CHALLENGES FACED BY SMALL SCALE FARMERS IN SWAZILAND: A CASE OF HHOHHO REGION

By

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DECLARATION

I Prudence Thabsile Shabangu, declare that this research report is my own work, it is submitted for the degree of Master of Development Studies at the University of the Free State. It has not been accepted as a whole or in part, in any previous publication or application for a degree here or elsewhere, except where other people's work and observations have been duly acknowledged in the text by means of referencing.

Date: 26 June 2017

Signature: 

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DEDICATION

This work is especially dedicated to my two children, Banele Mamba and Ziphelele Mohale, Hebert Shabangu & wife, brothers and sisters, grandchildren, friends, university colleagues, Christ Salvation for All Nations Church and the World Food Programme (WFP) Swaziland Team. Without your full support and encouragement I would have not realised my dreams of attaining this incredible work.

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ABSTRACT

The purpose of the study was to examine challenges faced by smallholder farmers in the Hhohho region of Swaziland. The study was done in Ntfonjeni, KaLomshiyo and Emvembili. The main emphasis of the study was on how these challenges impact on sustainable agriculture in the Hhohho region of Swaziland, whilst the farmers and Extension Officers (EOs) are striving towards achieving self-sufficiency in food supply and food security. Primary data collection was done through formal interviews from small scale farmers and EOs who have been into farming for more than twelve months. Data was analysed using SPSS which makes data analysis quicker because the program knows the location of the cases and variables. SPSS is specifically made for analysing data and thus offers a great range of methods, graphs and charts. Microsoft Word and Microsoft Excel was also used. The researcher covered a sample of forty-five (45) farmers and twenty (20) Extension Officers. The study revealed that there is a relationship between farmers and EOs, however, this need to be strengthened by means of having more interactions and by adding more EOs so that every farmer has access to the EOs at any given time for more education on the farming and to curtail any challenge that may arise whilst farming is in progress.

The study also revealed that about 60% of produce from small scale farmers is sold to the informal market, whilst the lesser part (40%) was sold to the formal market. Most of the reasons originated from the fact that the farmers have to look into different criterions before selling their products. Of these, 85% used price as the yardstick and 15% used transport availability as formal markets are far from the places of production.

Key words: Small scale farmers, extension officers, challenges, strategies, mitigating, market, Swaziland.

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CHAPTER ONE

INTRODUCTION

The Kingdom of Swaziland is one of the smallest countries in Southern Africa. It is bordered in the north, south and west by the Republic of South Africa and in the east is Mozambique. Swaziland is divided into four regions, namely, Hhohho, Manzini, Shiselweni and Lubombo. The country is further divided into 55 constituencies under which are about 200 chiefdoms.

For many years, Swaziland has been under the rule of the Monarch, but in 2005 it has adopted a new constitution and the country is developing (IFAD, 2016:2). Swaziland has a GDP growth of 2.5 percent, with an inflation rate of 5.7 percent in a population of 1.269 million (WorldBank, 2016-ii). Swaziland has experienced a slowdown in national economy growth as evidenced by depressed employment opportunities, poor agricultural production, and absence of effective food security and governance policies, increasing poverty levels compounded by the effects of HIV/AIDS, which are all undermining livelihoods (UNDAF, 2016:13). The country faces a unique opportunity to exploit on the demographic change. In 20 years if improvement of the situation in containing the health epidemic is not done it can drive more young people into the labour force. To realise any growth potential the country needs adequate investment in education and skills development. This would include supporting the poor and the vulnerable, in a consistent way with fiscal affordability. Grasping on these opportunities, unfailing implementation of existing policies and a transformative development program is required in order to put Swaziland on a high growth and development course (WorldBank, 2016-ii).

The Hhohho region boast of the beautifully scenic nature reserves, the country's capital and the tourism hub of the Ezulwini Valley. Hhohho is a region rich in culture, beautiful scenery and great wildlife experience. Small scale farmers in the region have been supported by the Ministry of Agriculture (MOA) through promotion of soil and water conservation, trainings on agricultural practices, promoting income generating projects and improving nutritional status of societies.

According to the Swaziland Government (2012:15) MDG Report, Hhohho is not in the poor food consumption map which leaves the area to be accounted for the targeted

food strategies of the country. Besides the tourism attractions, the administration of the government is located in Mbabane – the capital city. In the rural settings, land ownership is regarded an important factor and it is from the same land that food is produced but is not enough to cater for its people such that imports and food assistance has taken its toll. Kuwenyi, Kabuya & Masuku (2014:49) concur that studies reveal that this is an African challenge which needs to be rectified.

The agriculture sector of Swaziland is severely dualistic, with a dynamic commercial sub sector established on Title Deed Land (TDL) that occupies 26% of the land, holds an estimated 90% of available irrigation infrastructure, and uses modern technologies to produce mainly cash crops (primarily) sugar and a traditional subsistence sector, based on communal tenure in the Swazi Nation Land (SNL) that involves smallholder agriculture and communal grazing. The forestry industry is one of the most important sectors of the Hhohho economy. The area around the towns of Pigg's Peak and Bulembu is home to many planted forests and sawmills. The wood is exported for processing in South Africa. The remaining agricultural sector is dedicated to consumable crops. Most rural dwellers continue to cultivate rain-fed crops on Swazi Nation land, and keep small amounts of livestock.

Small holder farmers as adequately described by Chambers (1997:57), is in contrast with large-scale "modern" farming. Farming to smallholder farmers is a means of attaining a livelihood not a business. The Food Agricultural Organisation (FAO, 2014) maintains that these small-farm livelihood structures are homes perhaps to half population of the world. It is a source of rural employment and significantly contribute to agricultural production (Davis, 2004:16). The FAO (2014) and Kongolo and Dlamini (2012:102) states that categorising smallholder farmers is in terms of capital, assets, accessibility, information, resources and technology, the great difference lies in the amount to which each of the above mentioned apply.

IFAD (2013:10) approves that women show a dynamic role within this sector, they are commonly in charge in the production of food crops, in instances when both food and cash crops are being produced. IFAD further states that 80% of food consumed in Asia and sub-Saharan Africa is being produced by smallholding. In Latin America, smallholder farmers occupy almost 35% of total cultivated land (Wiggins, 2010:1341). Similarly, in Swaziland, agriculture is the backbone of the economy. According to

UNDP (2012) the bulk of the populace (75%) is employed in subsistence agriculture on Swazi Nation Land (SNL).

1.1 Problem Statement

The Swaziland Government has put institutions in place to enable farmers whether small or large scale to be acquainted with relevant agricultural innovations. These amongst others include the Ministry of Agriculture, Extension Services, the National Maize Corporation (NMC), the National Agricultural Marketing Board (NAMBoard), Rural Development Areas (RDAS) (Swaziland Government, Economic Planning 2013). Despite all these efforts, small-scale farmers continue to experience challenges which hinders the realisation of good yields in the country. The increasing demand for food security seems a centre stage in the challenges faced by small-scale farmers in Swaziland. Kongolo and Dlamini (2012:102) concurs that small scale farmers comprise of women, the poor and marginalised, those who farm less than two hectares of land, earn less than 25US dollars per day and do not realise good yields bringing about food insecurity.

Given the situation analysis above, it is imperative for the researcher to assess the challenges faced by small scale farmers in food production. This covers the failure to move into commercial farming and the inability to produce enough to sustain the whole Hhohho region and country whilst farmers are still struggling to feed their families. The researcher is to recommend mitigation strategies that could be adopted to combat these challenges towards the attainment of food security.

1.2 Aim of the Study

The purpose of the study, is to assess the challenges faced by small-scale farmers which hinder them from producing enough food products resulting in insufficient food supply. The researcher will recommend strategies that can be implemented by small scale farmers to address food shortages.

1.3 Objectives

The study was premised on the following objectives:

- To investigate the main challenges that small scale farmers are facing in the Hhohho region, before identifying strategies that will permit ease of support.
- To identify technical constraints affecting small scale farmers. Understanding the nature of these constraints is of utmost importance. The expectation is that the results will provide a platform to policy architects to come up with win-win policies essential in uplifting living standards of small scale farmers.
- To analyse the causes of challenges faced by small holder farmers in Hhohho region and the impact on agriculture. Lastly,
- To identify mitigation strategies that may be adopted by small scale farmers for productivity

1.4. Research Questions

According to the Department for International Development (DFID) (2012-13), a research question has to be considered as a primary area of interest which the researcher wishes to address in the research. Such a question is purposive, focused and broad as it has to inform the design of the research which normally requires great clarity and specificity. The study aims to discover the underlying factors from the smallholders' viewpoint that are seen as key limitations and challenges and as a result limit their access to development agriculture. In order to produce a rich account for analysis, the study moved to this matter through a number of questions in order to guide the discussion process.

- Which type of farmers are found in the Hhohho region that are working to bring about food security?
- What are the roles of small-scale farmers in agricultural development in the region?
- What are the challenges met by farmers in the development of agriculture in Hhohho region?
- What are the actions that can be employed to address the challenges and limitations faced by small scale farmers?

1.5 Research Limitations

The study was limited by insufficient time for data collection worsened by delays in starting the process. Lack of record keeping by most of the small scale farmers who participated in the study. In certain cases information collected was dependent on recalling from farmers. Hence the information provided could not be ascertained or be authenticated. The research methodology is also a limitation factor as this is a case study for Hhohho region, the results cannot be generalised to the whole population of small scale farmers in Swaziland.

1.6 Organisation of the Study

The study is arranged in the following manner:

Chapter 1 contains the background information, problem statement and justification, aim of the study, objectives of the study, limitations of the study and hypothesis of the study.

Chapter 2 outlays the review of relevant literature materials justifying the low yields realised by small-scale farmers in the country.

Chapter 3 outlines the research methodology; study area, population and sampling, sampling size, selection of participants, data collection and data analysis.

Chapter 4 presents results and discussions of the study.

Chapter 5 concludes the main research findings, summary and make recommendations based on the conclusions made in relation to stated objectives.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature of related studies on smallholder farmers, the challenges they face and their impact as well as mitigation strategies.

2.2 Theoretical Framework

It is imperative to learn the theoretical framework in order to extend the scope of analysis and to understand the various challenges faced by small-scale farmers. The conceptual framework will assist in exploring the challenges faced by small scale farmers as they are a multifaceted phenomenon. In this section three theories are discussed because they are relevant for the study namely; Sustainable agriculture, Farming system and Holistic approach.

2.2.1 Sustainable Agriculture Theory

Nkhambule & Dlamini (2012:4003) pronounced that sustainable agricultural systems approach is a concept based in agricultural systems that will lead farmers to self-sufficiency, and also maintain stable farm communities and a favourable ecological balance. Therefore, sustainable agriculture is seen as an alternative solution for small-scale farmers in the Hhohho region wishing to have different methods of farming, which is mainly based on market forces. Nkhambule & Dlamini (2002), further declared that sustainable agriculture takes into account maximization of benefits, such as household food security, the quality of life, rural development, traditional wisdom and environmental conversation. This is in contrast with commercial large-scale production's ultimate goal of profits.

There is sufficient debate amongst researchers on the affiliation between agricultural productivity and size of the farm (Van Der Meer, 2006:217). As distinguished by Collier and Dercon (2009:5) some smallholder farmers being in a weak position to produce enough due to their limitations towards obtaining the needed finance, technology, and capabilities to obtain the required high yields. Consequently, economic development

would rise the size of the farm in the long term. It has been shown by past experience that small farms predominantly present in early development stages of national economies has emerged in food security. In a number of contexts it has been recognised that when labour practices and intensive technology are employed, smallholder farmers have a tendency of performing in a more productive way. This is due to a number of aspects, for instance, high labour motivation which permits farmers to apply attention and skill to farming methods especially more input to enhance soil management and thus allow increase of productivity per unit of land (Cornia, 1985).

Silici, Bias & Cavane (2015:7) point out that sustainability in most African countries is interpreted primarily as environmental sustainability. Aspects of economic possibility and social justice are important too. For example numerous initiatives are pursued to promote approaches such as agroforestry and conservation agriculture. However prevailing policies while advocating for environmental stewardship and social inclusion, do not offer effective provision to scale-up sustainable practices. Research trials and unreliable evidence propose that sustainable approaches help increase harvests while being more resilient and economically reachable. However adoption rates among farmers remain low. There are financial, technical and institutional constraints to scaling-up, which need to be analysed in the context of the socioeconomic transformations taking place in the small-scale farming (Silici *et al* 2015:7).

Therefore, sustainable agriculture is an appropriate theory to utilise in order to lessen the challenges faced by the small scale farmers of Hhohho region. This will enable small scale farmers to bring along a favourable ecological balance, environmental conservation, scaling up in financial and technical constraints as well as high labour motivation.

2.2.2 Holistic Approach

The Holistic theory assume that development should not be sectional but it should be broad like the inclusion of Integrated Rural Development Project (IRDP) philosophy. For example our experience in Swaziland during the early 70s, emphasis from donors was on rural farmers. The IRDP was started in Swaziland utilising the extension approach with assistance of the World Bank (Dlamini & Dube 2014:254). Included in

the package was extension, irrigation, research, water, credit, roads and sometimes schools and health centres. Mainly the focus was on technical aspects, however, missed crucial aspects like training, management and linkages with research. The purpose of holistic approach is to advance rural people with knowledge and participatory skills.

Commercialisation of agriculture can benefit small scale farmers. Benefits of commercialisation are multidimensional. Moti, Gebrenedhin & Hoeksrad (2009:1) state "that commercialization plays a significant role in increasing incomes and stimulating rural growth through improving employment opportunities, increasing agricultural rural productivity, direct income benefit for employees and employers, expanding food supply and potentially improving nutritional status". In most cases, these increased incomes have led to increased food consumption (Pender & Dawit, 2007:1) and improved nutrition (Kennedy 1994 cited in Pender & Dawit, 2007:1).

It is frequently said that agriculture production is a dicey business, meaning it is subject to risk. For this study refers to the complications of economic and physical systems, the actions of farmers and the uncertainty of production decisions. The distinguishing factors in this uncertainty, as stated by Houck (1984:365) is that the 2 concepts are related and are used interchangeably. Houck (1984:365) further states that there is no risk without uncertainly and that most uncertainties imply some risk. In developing countries agriculture is used as a means of social protection against poverty and is associated with risk management (Dercon 2005:3 and World Bank 2000).

Hence, the holistic theory approach in the Hhohho region is to advance the small scale farmers with knowledge and participatory skills. The small scale farmers will be able to improve employment opportunities by going commercial bringing along increased incomes and food consumption which leaves an improved nutrition to the farmers and the people they would hire to work in their farms.

2.2.3 Farming Systems Approach

The farming system approach forms part of the theoretical framework because it focuses on farmers. Norman, Siebert & Modiakgotla (1995:8) ascertain that the farming system as an approach has been in place since early 70s and has marked the

2.3 Conceptual Framework

The conceptual framework for this study consists of five elements: small scale farmers, challenges faced by small scale farmers, causes of challenges, impact of challenges and the mitigation strategies that can be adopted by small scale farmers.

2.3.1 Small scale farmers

The concept of smallholder has been a challenge to understand its precise meaning. For example, Hazell et al (2007:1) defines small scale farmers as those farmers categorised by marginalisation in terms of information, accessibility, capital, resources, technology and assets. They further point out at the difference in the degree to which each of the above relates, this therefore, stresses that there is no comprehensively recognised definition. The word small may refer to the amount of land being used, number of workers and/or capital invested. Gouldthorpe and Goodwin (2013:55) agree that the US Department of Agriculture (USDA) defines small farmers as those with gross sales of less than USD250.

In South Africa the definition of a small scale farmer is highly questioned among academics and researchers (Louw, Chikazunga, Jordaan & Bianabe, (2007:4), Greenberg & Paradza, (2013:55); Jacobs, (2009:1); Jacobs, Aliber, Hart & O'Donovan, 2009; Kirsten & Vink, (2002:31). Small scale farmer in the community debate is identical with a black farmer, in reality the small scale farmer category is an assortment of farm types ranging from subsistence to commercial. Hence it means that a small-scale farmer might be resource-poor, resource-rich, or somewhere in between, and might form part in survival production, commercial production or somewhere in between.

In Swaziland and for this study small-scale farmers are those that often farm less than two hectares of land, earn less than USD25 per day and are primarily women. They play a vital role in food production for both rural and urban populaces by providing employment. These farmers have no access to developmental resources as stated by Kongolo and Dlamini (2012:102). Regardless of the importance of agriculture in the economy of the country, the sector's growth has consistently been declining recently. Major crops production are low leaving shortfalls which are met by imports. The World Bank has highlighted that the GDP is at 2.5 percent (WorldBank, 2016-i). This leads

to slow economic growth, incidence of poverty and food insecurity in most parts of the country as stated by Swaziland Government (2005) and Otim-Nape and Shikulu (2011:11).

The small scale farmer concept is relevant to this study. Small scale farmer in Swaziland, Hhohho region refers to those farmers that are side-lined in terms of capital, land tenure, information and assets and the daily earnings which are less than USD25 per day and are primarily women.

2.3.2 Challenges faced by small scale farmers

While it is acknowledged by different authors that small scale farmers are seen as the developing engine in farming, small scale farmers are not free from problems. According to Gouldthorpe and Goodwin (2013:54) small scale farmers are faced with a lot of challenges which encompass personal, information access, natural, marketing and agriculture knowledge challenges.

2.3.2.1 Personal challenges

Gouldthorpe and Goodwin (2013:60) distinguish that human capital is a personal challenge that impacts on instinctive and learned skills affecting the manner farmers engage in their agricultural practices. Extension services in Swaziland can provide more skills and relevant knowledge to improve further the farmers' welfare. Most researchers recognise that a small scale farmer's performance is affected by human capital (Anderson and Feder 2003:2). Small scale farmers have a set of both inherent and learned skills that affect the way in which they engage in their farming practices (Anderson and Feder 2003:4; Jamison and Lau 1982:3). Extension services can provide capital-enhancing inputs by providing additional skill sets and relevant flows of knowledge to further improve the welfare of these farmers (Anderson and Feder 2003:4). However, research suggests that small-scale farmers also face diverse barriers that must be considered (Kendrick 1984; Cantor and Strochlic 2009:2).

2.3.2.2 Information Access Challenges

According to Goodwin and Gouldthorpe (2013:54) small scale farmers often seek information on diverse crops grown under variable circumstances. This confirms that

farmers have diverse information needs at a given time, requiring a clear information lane which is very challenging to create. Farmers' access to training is dynamic if the trainings are affordable, in easily accessible locations, available in distance set-ups, held at convenient times, and commodity specific along with providing quality information. Developed training strategies should conform to globalisation (UNDP, 2012). However, farmers lack access to training in appropriate skills and in general education because trainings are expensive and are scheduled during the farmers' busy periods. The Swaziland Poverty Reduction Strategy and Action Plan (PRSAP) (Swaziland Government - Ministry of Economic Planning and Development, 2005:55), remarked what was mentioned by the Swaziland Household Income & Expenditure Report that the relationship is strong between education and poverty. As a result, for farmers to improve agricultural productivity, education and training is essential.

2.3.2.3 Natural Challenges

Nkambule and Dlamini (2012:4007) states that even though farming has a significant role in the economy for developing countries, water unavailability seems the most important factor limiting its development, especially in rural areas. This is due to the fact that rainfall is unevenly distributed across the regions due to severe weather fluctuations. The Hhohho region is not spared from these challenges, farmers having access to rivers are also affected during the drought season as the rivers dry up. Water harvesting is practised in a small scale and is not reliable. Similarly weather is out of the farmers' control as severe climate changes are experienced, forecasting the weather is not easy nor reliable (Manyatsi, Mavuso and Vilane, 2015:91).

2.3.2.4 Land ownership

Access and rights to land management (land ownership) remains a constraint to small scale farmers in the developing world as theorised by Dorlochter-Sulser and Mertineit (2008:7). Basically women cannot own land but the husband. To own land for a non-married woman the male child is used to acquire Swazi Nation Land (SNL). This challenge is outside the control of farmers. Farmers feel depressed to obligate to investing on market-oriented agricultural systems where there are weak land occupation systems. Where suspicions exist on land rights they harmfully affect a long term use perception by farmers, thus inducing smallholders to refrain from agricultural

investments and contribute considerably to over exploitation of natural resources and the land (IFAD, 2010). Gordon (2014:3) indicates that international businesses are buying productive land across developing world displacing small scale-farmers in the process. Gordon (2011:3) further states that land is one of the assets that give farmers the capacity to be and to act. This compliments that non-land ownership falls under one of the major shocks that engulfs small scale farmers in Swaziland.

2.3.2.5 Financial challenges

Identifying the underlying issue causing financial difficulties is the first step to overcome financial problems. However, this does not go down well with small scale farmers as ascertained by Kongolo and Dlamini (2012:102), because access to credit is a long standing limitation to farmers. When trying to increase productivity or else increase modern input, farmers are challenged because there is no credit from banks and/or trade unions as stated by Gordon (2014:04). The banks need collateral for loans which farmers do not have because they are poor and not employed, a consent for loan is also needed from the husband if a woman is to be loaned money by financial institutions.

Usually farmers are left with no money to even buy pesticides, herbicides and improved seeds. Consequently, farmers would accumulate ridiculous debts from loan sharks, and if the crop fails they have no means of paying back the money. Encouraging current agricultural inputs, therefore, in the absence of financial institutions may lead to poorer revenue and greater volatility (Mhazo *et al*, 2012).

2.3.2.6 Market Challenges

Producers are driven in different directions in a single-minded pursuit of growing opportunities to sell their wares. Dorlochter-Sulser and Mertineit (2008) regard that global markets in agriculture and export-oriented policies play a vital role in influencing both local markets and the economy. Farmers are affected as a result of increasing competition faced with imports of cheap and usually low quality food supplies from highly industrialised countries. Masuku & Xaba (2015:27) established that local producers' marketing opportunities are being invaded by transnational food corporations and supermarkets, they further mention that centralised markets are

expensive to reach with bottlenecks like standards. Gordon (2014:7) summarises that small scale farmers generally lack processing facilities and storage for their produce, hence they struggle to distribute or else market their produce. However, for the purpose of this study, a functioning definition of a market is the one defined by Houck (1984:357) as a collection of potential or actual buyers and sellers of a specified service or good. The collaboration of the buyers and sellers creates a set of interconnected prices and conditions of sale and/or use.

2.3.2.7 Training and Development

Most farmers lack up-to-date information. These small scale farmers felt that they often miss beneficial information that could enhance their operations. They either could not find information or information found was not enough. However, they felt that if the extension service was fully fledged they would not experience this gap. On the other hand, extension service is lacking from skilled and trained personnel, there is no appropriate infrastructure, hence the gap that needs to be filled. However, crucial mechanisms needs to be employed in order to fight against the challenges faced by small scale farmers through training and education and strengthening capacities (Gouldthorpe and Goodwin 2008:76).

2.4 Causes of the challenges

Small scale farming is still confronted with many constraints and challenges to achieve acceptable growth levels. However, a viable small holder agriculture segment can be realised by establishing the specific constraints towards its development emphasising particularly on technical, institutional and entrepreneurial factors. One area that remain critical for providing basis for investments in Hhohho region is understanding the technical constraints. In order for agricultural efforts to realise its full potential as a vehicle of enhancement of standards of living and poverty reduction the technical constraints need to be understood (Oettle *et al.*, 1998:8).

Agricultural production plays a central role in the development of developing countries economy but achieving the desired levels of production to ensure food security has not yet been reached (Southern African Trust, 2009:4). According to a strategic analysis paper by Future Directions International, the author, Vella (2012:1) states that

there are three key points that cause challenges faced by small scale farmers in Swaziland. These are food security, water security and the high prevalence of HIV and AIDS. He further reached agreement that there is potential for improvement but the difficult of achieving food and water security needs a quick response.

According to Nkambule & Dlamini (2012:4003) deterioration in production is attached to risks related to natural occurrences like changing weather conditions, drought, soil erosion, human health problems and shortage of fertiliser. They further stated that fast population growth reduces land allocated to each household thus affecting means of stimulating agro-enterprise development. Hhohho region under Swaziland as a developing country, therefore, requires improved marketing systems for agricultural products, which in the meantime is not clear enough to entice farmers to show more determination.

The small scale farmers from Hhohho region are no exception from the above named causes. However, for agriculture to realise its full potential the farmers need to understand the technical constraints that they face so that agriculture improves their standard of living. HIV and AIDS brings about food insecurity because farmers get sick and food production is affected in that way. Other hindrances are changing weather patterns, drought, shortage of fertilizer and fast population growth which reduces land allocated to each household.

2.5 Impact of challenges

Hope (2009) observes that in Africa small scale agriculture heavily relies on rainfall for providing water for crops. Hence, the weather conditions make it impossible for good yields. More difficult is the fact that the farmers have difficulty in obtaining loans since financial institutions need collateral. Manyatsi, Masarirambi, Hachigonta and Sibanda (2013:241) clarifies that rural communities do not have sufficient information on climate change, which implies that the beliefs and concerns of the community need to be taken into consideration when formulating measures to mitigate the effects of weather patterns. Roberts (2011) concurs that standards of a country's primary determinants are based on how well it succeeds in exploiting its knowledge and skills and furthering the education of its populace.

The non-sharing of information brings about a farming populace that is not well informed on how to face the challenges in the farming fraternity as well as the policies attached to farming in Swaziland. The majority of farmers as observed by Mpandeli and Maponya (2014:139) cannot meet the strict requirements set by the formal market to distribute their products. Mpandeli and Maponya further argue that lack of formal education by the majority of farmers come as a constraint in that farmers cannot follow instructions on labels. This brings about yields and production not up to standard. The above mentioned calls for mitigation strategies that will be adhered to by all stakeholders.

Small-scale farmers from the Hhohho region cannot get good yields due to weather conditions and they are not well informed on climate change. More so, obtaining loans for irrigation infrastructure is impossible because they do not have securities. Their agricultural production is therefore not accepted by the market which set certain standards.

2.6 Mitigation strategies

For this study mitigation strategies entails specific actions taken to reduce or eliminate long-term risk to farmers from challenges and their impacts. Implementing mitigation actions helps achieve the study's objectives. Mitigating strategies will assist in taking steps to reduce adverse effects faced by small scale farmers. The strategies have to relate and match the profile of the small scale farmers in the region. Mitigation strategies for Hhohho small scale farmers has to cover markets, credit facility, land ownership, climate change, information access as well as training and development.

2.6.1 Economic strategies

According to a policy brief paper by Southern Africa Trust (2009:4) focus on smallholder farmers has not been for development strategies to contribute to economic and social development, but only for adequate production and improved productivity. The government of Swaziland has to engage herself into such strategies wherein the economic agenda is uplifted. The agricultural sector has been the largest GDP contributor in Government of Swaziland - Ministry of Economic Planning (2005),

hence, the agriculture sector can be made an engine of growth in the country's economy.

2.6.2 Increased productivity strategies

There may be several household productivity strategies that contribute to increased production, for example, Masuku and Xaba (2015:50) states that multifaceted structural reforms for increasing productivity of farmers such as improved agricultural extension services and infrastructure development, land reform, appropriate technology, are crucial for fast-tracking agriculture growth. This improves enabling policies for farmers which could be key to food security at household level. The Southern Africa Trust (2009:7) argues that women's scantiness of access to and control of land and constraints by different patriarchal and generally customary social relations is an obstacle. Therefore, empowering farmers has to be part of the country's commitment by ensuring that women are given leadership roles across the spheres of economic, political and social development fields.

2.6.3 Other approaches

Mavuso, Manyatsi & Vilane (2015:96) point out that the role of the state is to enhance agricultural systems by putting in place policy frameworks directly towards developing smallholder farmers and towards restructuring the rural economy. Broader functions like welfare could be served by forming a variety of social networks, like labour sharing networks, asset sharing and a community development framework. This indicates that farmers' organisations need to be reinforced as they can play a supportive role towards increased production amongst farmers in various ways. To ensure increased production by farmers, a number of critical areas for policy intervention are to be addressed as proposed by Southern African Trust (2009:13). This therefore, implies that farmers have to be involved in all the decisions made by the state towards making better their wellbeing. This includes reinforcing farmers' organisations towards collective action.

2.7 Conclusion

Thus far the literature reviewed and the researcher's findings revealed that small scale farmers are to be rooted in sustainable agriculture to enable them bring along a favourable ecological balance, environmental conservation, scaling up in financial and technical constraints as well as high labour motivation. The holistic approach is to assist in economic development by focusing on the sale of the farmers' proceeds. It is argued that the conceptual frame work would assist small scale farmers realise their potential and who they are in building the economy of the country. Through this concept farmers are to realize their challenges and what causes the challenges. This chapter also reviews the mitigation strategies relating and matching the profile of the small scale farmers in the region.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter introduces the research design and methodology that was used to answer the research questions in the study. Given is a background on how the research design was derived from the research objectives and the overview of the selected research design and its suitability for the study. Subsequently the methodology for each research design is outlined and justified. The process of data collection is outlined together with the experienced challenges during the collection process.

3.2 Research Design

The qualitative and quantitative techniques allowed the researcher to explore and better understand the complexity of the phenomenon as agreed by Leedy and Ormrod (2002). Yin (2013) states that a research tool is a detailed instrument or strategy the researcher uses to collect, manipulate and interpret data. This section, therefore, presents descriptive summaries of research design, data collection strategy and sampling design. Yin (2013) further explain that a research design is a detailed method or plan for obtaining data scientifically, it includes surveys, case studies, historical and participatory research. For this study, the researcher used the case study, which was identified as the most appropriate research design for the study.

This study adopted a case study approach to research because it allows focusing on achieving a comprehensive understanding of a single individual, programme or particular event at a given time, for the purpose of learning more about an unknown or poorly understood situation (Willig, 2008). Willig further argues that case studies present data gathered through different means which include questionnaires, interviews, observations, video and audio data. Clearly the goal of collecting data through a diversity of means is to provide additional validity to claims made by the researcher and the researched as well as to improve the theory generating capabilities.

Schell (1992:3) states that a case study is flexible amongst other designs as it enables investigating empirical events and holistic characteristics of real events. In a nutshell the researcher become part of the presentation of a case study which enable to manage the researcher's subjectivity, and allowing the case to speak for itself. It brings out relationships, patterns and the fundamental forces justifying the investigation. Both qualitative and quantitative paradigms can be utilised in a case study, despite the misconception that it is restricted to qualitative analysis (Bless *et al.* 2013).

Due to time and funds constraints, the study covered one sub region of the four (4) geographic regions of Swaziland. Consequently, the researcher, conducted the study with the Hhohho region small-scale farmers and extension workers.

3.2.1 The study area

Hhohho Region is located in the northern part of Swaziland. The region shares two common boarder gates with the Republic of South Africa that is the Ngwenya and Matsamo boarder gates. The region falls under the Highveld, the dry and moist middle veld and low veld ecological zones. The Swaziland Government - Ministry of Agriculture (2015) in its annual report documented that there are four Rural Development Areas (RDAs) in the Hhohho region, namely Motjane, Northen Hhohho, Mayiwane and Madlangempisi. The region holds a total of about 35,104 hectares of arable land and a total of 51,387 land under grazing. The Swaziland Government Household Index Economic Survey (SHIES) (2010), maintained that human population holds a total of 282,735 people, comprising about 61,464 households. Temperatures for the region averages between 10 degrees centigrade in winter and 42 degrees centigrade in summer. The rainfall pattern differs as December usually records the highest rains as seen from Table 3.1 below.

Table 1: Rainfall trend (ml) at Hhohho region on the cropping season 2015/2016

Stations	Months and average rainfall in millimetres over 2years				
	August	September	October	November	December
Motshane RDA	3.5	17.2	13.8	14.1	140
Northern RDA	26.0	22.0	32.2	27.0	87.9
Mayiwane RDA	30.0	50.0	20.3	31.2	58.8
Madlangempisi RDA	10.5	35.5	6.5	29.0	47.5
LFTC	58.0	21.0	27.0	36.0	126
Average Rainfall	**25.60**	**29.14**	**19.96**	**27.46**	**119.50**

Source: SWD Government - Ministry of Agriculture 2016.

Below is the map of Swaziland showing where the Hhohho region is located in the country.

3.2.3 Sampling Design

The cost of reviewing the entire population towards answering a precise inquiry is usually unaffordable in terms of money, time and other resources (Lunsford and Lunsford, 1995:105). Therefore, for this study a representative or subsection of subjects of the given population will be chosen – that is called sampling. Due to the different limitations the researcher utilised 30% of the population, which equals to 45 farmers, instead of the whole population of 150 farmers. For the Extension officers they were all interviewed because they are a small number (twenty).

Sampling techniques are in two fold namely probability and non-probability sampling (Bless et al. 2013). Furthermore, Lunsford and Lunsford (1995) endorses that there is probability and non-probability sampling designs. Probability sampling entail stratified sampling, random sampling, cluster sampling, systematic sampling and disproportional sampling. Non-probability sampling comprises convenience sampling, judgemental sampling, consecutive sampling, quota sampling and snowball sampling.

3.2.4 Probability sampling

For this study the researcher used systematic sampling procedure which is one of the most basic amongst the probability sampling techniques, the respondents were deliberately selected. Systematic sampling is when elements of the population are put in a list and the K^{th} element is chosen (systematically) for inclusion in the sample. Since there are 150 farmers, and only 45 farmers were needed to conduct the face to face in depth interviews, the farmers, therefore, were written down in a name list in an alphabetical order of surnames and every 3^{rd} element was picked in order to get the targeted number - forty five. All the twenty (20) Extension Officers, were interviewed because their population was a smaller number (smaller than 50). Systematic sampling was used because all the respondents were seen as having information, knowledge and attitude towards the challenges faced by small scale farmers in Swaziland.

As stated earlier on, the target population of this study comprised two classes of respondents whose characteristics differ in terms of the work they do within the small scale farming industry. The twenty extension officers monitor the planting, nurturing of food crops and animal rearing whilst the 150 farmers do the actual planting of crops

and rearing of animals. This kind of population is therefore, described as heterogeneous.

3.3 Data Collection Strategy

For this participatory research, the researcher used the in-depth interview approach. A face-to-face intensive individual interview with individuals guided by a prepared questionnaire about a given topic or situation is called in-depth interview (Patton, 2002). In-depth interview is the best way to collect data for this study because it provides more detailed information than any other data collection methods such as surveys. Also, it provides an extra relaxed atmosphere from which to gather information as subjects feel comfortable in the conversation about what they do as opposed to participants filling out a questionnaire by themselves. In-depth interview also allows the interviewer to observe body language of the interviewee. Also it is appropriate for this study since it is a controversial and sensitive issue, hence the responses were given peacefully from the individual's points of view without any influence from other participants.

The researcher agrees with Boyce and Neale (2006:4) who suggest that leading in-depth interviews is not different from the general process followed for other research namely planning, develop instruments, collect data, analyse data, and disseminate findings. As this is a case study, there are steps the researcher followed when assessing the objectives. The researcher constructed semi-structured questionnaires to lead and use the in-depth interview method with the target audience, which consists of small scale farmers and extension workers.

3.3.1 Methods of data collection

Mouton (2014) declares that data collection methods for qualitative research involves both interaction that is direct with individuals or in a group setting. Accordingly, Mouton established that data collecting methods in qualitative research take longer time, making it more expensive when compared with quantitative research, therefore, samples are used. Hence benefit of this approach is obtaining richer information with deeper insights into the phenomenon being studied. The researcher collected data from farmers and extension officers individually from Hhohho region in order to assess the challenges faced by small scale farmers in Swaziland. The data was collected

through in-depth interviews done using an interview guide that allowed probing for more information and kept respondents on course (Annex 2 & 3).

3.3.2 Instruments for data collection

The small scale farmers and extension officers were interviewed individually, which gave the researcher a clear understanding of the challenges they both face and their economic lives. The readily prepared interview questions were used as a guideline in order to direct the conversation and were arranged in an open-ended manner as specified by (McClure, Spittal, Fischer, & Charleson 2014). The exploratory research was therefore important not to stick too tightly to the questions rather allow the participants independence to express their views. The questionnaires explored themes like insight into the state of agriculture and potential for growth, assessing vision into agriculture as an economic activity, assessment of the impact of constraints they face and understanding the relevance of training towards developing their agricultural skills. It also looked into agricultural commercialisation.

3.3.3 In-depth-Interviews

In-depth interviews were used with farmers and extension officers. Boyce and Neale (2006:3) argues that in-depth-interviewing is a qualitative technique in research. It involves conducting thorough individual interviews to a lesser number of participants in order to determine their viewpoint on a particular situation. In this case study, the researcher asked farmers and extension officers about their experiences and their expectations related to the study. The respondents related thoughts they might have concerning the challenges faced by small scale farming in Swaziland.

3.3.3.1 Before the data collection

According to Leedy and Ormrod (2005) the researcher has to be certain of his or her goals for conducting in-depth-interviews. McClure *et al*, (2014) states that the leader will determine the success of the participants through her experience from facilitating, someone who is well versed about the topic and someone who relates well with the individual participants. If need be, finding a recorder be the next step, someone who will take minutes of the proceedings, alternatively tape-recording with the group's permission. For this research study the researcher pre-tested the instruments to a group of people with the same characteristics of the sample population to allow for

scrutiny and modification of the final data collection instrument. This ensured a valid and effective data collection.

3.3.3.2 During the data collection

For this study the researcher took the lead in conducting the in-depth questioning and carrying all the responsibilities because she is a trained facilitator. Amongst other things, the researcher acknowledged the farmer(s) and/or extension officer(s) for allowing her time on their busy schedules, appraised the goal and purpose of the meeting and how it would proceed, hence, laying all the ground rules. She broke the ice by relating an outlook of what the country's reports say about challenges faced by small scale farmers.

The researcher followed some common techniques as stated by Leedy and Ormrod (2005) to summarize what she thought she had heard and agree with the individual respondents. She phrased differently the same question, she made eye contact, asked for comments and follow up questions. The facilitator's job was prompting opinion not judging. After asking all the questions, the leader asked for any comments or questions from the individual respondents. She then informed each respondent about steps to follow and any expectations from there on. Thereafter, the researcher expressed gratitude to the respondents for allowing for interaction with them in such an important exercise.

3.4 Research Ethics

A number of key phrases describes the ethical protection system that the social research establishment have created in trying to better protect the rights of research participants. These are safety, voluntary participation, informed consent, risk of harm, confidentiality and anonymity (Sandel, 2009). Research ethics are considered to guarantee that the highest moral standards are adhered to when research takes place. Bless *et al.* (2013) appreciates that research ethics are linked to human rights, which amongst others includes voluntary participation, informed consent, confidentiality, honesty in publication and right to discontinue participation.

3.4.1 Safety of participants

The primary concern of the researcher should be safety of the participants (Sandel, 2009). The researcher used all available information to recognise possible risks (like not exposing farmers who were bitter about not getting the little assistance offered by state) towards the subjects and create means of minimising those risks whilst continually monitoring the ongoing research. Babbie (2010) further states that the researcher must be prepared to stop the study if serious unforeseen risks manifest.

3.4.2 Informed consent and voluntariness of participants

It is imperative that the researcher obtains informed consent from each research participant, in other words a disclosure be made that the research is a study not a medical treatment (Lucas & Donnellan, 2010:850). The consent could be in writing (while oral consents are acceptable sometimes). According to Leedy and Ormrod (2005) informed consent is closely related to voluntary participation, which requires that people should not be coerced into research participation but should volunteer themselves to be part of the study. In the case of this research study, the oral consent was utilised because the subjects authorised their own participation in the study.

3.4.3 Privacy and Confidentiality

The researcher is to protect the subjects' privacy and confidentiality by preventing unauthorised access to data which might be linked to a subject's individual identity. At the end of the study all data pertaining to the study which might have subjects' identity have to be destroyed. This concurs with Sandel (2009), who states that, the investigator must take into consideration privacy and confidentiality when dealing with his or her subjects.

3.5 Data Analysis

Qualitative analysis describes and comprehends respondents' life experiences. It studies how respondents construct personal meaning in their lives, strengthen respondents' voices and study people in their natural context (Bless, *et al*, 2013). The researcher, therefore, constantly questioned the extent to which these aims are being achieved in the challenges faced by smallholders in Swaziland. The researcher analysed the data using SPSS computer programme, from which she drew conclusions and recommendations on the study (Appendix 4).

This study research study utilised the case study method which used the in-depth interviews, hence encouraging respondents to describe their experiences with least interference and with no influence from others. The information was recorded down on the questionnaire forms as seen from appendix 2 & 3. Bless *et al* (2013) states that structured text is produced by structured interviews as respondents talk freely and in whatever order chosen by them.

3.6 Interpretation of results

The researcher wrote a final report incorporating all the information of the background and purpose of the in-depth interview, as well as specifics of the sessions and outcomes, and finally the conclusions and recommendations. Basically, this involved establishing the themes and categories, patterns/relationships and conclusions drawn in line with the study objectives.

3.7 Conclusion

The chapter outlined the research design and the reason of utilising the qualitative method was considered to be appropriate for the study. Both the small scale farmers and extension officers were asked to answer to pre-determined open ended questions in face-to-face encounters in order to get more information on their involvement in the agriculture sector. Following the approach created much context in order to have wide understanding of the situation in the agriculture area which became useful in the analysis of data.

CHAPTER 4
RESULTS AND DISCUSSION

4.1 Introduction

The profile of small scale farmers and EOs was constructed during the interview and data collection process amongst farmers of the Hhohho region and the EOs involved in the production of agricultural supplies. The face-to-face interviews made it possible to elicit more information around the profile of smallholders and EOs. The in-depth interview approach was following a structured questionnaire which was filled during interviews. The face-to-face intensive individual interview was used to get detailed information. In-depth interview provided an extra relaxed atmosphere, subjects felt comfortable and went into detail during the conversation as opposed to them filling out questionnaires. The researcher was able to observe body language and their working environments during the interviews. The data was presented in tables and graphs for easy visualization of statistics and for provision of a summary of the overall work.

In the study on challenges affecting small scale farmers Van Schalkyk *et al.* (2013) identified variables like age, education, gender and marital status. In making the results and discussion of the research study, some of the variables identified by Schalkyk were utilised in order to have a comprehensive and structured profile of the small scale farmers and EO's in Hhohho region of Swaziland. Correspondingly, Kamara and Brixiova (2010:27) identified variables such as infrastructure and institutional matters, access to markets, land tenure and farm management. These were also considered in this research study. The importance of the profile will help policy makers to see the mechanism and measures to be put in place in order to make better the lives of farmers and extension officers and also assist towards moving them towards food security.

4.2 Demographic Characteristics of respondents

Almost all research studies include the demographic variables when conducting a study namely gender, age, number of children and marital status. According to Jordaan (2012) demography play a role in understanding the subjects of a research.

4.2.1 Responses by Gender

A total number of 45 farmers were interviewed, and a number of 20 extension officers were interviewed in a face-to-face encounter by the researcher - they made the sample of the study. Amongst the farmers, 12 were males, 33 were females. Amongst the EOs 15 were males and 5 were females. The figure below show responses by gender.

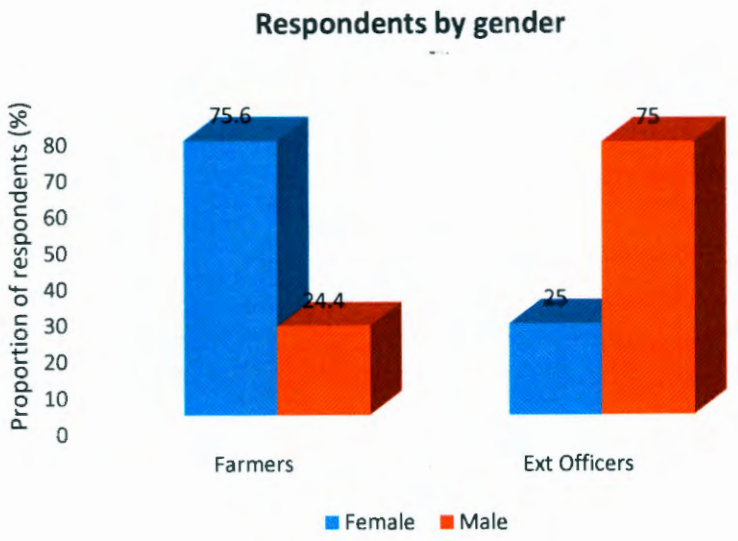

Figure 1: Distribution of respondents by Gender

Figure 1 above illustrates that there were more females than males who participated in the study as farmers whilst more males participated as extension officers. The results indicate that more female farmers participated in the study and more males participated as EOs. As mentioned earlier the results reveal that small scale farming is conducted by females whilst the husbands are away at work. This is much against the African setting that women's place is in the kitchen. There are different attitudes towards women participating in agriculture. Women in Hhohho region are not new to agriculture, however, they broadened and intensified their involvement in agriculture as they increasingly shoulder the responsibility for household survival and respond to economic opportunities in agriculture. The belief that high female participation in agriculture does not routinely lead to open-minded gender role attitudes still exists. On the other hand, EOs are mostly male due to the fact that extension system is showing the colonial tendencies which the various African governments are taking time to deal with gender equality at work. Swaziland's extension work still shows this as a

challenge for many extension systems. Zwane (2009:37) endorses a similar finding from Limpopo government extension system where male officers were in a majority.

4.2.2 Ages of respondents

One of the most significant characteristics in understanding correspondents' views about a particular problem is determined by their age. By and large, age indicates individual maturity level, in that sense age is more important to examine the response. Age further assist a researcher determine the experience against age involvement of the target population in the study. In the context of Swaziland, people start being involved in agriculture in early ages "experience in subsistence farming". Most small scale farmers are above 36 years of age. This was to help the researcher get the ages of those farmers and EOs who are highly participative in small scale farming. The age distribution of the population is summarised in Figure 2 below.

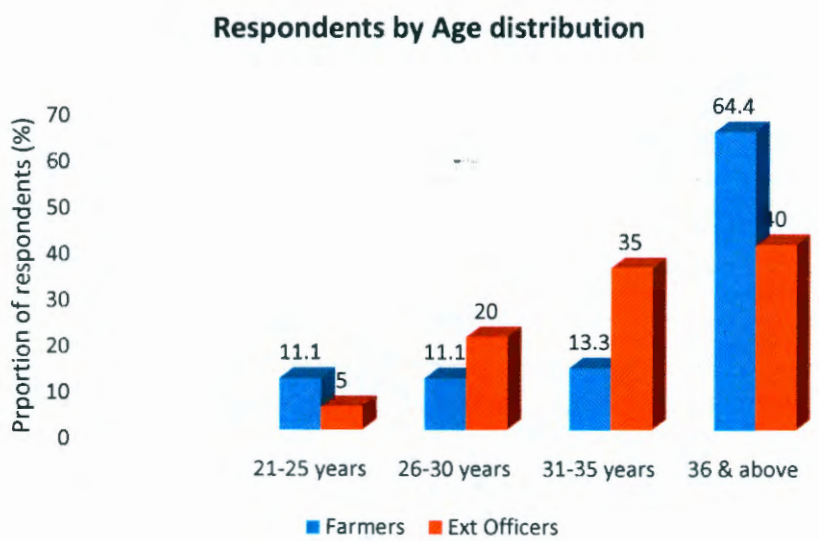

Figure 2: Distribution of Respondents by age

Figure 2 indicates that all respondents are adults who could provide sound information for the study. Most respondents were above the age of 36. From the study the number of youth involved in farming is low - 11.1 % compared to the 64.4% of adults. The youth pointed out that access to information, negative perceptions and lack of credit around farming are the leading reasons they are leaving small scale farming. Therefore, the Ministry of Agriculture has to find means of motivating the youth to be highly involved in farming as well as extension work. There are various advantages of

introducing the youth earlier into agriculture, for instance, it would add a voice at policy level and the youth will bring innovations into the industry and many more young people could be attracted. Agriculture could be a career than can promote the individual, his or her community and the country at large by having an input on food security. Mentorship and guidance would be vital in this regard through the education system, the extension officers and the public enterprises involved in agriculture production and marketing structures like NAMBoard, NMC, SWADE, FINCORP, and many more. Agriculture seems to belong to the elderly. The youth therefore, as described by Masuku and Dlamini (2012:7), should be motivated to take agriculture as a career. From this data, it is predicted that people do not start by farming rather they start by getting salaried jobs and then later revert back to farming in order to sustain their salaries. The importance of an educated youth and increase in the yields is supported by a great number of studies including Li (1998) and Li and Rao (2000). After education the youth would use modern ways of production as compared to the basic ways the parents used. These amongst others would include the right agrochemicals usage.

4.2.3 Marital Status of Respondents

It is a common trend that women take care of the home and farm whilst men go to work in the cities. The Bible in the book of Ecclesiastes, Chapter 4:9 (King James, 2010), confirms that two is better than one, because they have a good return for their labour. Should the man not be able to plough the fields as he is at work, the woman will be able. However, women tend not to have a good return for their labour as the proceeds from their toil is still owned by men. The gender expectations of women in agriculture are tampered with as they struggle on the absence of the support from husbands who are usually working away from home. Possibly this leads to divided attention on the woman farmer. This leaves a competition between the expected roles of married women and farm work. The researcher wanted to find out the marital statuses of both the farmers and the EOs. The findings would help the researcher see the marital status category that is mostly involved in small scale agriculture. The marital status of the population is summarised in Figure 3 below.

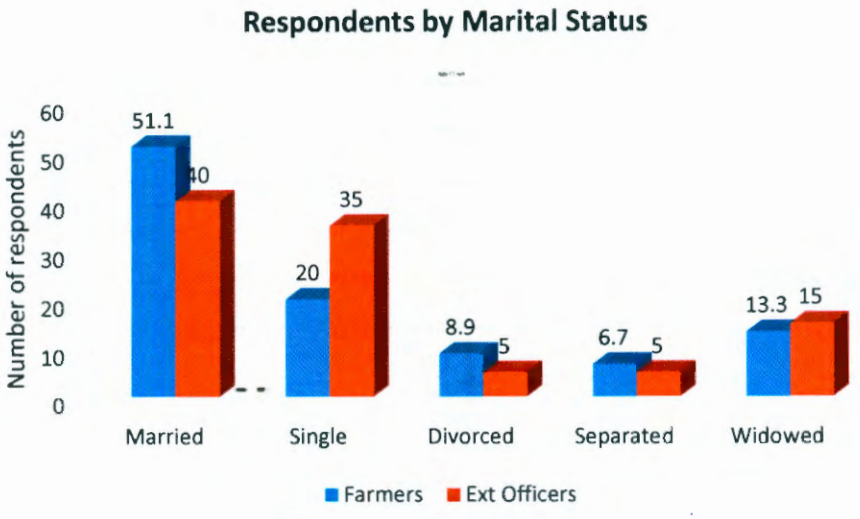

Figure 3: Distribution of Respondents by marital status

Most of the small scale farmers are married women, their husbands are employed in order to enhance the household income. It is a norm that married people share certain sentiments towards small scale farming which at the end would ensure food security and for economic reasons. Married people also have a responsibility of feeding their families, therefore the women play a role by being involved into small scale farming so as to make the living standards in their homes better. This concurs with Li (1998) and Li and Rao (2000) that the youth see no benefit in farming because they regard it is for the elderly and married people. The way it is now, the youth does not recognize a career in farming but look into white collar jobs as the only answer to unemployment. The government with assistance from the ministries concerned and NGOs need to motivate the youth through crafting the rightful policies that will entice the youth into the agriculture industry. Hence formal agriculture markets to be established to pay competitive prices in order to compete with informal markets. More people to be attracted into small scale farming.

4.2.4 Number of children per respondent

To find out if the number of children had an effect in the input that small scale farmers have in each household, the researcher found it necessary to ask for the number of children that each respondent may have. Children affect the agriculture budget through feeding, sending to school and generally providing for the children against

money to be used on farm inputs. The larger the family, the more financial attention it requires from the parent (farmer). Children may also support farm work at cheaper costs and introducing children earlier in farming may harness the will to engage in farming as a career. The figure below shows responses on the number of children that each respondent had.

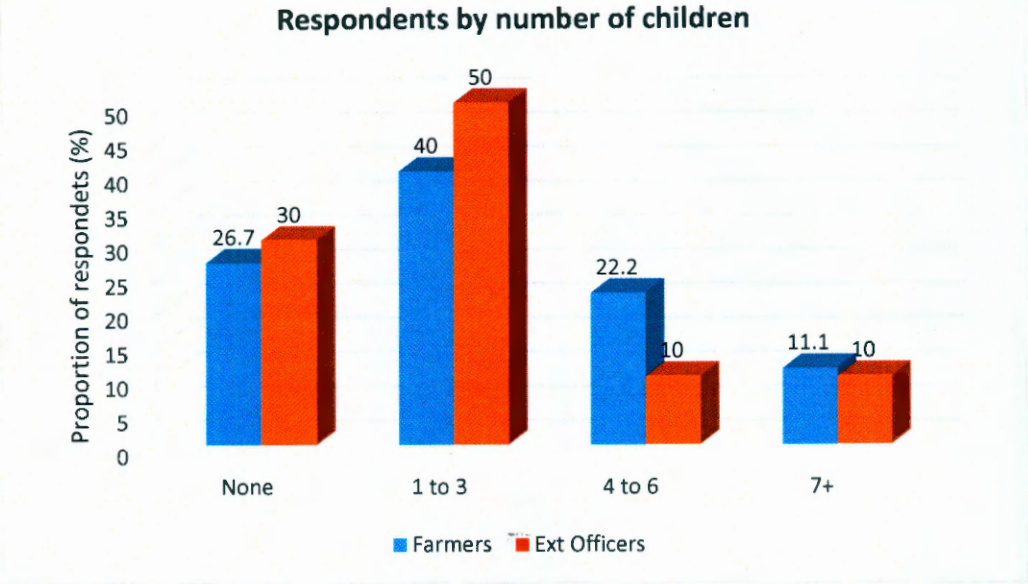

Figure 4: Distribution of respondents by number of children

Figure 4 indicates that most of the respondents had children between1 to 3 whilst a smaller percentage of the respondents had children above seven. Most of the children are at high school and a few are at primary schools. Therefore a higher amount of money had to be paid for school fees. In Swaziland the primary school education is free, taken care of by the government. It is apparent therefore that if more money is consumed by school fees there will be less money left to be used towards farming. Henceforth poor or less production will be derived. Farmers need financial assistance to act as 'legs to stand on' especially for the newcomers into the industry, taking women and youth into consideration. Finances therefore is another challenge that the small scale farmers and EOs face as they strive towards food security.

4.2.5 Level of Education

The aspect of education is looked in two aspects in this research study, one for farmers and the other for extension officers. Education level of most of the farmers interviewed was found to be low (19% have tertiary education and 79% never went to tertiary) which could be an outcome of the previous biased policies based on the fact that most of small scale farmers are above fifty years. However their passion for agriculture remain and are willing to learn more on the latest agricultural developments and technologies in the sector because it is their source of livelihood and source of income. In developing countries, including Swaziland research has been conducted and the importance of education has been confirmed in decision making with effects to human capital and socio economic development (Bembridge,1984:11 and Mushunje, 2005:108). Bembridge (1984:11) establish that for the agriculture sector, education plays a role in the adoption of improved practices in traditional agriculture. The low education levels amongst small scale farmers in the Hhohho region of Swaziland will impact negatively on production activities, however that can be answered by good extension support. Education can assist farmers because it affects the thinking capacity which will enable farmers to do well in planning, decision making, adapting to new challenges, anticipating change as a result of global changes, ability to manage risks, use of technology and use of agro chemicals. Table 1 below show level of education amongst farmers and extension officers.

Table 2: Distribution of respondents by Level of Education

Level of education				
	Farmers' Frequency	Farmers' Percent	EO's Frequency	EO's percent
Adult Literacy	3	6.7	0	0
primary level	1	2.2	0	0
secondary level	8	17.8	0	0
high school level	14	31.1	1	5.0
tertiary level	19	42.2	19	95.0
Total	**45**	**100.0**	**20**	**100.0**

Generally, extension officers are highly educated, they have tertiary education and only 1 (5%) possesses high school level education compared to the 95% with tertiary

education. This is established by the Education Policy of Swaziland which generally encourages scholarships, hence the high educational background of the EOs (Swaziland Government, 2011:8). The policy states that higher education has to provide a significant high level human resources in order to accomplish the country's socio-economic development goals. If educated the farmer is at liberty to get more knowledge towards production, as observed by Mutimba (2009:12). Suggestively, educated farmers cannot struggle to learn and master new knowledge and skills. Education is not just of great intrinsic importance per se but also to impact on other areas like the economy and health.

4.2.6 Time in farming

Experience in farming entails a comprehensive knowledge and understanding of the underlying forces of the agricultural sector including planning approaches for maximum yields, working machinery and farm administration. Regardless the number of years that the majority of the farmers have spent in farming, their levels of production have been constantly very low for example the study found 69% and 31%, due to a number of limitations. Van Schalkwyk *et al.* (2012:7) complements that techniques of farming demand that the farmer has a certain level of experience. However with the help of knowledgeable and learned EOs this is not supposed to be a problem and the fact that smallholders in the Hhohho region have been practicing farming for some years. The farmers and EO's experience to help in dealing with most of the challenges.

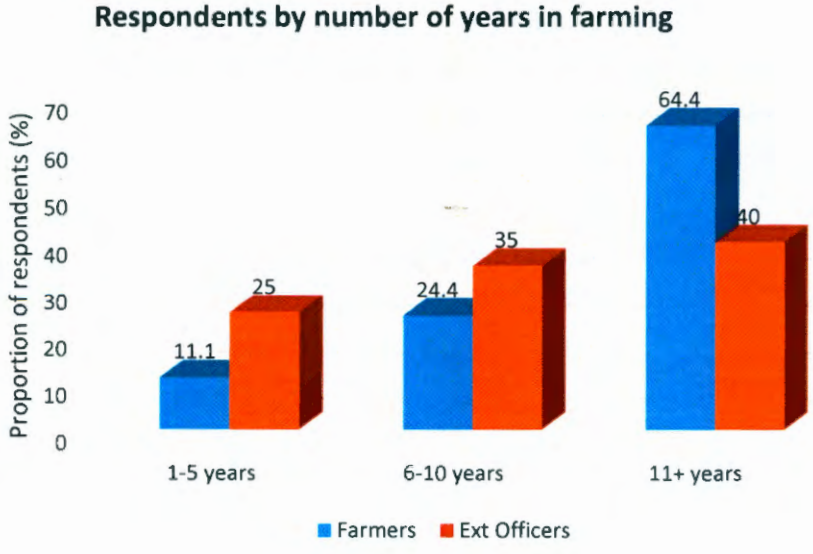

Figure 5: Distribution of respondents by number of years in farming

Figure 5 indicates that the majority of the respondents have experience in farming whilst the largest percentage of EOs have wide experience in the extension work. This gives an impression that most respondents have vast experience in the field of farming. However, it seems that the people involved are always doing things the wrong way. Their experience counts on the negatives, therefore there is a need to investigate what is not going right with these farmers. Hence this experience can be used towards implementing the identified mitigation strategies and for sustainable production.

4.2.7 Challenges faced by small scale farmers

According to Gordon (2014:2), farming is faced with challenges that include credit, innovations, climate change, land ownership, natural challenges and personal challenges. Smallholder farmers were asked if they were facing any challenges in as far as small scale farming is concerned. Amongst others these challenges falls under marketing, credit/financial, transport, information access, natural, agricultural knowledge and man-made challenges. All the farmers and extension officers (100%) were facing challenges one way or the other in their agricultural work. Smallholder farmers in the area struggle to overcome existing obstacles and they require major involvement in order to reach maximum production. Both farmers and EOs felt that if they can give adequate time into agriculture they can improve their economical being. They felt that planning for growth could allow them to work an extra mile in order to reach their set goals. They also felt that if they grow economically they can be able to attend conferences and community development activities since they could be able to pay salaries to assistants taking care of the farms especially in their absence. In that way they will be enabled to have time to do farm tours and trainings.

4.2.8 Man-made challenges faced by farmers.

As some challenges are rated man-made, this question was asked to ascertain how much challenges are caused by man which may be avoided.

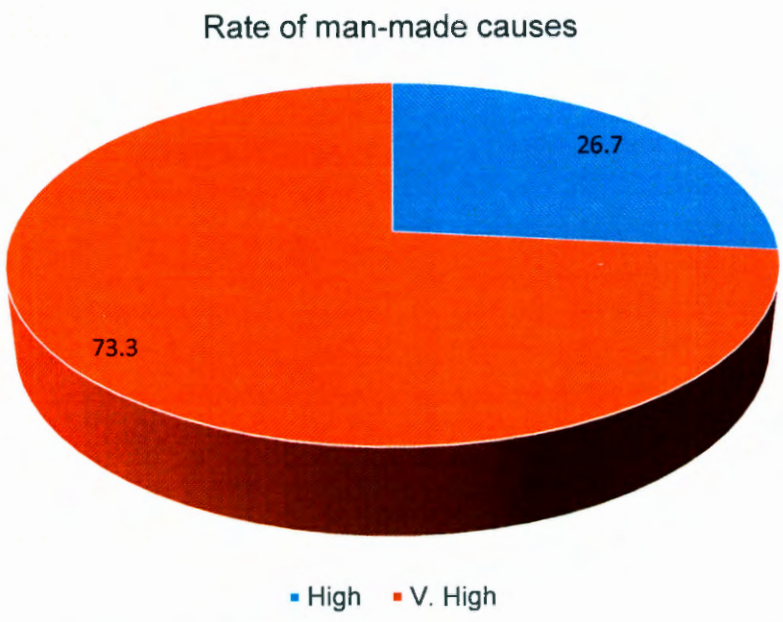

Figure 6: Man-Made challenges

This reflects that most of the challenges could be avoided by accepting good environmental habits as most of the challenges are not natural but are crafted by men. According to the farmers the challenges include personal perceptions (73%) which is man-made as opposed to 26.7%. Farmers do not have adequate time to improve their operations. Indications are that smallholders are not able to plan for growth. They are not able to attend conferences or workshops nor being involved in community development organisations as they are forever busy in their small holdings. The time constraint has also limited these farmers from farm tours and vigorous training, they agreed that there is inability to balance time and their work. There was a mentioning on the role of race for available markets as formal markets are not close to their farms. Accessing competitive markets which are surrounded by larger producers was put forth as a challenge. Competitive markets set standards which the small scale farmers are not able to meet. Similar problems were also cited by Abor and Biekpa (2006) among small scale producers. Smallholders are not able to get into the larger and good markets due to conditions that encompass the laws of the country, which give chances to larger commercial farmers but not for small scale farmers.

4.2.9 Natural Causes

Among the major difficulties faced by smallholder farmers is the naturally caused challenges, including weather patterns that change momentarily and pests control. This is supported by FAO (2010:17) that some challenges cannot be avoided because they are caused by nature. Respondents were asked this question to establish the impact of natural challenges in their agriculture work.

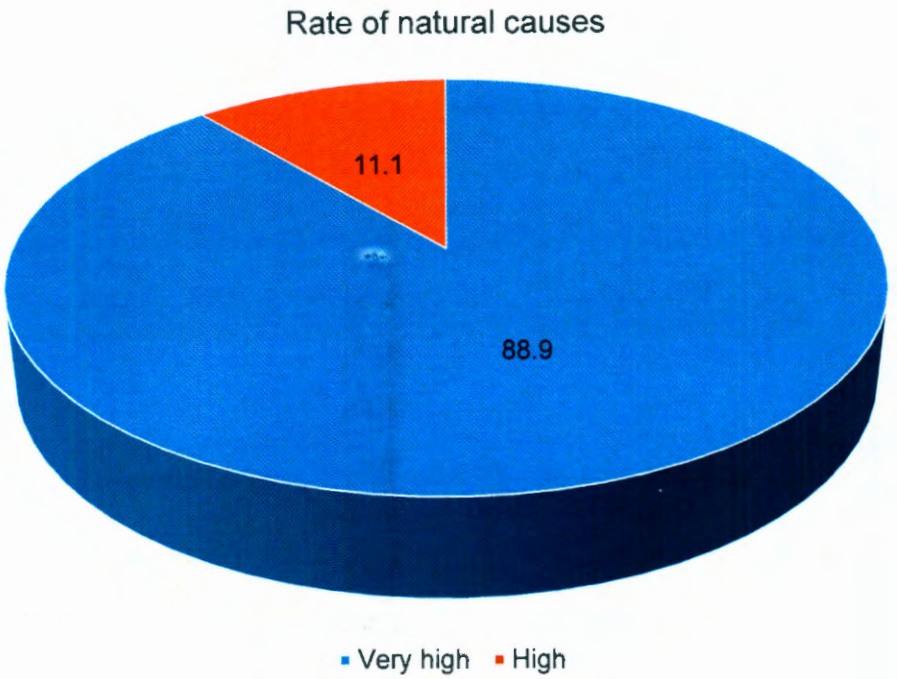

Figure 7. Naturally caused challenges

Natural challenges acknowledged by participants are threats of weather, disease, and pests control hence the majority of the farmers 88.9% agreed whilst 11.1% disagreed. Small holder Farmers mentioned the difficulties they face towards overcoming natural challenges. Accordingly, weather comes as a threat to crops as well as to their budgets. For instance, at times farmers have to replant crops which completely finishes up their budgets (Mensah, 2005:210). The non-availability of natural resources like fertile soil and water also come as a big challenge. Farmers have to spend a lot of money buying fertiliser to enrich the soil. The dependency on rain water has no guarantee. Without adequate water crops die, farmers loose their income and people go hungry.

Generally, land tenure security is acknowledged as a necessary condition aimed at agriculture development and growth and eventually successful commercialisation of small scale farmers. The extent of ownership of land amongst small scale farmers was examined by this study. It was established by the study that 90% of the farmers were using land obtained from Swazi Nation Land (SNL) while 5% were leasing from their neighbours and relatives and the other 5% was on Title Deed Land (TDL). It is vital to note that the SNL does not have credentials of ownership, rather regarded as land belonging to the King. Farmers could not use their land as security in finance institutions because these are not title deed land. Another factor is that farming space is becoming limited due to the increasing population yet the land is not expanding.

4.2.10 Agricultural Commercialisation

The study wanted to assess whether small scale farmers are interested in climbing up the ladder to commercial agriculture and if they understood what agricultural commercialisation is all about. During the interview the farmers demonstrated that they have knowledge and willingness on commercialisation. Their readiness though, was short lived from the responsibilities that come along with commercialisation. Small scale farmers in the Hhohho region are struggling to get into commercial agricultural production from the lack of mandatory experience demanded by the domain of commercial farming. If small scale farmers are to tap into commercial farming they need tools for farming, they need advanced technology, farming implements and a larger and available market. It transpired from this study that 84.4% of the farmers are interested to go into commercial farming whilst 15.6% are not. They need training in order to be up to standard with what the market is expecting from them and to be in line with existing agriculture practices. Hence agricultural extension is vital as well as assistance from the private sector to supplement the current state owned extension services. Regrettably, the EOs information is not adequate to support farmers to go to commercial farming. The study made it clear that extension service is a significant source of farming information and advice to small scale farmers. EOs empower farmers with skills, knowledge and techniques. Therefore, for this study it was critical to assess the availability of extension services and the level of satisfaction, the quality of services that EOs offer.

An evaluation regarding market access was done to look into market availability, challenges in accessing markets, set standards and the extent to which farmers meet the set standards, finally look into distance from place of production to the market. Market guarantee is crucial as it encourages participation from small scale farmers, hence accessibility factors such as quality of produce and quantity are a final determinant. The distance to markets was considered because it has a bearing on the degree to which small scale farmers participate. The Hhohho farmers hire open bakkies and trucks to deliver their produce to NAMBoard, NMC and supermarkets. Hiring of vehicles is costly and it reduces on profits. The produce is sometimes spoilt whilst being transported to the market because the mode of transport is not conducive to ferry certain products. Setting of standards by the market is another limiting factor. The small-scale farmers have to go through some difficulties and loss of resources in order to meet set standards. This view is supported by different scholars like Zwane (2012:22), that social capital has direct influence on other classes of capitals. The results for possible production of high volume is outlined in Figure 8 below.

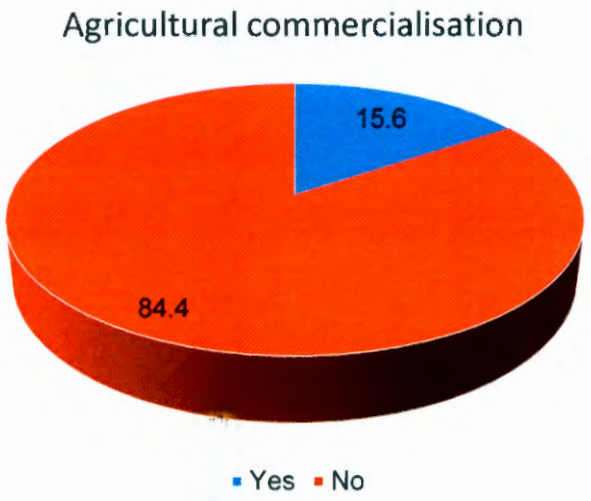

Figure: 8 Agricultural Commercialisation

Small scale farmers are aware of the benefits they would derive from commercial farming. Farmers acknowledged that there are constraints identified and that need to be addressed in order to grow into commercial farming from subsistence farming. Minimal access to agriculture information and to water are attributes limiting farmers from growing into commercial farming. The support that farmers get from EOs is

inadequate to support farmers to go for commercial farming. An observation by Wichelns (2013:1) is that farmers who can access irrigation always manage commercial production more effectively than those who cannot. Hence the role of extension officers come into play in this instance.

4.2.11 Role played by Extension officers

In view of the fact that farmers need to keep abreast with the dynamics of farming brings along a cause for concern. However, this suits an observation by Groenewald *et al.* (2003) that extension service might not be convenient and on time. Otherwise, such low levels of satisfaction by farmers might be an indication of shortage of staff, in which case some small scale farmers might not get help. About 71.1% participants acknowledged the extension services provided by the Ministry of Agriculture. The Ministry of Agriculture in a subsidized rate, rent out tractors to farmers in the ploughing season (September to January). However not all farmers are exposed to such services as 28.9% do not get extension services at all. The researcher wanted to find out if the existence of Extension Officers has an impact in production with small scale farmers. The results show that EOs play an important role in farming, the main concern is their availability and quality of information that they provide to farmers. The 20 EOs cannot cover all the 150 farmers on time in case a new technology is to be quickly introduced at a given time. The EOs do not have their own transport to move around to farmers who are located differently in the region but depend on a few government bakkies which caters for all 20 EOs in the region. During summer season the farmers are not reachable due to impassable roads and means of communication are not reliable. If EOs reach the farms they do not spend suitable time with the farmers in order to fairly introduce new technologies and inculcate learning. In that way the farmers do not change from their old ways of farming. The general support provided to farmers by EOs is therefore, not effective and not efficient taking the above into consideration.

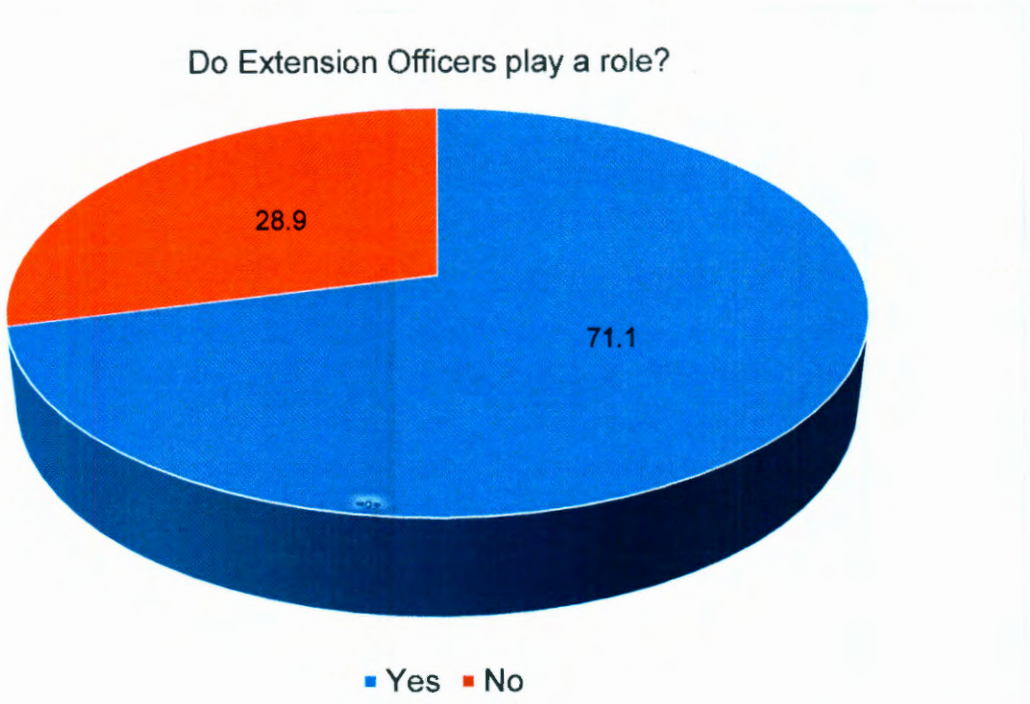

Figure 9: Role played by Extension Officers

As seen in Figure 9 above, most farmers felt the EOs were playing a vital role towards reducing the challenges for example they indicated 71% as opposed to 28.9% for those who disagreed, but not all farmers were satisfied with EOs work because not all the farmers were visited at their smallholdings. Most farmers felt that there is a need for improvement in extension participation and knowledge sharing. In consideration of the comments made by farmers, their strong view is that EOs should spend more time in the smallholders' fields and stop providing support to them from the comfort of their offices. Farmers see EOs as detached from them and failing to address their farming interest.

4.2.12 Irrigation and land challenges

It was common throughout the interviews with the small scale farmers to pronounce the importance of land ownership and shortage of irrigation systems. Most of the farmers have been farming in the area for a number of years but there is no formal arrangement with the authorities to own the land and yields are not getting any better. Hence farming in a land they are not owning over a long time is a reflection on their commitment. However there is a lack of information and knowledge prevailing

amongst small scale farmers about how to deal with matters of land affecting their livelihoods and modern ways of water conservation. To assist plants in growing and in maintenance of agricultural crops in disturbed soils and during periods of inadequate rainfall, irrigation is essential. Hence the lack of water is a major challenge within the Hhohho farmers. *"With a constant flow of water, famers will not rely on rainfall grow"*, this was said by most of the farmers. They further stated that *"this is critical if farmers want to move to commercialisation"*. Implications faced by farmers without irrigation systems are that they cannot meet the need of consumers as the population is growing and the changes in food consumption patterns are growing. Rivers have dried up, remaining ones have rules and regulations including certain tariffs to be paid as set by the state. Farmers do not afford to pay the set tariffs.

The comments by small scale farmers and EOs reflect hindrances on the lack of access to land and irrigation. Small scale farmers in the Hhohho region rely on rainfall for their crop production. Land tenure tends to be a major effect as it serves as a discouragement on smallholders, they cannot embark on conservation and major land improvements. The size of land utilised by these farmers is no more than two hectares and it is argued that should the size of land be increased and utilised effectively, ultimately it will enhance agricultural production and output. Effective utilisation of the land includes applying appropriate farm practices which will finally lead to higher physical output as compared to the existing case. Farmers face irrigation challenges because they do not generate enough income, yet irrigation systems are costly. For those that happen to have some irrigation systems, it is paid from their pockets to install and to maintain. Machinery for planting is not there, it is either they hire amongst themselves, neighbouring commercial farmers or from the Ministry of Agriculture - Rural Development Areas (RDAs).

4.2.13. Institutions available for support

There are number of institutions in the Hhohho region that are helping farmers towards obtaining food security. These are the Ministry of Agriculture, NMC, NAMBoard, FINCORP, Commercial Banks and farmers' co-operatives. Banks offer loans to clients. The Hhohho farmers cannot get loans from these institutions because they do not have collaterals, in that way they cannot expand on production which rests on

financial support. NAMBoard is a market outlet for fruits and vegetables located in the Manzini region (150km away). Farmers cannot reach this market because of distance, non-availability of transport and the costs involved. NMC is a maize market outlet also located 150km away from Hhohho region. Just like NAMBoard, NMC is not easy to reach due to distance and transport challenges. EOs are service providers, they stay in Pigg's Peak which is a distance away from the farmers. During the wet season which is the busy season for farmers, EOs do not visit farmers due to impassable roads and means of communication are not reliable. The researcher wanted to know if farmers and EOs get assistance from existing institutions, be it for finance or for information or any other means.

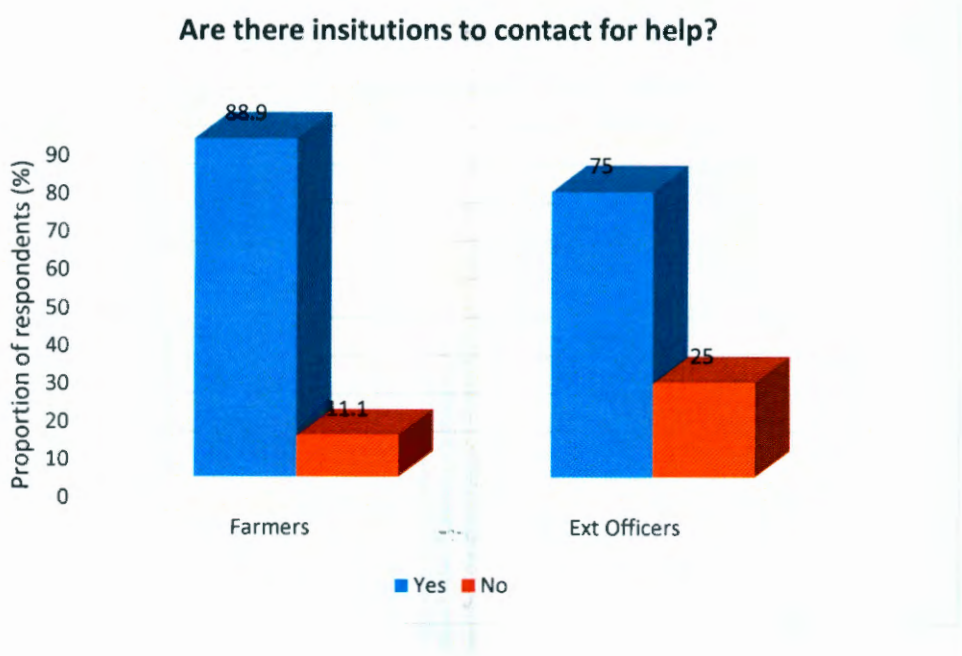

Figure 10: Institutions available for support

Figure 10 gives an outline of what transpired from the interviews, farmers and EOs agreed that there are institutions available for help. They stressed that they need information and credit that is crop specific and small scale farming specific and the results indicated that 60% are in need of more information while 40% were not. Those who disagreed were saying extension officers do provide information. This supports the observation by Kongolo and Dlamini (2012) that access to credit and loans is a long-standing constraint to small scale farmers. Farmers declared that most of

resources and information was tailored for large producers, hence they also needed such resources tailored to them and information for their non-industrial practices.

4.3 Financial Challenges

The study observed access to credit or loans and the sources of credit for small scale farmers. To establish whether there is linkage between food security and access to credit, the researcher found that 80% of the farmers interviewed had experienced challenges in accessing credit. The findings showed that smallholder farmers need to access credit in order to increase agriculture production. Farmers do not have credit facilities in place because they do not generate enough income.

Smallholders mentioned that they cannot take their farm plans to financial institutions as collateral because their plans are small and are not TDL. Farmers consider training on financial management would be helpful since it is one of their limitations. In the lack of collaterals, financial institutions comprising banks are unable to supply credit. If financial institutions offer credit it comes at a high cost due to irregularity of information. Likewise, there is a lack of rotating savings and credit associations which comes out as casual financial institutions.

4.4 Natural Challenges

Water remains an important resource to livelihoods, particularly to farmers who are dependent on agriculture. Likewise, with small scale farmers in the Hhohho region participants pointed out at natural challenges like weather threats, pests and disease control. Farmers and EOs meet difficulties to overcome these challenges. Pesticides are expensive or in some cases are not available. Knowledge on pesticides usage is not easily available because EOs need to learn before they impact any knowledge to farmers and that does not come easy. Pests are every farmer's problem. New pests emerge every year calling for a lot of attention and knowledge dissemination from EOs. Knowledge in usage of agro chemicals is minimal amongst farmers.

Weather is a threat to crops and the budget because it consumes more money. Smallholders mentioned that sometimes they have to replant which easily consumes their budgets. Most famers specified that they do not obtain enough water when the plants need water the most since dependent on rain. Some farmers, mentioned that chicken are prone to disease if not rightly managed with both internal and external disease. This therefore, calls for an aggressive disease management which needs a good budget. Such farmers need to be extra careful on anything accessing their farms, a lot of hand-washing has to be practiced yet water is a scarce commodity due to the prevalent drought. Availability of land, fertile land, water and other resources was also touched upon by farmers. They outlined the importance of water into farming operations. The farmers agree that water is an important resource to everyone especially those involved in agriculture. Issues on natural challenges may not be undefeatable but farmers felt that access to information and other methods could help them to overcome similar challenges.

Concurrently, EOs also believe that natural challenges play a pivotal role in lessening production in the farming sector. A valid reason lies with the disaster preparedness of the country at large especially with the Ministry of Agriculture, as well as the farmers themselves with the assistance of the EOs. EOs felt that the major failure of providing low satisfaction levels as mentioned by the farmers is because they are short staffed.

4.5 Land Tenure

Land tenure safety is generally acknowledged as a required condition for agricultural development and growth and finally agricultural commercialisation of small scale farmers. Small scale famers in the Hhohho region do their work on SNL, which means they do not own the land but the King. Some do farming on borrowed land from relatives. A few small scale farmers do farming on TDL. SNL cannot be used as collateral, hence financial challenges are experienced resulting to poor production. On the other hand, farmers on TDL use their land as collaterals and their production is maximised because they have means. This gives an unfair competition in the market. The study also established that farmers on SNL were not satisfied with the size of the land they were farming from.

4.6 Extension Officers

Accordingly, EOs job is to be a vehicle of conveying new technologies to small-scale farmers and ascertaining challenges experienced by these farmers so that they do the necessary work (Zwane, 2012:18). This therefore, suggests that extension services should be close to farmers rather than done remotely by EOs, who tend to operate from their offices rather than being in the field with farmers. The EOs offices are located in Pigg's Peak (± 20km) away. The number of EOs is very low to adequately service the farmers. Small scale farmers are not located in one place, the EOs have to travel from one place to another which on its own is time consuming and tiring on the EOs. As a result the EOs are seen by farmers as not fulfilling their obligation. Therefore the resources constraints faced by EOs do not bring along an effective and efficient result in as far as sustainable production and food security is concerned. Visits by EOs to farmers should be a common practice and EOs should play the critical role of mobilising farmers. On the other hand EOs maintain that they are under-staffed thus cannot cover all the farmers at a given time as they are supposed to.

From the study, 60% of the respondents indicated that they were not closely working with EOs because EOs were not frequent visitors to farmers. Therefore the assessment is that there is no much benefit by farmers from the EOs minimal visits. However, 40% of small scale farmers revealed never received any visits from EOs, hence showed dissatisfaction with the services provided by the EOs. Ultimately there is no previous specific record of the EOs discussions with farmers, or any information on the weather conditions and/or drought. The attendance registers for some farmers have one typical statement; "Offered extension guidance to farmer". To those farmers who have been visited, it reveales that there is no follow-up by the EOs to ensure if recommendations are followed properly.

4.7 Conclusion

This chapter presented the technical constraints and challenges that small scale farmers and EOs have to deal with on a daily basis. From the results, it is evident that small scale farmers in the Hhohho region are struggling to overcome existing obstacles and they need major interventions in order to reach food security level and

commercialisation level. While the formal market is available the smallholder farmers are unable to exploit the given opportunities due to inability to comply with standards that the market has set. It is obvious therefore, that the small scale farmers and EOs lack power to alleviate the constraints and get themselves in a survival mode. Hence, there is a need for various stakeholders to be involved so as to address the identified constraints and challenge.

CHAPTER 5
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This research was essential in order to understand the existing status of smallholder producers and to gain awareness into the challenges farmers and EOs face on a daily basis. A case study that used qualitative and quantitative research method was used in this study in order to collect more information on the challenges faced by small scale farmers, through in-depth interviews and a review of literature. The researcher also drew from personal experience and observation over a period of time in the study area, day to day interactions and meetings with different people associated with small scale agriculture.

5.2 Summary of the findings and achievement of objectives

In summarizing the findings one can indicate that the study objectives were addressed. The objectives were four namely:

- To investigate the main challenges that small scale famers are facing in Hhohho region, before identifying strategies that will permit ease of support.
- To identify technical constraints affecting small scale farmers. Understanding the nature of these constraints is of utmost importance. The expectation is that the results will provide a platform for policy architects to come up with win-win policies essential in uplifting living standards of small scale farmers.
- To analyse the causes of challenges faced by small holder farmers in Hhohho and the impact on agriculture. Lastly,
- To identify mitigation strategies that may be adopted by small scale farmers for sustainable productivity.

The goal of the research study was to assess challenges faced by small scale farmers in Hhohho region. Data analyses focused on the proposed research questions and objectives namely (i) Type of farmers found in the Hhohho

region. (ii) Roles of small scale farmers in agricultural development. (iii) The challenges faced by farmers towards agriculture development in Hhohho region. (iv) Actions that can be employed to address the challenges and limitations faced by small scale farmers and the role extension officers can play. (v) Mitigation strategies that could be established and may be adopted by small scale farmers for sustainable productivity. (vi)The main infrastructural problems for smallholder farmers. (vii) Institutions that a smallholder can contact when he/she needs help and the different types of institutions. (viii) The role that the state can play in the alleviation of challenges faced by small scale farmers. The objectives are divided into three sections, which are to identify main challenges faced by small scale farmers, to analyse the challenges faced by small holder farmers in the Hhohho region, their causes and impact on agricultural productivity and to identify mitigation strategies that may be adopted by small scale farmers for sustainable productivity.

The response to the first objective which seek to know the challenges of farmers is coupled with the second objective which want to know the causes of the challenges are discussed concurrently. There are five main causes. The first challenge is land issues. This has been discussed in the text sufficing to indicate that the cause of land challenge is land tenure and land size. Small scale farmers are working on SNL and are constrained by land tenure due to its limitations. Land size limits farmers to produce in volumes especially those with resources like water and finance.

The second challenge is that financial services Institutions were not willing to risk in lending farmers credit in order to produce more and reach food security level. The cause is fear of thinking that small holders will not be able to repay loans due to lack of collaterals. The third challenge was found to be lack of access to agricultural information. The majority of farmers felt that there is insufficient people to assist them, the extension officers were found not to be enough. Without access to agricultural information, reaching food security level and commercialisation is not possible. More EOs are to be employed in the region and they have to bring along new technologies. These EOs should not

only be from the Government but also from the private sector and NGOs. This will allow more experiences and knowledge to be imparted to smallholders.

The fourth challenge was found to be lack of transport. The cause was poverty of the farmers who could not afford and those who could, were constrained by poor access roads to link the main markets. The fourth challenge was found to be agricultural support. Its cause was insufficient extension officers in the region.

As far as the last objective is concerned namely, identification of the mitigation strategies that may be adopted by small scale farmers. The study has identified the mitigation strategies that has been discussed in the form of recommendations in section 5.3.

The aforementioned findings confirm the findings of Zwane and Chauke (2015) emphasizing that factors such as lack of access to finance, land, water, markets, education, skills development and access to information and opportunities still remain to prevent marginalised small scale farmers from making fundamental progress in farming.

In spite of the mentioned challenges, small scale farmers in the Hhohho region have forged ahead with agricultural production and are participating in formal and informal consuming other market channels. This reflects the serious willingness and commitment of small scale farmers towards sustaining their livelihoods regardless the non-conducive environment to attain full farming practices.

5.3 Recommendations and mitigations over the challenges to farming

5.3.1 Land Tenure

The research findings have confirmed that small scale farmers do not have lease agreements or ownership on land they are agriculturally engaged in for production. Therefore, land tenure and property rights have to be an important policy issue that

needs to be decided by the government of Swaziland. The main reason is that a successful agricultural growth of small scale farmers including successful commercialised agriculture is dependent on land tenure security. Land is viewed as an appropriate collateral asset, with desirable characteristics, generally because it is immovable, has a low maintenance requirement and difficult to be permanently damaged (Binswanger and Rosenzweig, 1986). Feder and Nishio (1998) argue that a blend of an increase in investment demand and credit supply connected with land registration leads to more investment, higher output per unit of land, better use of variable inputs, greater income and higher land values. Based on the above findings the following is recommended:

- The Swaziland government should intervene directly by strengthening property rights to assist poor small scale farmers to access credit.

5.3.2 Access to Finance and credit

Access to finance and credit remains key to the growth and development of small scale farmers. Agricultural development is a systematic process involving adoption of new and better practices particularly by small scale farmers. This is because most new practices need to be purchased yet few farmers have the resources. It is in light of this point that the following is recommended:

- That the Swaziland Government should place credit policies in concurrence with established credit schemes and organisations that are able to expedite the flow of agriculture credit to small scale farmers.

5.3.3 Extension services

The happiness with extension services between small scale farmers was found to be low in general. Advice from EOs has been challenged by most farmers, which includes instances of not being able to give technical solutions towards pests control. Only knowledgeable and well trained EOs within a well-managed programme can make a significant impact in helping small scale farmers. Argued by Kirsten (2002) is that in many cases EOs programmes are designed with an attitude that "we think we know what farmers want" which leaves out the farmers from planning stage up to decision

making practices. The extension backing in the Hhohho region was found to be weak and the following was recommended:

- That all stakeholders interested in development of Hhohho region should mobilise themselves and approach the Ministry of Agriculture to address the challenges encountered by both small scale farmers and EOs.
- Farmers are not using rightful proportion on farm inputs and agrochemicals, thus there is a need to increase the number of EOs to train and educate farmers on the proper usage of inputs.

5.3.4 Agricultural Support

The study recognised that levels of computerisation in the area are low, which is typical of many small scale farmers all over the country. In the absence of the tractors provided by government, most of them use hand tools to engage in production and tilling the soil, leading to low levels of production and incomes. The study established that Hhohho farmers are dependent on tractors supplied by the ministry of agriculture which is only given in the ploughing season. Tractors were identified as major constraints affecting all farmers and the following is recommended:

- That the government should intervene in order to strengthen property rights to help deprived small scale farmers to access credit.
- Government to avail tractors throughout the year and not only in the maize ploughing season.
- Policy architects to implement smallholder irrigation schemes in the country (SNL) so that production will be raised.
- Since farmers are spending less on inputs yet they are not highly productive, there is need for government to subsidize inputs.
- Government and NGOs work on policies to ease of access to land, training to enhance skills and encourage technology adoption and innovation, and removal of obstacles to trade.

5.4 Conclusion

The purpose of the study, was to assess the challenges faced by small-scale farmers which hinder them from producing enough food products resulting in insufficient food supply. The researcher recommended strategies that can be implemented by small scale farmers to address food shortages. The government need to know and understand the type of farmers in the Hhohho region so as to be able to assist them. This takes into consideration the roles played by smallholders in agricultural development and in food security. Recommendations are that the Swaziland Government should intervene directly by strengthening property rights to assist poor small scale farmers to access credit. The same government is to place credit policies in harmony with established credit schemes and organisations that are able to expedite the flow of agriculture credit to small scale farmers. Stakeholders interested in the development of Hhohho region should mobilise themselves and approach the Ministry of Agriculture to address the challenges encountered by both small scale farmers and EOs.

For agricultural support the government should intervene in order to strengthen property rights to help deprived small scale farmers to access credit. Government to avail tractors throughout the year and not only in the ploughing season. Policy architects are to implement smallholder irrigation schemes in the country (SNL) so that production will be raised. Since farmers are spending less on inputs yet they are not highly productive, there is a need for government to subsidize inputs. Finally, Government and NGOs to work on policies to ease access to land, and avail training to enhance skills and encourage technology adoption and innovation, and removal of obstacles to trade.

In many developing countries, the ranking of small scale farming has been recognised in the policy agenda. Therefore there is irresistible agreement that the "business-as-usual" approach will leave most small scale farmers in Hhohho region confined in poverty and unable to sustain their livelihoods. In order to facilitate the sustainable development, growth and commercialisation of small scale farmers and to improve

their livelihoods, the government of Swaziland has to create partnerships with non-governmental organisations and the private sector.

Mitigation strategies call for Swaziland government and other stakeholders to concentrate on understanding the types of farmers in the Hhohho region and their role in agricultural development and food security. This is to help the farmers and EOs produce more crops that will add on food security of the Hhohho region and finally the country. Policy architects to address failures and lack of credit so that farmers are able to purchase rightful inputs, seeds and be able to transport their products to the market. This to include infrastructural challenges like land tenure and to focus on redesigning policies which are non-exploitive but sustainable. That done farmers should be able to buy land and install irrigation systems so as to water crops during drought and dry seasons. Another point to focus on by policy architects and farmers is ensuring that the relationship between markets and small scale farmers is strengthened. This is to assist farmers to have an all season market for their produce and to keep up with the standards set by the market.

Government and the private sector to intervene in helping farmers with access to credit and finance, access to land, extension and human capital development and research. Human capital development to assist farmers and EOs in gaining more knowledge and more people to join into the agriculture cadre. Research to assist all stakeholders on past and future information on how to go about towards food security and sustainable agriculture. A multi- dimensional approach is required in order to succeed towards these challenges, one which will take into consideration all the support services and resources necessary.

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UFS·UV
ECONOMIC AND MANAGEMENT SCIENCES
EKONOMIESE EN BESTUURSWETENSKAPPE

25 January 2016

TO WHOM IT MAY CONCERN

CONFIRMATION OF STUDIES, MS PRUDENCE SHABANGU
STUDENT NUMBER 2014181289

This is to certify that Ms Shabangu, student number 201418289 is currently registered for the Masters programme in Development Studies at the University of the Free State, South Africa. She is currently in the second year of studies.

Ms Shabangu is currently busy with the mini-dissertation. I would hereby like to confirm that her masters' thesis does form part of her official study requirement.

Herewith the title of her dissertation: **"Challenges faced by small scale farmers in Swaziland: Case of Hhohho Region"**

Your assistance will be highly appreciated to provide Ms Shabangu with any information that she might need to collect the necessary data for her dissertation.

I trust that you will find the above correct and in order.

Thank you for your assistance.

Yours truly

Rooyen

Dr Deidre van Rooyen
Programme Director

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Appendix 2

The role of small scale farmers in promoting food security and poverty alleviation:
case of Hhohho Region, Swaziland
Interview Guide for Farmers

Introduction

My name is Prudence Shabangu. I am a student at the University of the Free State in Bloemfontein in the Republic of South Africa. You have been selected alongside the other members of the HHohho region, to participate in this study. The objective of this interview is to obtain information regarding the contribution of irrigated agriculture in promoting livelihoods as well as alleviating poverty in Swaziland. The information will be used to.study purposes but will not include any specific names. There will be no way to identify that you gave this information. Participation in this interview is voluntary and the information that you give will be treated as strictly confidential. If there is any question that you do not wish to answer you are free not to do so. This interview will take approximately 30 minutes of your time and your participation is highly appreciated.

Personal characteristics

Gender: Female [ ] Male [ ]

1. Age:
   - 21 - 25 years [ ]
   - 26 - 30 years [ ]
   - 31 – 35 years [ ]
   - 36 years and above [ ]

2. Marital Status
   - Married [ ]
   - Single [ ]
   - Divorced [ ]
   - Separated [ ]
   - Widowed [ ]

3. Number of Children
   - None [ ]
   - 1 – 3 [ ]
   - 4 – 6 [ ]
   - 7 – 9 [ ]

4. Level of Education
   - Illiterate [ ]
   - Adult Literacy [ ]
   - Primary Level [ ]
   - Secondary Level [ ]
   - High School Level [ ]
   - Tertiary Level [ ]

5. For how long have you been into farming?

1 – 5 years	[ ]
6 – 10 years	[ ]
11 and above	[ ]

6. What are the financial challenges you face as a small scale farmer?

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7. In a scale of 1-10 and one being the lowest and highest being ten, how do you rate man-made causes?

i. Man-Made Very High [ ] High [ ] Average [ ] Low [ ]

In a scale of 1-10 and one being the lowest and highest being ten, how do you rate natural causes?

ii. Natural causes Very High [ ] High [ ] Average [ ] Low [ ]

8. Are you willing to transform to Commercial farming? Yes [ ] No [ ]

What constraints do you experience towards commercial farming?

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9. What strategies could be employed in order to assist farmers to move into commercial farming?

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10. What is the role played by EO's in small scale farming.

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11. How does the proximity of EOs affect production with smallholders?

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12. How can the water scarcity in your area be corrected?

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13. Name the type of equipment you are need to lessen the scarcity of water in your area.

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14. What can you say about the road networks challenges in your farming work?

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15. What strategies could be adopted to correct the road networks challenges?

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16. Are there irrigation and land challenges in your farming work? Yes [ ] No [ ]

17. Name the type of land and irrigation challenges that you face and how it can be corrected.

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18. What are your market challenges when your produce is ready?

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19. Agro chemical usage needs vital knowledge. Are there any challenges you have faced whilst using pesticides in your farming work?

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20. What institutions can you contact as a farmer when you need farming assistance?

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21. What role does the state play in the alleviation of challenges faced by small scale farmers?

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22. What are the challenges that the state did not work on to solve challenges faced by small scale farmers?

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23. What can you do to solve your problems on your own?

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24. What are you doing to develop the community where you are working agriculturally?

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Appendix 3

The role of small scale farmers in promoting food security and poverty alleviation:
case of Hhohho Region, Swaziland
Interview Guide for Extension Officers

Introduction

My name is Prudence Shabangu. I am a student at the University of the Free State in Bloemfontein in the Republic of South Africa. You have been selected alongside the other members of the Hhohho region, to participate in this study. The objective of this interview is to obtain information regarding the contribution of irrigated agriculture in promoting livelihoods as well as alleviating poverty in Swaziland. The information will be used to study purposes but will not include any specific names. There will be no way to identify that you gave this information. Participation in this interview is voluntary and the information that you give will be treated as strictly confidential. If there is any question that you do not wish to answer you are free not to do so. This interview will take approximately 30 minutes of your time and your participation is highly appreciated.

Personal characteristics

Gender: Female [ ] Male [ ]. appendix

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   - 21 - 25 years [ ]
   - 26 - 30 years [ ]
   - 31 – 35 years [ ]
   - 36 years and above [ ]

2. Marital Status
   - Married [ ]
   - Single [ ]
   - Divorced [ ]
   - Separated [ ]
   - Widowed [ ]

3. Number of Children
   - None [ ]
   - 1 – 3 [ ]
   - 4 – 6 [ ]
   - 7 – 9 [ ]

4. Level of Education
   - Illiterate [ ]
   - Adult Literacy [ ]
   - Primary Level [ ]
   - Secondary Level [ ]
   - High School Level [ ]
   - Tertiary Level [ ]

5. For how long have you been into extension work?

1 – 5 years [ ]
6 – 10 years [ ]
11 and above [ ]

6. Are there any challenges you face as you work with farmers?
Yes [ ] or No [ ]

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7. What do you think are the challenges faced by small scale farmers?

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8. What do you think are the causes of these challenges?

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9. In your opinion between men and women, which gender is mostly affected by these challenge?

Womenfolk/menfolk [ ]

10. In your opinion, what do you think will be the solution to these challenges faced by small scale farmers?

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11. Which crops do you assist farmers with?

iii.
iv.
v.
vi.
vii.

12. Do extension workers assist farmers produce the minimum volume of products required by the market? Yes [ ] No [ ]

Give reasons for any chosen answer

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13. Do extension officers get assistance from Government? Yes[ ] No [ ]

14. If yes, what is the assistance?

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15. If not, why?

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16. Are there existing strategies in the pipeline towards alleviating challenges faced by extension officers in order to attain sustainability? Yes [ ] No [ ]

17. If yes, what are they?

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18. Are there infrastructural problems in your extension work?

Machines for farming	Yes	[ ]	No	[ ]
Road/Communication networks	Yes	[ ]	No	[ ]
Land and irrigation	Yes	[ ]	No	[ ]
Market for Produce	Yes	[ ]	No	[ ]

If yes, what are they?

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19. Are there institutions you can contact as an extension officer when you need financial assistance?

Yes [ ] No [ ]

What is the institution(s)?

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20. Do you think the Government is making a contribution towards solving the challenges faced by small scale farmers? Yes [ ] No [ ]

21. What role does the state play in the alleviation of challenges faced by small scale farmers?

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Map of Swaziland