by small holder farmers without sufficient reforestation therefore raising fears of widespread damage to the habitat, biodiversity loss and aridity,
- Land degradation has also been caused by tobacco plant which leaches nutrient from soil, as well pollution from pesticides such as acephate 75SP, chlorpyrifos 48EC, and fertilizers applied to tobacco fields.
- The smallholders still face challenges such as health problems due to large and frequent application of pesticides such as Butramex 36EC, Ethephon 48SL, N-Decanol 79EC and Toptab 33 EC to protect the plant from insects and disease has also noted that has caused a lot of damages to human such as poisoning skin and eye irritation and other disorder of the nervous, respiratory system.
- The cultivation of tobacco has or increased risk of injury and illness hence children and adults who are mainly women working in tobacco farms frequently suffered from green

tobacco sickness (GTS) hence which caused by dermal absorption of nicotine from contact with wet tobacco.

- The chemicals being used are very dangerous, cases have been reported whereby women when faced with a challenge always take the chemicals as a means to end their lives.
- Farmers noted that the price to acquire the necessary equipment for tobacco farming is pricey. The challenge then rises because they use out-dated equipment, the process becomes long and the need to hire more workers arises.
- Farmers indicated that they have been asked to pay bribes so that their tobacco is positioned tactically on the floors or to have the price at contractors' floor fixed.

5.1.3 Objective 3: To determine and analyse the impact of coping strategies employed by small holder farmers.

- ✧ Farmers have resorted to irrigation due to climate change in effort to curb the problems of delayed rainfall and achieve a great harvest.
- ✧ Due to the congestion and delayed services at the auction farmers resort to black markets in a bid to access cash fast.
- ✧ Most small holder tobacco farmers do not have much collateral and as such, they end up using their land as collateral in a bid to acquire credits.
- ✧ Due to the strict levels implemented by EMA, farmers have resolved to use coal instead of firewood. However, the challenge is that it is costly and delays in supply further frustrated the farmer which then affects the harvest.

5.2 Conclusions

The Researcher made the following conclusions based on the research findings:

5.2.1 Objective1: To establish the significance of tobacco farming in sustaining livelihoods.

The conclusion of the research study on the significance of tobacco farming can be highlighted as:

- The smallholder farmers gained positively from tobacco farming as a result of the land reform programme.
- Small holder farmers are earning an income to sustain their livelihoods as a result of tobacco farming.
- The small-scale farmers have changed their lifestyle and have been empowered to create wealth for themselves.
- Smallholder farmers have acquired assets and have put up improved infrastructure due to the income generated from tobacco farming.

5.2.2 Objective 2; To evaluate socio economic challenges faced by smallholder tobacco farmers.

- Late or non-supply of inputs has had a negative impact on the yields as they are low and of an inferior grade.
- Tobacco farming in Centenary has left vast forest land barren, risking denudation due to the massive cutting down of trees by small-scale tobacco farmers who use firewood to cure their tobacco.
- Land degradation has also been caused by tobacco plant which leaches nutrient from soil, as well pollution from pesticides
- Deforestation hence on a larger scale is cause soil erosion, some areas can be degraded into wasteland causing extinction of flora and fauna, changes to climate conditions,

desertification and displacement of population as this has been observed in Centenary and in the past through the fossil record.

5.2.3 Objective 3: To determine and analyse the impact of coping strategies employed by small holder farmers.

- ✧ Irrigation systems have been set up by smallholder farmers to mitigate against climate change and to promote good harvests.

- ✧ There is a high risk of farmers being duped of their harvests as they settle for the black market because of delays and congestion at the auction floors.

- ✧ Most small holder tobacco farmers do not have much collateral they end up using their land as collateral in a bid to acquire credits.

- ✧ Coal is also used in the curing of the tobacco.

5.3 Recommendations

- ✓ Smallholder farmers need to access alternative and cheaper sources of finance.

- ✓ Other alternative sources of fuel and new technology such as use of solar electricity are needed to cure the tobacco in order to reduce land degradation.

- ✓ Chemicals that are less harmful to human, plant and animal life need to be introduced in Centenary to avoid loss of life and damage to the environment.

- ✓ Improved technology and more efficient methods of farming need to be adopted by the smallholder tobacco farmers in Centenary.

- ✓ More research needs to be carried on the other cash crops that are suitable.

- ✓ Research also needs to be carried out on the other means and methods that can be used for poverty alleviation.

5.4 Conclusion

In this chapter the researcher presented research findings, conclusions and recommendations based on the findings of the study. The researcher came up with the areas that need further research in order to improve the livelihoods of smallholder farmers in Centenary and the whole country at large.

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ANNEX

My name is Juliet a student from Midlands State University. I am carrying out a study on assessing the impact of smallholder tobacco farming on poverty alleviation the case of Centenary

Interviews

- 1 Name, sex and age of farmer.
- 2 Any information on Centenary's ecological and weather conditions that the farmer might have.
- 3 When did he/she come to Centenary? or Does he/she originate from the area?
- 4 If he/she came from outside Centenary, then what was/were the pull factor(s)?
- 5 The period/time that the farmer started practicing agriculture and the crops that were grown. Was tobacco the first crop?
- 6 If tobacco was not the first crop grown, what necessitated the move to produce tobacco? Explain.
- 7 Give the advantages/disadvantages of growing tobacco over other crops?
- 8 State all benefits derived from growing tobacco.
- 9 Explain how your life has changed over time because of your involvement in tobacco farming.
- 10 State any changes in your lifestyle, improvement or otherwise.
- 11 What are the challenges associated with tobacco productions?
- 12 How have you dealt with the challenges? And Does the state offer any assistance in any form?