The Contributions of Smallholder Subsistence Agriculture towards Rural Household Food Security in Maroteng Village, Limpopo Province

By

Kgalema Abbyton Mashamaite

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Declaration

I declare that **The Contributions of Smallholder Subsistence Agriculture towards Rural Household Food Security in Maroteng Village, Limpopo Province** hereby submitted to the **University of Limpopo**, for the degree of **Master of Administration in Development** has not previously been submitted by me for a degree at this or any other university; that it is my own work in design and in execution, and that all material contained herein has been duly acknowledged.

Mashamaite, K.A. (Mr) — 02 April 2014

Signature — Date

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Dedication

I dedicate this treatise to my late grandmother, ***Change Christina Mashamaite***, whom passed away in 2005. May her soul rest in peace. I also dedicate this treatise to my loving mother, ***Mmashela Grany Mashamaite***, my friends and family at large.

Abstract

Smallholder subsistence agriculture is regarded as an approach that can be adopted by poor rural households to meet their food and nutritional requirements. The practice of smallholder subsistence agriculture is a basis upon which poor households can enhance their household food security through increased incomes and food supply, ultimately generating extra income for other household needs. The present study discusses and analyses the importance of smallholder subsistence agriculture as an effective method easily available to households residing in rural areas to access food and incomes for household purposes. Hence, the study seeks to explore and analyses the role of smallholder subsistence agriculture in contributing to household food security in rural areas. Both primary and secondary data have been used to analyze the factors for the purpose of the study. The primary data were collected through a designed survey questionnaire administered to sampled smallholder subsistence farmers in the study area. This study used purposive sampling technique, through a transect walk, to draw households involved in smallholder subsistence agriculture in Maroteng Village. From the total population in the study area, only 100 households were selected for the purposes of the study. Both descriptive and qualitative techniques were used to analyze salient variables of the practice in order to give an insight of the important role the sector can play in addressing poverty, enhancing incomes and creating employment, consequently contributing to household food security in rural areas. The study shows that the participation on smallholder subsistence farming by households in rural areas could have positive impact on food security situations.

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Acronyms

DFID : Department for International Development

DoA : Department of Agriculture

FAO : Food and Agriculture Organization

GDP : Gross Domestic Product

GHS : General Household Survey

IES : Income and expenditure Survey

IFSS : Integrated Food Security Strategy

RDA : Recommended Daily Allowance

RDP : Reconstruction and Development Programme

SASIX: South African Social Investment Exchange

Stats SA: Statistics South Africa

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Chapter 1: Introduction and Background of the Study

1.1. Introduction and Background

Rural households in most developing countries are food insecure and unable to meet their daily dietary food needs (Averbeke and Khosa, 2007). Reily, Mock, Cogill, Bailey and Kenefick (1999); Bonti-Ankomah (2001) emphasize that to achieve food security households should have sufficient availability and adequate access to physical food supplies through their own production, market or other sources, and that those food supplies be appropriately utilized to meet the specific dietary needs of individuals. Most of the rural households in the former homelands have accepted and adopted the practice of smallholder subsistence agriculture as their primary approach to achieve household food security and meet their daily dietary food needs (Food and Agriculture Organization (FAO), 2004; Aliber, 2005). Smallholder subsistence agriculture provide for food security to rural households by reducing food prices through increased food supply, generating employment opportunities for the poor; improving household income and providing food for household consumption (Machethe, 2004; Altman, Hart and Jacobs, 2009).

Smallholder subsistence production provide for food security of poor households in rural areas by increasing food supply which reduces food price shocks (Department for International Development (DFID), 2004; Baiphethi and Jacobs, 2009). Baiphethi and Jacobs (2009) indicate that smallholder subsistence agriculture accounts for over 90 percent of the food supply in most developing countries. The availability of food at lower

prices through increased food supply provides households with the means to access food in order to meet their dietary food needs hence improving household food security (FAO, 2003; DFID, 2004; Baiphethi and Jacobs, 2009). Smallholder subsistence agricultural production can also create employment opportunities for most of the poor members of the households in most developing countries.

Enhanced smallholder subsistence agricultural development by increasing agricultural productivity could create both on and off farm employment opportunities for most household members in rural areas. Increasing agricultural productivity on-farm increases the demand for labour in preparation, planting, weeding and harvesting in most smallholder farms (DFID, 2004). According to DFID (2004), smallholder subsistence farmers are increasingly inclined to substitute hired labour for household labour as they are getting richer, hence generating greater job opportunities for the poor. Furthermore, increasing productivity of the smallholder farms also creates new and income generating off-farm jobs for the poor through the linkages between agriculture and the wider rural economy. The combination of extra jobs within and outside smallholder subsistence farming can have positive effects on rural labour market by improving wages and the ability of the poor to access food from markets (DFID, 2004).

Smallholder subsistence agriculture is also considered as the greatest contributor towards household income by up to 40 percent in most developing countries such as South Africa, which gives poor people the means to access food from the markets

(Averbeke and Khosa, 2007). These incomes enhance food purchasing power of most households in order to meet their daily food needs which consequently enhance household food security (FAO, 2003; Averbeke and Khosa, 2007). However, there are few number of smallholder subsistence farmers engaged in the production as a main source of income due to the fact that they produce mainly for household consumption. Aliber (2005) indicates that smallholder subsistence agriculture can contribute up to 15 percent of the total household income in rural households which include incomes derived from the sale of farm produce by households.

While the smallholder subsistence agricultural sector is acknowledged as the primary route for achieving household food security in poor rural areas, Bonti-Ankomah (2001) argues that for household food security to be achieved, food must be consistently available and accessible, and be properly utilized for consumption to meet specific dietary needs of households. Moreover, for rural households to be food secure, food at their access should be adequate both in quantity and quality (Bonti-Ankomah, 2001). Bonti-Ankomah (2001); Hendriks and Msaki (2009) argue that household food security is achieved when all individuals in a household have physical and also economic access to sufficient, nutritious, healthy and safe food on daily basis to meet their daily food dietary needs and preferences. The acknowledgements of smallholder subsistence agriculture's contributions in providing food security of households also exist in Limpopo Province.

Oni, Nevamvuni, Odhiambo and Dagada (2003) indicate that smallholder subsistence agriculture contributed 15.7 percent of the gross geographic product (GGP) in Limpopo Province, thus ensuring household food security in rural areas. The smallholder subsistence agricultural sector also provides employment for the economically active population at smallholder farm level and is regarded as one of the main sources of income (Oni *et al*, 2003). The sector employs up to 25 percent of the economically active population, especially poor members of the households. This chapter provides the background of the study, and further covers the following sections: statement of the problem, research question and objectives of the study as well as the methodologies used to achieve the objectives of the study. The chapter further provides definition of some of the terms that are used in the study. Lastly, an outline of the study in the form of chapters is presented. Thus, the study seeks to explore the extent to which smallholder subsistence agriculture is adopted as the primary strategy for household food security to meet specified dietary needs, and Maroteng Village will is used as the case study area.

1.2. Statement of the Research Problem

Most developing countries regard smallholder subsistence agriculture as the most effective way to fight food insecurity and provide household food security in accordance with specific dietary needs in rural areas (FAO, 2004; Aliber, 2005). Machethe (2004); Baiphethi and Jacobs (2009) indicate that the smallholder subsistence agricultural sector is regarded as the main contributor towards the economy by up to 3 percent of

the gross domestic product (GDP), and contributes 7.2 percent of formal employment in South Africa. However, there is still no consensus on whether the sector is the most appropriate strategy to achieve household food security in rural areas (Machethe, 2004; Aliber, 2005). This is evident due to the fact that the majority of the rural households are still vulnerable to food insecurity and malnutrition which exacerbates food poverty and hunger (De Klerk, Drimie, Aliber, Mini, Mokoena, Randela, Modiselle, Vogel, Swardt and Kirsten, 2004; Averbeke and Khosa, 2007). According to Averbeke and Khosa (2007), approximately 35 percent of the total population in South Africa is classified as vulnerable to food insecurity and unable to meet their daily dietary food needs. The vulnerability is most prevalent within households living in rural areas (de Klerk *et al*, 2004). In light of the above, arises the question, why majorities of the people are still facing in rural areas household food insecurity and hunger despite much acceptance and acknowledgement of smallholder subsistence agriculture as an effective approach to achieve household food security. As such, the study attempts to investigate the potential role smallholder subsistence agriculture has in uplifting and providing food security of most rural households.

1.3. Research Questions

The general research question of the study is: how does smallholder subsistence agriculture contribute towards household food security in rural areas? The following specific questions have been drawn from the general research question:

- What are the types and characteristics of smallholder subsistence agriculture in rural areas?
- What are the household food security trends in rural areas?
- What are the determinants and indicators of household food security in rural areas?
- What are the contributions of smallholder subsistence agriculture towards household food security in rural areas?

1.4. Research Aim and Objectives

The aim of the study is to investigate the contributions of smallholder subsistence agriculture towards household food security in rural areas. The following specific objectives have been drawn from the aim:

- To study the types and characteristics of smallholder subsistence agriculture in rural areas.
- To investigate the trends of household food security in rural areas.
- To investigate the determinants and indicators of household food security in rural areas.
- To explore the contributions of smallholder subsistence agriculture towards achieving rural household food security.
- To recommend possible measures to enhance the smallholder subsistence agriculture towards household food security.

1.5. Definition of Terms

Smallholder subsistence agriculture is defined as the production which involves mainly households producing on relatively small plots of land less than one hectare with limited resources only for household subsistence or sale (Wenhold, Faber, Averbeke, Oelofse, Jaarsveld, van Rensburg, van Heerden and Slabbert, 2007).

Food security is defined by Hendriks and Msaki (2009) as a situation whereby all people have physical, social and economic access to sufficient, nutritious, healthy and safe food at all times to meet their daily food dietary needs and preferences. Averbeke and Khosa (2007) indicate that household food security is adequate access by all household members at all times to safe and nutritious food for a healthy and productive life. On the other hand, Wenhold *et al*. (2007:1) shows that 'food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for and active and healthy life'. The proposed study adopts the definition by both Wenhold *et al*. (2007) and Hendriks and Msaki (2009).

Food insecurity is defined as the lack of food security that, at the extreme, is experienced in the form of hunger (Hendriks, 2005). Bickel, Nord, Price, Hamilton and Cook (2000) define food insecurity as a situation whereby people have limited access and availability of adequate, nutritious and safe foods. The proposed study adopts the definition by Bickel *et al* (2000).

1.6. Research Design and Methodology

This section focuses on the research design and methodology that directs this study. The purpose of this section is to explain the rationale behind the methodology that was used, and also indicates how the study was conducted. It further outlines the steps taken to ensure the collection and analysis of data, study area, validity and reliability, and ethical consideration of the study.

1.6.1. Research Design

Research design is the plan which provides the overall framework for the collection of data as well as an outline of detailed steps taken to ensure the success of the study (Babbie and Mouton, 2001; Leedy and Ormrod, 2001). In essence, it is a logical sequence that connects empirical data to the initial research questions of the study and ultimately to the logical conclusions. Hence, the research design aims to help in achieving the research objectives and answering the research questions of the study. It also assists in collecting relevant data and how to analyze such data. The research design is much more than just a work plan because the main purpose is to help avoid the situation in which the evidence does not address the initial research questions and objectives of the study (Mouton, 2001). The study adopted correlational research design.

Correlational research is defined as an investigation in which the purpose is to discover the relationship between two or more variables in order to probe the contributions of smallholder subsistence agriculture towards food security at household level in rural areas (Thompson, Diamond, McWilliam, Snyder and Snyder, 2005). The most important advantage of correlation research is that it allows the exploration of different relations within the same study. However, the ability of correlation research to examine the relationships between variables does not imply that one variable causes the other (Thompson *et al*, 2005). The study used both the qualitative and quantitative research approaches in order to achieve the objectives of the study.

The qualitative research approach is an investigation in which data is collected data in face-to-face situations by interacting with selected individuals in their settings in order to get different perceptions and experiences about the smallholder subsistence agriculture's contributions on providing household food security (McMillan and Schumacher, 2001). The qualitative approach to the study assisted in answering questions about the nature of the phenomena with the purpose of describing and understanding the phenomena from the participants' point of view (Polit, 2001). This research approach utilized interviews with participants using a survey questionnaire to explore and understand their attitudes, opinions, feelings and behaviours of the participants about the extent of smallholder subsistence agriculture's contributions towards providing food security to their respective households. The advantage of the qualitative approach is that it produces findings which have greater validity and less artificiality, which allowed the researcher to develop a more accurate understanding of

smallholder subsistence agriculture and household food security in the study area (Chisaka, 2000; Polit, 2001).

The quantitative approach involved the use of numerical measurement and statistical analyses of the measurements to examine the phenomena under study (Polit, 2001). A quantitative approach abstracted data from the participants into statistical representations rather than textual pictures of the phenomenon. One of the limitations of the quantitative approach is that it may degrade human individuality and the ability to think. The quantitative approach seeks to establish relationships between two or more variables, using statistical methods to test the strength and significance of the relationship between the variables (Denscombe, 1998).

The study employed both qualitative and quantitative research approaches for various reasons. Firstly, qualitative approach provided an opportunity to understand the phenomenon from the participants' perspective (Polit, 2001). Meaning understanding is acquired by analyzing the participant's feelings, beliefs, ideas and thoughts (Chisaka, 2000) on the contributions of smallholder subsistence agriculture towards food security. Secondly, the researcher interacted with the selected individuals in their natural setting to obtain required data. Thirdly, the study seeks to understand in-depth analyses of the data collected. Quantitative research method attempts to identify specific variables within the context of the study. Key quantitative variables for purpose of this study included food expenditure, size of the farm, income generated, farm labourers and household income among others. According to Decrop (1999), although both qualitative

and quantitative research differs in many ways, they complement each other in various ways as well.

According to Decrop (1999), the advantages of one method complement those of the other when these methods are combined making a stronger research design that yield more valid and reliable findings. This minimizes the inadequacies of individual method. Both qualitative and quantitative methods make it possible to gather most needed data to address the research problem and to ensure that the objectives of the study are successfully achieved.

1.6.2. Study Area

Maroteng Village is situated near Mokopane Town within Mogalakwena Local Municipality. Mogalakwena Municipality is located in the western quadrant of Limpopo Province within the Waterberg District Municipality. The area is one of the richest agricultural areas producing wheat, tobacco, cotton, beef, sorghum, maize, peanuts and citrus (Mogalakwena Municipality IDP, 2009). The area contributes significantly towards the activity of agriculture on the local level. Tobacco, cotton, sunflower, sorghum, maize contribute about 25 percent of the total farm income earned in field crop commodities, while about 41 percent of the tobacco crop of the province is produced in the area (Limpopo Department of Economic Affairs and Tourism, 2001). Maroteng Village has approximately 1000 households (Mogalakwena Municipality IDP, 2009). Majority of the households practice smallholder subsistence agriculture for various reasons in the study

area and there is no exact number of households engaging in smallholder subsistence agriculture.

1.6.3. Kinds of Data

The study requires observations, opinions and factual data, in order to achieve the research objectives. Factual data involve information that can be proven to be real and observable or can be demonstrated while opinions involve ideas, thoughts and beliefs that are not necessarily based on factual data and have not been proven. Observations and opinions allowed the researcher to acquire primary data which the researcher might not have known and observed during the study. These observations and opinions derived from participants' perspectives about the contributions of smallholder subsistence agriculture towards household food security. The primary data were acquired through the administration of questionnaires from the participants to provide comprehensive understanding of the trends, indicators and determinants of food security and the nature of smallholder subsistence agriculture as practiced to provide for food security.

1.6.4. Target Population

Bless and Higson-Smith (2000); Babbie and Mouton (2001) define population as a set of elements that the research focuses upon and to which the results obtained by testing the sample are generalized. The target population, therefore, refers to the entire group

in the study area a researcher is interested in and wishes to draw conclusions from. The target population for the study area was rural households which practiced smallholder subsistence agriculture in Maroteng Village. These households provided their opinions, perceptions, experiences and beliefs on smallholder subsistence agriculture and its contributions towards achieving food security for their households and the community at large.

1.6.5. Sampling Design

Sampling design is one of the most fundamental elements of data collection for any scientific research, and plays a critical role in ensuring that data are sufficient to draw the necessary conclusions. The main purpose of sampling was to achieve representativeness, meaning the sample should be assembled in such a way that represents the entire population from which the sample is drawn (Jennings, 2001). The sampling units for the study were rural households practicing smallholder subsistence agriculture in Maroteng Village. A sample of 100 rural households was drawn from approximately 1000 households in Maroteng Village. The total population of Maroteng Village is too large to be studied in totality. Due to financial and time constraints, the study limited itself to the sampled households practicing smallholder subsistence agriculture in the area.

A sample of 100 was taken in order to obtain the precise data needed. Sometimes a research, such as this study, is conducted in situations that do not permit the kind of

probability sampling that is feasible in large scale social surveys. Due to the nature of the study and the constraints envisaged, the present study opted for a non-probability sampling technique to select participants to be interviewed. Purposive sampling was considered to be the ideal method to use in this study because it is suitable for selecting a sample on the basis of knowledge of the population and purpose of the study. Based on the main researcher's knowledge of the area and objectives of the study, the aim then was to select the widest variety of participants from the study population in order to test the broad applicability of the research questions. Purposive sampling enabled easy identification of households involved in smallholder subsistence agriculture by carrying out a transect walk in the village. This alternating method was used until all the required 100 households practicing smallholder subsistence agriculture had been interviewed.

1.6.6. Data Collection Techniques

The study collected both primary and secondary data to achieve the research objectives and to answer the research questions. Secondary data was acquired through sources of evidence including documents, archival materials, published and unpublished articles, internet sources and books, while primary data were collected through structured questionnaires. The questionnaires encompass a variety of instruments in which the respondents respond to written questions to elicit reactions, beliefs, attitudes, opinions, facts and experiences about the extent of smallholder subsistence agriculture's contributions towards food security (Chisaka, 2000). The questionnaire was designed around the opinion statements (research questions and objectives) as a means of

exploring participants' perceptions of a wide range of smallholder subsistence agriculture contributions.

The questionnaire included both open-ended and closed-ended questions which were scaled, ranked and checked. Open-ended questions allowed the participants to give more in-depth detailed data on the experiences, opinions, beliefs, facts and attitudes about how smallholder subsistence agriculture contributed in providing food security for their households. Closed-ended questions, on the other hand, allowed the participants to choose the answers from the options provided to the questions. The questionnaire consisted of three parts.

The first section was structured in such a way as to elicit demographic information regarding the participants' gender, age, educational type and level, income, household size, number of dependants, years of farming, purpose of farming, size of the farm, farming activities and employment. Section two consisted of closed-ended questions to measure participants' level of agreement and disagreement with the statement about the contributions of smallholder subsistence agriculture towards household food security in rural areas. The section also consisted of questions on the dimensions of food security such as food expenditure, consumption, access and availability. In section three, the participants were asked to provide any additional comments, positive or negative, that they wish to make regarding the nature of smallholder subsistence agriculture and food security as a way of identifying other inputs and problems not included in the questionnaire.

The questionnaires were distributed to all sampled households engaging in smallholder subsistence agriculture in the study area, and participants were assisted to complete the questionnaires where necessary. The study employed two assistants, who know the area of study, to assist in both approaching the participants to elicit their participation and in monitoring the administration of the questionnaires.

1.6.7. Data Analysis Techniques

There are two techniques that were used to analyze the collected data in this study, namely, qualitative and quantitative data analysis techniques. Qualitative research is characterized by the fact that the results are descriptive in nature, meaning that words are used rather than numbers to clarify the results of the collected data. Analyzing and interpreting qualitative data was done by deeply immersing in the questionnaires. Data was coded in order to develop the interpretations that were written in the final report. This analysis was organized into relevant themes and patterns to tell a comprehensible story. These themes and patterns were compared with other theories through inductive approach. Through inductive approach, the researcher collected data and explored them to check which themes to concentrate on.

The quantitative data was coded into numerical representations, so that a series of statistical analysis could be performed using the software package called Statistical Package for Social Sciences (SPSS). The software package enabled the researcher to enter and store data, utilize retrieval strategies, engage in statistical analyses and

descriptive statistics such as graphs, charts, tables, percentages, frequencies, averages. The software also assisted the researcher to write the report explaining clearly and explicitly the data collected about the extent of smallholder subsistence agriculture's contributions and the dimensions of food security. Tables and graphs were used to identify trends, show proportions and the distribution of values and to compare visually the relationship between smallholder subsistence agriculture and food security.

1.6.8. Validity and Reliability

Welman and Kruger (2001) describe validity as a mechanism that ensured that the process implemented to collect data, has collected the intended data successfully. Validity refers to the extent to which an empirical measure adequately reflects the real meaning of the subject under investigation. To ensure that the data collected are valid in this study, the following steps were taken. Firstly, an extensive literature review was done. Secondly, the purpose of the study was clearly explained to the participants. Lastly, participants were assured anonymity and confidentiality to encourage frankness during the interviews. These steps ensured that the interviews were conducted under conditions and in an environment acceptable to the participants, and hence ensured that the process was trustworthy.

Reliability relates to the consistency of the data to be collected. Reliability is a condition in which the same results are achieved whenever the same technique is repeated in one study. This was achieved by, firstly, ensuring the anonymity and confidentiality of

the participants so that the participants were able to provide information to be used strictly for the purpose of the study. Lastly, the utilization of two assistants ensured that the process of administering the questionnaires run smoothly.

1.7. Significance of the Study

The significance of smallholder subsistence agriculture in the rural economies of the developing countries has long been recognized. It is generally agreed that smallholder subsistence agriculture remains crucial in addressing food insecurity in most developing countries. The smallholder subsistence agricultural sector plays an important role in terms of its contributions to the gross domestic product (GDP), employment, income and food supply. Hence, the role of smallholder subsistence agriculture in many developing countries implies that various developmental activities hinge around the sector. However, there are still uncertainties about the extent of smallholder subsistence agriculture's contributions towards achieving household food security in rural areas due to lack of more research on the subject. Hence, the proposed study could contribute towards the existing body of knowledge on the subject and could provide key lessons and awareness for further investigation on the contributions of smallholder subsistence agriculture towards food security to policy makers, researchers and practitioners. The study provides recommendations on how to enhance the contributions of smallholder subsistence agriculture towards food security in rural areas.

1.8. Ethical Considerations

The study used the written and verbal communication, which could involve emotions, to interact with different rural households, smallholder subsistence farmers and other relevant stakeholders. As such, the questions asked intended not to harm, discriminate or invade the privacy of the participants. Participants were not be forced to provide information against their will or classified according to their race, colour and language. Hence they were allowed to provide information freely and on a voluntarily basis. The study ensured and guaranteed that the participants' identities and information provided was not be revealed and was only used for the purpose of the study, thus guaranteeing anonymity and confidentiality. At the centre of the ethics, the study ensured that the necessary permission and procedures to conduct the study were obtained to ensure that traditions and beliefs are well respected.

1.9. Structure of the Dissertation

The dissertation consists of five chapters and is structured in the following order:

Chapter 1: The chapter provides the introductory part of the topic which gives the overview to the research topic and identifies the research problem, aim and objectives, and the research questions. Finally, the chapter briefly discusses the definition of terms, research design and methodology to be used, significance of the study and ethical considerations.

Chapter 2: The chapter provides a review of literature from existing sources which debates merits and demerits of smallholder subsistence agriculture as a contributor towards rural household food security. The chapter also provides theoretical background on the dimensions, determinants, indicators and trends related to food security.

Chapter 3: The chapter presents a broad description of the study area in relation to smallholder subsistence agriculture and food security. The chapter further provides background and South Africa's policy context highlighting some of the policies that relate to food security and agriculture in particular.

Chapter 4: The chapter presents the analysis and interpretation of acquired data and the findings emanating from the study.

Chapter 5: This chapter draws up conclusions based on the findings emerging from the study and also provides possible recommendations to enhance the contributions of smallholder subsistence agriculture towards food security.

1.10. Limitations of the Study

There are two forms of smallholder subsistence agriculture that exists in South Africa, namely smallholder subsistence and smallholder commercial agriculture. However, the study is limited to the problem of household food security within the realm of smallholder subsistence agriculture only. The study is also limited only to Maroteng Village in Limpopo Province, where only a small sample was surveyed. Even though the attempts were made to make the sample as representative of the total population as possible,

errors may have still occurred. This may make it difficult to extrapolate the findings from the study to other areas in the country with similar socio-economic conditions. These limitations were taken into consideration when conducting the study, which also experienced financial and time constraints.

Chapter 2: Smallholder Subsistence Agriculture as Household Food Security Strategy: A Review of Literature

2.1. Introduction

The purpose of this chapter is to provide a detailed review of the literature, both national and international on smallholder subsistence agriculture and household food security. This chapter provides the types and characterization of the smallholder subsistence agricultural sector. The global debate on the household food security is elucidated by providing theoretical frameworks on the trends, determinants and indicators of food security. The role and contributions of smallholder subsistence agriculture to provide for household food security in rural areas is also highlighted in this chapter. The last section provide conclusion of the chapter.

2.2. Types and Characteristics of Smallholder Subsistence Agriculture

The agricultural sector in most developing countries is mainly dominated by smallholder subsistence agricultural production of crop and livestock as well as poultry and accounts large proportion of agricultural production primarily for subsistence purposes (Salami, Kamara and Brixiova, 2010). According to High Level Panel of Experts (HLPE) (2012), smallholder subsistence farmers, who are mainly trapped in poverty circle, are regarded as the main producers of the total agricultural products in the world. Furthermore, out of these farmers some are indirectly involved in the operation and management of the

farm units with the support and reliance on family labour rather than hired labour (HLPE, 2012).

Smallholder subsistence agriculture can be defined from different perspectives and differ from country to country. According to Salami *et al* (2010) smallholder subsistence agriculture can be defined on the basis of land, ownership and productivity. Smallholder subsistence agriculture is defined by HLPE (2012) as farming activity mainly run and managed by poor households which derives greater part of their incomes from agriculture and relies heavily on the sector for their household food needs through self provisioning, remittances and markets. Smallholder subsistence agriculture is defined by Wenhold *et al* (2007) as the production which involves mainly households producing on relatively small plots of land less than one hectare with limited resources only for household subsistence or sale.

On the other hand, Morton (2007) describes smallholder subsistence agriculture as an activity with few inputs for the production in which the output is mainly consumed directly by households and small proportion of the output is only marketed or sold to generate extra income. Morton (2007: 19680) further state that smallholder subsistence agriculture is used to denote the activity of self-provisioning with agricultural produce or a relative move towards such activity. In some cases, smallholder subsistence farmers mainly use off-farm activities such as remittances and social welfare grants to supplement their on-farm activities in order to meet their household food needs. Generally, smallholder subsistence agriculture refers mainly to rural producers in most

developing countries who farm on a small piece of land using mainly family labour for production purposely for household consumption (Morton, 2007). Most of the descriptions of smallholder subsistence agriculture have similarities and put greater emphasis on elements such as land size, productivity, labour used and ownership as well as production type.

Smallholder subsistence farming is one of the dominant agricultural activities with over 80 percent of the land being less than two hectares in most developing countries as well as average livestock of ten animals (FAO, 2010; Salami *et al*, 2010; Zhou, 2010). The smallholder subsistence agriculture is characterized by low levels of productivity, low quality, lack of market, lack of farm inputs such as credit, labour and technology (Salami *et al*, 2010). The sector is regarded as the main livelihood activity for majority of the people living in rural areas. Majority of people in most developing countries around the world live in impoverished and underdeveloped rural areas and depend directly or indirectly mostly on agriculture for their survival.

According to Coetzee (2003), smallholder subsistence farmers derive their livelihoods by cultivating on small pieces of land and supplementing their income and food supply. Most households, hence, rely heavily on small plots of land which is less than two hectares to feed their respective households and grow surplus for sale to generate extra income which can be used to supplement household needs. As such, majority of the worlds poorest people living in rural areas regard smallholder subsistence agriculture as an important approach for them to move out of pervasive food poverty and hunger.

Machethe (2004) argues that promoting smallholder subsistence agricultural growth can be effective strategy to address the challenges of widespread food poverty and income inequalities consequently providing for food security of most rural households.

According to Carroll, Stern, Zook, Funes, Rastegar, and Lien (2012), there are over 450 million smallholder farms that exists in most developing countries which belongs to more than two billion people, which include half the world's undernourished people and the majority of people living in food poverty. These farmers account for the largest share of agricultural output in most African countries and South Asia. According to Zhou (2010), Asia alone account for greater number of smallholder farms, with China comprising of over 98 percent of smallholder farms, followed by Africa while Latin America has few number of smallholder farms operated under two hectares of land. In India, smallholder farms constitute over 85 percent of the total land holdings and about 42 percent of the total cultivated land is owned by smallholder subsistence farmers, yet contribute significantly to the national grain production in the country (Zhou, 2010). Most of the smallholder subsistence farmers focus mostly on the production of food staples such as maize, vegetables and rice as well as livestock such as cattle, goats, poultry and sheep among others.

2.3. Household Food Security Trends in Rural Areas

The issue of food security has been critical in many parts of the developing world (Sowman and Cardoso, 2010). Food security describes a situation in which people do

not live in hunger or fear of starvation within and outside their households. According to FAO (2003) and Kepe and Tessaro (2012), food security exists when all people have access to sufficient, safe and nutritious food at all times to meet their dietary needs and food preferences for an active and healthy life. As the food poverty levels rise, the household food insecurity is worsened. Food insecurity exists when individuals have no adequate physical, social or economic access to food (FAO, 2010). Households with the financial resources to escape food poverty suffer rarely from chronic hunger while poor households not only suffer the most from chronic hunger, but also are the segment of the population mostly at risk during food shortages and famines (FAO, 2003).

The most significant aspect of empirically and theoretically driven advancement of the concept of food security is the awareness that food security is no longer seen simply as a failure of agriculture to produce sufficient food at the national level, but the failure of livelihoods to guarantee access to sufficient food at the household level (Devereux and Maxwell, 2003). Khan and Gill (2009:3) and Omotesho *et al* (2010) note that achieving food security at national level does not necessarily guarantee food security at provincial, district or household level and emphasize the disparities that exist among and within provinces, districts and households of a particular country. For instance, if a household is food secure that does not mean that each member of the household is food secure due variations in food distribution that may exist within a household (Khan and Gill, 2009). Hence, the world to be classified as food secure, all individuals at household level should have access to adequate and nutritious food at all times. As such, household food availability requires that food be available at all level and at all times.

Therefore, it is imperative for poor households to have access to economic opportunities and resources such as land, technology, credit, education and health care if food security is to be achieved at household level.

FAO (2003) indicates that over 850 million people around the world are classified as chronically hungry due to the prevalence of food insecurity. This food situation is eminent and changes from time to time with the occurrence of imbalances as a result of problems linked to food shortages, affordability and accessibility. According to Labadarios *et al* (2009), food insecurity can be categorised into two, namely chronic or transitory in which chronic food insecurity relates to higher degree of vulnerability associated with the consumption of inadequate or poor nutritious diet, ill-health, delayed development as well as increased infant mortality. Hence, shortage of food compromise the health and life expectancy of individuals as well as their physical strength which makes it impossible to live normal healthy life. Consequently, the effects of poor health among poorer people manifest in various ways and within households, are often associated with diminished ability to obtain work and to generate income (Labadarios *et al*, 2009: 7).

According to FAO (2006) and FAO (2010) the number of people without food remains high particularly in the developing countries and account 98 percent of the undernourished people. Undernourishment exists when caloric intake by individuals is below the minimum required dietary energy. It is further estimated that over 60 percent of the undernourished people are found in Asia alone while over 30 percent is found in

Africa (FAO, 2006). Furthermore, the prevalence of people who are hungrier is greater in Africa than anywhere in the world with approximately 33 percent. The majority of these undernourished people live in developing countries. According FAO (2010), the problem of food insecurity remains persistent with the total number of undernourished people exceeding one billion globally. This situation of food insecurity has been further exacerbated by the global food crisis observed recently around the world.

Earl (2011) indicate that globally there is enough production of food but more than one billion people still suffer from hungry due to their inability to afford food or cannot access food supplies as a result of rising food prices. FAO (2011) reports that since the global food crisis the world has observed significant increase in food prices for staple food such as rice, wheat, maize and soybeans by over an average of 25 percent higher in December 2010 than in December 2009. Nonetheless, the high number of undernourished and hungry people is expected to decline as result of greater attention and interventions to food security around the world. As such, the issue of food security has since become a pivotal for international community and governments to create strategies in line with the millennium development goals in order to address food insecurity and hunger, consequently ensuring food security in most developing countries (FAO, 2010).

2.4. Determinants and Indicators of Household Food Security in Rural Areas

In most analyses of food security conditions in most developing countries, multiple indicators are used to reflect the various dimensions of the problem (Reily *et al*, 1999: 35). According to Reily *et al* (1999) most commonly used indicators of food security include those related to food production, food availability, food accessesibility, food consumption, income, food expenditure and nutritional status. Bonti-Ankomah (2001) also indicates that the determinants of household food security frequently used include food availability, accessibility and adequacy as well as food expenditure.

The concept of food security point to several elements such as accessesibility, availability and adequate of food as well as nutrient intake for sustainable health (Reily *et al*, 1999; Bickel *et al*, 2000; Jacobs, 2009). These factors are directly and indirectly interrelated in that available food must be accessible to households and all members of the households. Haen *et al* (2011) also based the measurement of household food security on undernourishment. According to Haen *et al* (2011), an individual is classified to be food insecure when an individual receives less than 2261 kilocalories per day of the recommended daily allowance (RDA). Food insecurity may be transitory or chronic in nature while malnutrition is seen as the most serious consequence of food insecurity in most rural households (Iram & Butt, 2004).

2.4.1 Food availability

Bonti-Ankomah (2001); Coates, Frongillo, Roger, Webb, Wilde and Houser (2006); Nyanga (2012), indicate that food availability refers to the food supply which should be sufficient in quantity and quality and as well as providing a variety of food choices. According to Khan and Gill (2009) food availability is when sufficient quantities of food are available at all times to a household and all individuals of that particular household. Hence, a household that does not have sufficient food available at their disposal is classified as food insecure and turns to be more vulnerable to hunger and malnutrition. Jacobs (2009: 414) suggests that food availability is a weak indicator of the nutrient content and quality of food consumed and does not provide information on food quality and nutrient intake.

2.4.2. Food accessibility

Access to food is when a household and all members of the household have enough resources to acquire food and meet the nutritional requirements and dietary needs of the household (Khan and Gill, 2009: 1). Therefore, a household to be food secure, food at their access should be adequate both in quantity and quality at all level and at all times. Food accessibility, through food production, is one the most important components of food security to achieve food security at household level (Omotesho *et al*, 2010). However, it should be noted that food security at the national level does not guarantee that all the poor will have access to the food nutrition requirements due to the

existing regional, economic and social inequalities (Omotesho *et al*, 2010). Bonti-Ankomah (2001) and Omotesho *et al* (2010) indicates that there may be prevalence of food insecurity and hunger for some of the rural households due to the fact that they do not produce sufficient food or do not purchasing power to afford their food needs.

Furthermore, food accessibility is determined by the ability of households to obtain food from their own production, stocks and market, as well as the availability of resources which defines the set of productive activities households can pursue in meeting their food and other material needs (FAO, 2003). Jacobs (2009) argues that household food security also depends mainly on household income and wealth status which may allow these households to access food. For instance, a low-income household is more likely to experience food shortages than a wealthier household because the latter household will have purchasing power than the former household (Jacobs, 2009).

2.4.3. Food expenditure

Most household expenditure is spent on food. Food expenditure accounts by a large share of the spending of poor households which makes them relatively more vulnerable to the impacts of food prices consequently food insecurity (Jacobs, 2009; Reddy and Moletsane, 2011). According to Bonti-Ankomah (2001), most households in rural areas typically spend less on food than households in urban areas. This may be true since most households in rural areas supplement their food expenditure through own food

production, however, other households may supplement their food consumption through markets, remittances, grants and employment.

The size of a household also influences the amount of money spent in acquiring household food with larger households having relatively lower household food expenditure than sm0aller households (Bonti-Ankomah, 2001). According to Bonti-Ankomah (2001), large household means that higher proportion of household expenditure is allocated to supplement or meet household food needs. This may be due to the fact that these households have the lowest incomes and are therefore more vulnerable to food insecurity and malnutrition as well as other famines which may compromise their well-being.

2.5. Contributions of Smallholder Subsistence Agriculture towards Rural Household Food Security

The agricultural sector is regarded as the largest contributor to the economies of most African countries and accounts for over 35 percent of the continents Gross Domestic Product (GDP) as well as approximately 70 percent of employment (Nyange *et al*, 2011). Despite these contributions, the agricultural production has drastically declined by over 2.3 percent over the past two decades in the continent (Nyange *et al*, 2011). As such, agriculture is regarded as one of the key sector of economies in most developing countries. The role of agriculture in the rural economy is generally acknowledged, however there is still no consensus whether smallholder subsistence agriculture is the

most appropriate way to fight food insecurity in most developing countries (de Klerk *et al*, 2004; Machethe, 2004; Aliber, 2005; Averbeke and Khosa, 2007).

Machethe (2004) argues that the smallholder subsistence agriculture has the ability to provide for food security through increased food supply, employment creation and increased farm income as well as providing for household consumption. Forum on Food Security in Southern Africa (FFSSA) (2004) argues that agricultural smallholders are suitable growth drivers with significant effects on food security and market expansion. Furthermore, expanded cash crop production by smallholder subsistence farmers could contribute to the growth of rural areas through consumption, labour demand, etc. and to household food security through generating extra income to buy household food or other external farm inputs to maximize production.

Machethe (2004: 2) argues that "smallholder subsistence agriculture is simply too important to employment, human welfare, and political stability in most developing countries to be either ignored or treated as just another small adjusting sector of a market economy". The significance of smallholder subsistence agricultural sector is recognized on the basis of the sectors contribution on the wellbeing of smallholder subsistence farmers through food poverty alleviation, household food security, employment at local, regional or international level. FAO (2004) emphasizes that smallholder subsistence agriculture is the key to food security in many parts of the developing world by reducing food prices, creating employment, improving farm income and increasing wages.

According to FAO (2004), experience from other countries indicates that a comprehensive approach to the provision of support services to achieve growth in the smallholder subsistence agricultural sector is essential. Hence, the absence of appropriate farmer support programmes would provide smallholder subsistence farmers with little chance of escaping food poverty, and the magnitude of agriculture's role in creating livelihood opportunities will remain limited. FAO (2008) supports the notion that agriculture is one of the sectors that can play a significant role towards household food security. It further states that the majority of people were in direct need of food, especially in rural areas.

While the smallholder subsistence agricultural sector is acknowledged as the primary route for achieving household food security in poor rural areas, Bonti-Ankomah (2001) argues that for food security to exist, food must be consistently available and accessible, and be properly utilized for consumption to meet specific dietary needs for households. Bonti-Ankomah (2001) and Hendriks and Msaki (2009) argue that household food security is achieved when all people have physical and economic access to sufficient, nutritious, healthy and safe food at all times to meet their daily food dietary needs and preferences.

2.5.1. Increased food supply

According to DFID (2004), increased food supply provides smallholder subsistence producers with greater possibilities and provides consumers with more food choices at

reasonable prices through reduced food price shocks. On the basis that the majority of rural people are engaged in smallholder subsistence production, improving the sector increases the chances of addressing food insecurity and hunger in most rural areas (Machethe, 2004). However, such an objective can only be attained only if the smallholder subsistence agricultural sector is more vibrant and productive (Machethe, 2004). Agricultural growth also have the ability to reduce the prevalence of food shortages at all levels through increased overall supply of food, creation of economic opportunities for poor people and improved dietary diversity and quality of food consumed by households (Lyne *et al*., 2009; Oni *et al,* 2011).

2.5.2. Increased employment opportunities

The smallholder subsistence agricultural sector has been recognized as one of the most important sectors in employment creation in most developing countries (Baiphethi and Jacobs, 2009). Baiphethi and Jacobs (2009) further show that accelerated smallholder subsistence agricultural production through increased productivity could create jobs for most household members in rural areas both on and off farm. Increasing agricultural productivity on-farm increases the demand for labour in preparation, planting, weeding and harvesting in most smallholder farms (DFID, 2004). According to DFID (2004), smallholder subsistence farmers are increasingly inclined to substitute hired labour for household labour as they are getting richer, hence generating greater job opportunities for the poor.

Furthermore, increasing productivity of the smallholder farm also creates new and well-paying jobs off-farm for the poor through linkages between agriculture and the wider rural economy (Baiphethi and Jacobs, 2009). The combination of extra jobs within and outside smallholder subsistence farming can have positive effects on the rural labour market, pushing up farm wages and improving the ability of the poor to buy and access food from markets (DFID, 2004).

2.5.3. Subsistence production

According to Kalibwani (2005), most of the smallholder subsistence farmers in developing countries produce food mainly for subsistence purposes while small proportions of farm produce are reserved for sale. Due to the fact that most smallholder subsistence farmers produce mainly for their own consumption, smallholder subsistence farmers have the potential to produce marketable food surpluses which can enable households to feed and meet their required food needs (Kalibwani , 2005; SASIX, 2007).

2.5.4. Improved food purchasing power

Smallholder subsistence agricultural production is critical towards achieving household food security through increased income for the majority of the rural poor which may provide households with the ability to purchase food from market in order to supplement and meet their food needs. The sector is regarded as a source of livelihoods for over 70

percent of the rural people and provides employment for the majority which consequently generates income for their household through the sale of some food surplus (Feynes and Meyer, 2003). Aliber (2005) indicates that agriculture can contribute by up to 15 percent of the total household income in rural households, while for the poorest quintile by up to 35 percent. While smallholder subsistence agriculture is regarded as the greatest contributor towards household income by up to 40 percent in most developing countries, giving poor people the means to access food from the markets for household consumption which consequently enhances household food security (FAO, 2003; Averbeke and Khosa, 2007). These incomes include income derived from the sale of farm produce by households as well as farm wages which consequently provide households with the means to buy food surplus from the markets.

2.5.5. Food poverty alleviation

There is no doubt about the potential role of smallholder subsistence agriculture in alleviating food poverty. Machethe (2004) notes that smallholder subsistence agriculture is capable of alleviating food poverty in three ways, namely: increased food supply, employment creation and increased farm income. The Millennium Project Hunger Task Force (2004) notes that it is conditionally feasible to decrease the proportion of hungry people by half by 2015 line with the millennium development goals through increasing agricultural productivity in smallholder farms. Furthermore, improving the performance of markets is viewed as the key to solving hunger problems in most rural areas of developing countries. It is generally agreed that such interventions are only viable if

policy changes create an enabling context and remove constraints to progress (Millennium Project Hunger Task Force, 2004).

2.6. Conclusion

This chapter provided a literature review surrounding debates on the roles and contributions of smallholder subsistence agriculture as a strategy to achieve household food security in rural areas. However, there is no clear consensus on whether smallholder subsistence agriculture could the most appropriate way to fight food insecurity in developing countries. Nevertheless the role of agriculture in the rural economies is generally acknowledged. The chapter further attempted to explore some of the global literature on the debates concerning the merits and demerits of smallholder subsistence agriculture and its contributions towards household food security. The chapter further reviewed literature on the trends, determinants and indicators of food security in rural areas of most developing countries. The commonly used determinants and indicators of food security conditions include food production, food availability, food accessesibility, food consumption, income, food expenditure and nutritional status of households. The next chapter provide theoretical background from a South African perspective.

Chapter 3: Smallholder Subsistence Agriculture and Household Food Security in rural South Africa

3.1. Introduction

Smallholder subsistence agricultural sector in South Africa is regarded as one of the main livelihood option for the majority of people living in rural areas. As such, the majority of the poorest people living in rural areas regard smallholder subsistence agriculture as an important strategy to move out of food poverty, consequently providing food security for their households. Over and above, the agriculture is one the most important sector in the South African economy for both social and economic development as well as household food security in rural areas. This chapter discusses the nature of smallholder subsistence agriculture and household food security in the South African perspective. The chapter firstly provides an overview of smallholder subsistence agriculture in the context of South Africa as well as agricultural policy context. Furthermore, an overview of household food security in South Africa is presented in this chapter. The status of household food security as well as the policy context is elucidated under this chapter.

3.2. Smallholder Subsistence Agriculture in rural South Africa

This section discusses the nature of agriculture in South Africa by providing an overview and characteristics of the sector as well as the agricultural policy frameworks.

3.2.1. An overview of smallholder subsistence agriculture in South Africa

The agricultural sector in South Africa is regarded as highly dualistic comprising of a smaller number of well resourced commercial sector mainly occupied and run by white farmers and a large number of poorly resourced smallholder subsistence sector mainly occupied by black farmers mostly living in the former homelands (Oettle et al., 1998; OECD, 2006; Oni, n.d; Mudhara, 2010; Chisasa and Makina, 2012). However, there is no definite agreement about the definition of a smallholder farm. Most definitions point the issue of farm size and which range from small to large scale (OECD, 2006). Chamberlin (2008) and Cousins (n.d.) distinguishes smallholder subsistence farming from commercial farming in terms of the land size, labour intensity and total capital. A small piece of productive land with limited inputs and capital could be more productive than a larger land which is less productivity. In most cases smallholder subsistence agriculture is closely linked with less productive black farmers found mainly in the former homelands who are unable to produce at commercial level (Chisasa and Makina, 2012). This in turn may create false and wrong impression about the smallholder subsistence farming sector.

According to the 2007 census on commercial agriculture, there are approximately 60 000 commercial farmers who occupy over 87 percent of the total agricultural land which produce about 95 percent of the agricultural output in South Africa (Oettle *et al*., 1998; Statistics South Africa, 2009). However, the main focus of this study is on the smallholder subsistence sector. According to Baiphethi and Jacobs (2009), there are

more than four million smallholder subsistence farmers occupying about 13 percent of the total agricultural land in the former homelands. It is worth noting that this dualistic nature of agricultural sector in South Africa is as a result of the discriminatory laws of the apartheid government. The sector in South Africa accounts over 2.9 percent of the total GDP and 10 percent of the formal employment to the country's economy, which makes the sector one of the most important sector of the economy because of its contribution to food security through reduced food prices, employment creation, increased wages and improved farm income (Oettle, 1998; Statistics South Africa, 2007; Tregurtha and Vink, 2008).

The smallholder subsistence farmers are mainly concentrated in the former homelands and produce on 13 percent of the total agricultural land in South Africa (Aliber and Hart, 2009; Tscharntke *et al.,* 2012). This sector regarded as impoverished and characterised by lack of access to low farm inputs such as land and markets as well as low productivity. According to Aliber and Hart (2009), in 1998 there were approximately 2.1 million smallholder subsistence farmers in the country. Approximately more than 240 000 farmers provide livelihood for more than million of household members and provide temporary employment for approximately 500 000 people in the country (Aliber and Hart, 2009:435).

According to Aliber and Hart (2009) approximately three million smallholder subsistence farmers produce food primarily to meet their household food consumption needs in South Africa. While smallholder subsistence farmers represents high

proportion in agriculture at national level, about one million people engage in smallholder subsistence agriculture, in which 600 000 of these belongs to rural households in Limpopo Province (Aliber and Hart, 2009). Out of those engaged in smallholder subsistence agriculture are characterized by low productivity and technology, engage mainly for subsistence and operates on a land of less than three hectares (Machethe *et al*, 2004). Smallholder subsistence farmers are also characterized by their unique nature of the location of the operation. Smallholder farms are mainly located in the former homelands which are less productive and face the risk of environmental deterioration (Aliber and Hart, 2009).

The agricultural activities in the country range from field crop production to livestock farming as well as horticulture (Conradie, n.d). According to Conradie (n.d) field crops mainly cultivated in the country include maize, sugar and wheat while livestock consist mainly of poultry and beef as well as dairy. On the other hand, horticulture consists mainly of deciduous fruits, citrus and vegetables. Hendricks and Fraser (2003) and Conradie (n.d) indicates that 26 percent of the rural households cultivate on 12 percent the total agricultural land for crop production and 24 percent owns livestock while only 22 percent of which is highly potential arable land in South Africa. Maize is the most grown crop in the country followed by wheat, sorghum, sugar cane and sunflower. The country is not self-sufficient in virtually all major agricultural products but is regarded as a net food producer and exporter. Some smallholder subsistence farmers produce fresh vegetables and fruits either for household consumption or for sale but in most cases is for household consumption.

3.2.2. Agricultural policy frameworks in South Africa

The agricultural sector in South Africa is shaped by the policy of segregation popularly known as the apartheid which developed discriminatory policies which limited access of the black majority to agricultural land, financial and other government services as well as assistance and (OECD, 2006). These discriminatory policies created wide gap and inequalities between commercial farming practiced predominantly by white farmers and smallholder subsistence farming practiced mostly by black farmers (OECD, 2006; Pauw, 2007). The apartheid policies turned most of the black farmers into labourers with subsidies channeled only to white farmers and also closing down markets to black farmers (Pauw, 2007; Mukumbi, 2008). However, the abolishment of apartheid and the dispensation of new democratic state in 1994 saw the country adopting agricultural policies aimed at addressing the inequalities and legacies of the apartheid (OECD, 2006). Since then, the agricultural sector in the country has been subjected to greater policy reforms with the deregulation of domestic markets, liberalisation of foreign trade, lowering of agricultural support and the land reform.

Most of these policies place much emphasis on the development of smallholder subsistence agriculture to become more commercial through improved farm inputs such as advanced technology with the aim of producing for market sale (Oni *et al.*, n.d). Some of the agricultural policy reforms adopted in recent years since 1994 to address the past injustices of apartheid include the agricultural white paper, land policies, strategic plan for South African agriculture, market and trade liberalisation policies,

AgriBEE capital markets: agricultural finance, agricultural credit policy, farm input policy, agricultural labour market reform and skills development, and water supply policy.

3.2.2.1. White Paper on Agriculture (1995)

According to Tregurtha and Vink (2008), the Agricultural White Paper was enacted in 1995 as a broad principles guiding policy development in the sector not as a traditional policy and its principles originated from the Reconstruction and Development Programme. The White Paper on Agriculture provides the agricultural sector with pivotal a role in building a strong economy and addressing the past inequalities through increased incomes and employment opportunities for the poor in South Africa (Viljoen, 2005). The White Paper identifies the following key agricultural policy goals:

- building efficient and internationally competitive agricultural sector
- supporting the emergence of a more diverse structure of production with a large increase in the numbers of successful smallholder subsistence agriculture enterprises
- conserving agricultural natural resources and establish policies and institutions for sustainable resource use

The paper also identifies core strategies as outlined in the 2001 Agricultural Strategic Plan, to implement the policy (Viljoen, 2005), namely:

- equitable access and participation strategy
- a global competitiveness and profitability strategy

- sustainable resource management strategy

3.2.2.2. Land Policies (1997)

The Land Reform and Redistribution policies were enacted to redress the inequalities in the allocation of land caused by the apartheid government in order to provide more land to the previously disadvantaged smallholder subsistence farmers in particular the black majority in the former homelands through the Land Redistribution of Agricultural Development programme (LRAD) (Oni *et al*, n.d). The main aim of LRAD programme is to provide accessibility of land grants as well as agricultural land mainly to the previously disadvantaged communities in the country. Some of the objectives underlying this programme include the improvement of nutrition and incomes of the rural poor, overcoming the legacy of the past racial discrimination in the farmland ownership, stimulating growth from agriculture, creating stronger linkages between farm and off-farm income-generating activities; and facilitating the structural change over the long run by assisting formerly disadvantaged people who want to establish small and medium-sized farms among others (Oni *et al*, n.d).

3.2.2.3. Strategic Plan for South African Agriculture (2001)

The Strategic Plan for Agriculture in South Africa flowed from the collaboration between the government, commercial farmers' union, Agriculture South Africa (Agri SA), and the emerging black farmers' union, National African Farmers' Union (Nafu) (Tregurtha and

Vink, 2008). According to Tregurtha and Vink (2008:3), the Strategic Plan provided “a common agricultural perspective to which government and industry could commit their efforts and resources in its implementation”. The Strategic Plan (2001) identified the vision for South African agriculture as “united and prosperous agricultural sector” and the strategic objective as "generate equitable access and participation in a globally competitive, profitable and sustainable agricultural sector contributing to a better life for all."

3.2.2.4. Trade and Market Liberalisation Policies

The market was deregulated in the early 1998 with the aim of increasing market access, promoting market efficiency and optimizing the levels of exports earnings as well as the promotion of the viability of the agricultural sector (Viljoen, 2005, Tregurtha and Vink, 2008). The immense impact was the extensive deregulation of state agricultural marketing schemes within the framework of the Marketing Act of 1968 as well as the large export drives by various sectors, introduction of risk management tools, extreme managerial burdens on producers and lack of market information (Viljoen, 2005, Tregurtha and Vink, 2008). However, deregulation of market created opportunities for emerging and established farmers, forced efficiency and productivity of farmers (Viljoen, 2005).

The enactment of trade policy in South Africa saw the trade restrictions been substituted by tariffs which were downscaled, on the other hand, market access requirements, such

as reduction of support to agriculture became more effective in terms of the Marketing Act of 1963 after the country became signatory the Marrakech Agreement of 1993 (Viljoen, 2005; OECD, 2006; Tregurtha and Vink, 2008). This saw an increased drive to regional integration and important trade relations and agreements with other countries in the international scale.

3.2.2.5. Agriculture Black Economic Empowerment (AgriBEE) (2007)

The adoption of the AgriBEE policy in 2007 came as a result of the problems linked to market access, access to land, existing infrastructure, inputs, financing, expertise, training and marketing. However, this problem still persists despite much efforts and the replacement of the apartheid policy aimed the racial discrimination of black communities in South Africa. As such, AgriBEE has since become one of the corrective measures to address the problem of market access in the country. The AgriBEE policy emphasize that fifty percent of the total agricultural produce sold by retailers in the country must be procured from the previously disadvantaged farmers or producers by 2017 as a means of improving market access for previously disadvantaged producers in the country (Mukumbi, 2008).

The AgriBEE is aimed at setting guidelines for the promotion of enabling environment conducive for the participation and inclusion of the previously disadvantaged black farmers in the mainstream agricultural economy (Manona, 2005; Tregurtha and Vink, 2008). As such, the policy is aimed at the redistribution of the agricultural economy

among the farmers in South Africa. Hence, it should be noted that the AgriBEE policy is not just an affirmative action tool aimed at providing special preference to the previously disadvantaged farmers but an important approach for reengineering the socio-economic inequalities of the apartheid epoch. The policy is also aimed at merging the two agricultural sectors, namely commercial and smallholder subsistence, into one unified sector through increased number of people managing, owning and controlling; facilitating ownership and management of agricultural enterprises by workers cooperatives and collective enterprises; human resource and skill development; achieving equitable representation in all occupational categories and levels of the workforce, preferential procurement, and investment in agricultural enterprises owned and managed by black communities (Mukumbi, 2008).

3.3. Household Food Security in the rural South Africa

This section discusses household food security in South Africa. Firstly, a historical overview of food security in South Africa is presented in order to understand the nature of food security from a historical perspective. Furthermore, the section provides the status and challenges of household food security as well as policy framework for food security in South Africa.

3.3.1. An overview of food security in South Africa

South Africa has extremely high levels of absolute poverty, particularly in rural areas, as compared to other middle income countries around the world (Altman *et al*., 2009; Earl, 2011). According to DoA (2002), food insecurity in South Africa remained non-existent among the black majority but the situation changed due to the advent of apartheid in 1948 which created inequalities in the provision or minimal access to education, health and social services and led to dramatic increase in the poverty level in the rural areas. The situation was further exacerbated by the creation of homelands at the beginning of an apartheid era in 1948 (DoA, 2002).

The issue of food security in South Africa is well documented in which majority of the people were denied their political rights and excluded from participating in the economic mainstream which led to extreme social inequalities and exclusion before 1994 (Labadarios *et al*, 2009). These inequalities during the epoch of apartheid were intense and led to gross human rights violations as well as widespread social and economic deprivation, including poverty and food insecurity (Labadarios *et al*, 2009: 11). These inequalities in access to land, other resources and enactment of policies led to immense household food insecurity, hunger and malnutrition in rural areas of South Africa (DoA, 2002).

The household food security situation for many poor households in rural areas has not improved in almost two decades following the end of apartheid and the introduction of a

democratic state in 1994 with high recurring levels of unemployment which led to increased poverty, hunger and malnutrition. The black majorities in the rural areas are mostly affected and suffer from widespread food poverty while over quarter of the population in the country is regarded as unemployed and depend mainly on some form of social welfare grant from government. These rural people are characterized by high levels of unemployment, increasing poverty, poor services and inadequate social safety nets and are most likely to suffer the risk of household food insecurity, hunger and malnutrition.

According to Bonti-Ankomah (2001), the mean energy intake of many rural people is lower than the Required Daily Allowance (RDA) which exacerbates the incidents of hunger and malnutrition in the country. Action Aid (2010) indicates that South Africa has increasing levels of hunger with up to 18 percent of children living in hunger. Bonti-Ankomah (2001) reports that over 22 percent of children under the age of nine are stunted due to chronic malnutrition in the country with rural areas in the Bloemfontein experiencing highest prevalence of stunting rates. Such poor dietary intake and poor nutritional status compromise physical and mental well-being of the poor who cannot meet their required dietary needs.

3.3.2. The state of household food security in the rural South Africa

South Africa is regarded as a major role player in the Southern African region and its food security status is vital to the stability of the whole region (Earl, 2011: 27). Earl (2011) indicates that out of 196 000 tons of food brought in by the World Food

Programme in most parts of the region, 150 000 tons was exported from South Africa. Thus, the country has a huge responsibility to ensure food security stability in the whole region as well as national food security (Earl, 2011).

South Africa is largely deemed a food secure nation producing enough staple foods or having the capacity to import food in order to meet the basic nutritional requirements of the whole nation but the same cannot be said about households in rural areas (Bonti-Ankomah, 2001; Du Toit, 2011; Earl, 2011; Koch, 2011). South Africa is regarded as food self-sufficient in almost all the major food product with the ability to import shortages when deemed necessary (DoA, 2002; Du Toit, 2011; Koch, 2011). Du Toit (2011) further reports that the country has been able to meet the food needs from domestic production over the past years. According to DoA (2002), the country has also managed to meet the needs for its main staple food with maize by over 100 percent, wheat by 95 percent, livestock by 96 percent and dairy products by 100 percent from domestic resources.

Despite the success of food security at the national level and self-sufficiency in food production, there is still minimal food security at household level in South Africa, accompanied by considerable levels of household food insecurity. According to DoA (2002); de Klerk *et al* (2004); Altman, Hart and Jacobs (2009) approximately 14.3 million South Africans at household level are vulnerable to food insecurity and remains food insecure in the modern day. This vulnerability is most prevalent among people living in the rural areas, especially the former homelands which place food security of the poor

under serious threat (de Klerk *et al*, 2004; Averbeke and Khosa, 2007). These adverse conditions such as food poverty, food insecurity, hunger and malnutrition have placed severe pressure on ordinary South African citizens already struggling to meet their basic household food needs (Labadarios *et al*, 2009).

Hart *et al* (2009) and Jacobs (2009) indicate that food insecurity is a serious challenge that still persists in South Africa despite years of democracy. According to Labadarios *et al* (2009: 11) over 57 percent of the population in the country still lives below the poverty line meaning that they spend some days in a week without food. Du Toit (2011) reveals that South Africa has been able to meet the food needs of its growing population over the past years but the food security condition at household level is not the same as at national level in rural areas of South Africa. Aliber (2009); Hart (2009) and Jacobs (2009) also reported that about 35 percent of the total population was vulnerable to food insecurity with women, children and the elderly being the most vulnerable. The General Household Survey (GHS) reported that over 20 percent of households in South Africa have inadequate access to food (Stats SA, 2009).

The GHS report further indicates that during 2008, food access problems were mostly serious in Free State Province, where 33.5 percent of the households have inadequate food access followed by Kwazulu-Natal with 23 percent, Eastern Cape with 21,4 percent and Mpumalanga with 21,5 percent. Limpopo and Western Cape had the least food security problems in 2008 with 11,9 and 14,5 percent respectively (Stats SA, 2009). Furthermore, one third of all households spent less than R1000 per month on food and

only 18 percent spent over R3500 per month (DoA, 2002; Hart, 2009; Jacobs, 2009). The high unequal income distribution in South Africa means that there are large number of poor food insecure households which cannot afford to access food.

According to DoA (2002) over 39 percent of the population in South Africa did not manage to meet the daily energy requirement of 2000 kcal/day. The cause of hunger and malnutrition in South Africa is not due to the fact that there is shortage of food but rather inadequate access to sufficient and healthy food at household level. DoA (2002) argues that food insecurity is not a short term event, but is rather a continuous threat for more than a third of the population. As a result, food security became one of the top priorities for government to eradicate food insecurity, hunger and malnutrition through increased spending on social programmes. Feeding schemes, child support grants, free health services for children and pregnant and lactating women, pension funds, provincial public works programmes and community food garden initiatives were all introduced as ways to improve household food security (DoA, 2002).

However, most of these programmes had unsatisfying results and led to the formulation of National Food Security Strategy. The vision of the national food security strategy was to attain universal physical, social and economic access to sufficient, safe and nutritious food at all times by all citizens in the country in order to meet their dietary and food preferences for an active and healthy life (DoA, 2002; Hart, 2009). The challenge is ensuring enough food is available now and in the future in order to ensure access to sufficient food, optimal choices for nutritious and safe food as well as ensuring adequate

social safety nets and food emergency systems. Food insecurity is manifested by inadequate and unstable food supplies, lack of purchasing power, weak institutional support networks, poor nutrition, inadequate safety nets, weak food management systems, unemployment and rising food prices (Koch, 2011).

3.3.3. Policy and legislative frameworks for food security in South Africa

The inability of South Africa to meet basic needs at the household level has its variety of causes however poverty and hunger are particularly shaped by the apartheid legacy (DoA, 2002; Koch, 2011). According to Koch (2011) one aspect of the apartheid era was the deliberate dispossession of assets such as land and livestock from members of the black majority in the former homelands while denying them opportunities to develop, access to markets, infrastructure and human capital. Furthermore, until 1985 agricultural policies in South Africa pursued self-sufficiency consequently protecting only commercial farm production, often at the cost of consumers. This led to a total welfare loss for the country as a whole. Post-apartheid policies including the Integrated Food Security Strategy (IFSS), Reconstruction and Development Programme (RDP), Rural Development Strategy, Land Reform and Redistribution were developed to address the adverse impact of apartheid. Some of these policies were also aimed at addressing the challenges of poverty and food insecurity in rural areas.

The right of access to sufficient food is enshrined in section 27 of the South African Constitution. The Constitution obliges the state to provide legislation and other supporting measures to ensure that all citizens are enabled to meet their basic food

needs (DoA, 2002; Koch, 2011). The advent of democracy in 1994 saw the government identifying food security as a top priority and has increased spending on social programmes. Feeding schemes, child support grants, free health services for children up to 6 years and for pregnant and lactating women, pension funds, provincial public works programmes and community food garden initiatives were all introduced as ways to improve household food security (Koch, 2011). The strategic framework for action to achieve food security was first outlined in the Reconstruction and Development Programme (RDP) of 1994, which identified food security as a basic human need. However, most of these programmes had unsatisfactory results. As a result a National Food Security Strategy was formulated in the year 2000.

In 2000, the government decided to launch an updated national food security strategy to streamline, harmonise and integrate diverse food security sub-programmes in South Africa into Integrated Food Security Strategy (IFSS). The vision of the IFSS is to attain universal and sustainable access to a minimum daily, safe and nutritious food for a healthy, active and better life for all the people of South Africa (DoA, 2002; Koch, 2011). One of the main dimensions of the IFSS is to eradicate widespread inequalities and grinding poverty amongst the majority of households. Poverty is manifested by inadequate and unstable food supplies, lack of purchasing power, weak institutional support networks, poor nutrition, inadequate safety nets, weak food management systems and unemployment (DoA, 2002; Koch 2011). According to Stats SA (2000), about 35 percent of the total population in South Africa is currently vulnerable to food insecurity.

As a result of the statistical revelation, the South African cabinet announced in 2002, urgent government measures to reduce the effects of escalating food prices on poverty stricken and low-income groups, thus giving rise to increased food insecurity. The government acknowledges that food relief is a short-term response to save lives and stem chronic food insecurity, hence accepted the necessity of linking the food relief scheme to medium and long-term self-sufficiency, sustainability and reduced dependency on food relief by vulnerable communities (DoA 2002). The Agricultural starter packs (ASP) which is part of food production was introduced for implementation as a medium measure which complements the first phase, that is to say, food parcel scheme. According to DoA (2002), the overall objective of the Agricultural starter packs is to provide the starter up support to newly established and existing expanding operations to increase and sustain production either for own consumption, employment and income generation.

In addition, the Department of Agriculture established Special Programme for Food Security in order to establish short-term food programmes such as food gardens to augment food shortages in rural households and to sustain long-term food security in the country (Koch, 2011). There is an absence of legislation which clearly defines the authority, responsibility, organizational structure and working procedures for the IFSS. According to Koch (2011), the absence of a food security policy and the inability to get a bill tabled and passed prevents the government from providing a clear line of authority and the current IFSS lacks political clout to make immense difference to food security in South Africa. As a result, food security in South Africa is an issue of critical importance.

3.4. Conclusion

This chapter examined the smallholder subsistence agriculture and household food security within the context of South Africa. The country has a dual agricultural sector with developed commercial and less developed smallholder sector. Smallholder subsistence agriculture is regarded as one of the major livelihood activity for the majority of the people in rural areas and as one of the most important sector of the economy. The chapter also discussed pieces of legislations and policies of both smallholder subsistence agricultural sector and food security in South Africa. Household food security is non-existent for the majority of the people at rural and household level despite the fact that the country being food secure and self-sufficient in food production at national level.

Chapter 4: Research Findings, Analysis and Interpretation

4.1. Introduction

This chapter presents the results of the analyses of the acquired data. The chapter begins with the presentation of an analysis of the demographic and socio-economic characteristics of the smallholder subsistence agriculture in Maroteng Village. Results of descriptive analysis are also presented. The chapter further presents the analysis and interpretation of the indicators and determinants of household food security in the study area. This will be followed by the merits and demerits of smallholder subsistence agricultural sector which will allow the understanding of the contribution of smallholder subsistence agriculture towards household food security in Maroteng Village.

4.2. Types and Characteristics of Smallholder Subsistence Agriculture in Maroteng Village

This section presents the research findings on the demographic and socio-economic characteristics of the respondents on the phenomenon under study. The section begins with the demographic characteristics followed by the socio-economic characteristics. In both cases, summary tables and graphs of respective variables are presented while detailed analysis and interpretation are made on variables requiring any further interpretation in order to draw meaning from the responses.

The demographic characteristics in this study are significant in determining the extent to which they influence farmers' responses in the study. The demographic characteristics include variables such as age, household size, education and gender amongst others. Figures and tables below present the summary of the demographic variables in relation to age, household size, education, gender, and so on.

Figure 4.1: Age group of the respondents

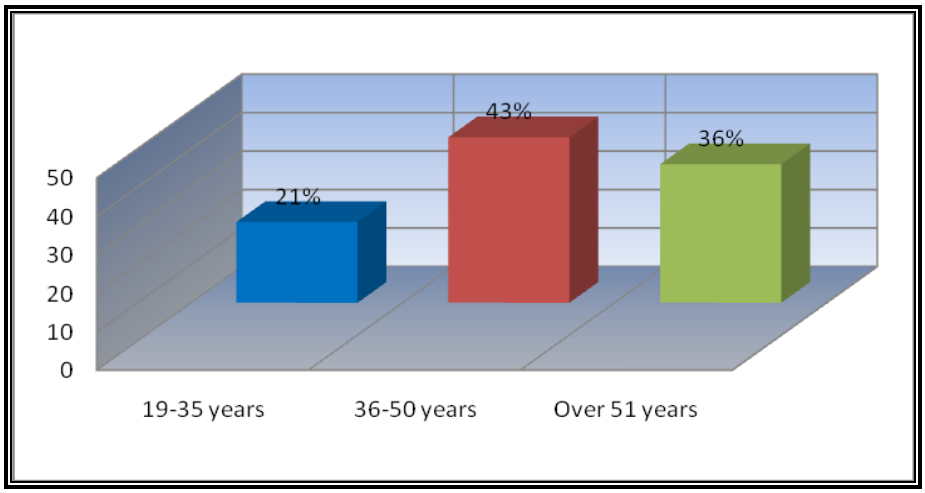


Figure 4.1 above shows that the majority of the farmers' age was between the ages of 36 and 50 years, with the youngest farmer being between 19 and 35 years old, while the oldest being over 50 years of age. This suggests that smallholder subsistence agriculture is mostly practiced and managed by elderly individuals in Maroteng Village while juniors are just supplementing and helping in the operation of the farm as family labour. The age of farmers who manage farming activities could have profound effects on the productivity of their farming because elderly people may be too old to carry labour intensive work. Conversely, junior farmers may lack farming experience which could also affect productivity. However, more grownups in the household means that

more labour is available for carrying out smallholder subsistence farming thus enhancing productivity especially if they are unemployed and economically inactive. Table 4.1 below shows the age group category against types of smallholder subsistence agriculture. The respondents have been placed in three distinct age groups, as follows: between 19 and 35, 36 to 50 and over 50 years while the type of farming is classified into poultry, livestock, vegetable and crop farming.

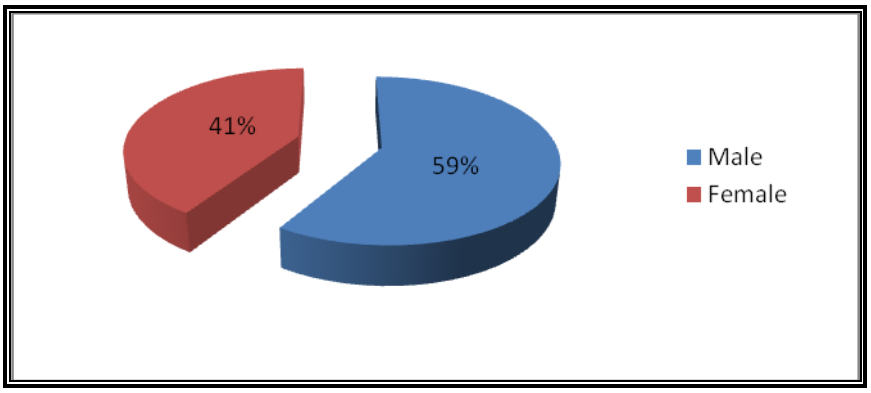
Table 4.1: Type of smallholder subsistence agriculture against age group

Type of Smallholder subsistence agriculture	Age Group			Total
	19-35 years	36-50 years	Over 51 years	
Poultry	4%	6%	2%	12%
Livestock	3%	4%	8%	15%
Vegetable gardening	10%	15%	4%	29%
Crop	3%	15%	14%	32%
Other	1%	3%	8%	12%
Total	21%	43%	36%	100%

The results in both cases show that very few young farmers are engaged in farming. There is a proportion of less than 30 percent in the age group less than 35 years and less than 50 percent in age group 35 to 50 years. This could be attributed to the lack of knowledge among young people about the potential benefits of the sector. The escalation of the age group of 36-50 years becomes even more pronounced for the age group over 50 years, possibly due to additional numbers of retired people who resort to farming. Unlike in the previous age group (over 50 years), there are relatively fewer

farmers over 50 years. Taking cognisance of the fact that life expectancy in South Africa stands at 42 and 45 years, and given a pyramid demographic structure, one would expect fewer aged people in farming as well. It is evident from table 4.1 above that most farmers engage in crop farming (maize, rice, wheat) than the rest with the proportion of 32 percent, followed by vegetable gardening with 29 percent, while few farmers engage in poultry (12 percent) and livestock (15 percent). Figure 4.2 above illustrates the proportion of women and men engaging in smallholder subsistence agriculture in the study sample.

Figure 4.2: Gender of the respondents



It is evident that men dominate the smallholder subsistence agriculture in the study area. The research findings show that men represented 59 percent of the sampled population while women accounted only 41 per cent. Most respondents interviewed were men who were carrying out smallholder subsistence farming themselves. However, women are also increasingly resorting to smallholder subsistence agriculture to help the deficit of their households' food needs. Smallholder subsistence agriculture then becomes an attractive alternative option for sourcing food and income for most

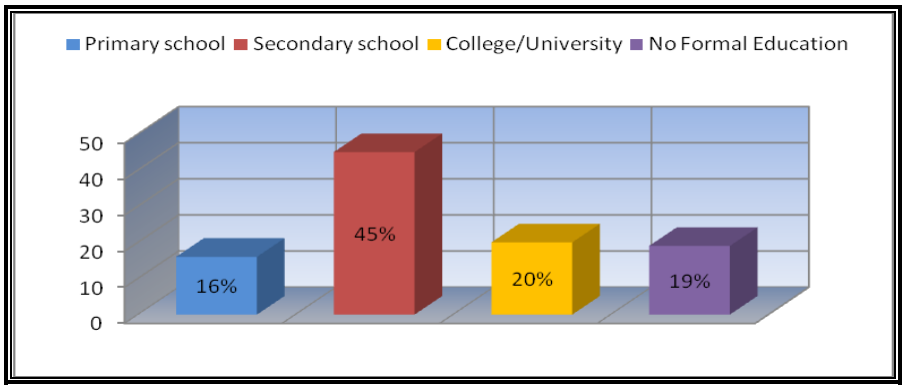
women. This may be true since women have been traditionally associated with taking care only household duties such as cleaning, cooking and taking care of children while men were regarded as bread winners of most households in rural areas. Respondents were also asked how many people were residing in their households in order to distinguish between household members and those residing in the compound, because sometimes more than one family can reside in one stand. The intention was to determine the composition of the household in terms of total members living in the house. Table 4.2 below shows the size of the household of the respondents.

Table 4.2: Household size of the respondents

Household Size	Percent (%)
2	1
3	4
4	10
5	15
6	17
7	18
8	9
9	6
10	9
11	2
12	3
13	6
Total	**100**

Household size ranged from two to thirteen individuals and averaged 7.09 members per household. Over 59 percent of the households have between six and ten members. While 30 percent of the sample was composed of households with less than five members, 11 percent reported having more than ten members residing in the household. The study noted that most households had at least two children which may lead to higher demand for nutritious food to help them grow. Many households in the study area have an average of seven members, whose nutritional needs require a wider variety and sufficiency of food on a regular basis. The implication is that larger households often require more food and may have to resort to a wider range of food coping strategies as compared to smaller households. The number of individuals living in a household influences the amount of food needed by a household and also has a bearing on the type and amount of labour available for income generating activities, including smallholder subsistence agriculture. The study was also interested in finding out if there is a relationship between education and the practice of smallholder subsistence agriculture. Figure 4.3 below shows the level of education of the respondents in the study area.

Figure 4.3: Highest level of education

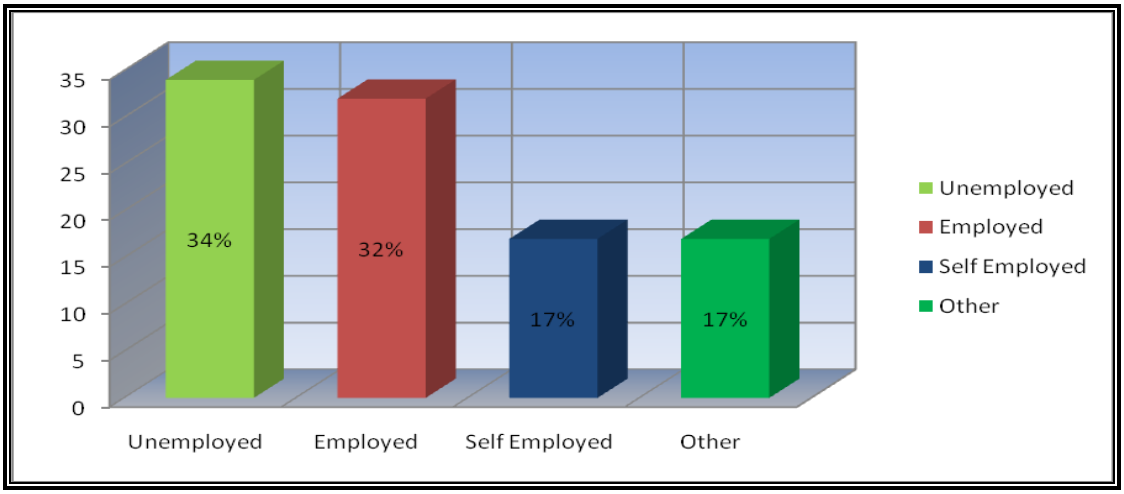


There is a perception that most smallholder subsistence farmers are associated with illiteracy with low levels of education. This is not the case in the study area. The results suggest that the majority of the farmers had some form of education, although some did not have any education at all, while a few of the farmers had post-secondary education. The study found out that over 45 percent of the sample had some form of education up to secondary level while as few as 20 percent had attended a tertiary institution or college. The study observed that 16 percent of the respondents had attended primary schooling while about 19 percent of the sample population had no formal education at all. It can be concluded that in the study area, most smallholder subsistence farmers have formal education and few are without any formal education which could positive influence level of productivity.

The level of education has often been linked to poverty and may determine the ability of the farmers in the study area carry out some farming activities which may need educational understanding. Smallholder subsistence agriculture is a sector that can

contribute to individuals who lack the opportunity to join the formal employment sector due to low levels of education. This may have serious implications on productivity and food security of most famers. One of the goals of this study is to understand who practices smallholder subsistence agriculture. The aim was to find out if participants were employed in other sectors of the economy or were solely depended on smallholder subsistence agriculture or other sources of livelihood.

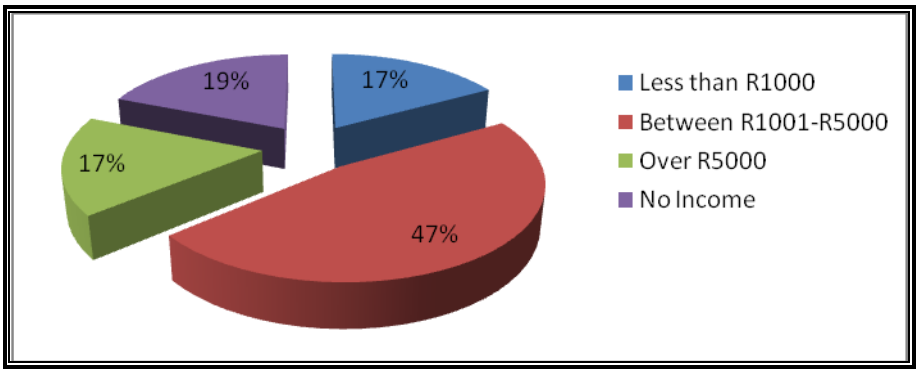
Figure 4.4: Employment status of the respondents



Respondents were asked whether they were formally employed or not, and whether they had an extra source of income. Figure above shows that participation in smallholder subsistence agriculture is reported for both those who were employed and those not employed. About 32 percent of the respondents indicated that they were employed while more than 34 percent of the sample reported not being employed at all. Only 17 percent of the respondents indicated that they were self employed, while the other 17 percent is shared by those who are either getting casual/piece jobs or receiving

social grants. The research findings indicate that most people in the study area are unemployed. Most residents are either unemployed or underemployed, hence relying on government grants to meet their daily food requirements. The income in most cases is not sufficient enough to meet the required food expenditure. The respondents who were employed in casual or piece job work were observed to be mainly working on the public work projects such as the Expanded Public Works Programme (EPWP) and other projects that were going on in the area. All the respondents reported that they did have a monthly income. Figure 5 below presents the monthly income of the respondents.

Figure 4.5: Monthly income of the respondents



Accurate household incomes are extremely difficult to obtain, though in this study, respondents were asked to state their level of income. Those who reported being unemployed were asked to approximate how much they made in a month, whether from social grants, casual work or informal sources. The study divided income earned into three broad groups: those earning less than R1000 per month, between R1001 and 5000 per month, in excess of more than R5000 per and no income per month. About 47 percent of the respondents have an income of between R1001 and R5000 every month,

mainly from formal employment and old-age social grants. Over 17 percent of the respondents indicated that they received an income of less R1000 per month mainly from child grants and casual jobs, while 19 percent stated that they had no income at all. About 17 percent of the respondents had an income of over R5000 per month mainly from formal jobs or they owned businesses.

Other respondents were reluctant to provide their monthly incomes, some even refused to mention exact figures hence some incomes are not accurately reported. Some respondents were unable to approximate the income they obtain from informal activities such as hair salons, informal hawking, and scrap metal dealing. In light of the above, it is apparent that monthly incomes in the study area are extremely low and may contribute to the household's inabilities to meet their food requirements. Furthermore, households with incomes have more food purchasing power than those without or with low incomes. As a result, households resorting to smallholder subsistence agriculture seem viable and easy option for income generation and food access for these poor households.

The respondents were also assessed on different variables regarding their socio-economic characteristics. This section presents different socio-economic characteristics of the respondents, which include farming area, farming experience, income, various farm inputs and market related variables. Table 4.3 below presents the relationship between the size of the farm and location of the farm from the respondents.

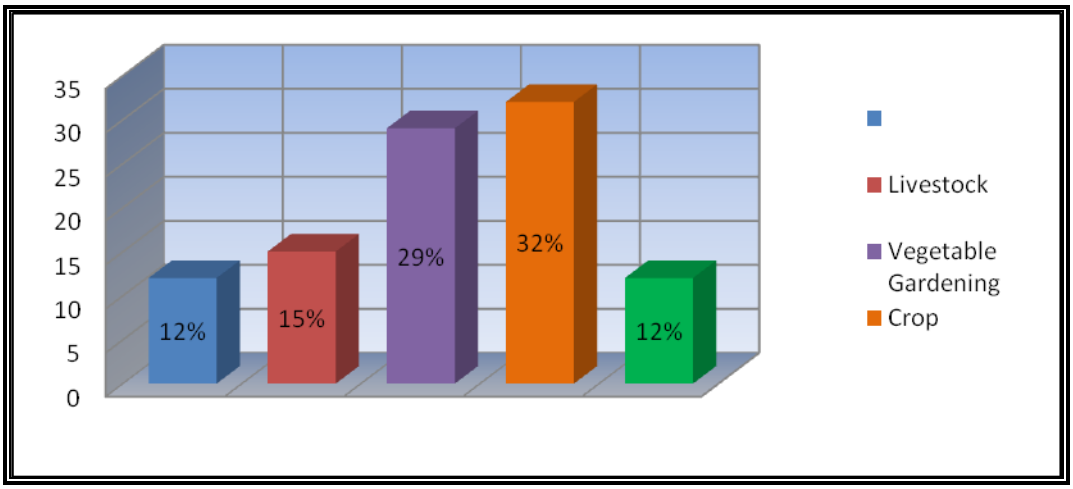
Table 4.3: Farming area against the size of farm

Farming Area	Size of Farm			Total
	Less than 100 metres squared	Between 100 and 500 metres squared	More than 500 metres squared	
On the Stand I Reside on	39%	15%	0%	54%
On Other Site	6%	15%	8%	29%
Both	12%	3%	2%	17%
Total	57%	33%	10%	100%

Availability of land for farming is an important determining factor in the success of smallholder subsistence agriculture and the study is interested in where the farms were located. The respondents were asked whether they farmed on the stand they resided on, on another site outside their compounds or whether they farmed on both. As illustrated in Table 4.3 above, most farming takes place inside the stand they reside on. The research findings indicate that 59 percent of the respondents cultivate inside the stands they reside in, which they own. About 29 percent of the respondents cultivate on sites located away from their households, while 17 percent reported cultivating both on the site on which they reside and other sites located away from their place of residence. Out of the cultivation area used by the respondents, 57 percent of the land is less than 100 metres square (about 0.01 hectares) while 33 percent cultivate on land between 100 and 500 metres square (about 0.05 hectares). About 10 percent cultivate on a land above 500 metres square. Smallholder subsistence farmers in the study area are presently constrained by the size and area of their operations. The size of the farm could have negative or positive influence on the level of productivity.

This confirms the argument that smallholder subsistence production involves mainly households producing on relatively small plots of land less than one hectare with limited resources for household subsistence and to smaller extent for extra source of income or sale. The ability of the individuals to work on an area available for farming is a determining factor of the extent to which smallholder subsistence agriculture can be practiced by households. Figure 4.6 below shows the types of smallholder subsistence agriculture mainly undertaken by households in the study area.

Figure 4.6: Types of smallholder subsistence agriculture



The research findings on farming revealed that field crop farming is the biggest category of farming in the study area. The findings further show that vegetables are also a preferred crop of cultivation. Figure 4.6 above shows the crops grown in order of preference by the farmers. Over 32 percent of the farmers cultivate field crops in particular maize, while 29 percent cultivate vegetable such as spinach, carrot, cabbage, onion, tomato, beetroot, beans and others. About 15 percent of the respondents keep

livestock, mainly cows, goats and sheep. Most respondents from this category reported that their livestock ranged from 5 to 50, while few had poultry within their yards. The findings suggest that most farmers in the study area prefer to grow a wide range of crops, especially maize and vegetables as the stable food for their households. The consumption of local seasonal crops is a factor that can encourage smallholder subsistence agriculture in the study area. This is further illustrated in Figure 4.7 below.

Figure 4.7: Type of crop farming

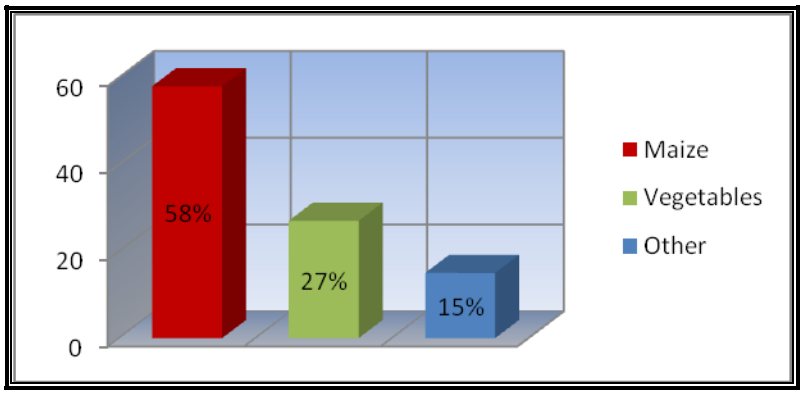
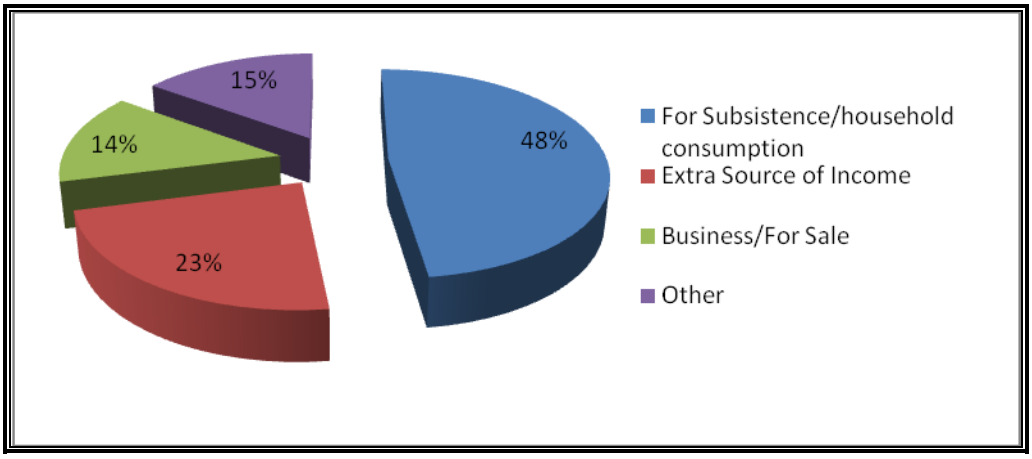


Figure 4.7 show that 58 percent of the farmers cultivate maize, while 27 percent cultivate vegetables. A further 15 percent indicated that they cultivated crops such as peanuts and sugar cane. It is evident that maize is the most preferred stable food supplemented by wide range of vegetables than any other type of food in the study area and perhaps one of the most consumed. The consumption of food dominated by maize could have a bearing on food security and ultimately leading to malnutrition and food insecurity. Conversely, a balance diet with variety of food type may enhance food security status of most households. Crop choice by respondents appears to be based on familiarity with the crop, climate conditions, farm size, availability of resources and

end use of the final product. This could explain why other smallholder subsistence agricultural activities like sorghum, rice and other means of production are virtually absent in the study area. The study also investigated the reasons why some households in the area carried out smallholder subsistence agriculture, while others did not. Respondents were asked to state or indicate the reason(s) why they engaged in smallholder subsistence agriculture. The responses given are summarized in Figure 4.8 below.

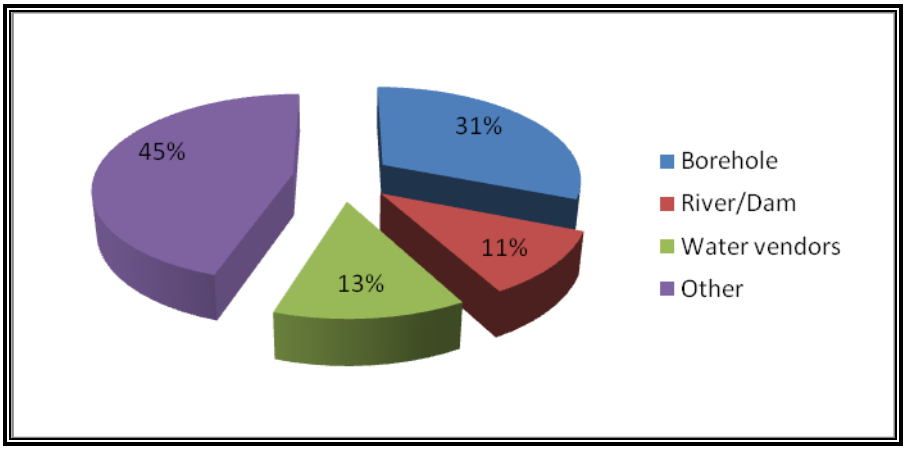
Figure 4.8: Reason for practicing smallholder subsistence agriculture



Most respondents gave a combination of reasons for engaging in smallholder subsistence agriculture. Forty-eight percent of the respondents indicated that they engaged in smallholder subsistence agriculture to supplement their household food needs for subsistence or household consumption only. The need for an extra source of income was another reason given for carrying out smallholder subsistence agriculture. About 23 percent engaged in smallholder subsistence agriculture as an extra source of income while 14 percent engaged in agriculture for business or for sale which may

improve the purchasing power and supplement their household needs. On the other hand, 15 percent engaged either for subsistence, extra source of income and business/sale. The scale of production of the smallholder subsistence agriculture sector in the area is still at a minimal level, concentrating mostly on production for household consumption. In most cases smallholder subsistence agriculture was widely used as secondary source but perceived as an important buffer against short term shortages of food and cash. The reasons given by the respondents about why they engaged in smallholder subsistence agriculture confirms argument by Machethe (2004) and other literature about why households cultivate in rural areas. The study was also interested on determining the source of water for their farming in order to identify available resources.

Figure 4.9: Source of irrigation



The challenge of water in the study areas seems to be prevalent and water plays a critical role in the success of smallholder subsistence agriculture. The research findings indicate that 45 percent of the farmers rely on rainfall for irrigation, while 31 percent

have boreholes within the premises they reside on. Only 13 percent of the respondents show that they purchase irrigation water from neighbours and water vendors in the area and 11 percent get water from other sources such as a dam and river. It is evident that there is lack of irrigation schemes which could determine the level of productivity from farming in the study area. This could explain the reasons why there is low productivity of outputs from their farming and why their farming is mostly seasonal because they wait for the relevant season suitable for their preferred type of crops or farming.

4.3. Household Food Security Trends in Maroteng Village

This section presents the research findings and analyses on the trends of food security of the study area. In this case, summary tables and graphs of respective variables are presented while detailed analysis and interpretation is made on variables requiring any further interpretation. These tables and graph are illustrated below.

Figure 4.10: Farm operation

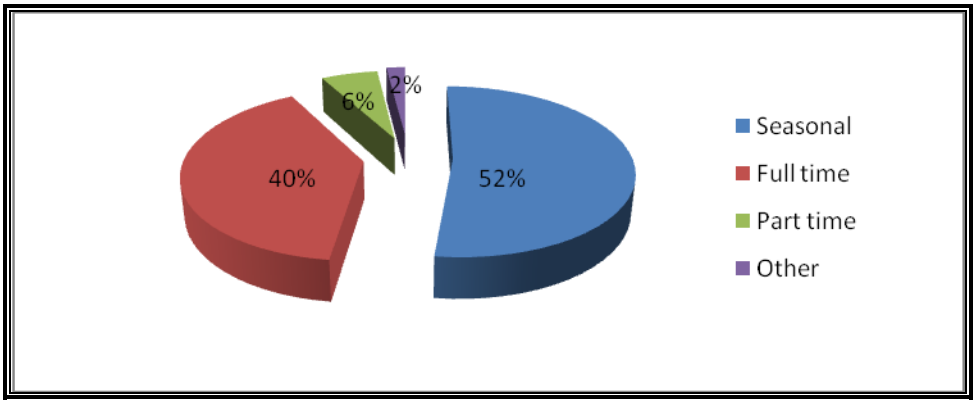


Figure 4.10 above illustrates how farming households operated in recent years. About 52 percent of the farmers cultivated according to the season associated with type of

farming they would like to pursue. Respondents show that they prefer to grow crops such as maize during summer due to favourable rainfall and temperature conditions during this period. Most farmers prefer to grow popular winter crops are spinach, cabbage, potatoes, and tomatoes because these crops can withstand the harsh climatic conditions during this period. Even though most indicated that their farming is seasonal, respondents stated that they operate these farms on a full time basis. More than 50 percent operated on a full time basis, while only 6 percent operate on a part time basis and at least 2 percent operate on both cases. However, the respondents emphasized that the choice of seasons is because crops they grow are relatively easy to cultivate and do not make huge demands on time, labour and financial resources of the households. They also require minimum inputs and grow crops which are more familiar with.

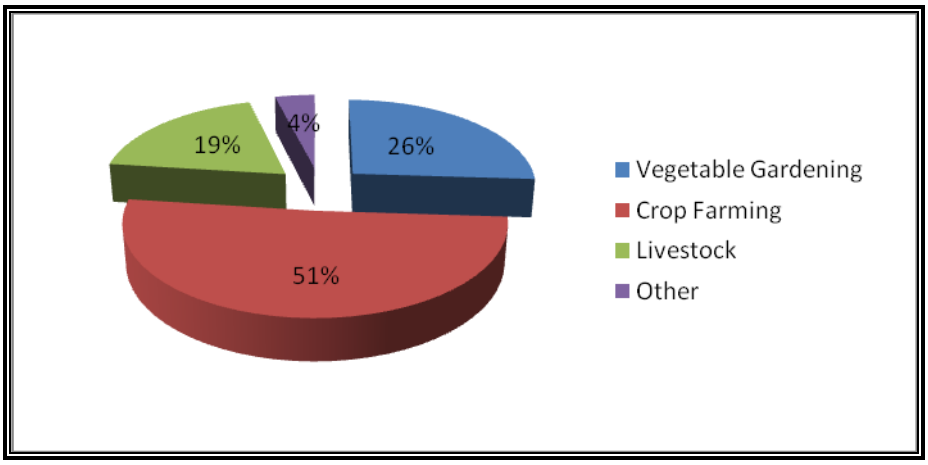
The study examined the patterns of land ownership in the smallholder subsistence agricultural sector. In this case, farmers' situation regarding the duration they have been engaging in farming was also assessed in this study. Table 4.4 displays the results concerning land ownership and the duration of farming.

Table 4.4: Farm ownership versus the duration of smallholder subsistence agriculture

Ownership of the Farm	Duration of Smallholder subsistence agriculture					Total
	0-5 years	5-10 years	10-15 years	15-20 years	Above 20 years	
Individual	19%	10%	5%	2%	3%	39%
Family	13%	11%	7%	21%	5%	57%
Partnership	0%	1%	0%	0%	2%	3%
Public Company	0%	1%	0%	0%	0%	1%
Total	32%	23%	12%	23%	10%	100%

The research findings show that 57 percent of the respondents' land is owned by their households while 39 percent of the farms are owned by individuals. To a lesser extent, other farms are both privately or publicly owned only 3 percent and 1 percent respectively. Out of the sampled farmers, over 20 percent of the farmers have more than 15 years since they started farming, while 32 percent have less than 5 years. Over 20 percent of farmers have between 5 and 15 years of farming experience. This research finding mirrors one of the most common characteristic regarding land ownership in smallholder subsistence agriculture in most developing countries. Most households indicated that even though fewer individuals within their households were farmers, farming remained as the households' main business. Meanwhile, most households regarded crop farming as their main activity. Figure 4.11 below displays the types of farming the respondents have been practicing in recent years.

Figure 4.11: Main activity of production in recent years



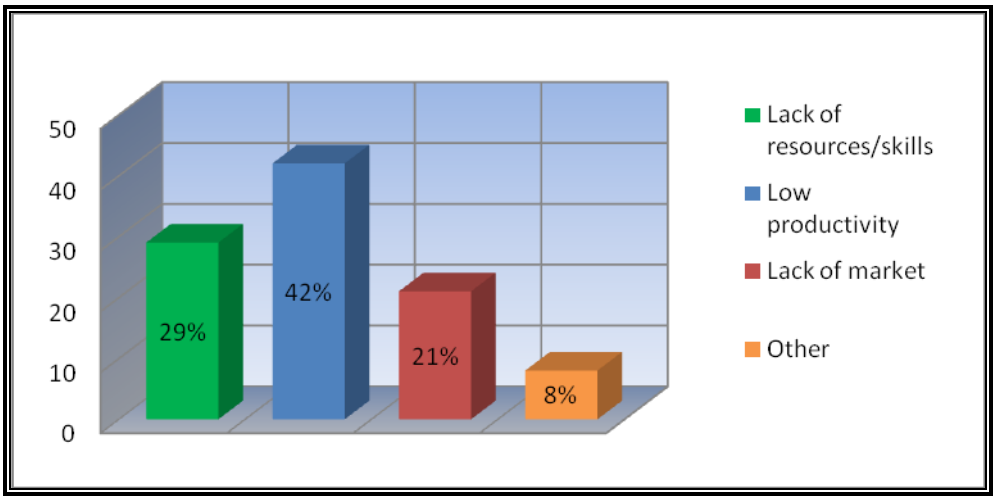
Most of the farmers seem to prefer crop farming than any other type of farming activity. The findings indicate that 51 percent of the respondents preferred crop farming, while 26 percent cultivated vegetables in recent years. Approximately 19 percent of the respondents were keeping an array of livestock and 4 percent emphasized that they were either practicing two or more types of farming from the categories given (Figure 4.10). As explained in Figure 4.7, most of the respondents emphasized that these types of farming were chosen because of the favourable rainfall and temperature conditions. Farmers also reported that farming choice was also based on the familiarity with the crop, climate conditions, farm size, availability of resources and end use of the final product. This suggests that most of the respondents do not practice crop rotation, which could explain the low productivity in the area due to deterioration of farm land. Table 4.5 presents the level of production and the quality of food produced in recent years.

Table 4.5: Level of Production and Quality of Farm Produce

Quality of Farm Produce	Level of Production (%)				Total
	Lower	Low	High	Higher	
Very Poor	0	3	0	0	3
Poor	3	35	1	0	39
Good	4	10	25	3	42
Very Good	0	0	10	5	15
Other	1	0	0	0	1
Total	8	48	36	8	100

The research findings indicate that 48 percent of the respondents experienced low level of food production. However, 36 percent reported high production while 8 percent reported higher production in recent years. The remaining 8 percent indicated that the level of production was very low. Even though the production was low, 42 percent of the respondents indicated that the quality of the final product was good, and 39 percent indicated that the production was poor. About 15 percent indicated that production was very good and only 3 percent experienced very poor production in recent years. The findings suggest that most farmers, over 56 percent, experienced low levels of production in the study area but the quality of the produce is good. However, smallholder subsistence plays a significant role to food security of some households whom experienced high production, about 44 percent. The respondents hinted that this was due to low level of rainfall and also small size of farming. The respondents indicated some challenges they faced during their experience of farming in recent years. These challenges are summarized in Figure 4.12 below.

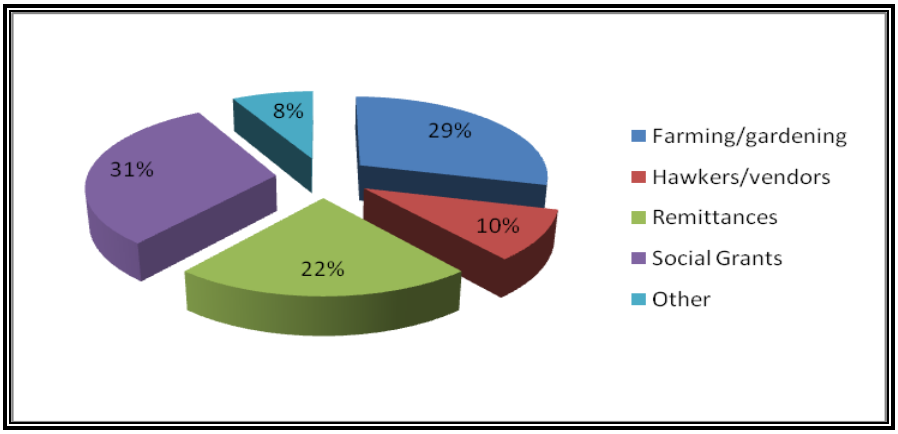
Figure 4.12: Challenges faced since practicing smallholder subsistence agriculture



Most of the respondents revealed that the most pressing challenge they faced was low productivity and lack of resources or skills. Approximately 42 percent indicated that productivity was the bigger problem, while 29 percent reported that lack of resources or skills to be an impediment to the level of production. This is due to the fact that they utilized low labour intensity and traditional or simple farming resources which are, in most cases, poor. These findings concur with literature that, smallholder subsistence sector is widely characterized by low productivity levels, lack and poor resources. The respondents reported that resources such as manure and seeds, farming skills, farming equipments and financial resources are crucial in smallholder subsistence agriculture and could play a profound role on the level of production if not available. About 21 percent indicated the lack of market for their produce and the remaining 8 percent indicated challenges such as lack of support, laziness and water/climate conditions. The absence of marketing strategy and shortage of water was seen as one of the contributing factors on production level. Respondents were asked to explain the

strategies that they employ or employed to get food and survive when they have no money. Figure 4.13 summarizes the food coping strategies adopted by most farmers.

Figure 4.13: Food coping strategy adopted



A comparison of the income and level of production of households, as indicated in the previous sections, reveals that most households has not been able to meet food expenditure requirements. Hence, they are resorting to available alternative strategies. As illustrated in Figure 4.13 above, 31 percent of the respondents resort or rely on government social grants to supplement their household needs, while 29 percent resort engage in smallholder subsistence agriculture to supplement their households' food needs. About 22 percent of the households resorted to remittances from other family members away from home, borrowing from neighbours to cover the food deficit. Approximately 10 percent of the respondents resorted to getting food from neighbouring stores, spaza shops and food vendors/hawkers because they are cheaper and inferior food. Only 8 percent of the respondents indicated that they employ strategies such as reducing the number of meals consumed per day, consuming one main meal per day preferably in the evening and leftover food was saved to be eaten the next day for

breakfast, cooking less food, borrowing money from friends, neighbours, relatives or loan sharks to cover the food deficit. This suggests that despite resorting to other strategies, smallholder subsistence agriculture remains a pivotal activity to most households.

4.4. Indicators and Determinants of Household Food Security in Maroteng Village

Food insecurity and hunger are crucial and persisting problems facing the majority of poor households in most rural areas. The determinants and indicators of food security are significant in determining the food level and the ability to access food at household level. This section presents the variables on factors that determine the extent of the households to ensure that they are food secure. Table 4.6 below illustrates the source of food and how often the respondents accessed food.

Table 4.6: Source of household food

Source of Household Food	How often you get food from the source (%)			Total
	More often	Less often	Regularly	
Markets	31	12	25	68
Street vendors	3	9	5	17
Own produce	6	6	1	13
Other	2	0	0	2
Total	42	27	31	100

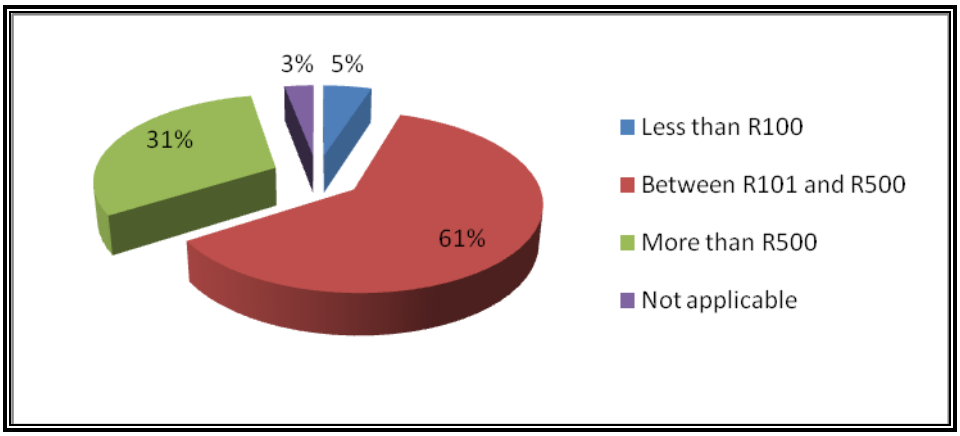
Whether households depend on own food production or other sources are one of the most interesting points that should be considered. Over 68 percent of the respondents

reported that they depended mostly on food from markets while 17 percent indicated that they got their household food from the street vendors or hawkers. Only 13 percent indicated that they produced their own food specifically for household consumption, and 2 percent got their household food from both markets and own production. However, most farmers hinted that large proportion of their own production is taken to the milling corporation either for cash or household consumption. This could explain the reason why most farmers indicated that they access food through markets.

About 42 percent of the respondents got their food more often from the one of the sources, 31 percent of this comes from markets, while 3% from street vendors and 6% from own production. Over 27 percent reported that they got their food less often, out of this 12 percent got their food from markets, 9 percent from street vendors and only 6 percent from own production. Over 31 percent of the respondents regularly access household food through their preferred source. It is evident that households rely mostly on food purchased from markets than from their own farming. This could mean that farming is a supplementary approach to acquire and meet household food requirement.

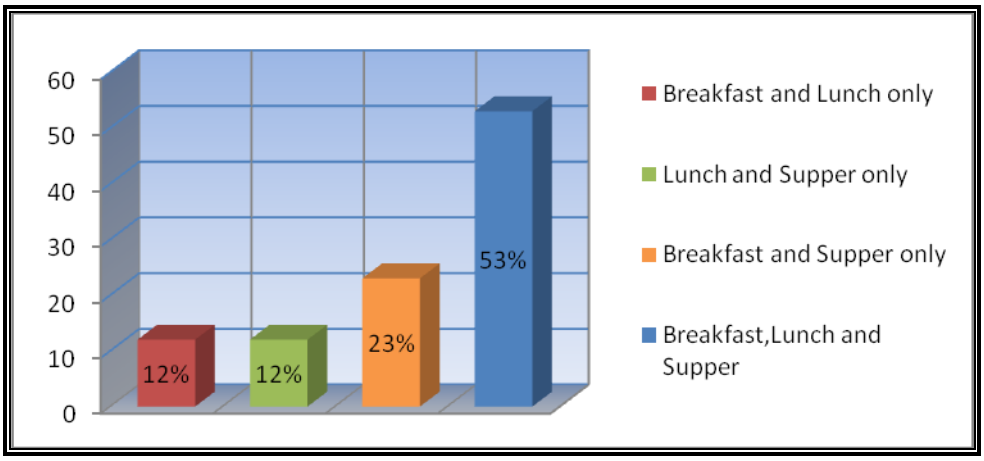
Figure 4.14 below give estimates on monthly food expenditure patterns for households practicing smallholder subsistence agriculture. The food expenditure pattern of a household compared to its income gives an insight into why a household would resort to smallholder subsistence agriculture. Therefore, respondents were asked to approximate their monthly expenditure on food.

Figure 4.14: Household food expenditure



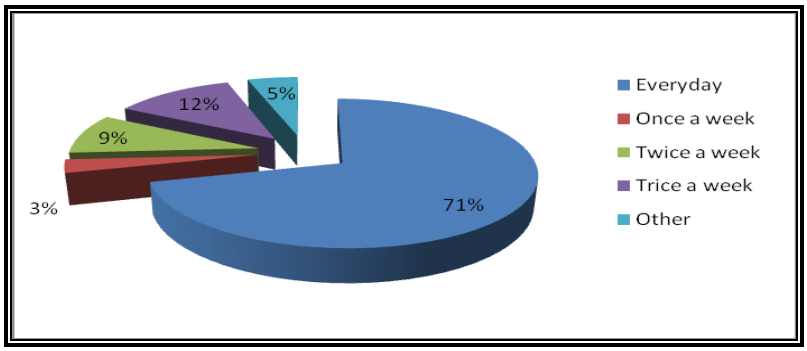
Most respondents could only give rough estimates about expenditure on food and other daily household needs. This included mainly income from government social grants, casual or piece jobs and farm produce. The study observed that 61 percent of the respondents spend between R100 and R500 per month for household food. Over 31 percent indicated that they spent more than R500 every month for household food which included incomes from formal employment of some household members. Only five percent reported that they spent less than R100, while 3 percent did not use their income on food. This could be due to the fact that most households receive and rely on social welfare support mainly from the government. This suggests that most households in the study area spend less income on food which could compromise their ability to access sufficient and nutritious food. The low income food expenditure as shown above indicates a clear need to supplement or diversify income generating sources. Hence, the number of meals each household consumes is significant in determining the sufficiency of food. Figure 4.15 shows the number and type of meals consumed.

Figure 4.15: Number and types of meals per day



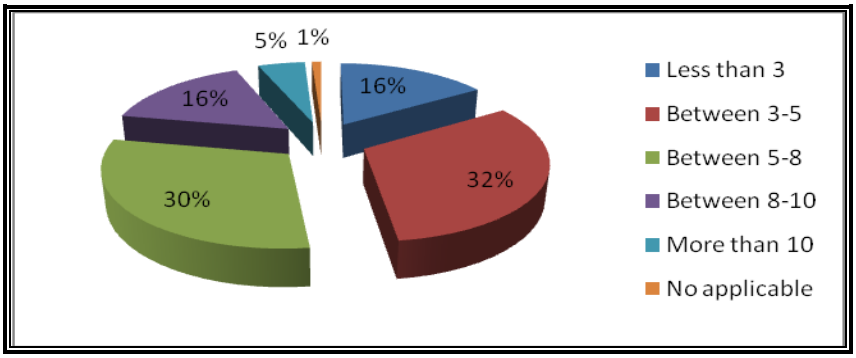
The findings indicate that most of the respondents, 53 percent, have three meals per day which include a breakfast, lunch and supper, while 23 percent reported that they only have two meals a day which is breakfast and supper. About 12 percent have only lunch and supper, and the remaining 12 percent only have breakfast and lunch. These findings suggest that most respondents have adequate access to food. Some of the respondents hinted high prices of food as the main reason they have the kind of meals mentioned, while few indicated that they are satisfied with what they had. Respondents were asked how often they had meals mentioned above. Hence the figure below illustrates their responses.

Figure 4.16: How often they have meals



Over 71 percent of the respondents reported that they had their meals indicated in the previous section almost every day, while 12 percent indicated that they had it three times a week. Nine percent have their meals two times a week and 3 percent have their meals once a week, while only 5 percent showed that they sometimes took more than a week. The research findings suggest that even though food is not that nutritious, most households, if not all, have adequate access to food almost every day. Respondents were also asked to approximate the number of individuals depending on household food. This is illustrated in Figure 4.17 below.

Figure 4.17: Number of dependents on daily meals



About 32 percent of the respondents indicated that between 3 and 5 household members depend on the total household food, while 30 percent shows that there are between 5 and 8 dependants. More than 16 percent have between 8 and 10 members of the household who depend on total household food, while 5 percent of the respondents have more than 10 household members. Only 16 percent have less than three members and a mere one percent lives alone. This suggests that most households in the study area depend largely on the total household food. The number of individuals depending on household food has an influence in the amount of food needed by a household. High number of household food dependents means high household food demand. The level of satisfaction and quality of household food was determined in this study. Table 4.7 below presents the findings on these variables.

Table 4.7: Quality of daily meals and level of satisfaction

Level of Satisfaction	Quality of Food (%)					Total
	Very poor	Poor	Good	Very good	Not sure	
Less satisfied	4	27	7	0	1	39
Satisfied	0	5	27	5	2	39
Highly satisfied	0	1	5	7	0	13
Not sure	0	5	3	1	0	9
Total	4	38	42	13	3	100

The quality of food consumed by a household is paramount in determining the nutritional requirements for healthy food. Most of the respondents, about 42 percent, reported that the quality of food was good and 38 percent hinted that it was poor while 13 percent asserts that it was very good. Only four percent said that it was very poor

while three percent were not sure of the quality of their food. Over 39 percent of the respondents showed that they were less satisfied with their food while 39 percent were satisfied. Only 13 percent indicated that they were highly satisfied and only 9 percent of the respondents were not sure.

Most of the respondents emphasized that meals such as lunch and supper were dominated by porridge and meat, few showed that it contained some traditional food and vegetables, while breakfast contained mainly bread with tea or coffee. This suggests that most households have a major challenge of meeting the nutritional food diet for their entire household which could lead to the prevalence malnutrition and food insecurity. Nutritional status is one the most important elements of food security. Hence, poor nutritious food leads to malnutrition and food insecurity.

4.5. Contributions of Smallholder Subsistence Agriculture towards Household Food Security in Maroteng Village

This section presents the analysis and interpretation of the research findings on how smallholder subsistence production contributed towards household food security in the study area. The section focus on variables such as food production, accessibility, expenditure, utilization and consumption, employment creation and income generated from smallholder subsistence agriculture. Firstly, respondents were asked to estimate how much they produce from their farming. Figure 4.18 below illustrate food production.

Figure 4.18: Proportion of food production from the Farm

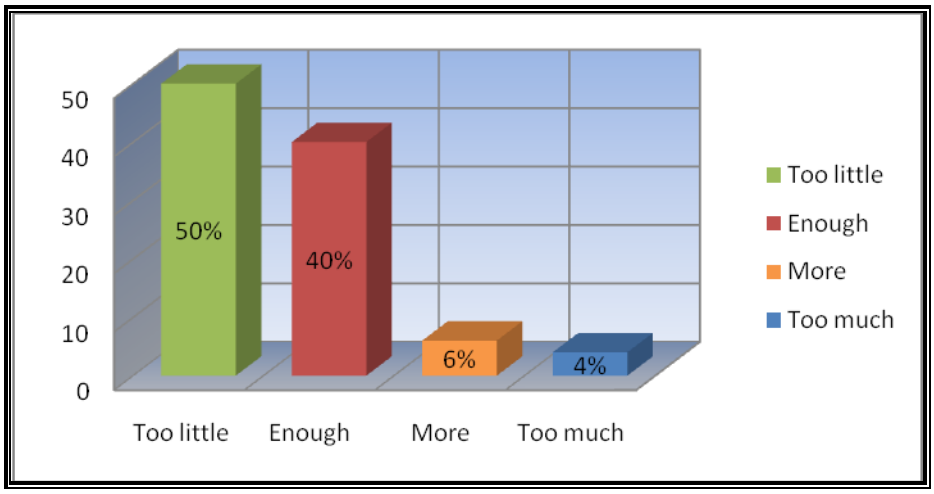
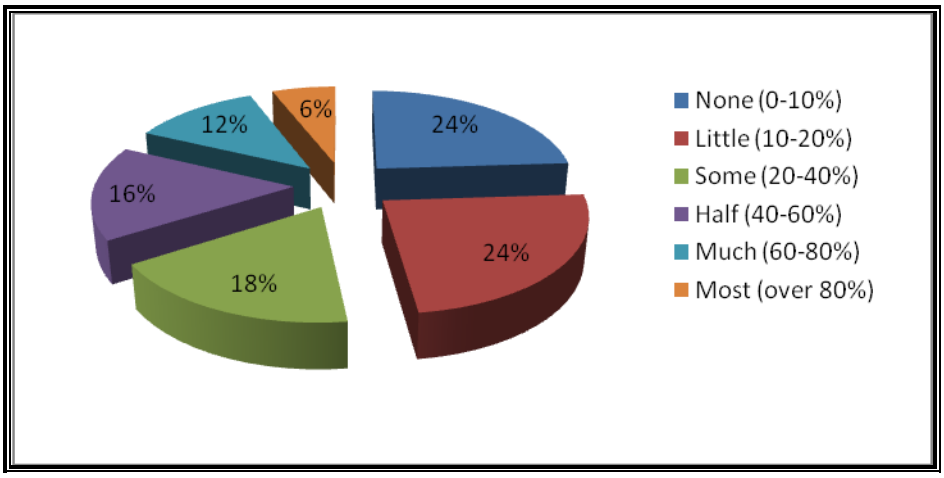


Figure 4.18 above indicates that 50 percent of the respondents produce too little from their farming while 40 percent managed to produce enough food from their farming. However, though there was low production, respondents emphasized that the little they managed to produce from smallholder subsistence farming plays a significant role to address household food deficit. About 6 percent managed to produce more, and 4 percent only managed to produce too much food. The findings suggests that over half of the respondents benefited significantly from the farming while the other half benefited less. This means that smallholder subsistence production played a critical role in increasing food supply of most households in the area. Figure 4.19 presents the proportion of food production for household consumption.

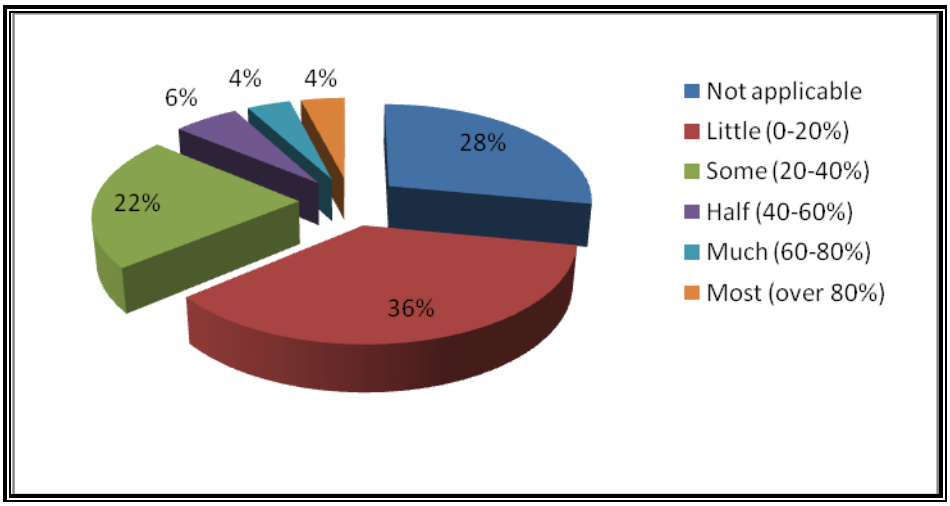
Figure 4.19: Proportion of produce for household consumption



Over twenty-four percent of the respondents reported that they only obtained less than 10 percent of their household food from their farming. About twenty-four percent indicated that they obtained little food from their farming between 10 and 20 percent of their total produce. Some respondents, about 18 percent, stated that they obtained quarter of their household food from own farming. Only 16 percent obtained over half of their household food from farming. Over 12 percent of the respondents stated that they much, over 60 percent, of their household food from smallholder subsistence agriculture. Only 6 percent of the respondents obtained over 80 percent of their household food from farming. This figure represents a proportion of total food consumed in the household not the total value of food used by the households. It is evident that smallholder subsistence agriculture contributes a significant amount of the total food consumed by most households. Although smallholder subsistence agriculture does not provide all the food requirements that a household may need, its contribution can be seen as being important because it allows most households to save money that would

have been used on household food purchases and other needs. Respondents were also asked to estimate the proportion of their produce sold or given away. The proportion sold, bartered or given away differs according to different household needs. This is illustrated in Figure 4.20 below.

Figure 4.20: Proportion of production sold or given away



Most households practice smallholder subsistence agriculture with little intention for sale or commercial purposes. Thirty-six percent of the respondents indicated that they do sell or give away little proportion, about less than twenty percent of their produce, while twenty-two percent of the respondents give or sell twenty to forty percent of their total produce. Only six per cent of the respondents reported that they are selling or giving away half, which is over forty and sixty percent, of their produce of their total output. Over twenty-eight percent of the respondents indicated that they did not sell or give away any of their output from farming but consumed instead while only four percent sold or gave away more and much of their total output respectively. The findings suggest

that some households sell part of their produce to generate income which can be used on other household expenditure including food to supplement available household food. It is evident that smallholder subsistence agriculture also contributes to the broader local economy by creating employment in the study area. The table below shows the number of people employed and the number of family members helping on the farm.

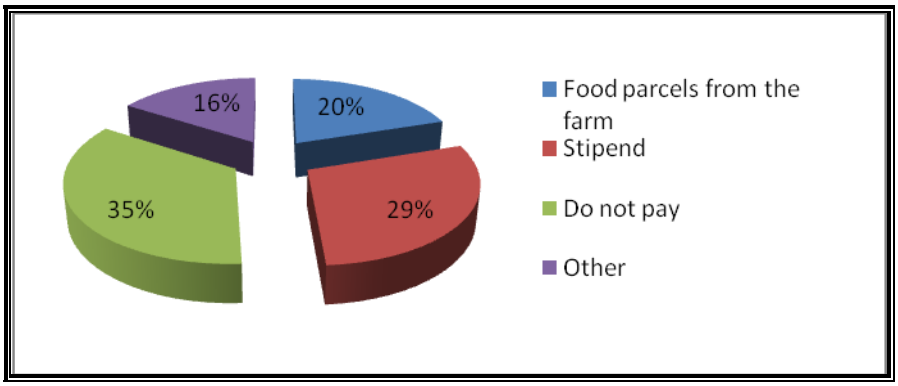
Table 4.8: Number of family members and people employed on the farm

Number of family members help on farm	Number of people employed on farm (%)				Total
	Less than five	Between five and ten	Between ten ant twenty	More than twenty	
Less than two	56	2	0	1	59
Three	23	2	0	0	25
Four	8	3	0	0	11
More than five	2	2	1	0	5
Total	89	9	1	1	100

Labour intensity is one of the crucial factors in smallholder subsistence production in most rural areas. Table 4.8 above shows that 89 percent of the respondents employed less than five labourers and 9 percent employed between five and ten people. While only one percent reported that they employed between ten and twenty people, the remaining one percent employed more than twenty people. The respondents revealed that the labourer employed were mainly people from outside the country. More than 59 percent of the respondents reported that only less than two household members were directly involved or helped during the farming period, while 25 percent indicated that

three members assisted in farming. About 11 percent of the respondents showed that they employed around four people and a mere 5 percent employed more than five people. The employment of labour by the majority of farmers is probably linked to the scale of operation and the size of farming. The smallholder subsistence agriculture is characterized mainly by the usage of household labour and also creates employment opportunities to some members of the community. This solicits the argument that smallholder subsistence agriculture contributes significantly towards farm employment creation and farm income in the study area. Figure 4.21 presents the methods used to remunerate farm labourers.

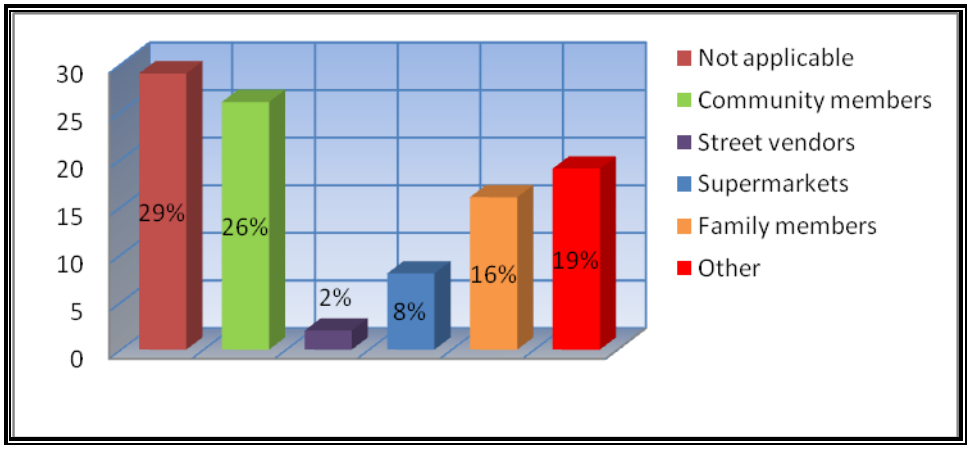
Figure 4.21: Method of payment for farm labour



More than 35 percent of the respondents reported that they did not pay any of the workers employed for participating or helping on the farm because they were mainly household members. Approximately 29 percent of the respondents stated that they remunerated the labourers in the form of stipend, while 20 percent indicated that they paid their labourers in the form of food parcels from their total output. About sixteen percent reported that they used other methods such as accommodation and daily meals

amongst other to pay their labourers. This suggests that the sector contributes indirectly to household food security through farm income which can improve purchasing powers of other households in the study area. Respondents were asked to indicate whom they sold their farm output to and this is illustrated in Figure 4.22 below.

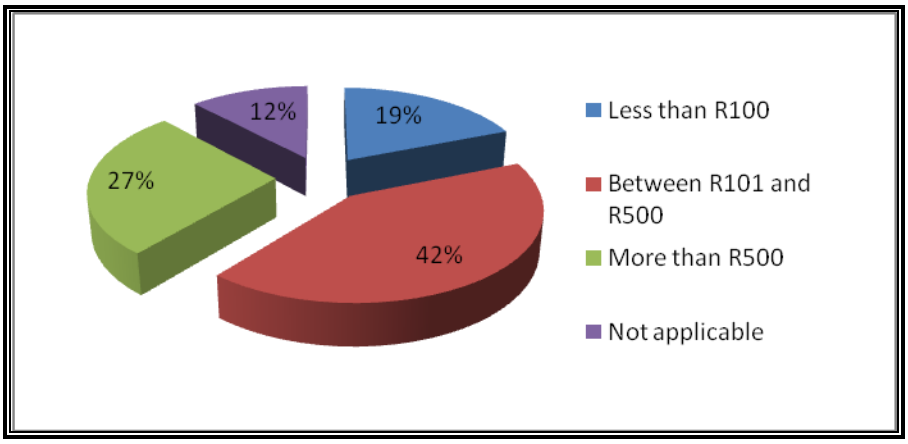
Figure 4.22: Whom food produced are sold or given away



As indicated before, some of the food produced enters formal marketing channels while some is exchanged, given away or consumed by the households. Figure 15 above indicate 29 percent of the respondents who did not sell any of their farm output, while 26 percent reported that they sold their farm output to the community members in the study area. However, 16 percent of the respondents gave away some of their farm produce to their relatives for free, and only 2 percent reported that they sold their farm produce to street vendors or hawkers. More than 20 percent of the respondents indicated that they sold their farm produce to cooperatives (dikoporasie) and supermarkets around the area. This suggests that smallholder subsistence agriculture plays an important on food

security and the broader local economy through increased food supply. Figure 4.23 below illustrates the income generated from farm output by the respondents.

Figure 4.23: Income generated from farming



It is evident that smallholder subsistence agriculture is crucial to the total household income. Figure 4.23 above shows that 42 percent of the respondents generate between R101 and R500 from their total farm output, while 27 percent generate more than R500. About 19 percent generate less than R100 from their farming and 12 percent indicated that they did not generate any income due to the fact that they did not sell any of their total output but consumed by households instead. The respondents emphasized that income generated gives their households means to access food from markets to supplement their household food needs, consequently enhancing household food security. These incomes improve the food purchasing power of most households in the study area.

Although smallholder subsistence agriculture is, in most cases, mainly for subsistence purposes, it is important to determine the utilization of income generated by some households. Thus the study examined the different uses of income generated by household farmers in the study area. Table 4.9 below presents information with regards to the proportion and utilization of income generated from farming.

Table 4.9: Proportion and utilization of income generated for household consumption

Utilization of income generated	Proportion of income generated for household consumption (%)				Total
	Less than R100	Between R101 and R500	More than R500	Not applicable	
Purchase food for household consumption	16	34	7	1	58
Investment	1	6	2	0	9
Saving	3	7	5	0	15
Purchase farming resources	2	4	1	1	8
Other	0	0	1	9	10
Total	22	51	16	11	100

The general picture from the above table is that most of the farmers use their income generated for household consumption purposes. Table 4.9 depicts that 58 percent of the respondents used their income generated to purchase food for household consumption purposes only, while 15 percent of the respondents use their income generated for savings. Nine percent of the respondents invest their income generated from farming and 8 percent purchase the resources such as manure, seeds and others for farming. The remaining 10 percent show that they use income generated for purchasing either combination of household consumption, farming resources, savings or investment. The table above also indicates that 51 percent of the respondent use between R101 and R500 from their farming for household purposes. Out of this 51

percent, 24 percent indicated that income generated was used for household food consumption. Twenty-one percent of the respondents reported that they used less than R100, while 16 percent used more than R500 from of income generated from their respective farming. About 11 percent of the respondents reported that they did not use any of the income generated due to the fact that they did not generate any income from farm output. Income generated from producing their own food can be utilized for other household needs and supplement available food.

4.6. Conclusion

The chapter provided the typology of smallholder subsistence agriculture and household food security in Maroteng Village. It has also described and analyzed the main attributes and the role of the practice of smallholder subsistence agriculture towards food security at household level in the study area. The low level of production in the area limits the scope of smallholder subsistence agriculture, preventing access to nutritious food that can be accessed reasonably. Although, smallholder subsistence farmers in the study area still depend on markets to meet and supplement most of their household food needs, the sector provides a significant amount of the food consumed by households as well as incomes. The result is that availability of income generated improves their purchasing power to access household food and for other household uses. This help ease the food poverty conditions of most households involved in the practice. Hence, the need to sensitize more households interested in smallholder subsistence agriculture is paramount if food security problems are to be solved.

Chapter 5: Summary, Conclusions and Recommendations

5.1. Introduction

The analysis carried out in the previous chapter presented the findings emanated from the study which elicit the extent of smallholder subsistence agriculture's role in contributing to household food security. Meanwhile, the main aim of this chapter is to provide summary of the research findings, conclusion and recommendations to the entire study.

5.2. Summary of the Research

The general objective of the study was to investigate the contributions of smallholder subsistence agriculture in providing household food security in Maroteng Village. The attributes and dynamics of smallholder subsistence agriculture need to be understood by all households involved in the sector to advance the sector as a possible solution to food insecurity and low incomes as well as unemployment prevalent in the study area. Understanding the nature of smallholder subsistence agricultural sector can assist to popularize the sector among households not currently participating in the sector which can be significant for the growth and development of the sector. The study employed the survey technique for data collection and analysis using a questionnaire. The study utilized purposive sampling and a transect walk to choose a population sample.

Descriptive and qualitative methods were used to analyze and present the research findings.

The study was based in Maroteng Village, Limpopo Province which is an informal settlement with poor living conditions. The area is characterized by widespread food poverty and food insecurity which makes it difficult for most households to prevail under such conditions. The study area is occupied by households with low income, while employment and other opportunities are at a minimal. It is an area that characterizes most rural informal settlements and reflects conditions faced by many other South Africans in rural areas. These households experience difficulties in accessing food for their respective households with such conditions.

These rural households have to depend on incomes from other sources to meet their daily household food requirements. This food sometimes is not sufficient and nutritious enough to meet their food needs. Smallholder subsistence agriculture is an easy food coping strategy option for most low income families in Maroteng Village in order to cover their food needs deficit and diversify their livelihood options under conditions of persistent economic uncertainty and threats such as unemployment and declining purchasing power. Smallholder subsistence agriculture has often been viewed as a relevant strategy in response to improving their household food situation.

5.3. Recommendations

Recommendations on how to enhance the contributions of smallholder subsistence agriculture towards food security at household level in rural areas are discussed below. Some of the initiatives aimed at promoting smallholder subsistence agricultural development and food security could be put in place. Recommendations are discussed as follows:

- There is a need to provide rural household farmers with agricultural development support, especially financial and farm inputs which would enhance and raise their smallholder subsistence agricultural productivity. This is imperative due to the fact that most household farmers in rural areas still depend on traditional methods, if not any, for agricultural purposes which sometimes affect the level of productivity. High level of productivity would provide these farmers with extra incomes, which will ultimately improve their food purchasing power.

- Smallholder subsistence agricultural growth cannot be achieved without access to farmer support services. With adequate access to farmer support services such farm credits, farm inputs and skills development as well as other resources, smallholder subsistence farmers can significantly increase their agricultural productivity and production.

- In this report, it was indicated that smallholder subsistence agriculture has a vital role to play in the fight against hunger and malnutrition, and ultimately in improving household food security. The field of food security and studies within the politics of food are relatively recent areas of research in the country. This present lot of opportunities for further research in this area. Thus, studies which determine conclusively whether smallholder subsistence agriculture has better nutritional benefits at household level should be undertaken at a broader level.

- It was observed that most smallholder subsistence farmers still do not manage to meet their recommended dietary and nutritional requirements despite the fact that they have increased access to these foods through production. Hence, there is a need for nutrition and dietary education to households in order get better results from smallholder subsistence agriculture. Nutrition and dietary education is necessary in order to translate own food production into dietary intakes which could have an impact in the areas of improved production and increased consumption of micronutrient foods, diversified diet, increased income from food production and capacity building at household level.

5.4. Conclusion

Smallholder subsistence agriculture has an important role to play in most households' food security in the Maroteng Village. However, the sector still has a long way to go in order to achieve food security at household level in the country's poor rural areas. The

sector provides food security of most rural households in three ways. Firstly, the sector provides food for household consumption through increased household food supply which would otherwise be unaffordable to many households and by saving and utilizing income generated from their farming activity to supplement other household needs including food in Maroteng Village. However, food consumed by most households seems not to be nutritious which compromise their well-being thereby leading to the prevalence of malnutrition and food insecurity in the study area. Secondly, the sector helps relieve food poverty and hunger conditions for most households through farm produce channeled to markets which could be affordable to most households in Maroteng Village. Lastly, the sector provides farm employment to some of the individuals in rural areas which would provide incomes for their households, consequently enhancing their purchasing power to access food from external sources.

Despite some significant contributions made by smallholder subsistence agriculture on household food security in Maroteng Village, some households failed to meet their household food needs due to low productivity and poor resources as well as lack of proper farm inputs. Nonetheless, the sector has great potential in enhancing food security at household level. For this objective to be achieved, the sector should be considered a central part of agricultural policy development in the country. Smallholder subsistence agriculture needs to be viewed in a broader context not only as a need or strategy to survive by the poor but as an activity that can generate high income and provide employment as well as improving food supply. Hence, the sector should be considered as an activity producing beyond just subsistence by most households in

rural areas. However salient characteristics of smallholder subsistence agriculture as a household food security strategy have not been fully understood and analyzed. Though the smallholder subsistence agricultural sector contributes to households and nutritional food security, informal employment creation and diversification of diets, the sector still remains widely marginalized.

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Appendix A: Survey Questionnaire for Maroteng Village

Survey Questionnaire for Maroteng Village

The Questionnaire is designed to survey smallholder subsistence farmers for Master of Administration in Development entitled "The Contributions of Smallholder subsistence agriculture towards Household Food Security in Maroteng Village, Limpopo Province, South Africa"

This research paper is registered with the University of Limpopo, Turfloop Campus Faculty of Management Science and Law, School for Economics and Management, Department of Development Planning and Management

The questionnaire is designed to collect information on the opinions of individuals. Please assist by providing information required in this questionnaire. The responses will be kept strictly confidential, strictly only for the purposes of this study hence we guarantee you anonymity.

Thank you in anticipation for your participation in this study

Section A: Demographic Profile

1. Where do you originally come from? ……
2. Gender of the Farmer: [ ] Male [ ] Female
3. Are you the head or the main provider of this household? [ ] Yes [ ] No
4. What is your age group? [ ] Under 18 years [ ] 19 – 35years [ ] 36 – 50 years [ ] Over 51 years
5. Indicate the highest level of education obtained. [ ] Primary school [ ] Secondary school [ ] College/ University [ ] No formal education
6. What is the size of the household? ……

7. What is your employment status? [ ] Unemployed [ ] Employed [ ] Self Employed [ ] Other…….

8. What is your monthly income? [ ] Less than R1000 [ ] Between R1001and R5000 [ ] Over R5000 [ ] No income

9. What is your extra source of income? [ ] No source [ ] Remittances [ ] Social grants [ ] Farming [ ] Other…….....

10. How much do you spend on food monthly? [ ] Less than R500 [ ] Between R500 and R1000 [ ] More than R1000

Section B: Types and Characteristics of Smallholder subsistence agriculture

11. What kind of smallholder subsistence agriculture do you practice? [ ] Poultry [ ] Livestock [ ] Vegetable gardening [ ] Crop [ ] Other…….....

12. Where is your farm situated? [ ] On the stand I reside on [ ] On another site [ ] Both [ ] Other……...

13. What is the total size of the farm in square metres (m^2)? [ ] Less than $100m^2$ [ ] Between $100m^2$ and $500m^2$ [ ] More than $500m^2$

14. Why do you engage in smallholder subsistence agriculture? [ ] For subsistence/household consumption [ ] Extra source of income [ ] Business/for sale [ ] Other ……

15. What is the ownership of the farm? [ ] Individual [ ] Family [ ] Partnership [ ] Public Company [ ] Private Company [ ] Public Corporation [ ] Close Corporation

16. How long have you been practicing smallholder subsistence agriculture? [ ] 0-5 Years [ ] 5-10 Years [ ] 10-15 Years [ ]15-20 Years [ ] Above 20 Years [ ]

17. How is the farm operating? [ ] Seasonal [ ] Full time [ ] Part time [ ] Other …

18. If you keep livestock, please list the type of livestock kept and the number of each.

19. If engaging in crop farming, what do you plough? [ ] Maize [ ] Rice [ ] Sorghum [ ] Vegetables [ ] Other ……

20. What is the source of your irrigation water? [ ] Borehole [ ] River/Dam [ ] Water vendor [ ] Other……

21. How many days a week do you engage in farming? [ ] One day [ ] Two-Four days [ ] More than five days [ ] Not applicable

Section C: Household Food Security Trends

22. What was your main activity of production? [ ] Vegetable gardening [ ] Crop farming [ ] Livestock [ ] Other ……

23. What was the level of production? [ ] Lower [ ] Low [ ] High [ ] Higher [ ] Other

24. What has been the quality of your products or produce? [ ] Very poor [ ] Poor [ ] Good [ ] Very good [ ] Not applicable [ ] Other ……..

25. What was the purpose of practicing your farming? [ ] Household consumption/subsistence [ ] For sale/business [ ] Extra source of income [ ] Other...

26. What challenges have you faced or experienced since practicing smallholder subsistence agriculture?

[ ] Lack of resources/skills [ ] Low productivity [ ] Lack of market [ ] Other……..

27. Which food coping strategy do you adopt when you have no food and no money to buy food? [ ] Farming/gardening [ ] Hawker/vendor [ ] Remittances [ ] Social grants [ ] Other ……

Section D: Determinants of Household Food Security

28. How do you get food? [ ] Markets [ ] Street vendor [ ] Own produce [ ] Other……

29. How often do you get food from the above mentioned option? [ ] More often [ ] Less often [ ] Regularly [ ] Other……..

30. If you buy food, how much do you spend? [ ] Less than R100 [ ] Between R101 and R500 [ ] More than R500 [ ] Not Applicable

31. If you produce own food, how much do you harvest or produce? [ ] Too Little [ ] Little [ ] Enough [ ] Too Much [ ] Not Applicable

32. What proportion of household food do you obtain from the farm? [ ] None(0 – 10%) [ ] Little (10 – 20%) [ ] Some (20 – 40%) [ ] Half (40 – 60%) [ ] Much (60 – 80%) [ ] Most (Over 80%)

33. What is the quality of food you produce? [ ] Very poor [ ] Poor [ ] Good [ ] Very good [ ] Not sure

34. What is your level of satisfaction with production? [ ] Less satisfied [ ] Satisfied

[ ] Highly satisfied [ ] Not sure [ ] Other……

Section E: Indicators of Household Food Security

35. How many meals do you usually have each day? [ ] Breakfast only [ ] Breakfast and lunch only [ ] Lunch only [ ] Lunch and supper only [ ] Breakfast and supper only [ ] Breakfast, lunch and supper [ ] Nothing to eat

36. How many members of the family depend on your daily meal? [ ] Less than 3 [ ] 3-5 [ ] 5-8 [ ] 8-10 [ ] More than 10 [ ] Not applicable

37. How much does daily meal cost? [ ] Less than R20 [ ] Between R20 and R50 [ ] Between R50 and R80 [ ] More than R80 [ ] Not sure [ ] Not applicable

38. What kind of meal do you have for breakfast? [ ] Tea only [ ] Tea and Bread only

[ ] Beacon and eggs with cold drink/tea [ ] Bread and cold drink [ ] Not applicable [ ] Other

39. What kind of meal do you have for lunch? [ ] Pap and *vleis* [ ] Vegetable salad [ ] Rice and *vleis* [ ] Other ……..

40. What kind of meal do you have for supper? [ ] Pap and *vleis* [ ] Vegetable salad [ ] Rice and *vleis* [ ] Other ……..

41. How often do you eat the kind of meals mentioned above? [ ] Every day [ ] Once a week [ ] Twice a week [ ] Thrice a week [ ] Other ……..

42. How do you get those foods? [ ] Home cooked [ ] Neighbours [ ] Family members [ ] Events [ ] Other ……

Section F: Contributions of Smallholder subsistence agriculture towards Household Food Security

43. How much did you produce or harvest recently from practicing smallholder subsistence agriculture? [ ] Too little [ ] Enough [ ] More [ ] Too much

44. What proportion of produce from the farm you obtained is for household consumption? [ ] None (0 – 10%) [ ] Little (10 – 20%) [ ] Some (20 – 40%) [ ] Half (40 – 60%) [ ] Much (60 – 80%) [ ] Most (Over 80%)

45. If you sell or give away any of the products that you grow, what is the proportion you sell or give away? [ ] Not applicable [ ] Little (0 – 20%) [ ] Some (20 – 40%) [ ] Half (40 – 60%) [ ] Much (60 – 80%) [ ] Most (Over 80%)

45. To whom do you sell or give away your products? [ ] Not applicable [ ] Community members [ ] Street vendors [ ] Supermarkets [ ] Family members [ ] Not applicable [ ] Other……..

46. How many family members are employed or help on your farm? [ ] Less than two [ ] Three [ ] Four [ ] More than five

47. How many people do you employ or help on your farm?

[ ] Less than five [ ] Between five and ten [ ] Between ten and twenty [ ] More than twenty

48. How do you pay them? [ ] Food parcels from the farm [ ] Stipend [ ] Do not pay [ ] Other……

49. How much income (in rand) do you generate the practicing smallholder subsistence agriculture? [ ] Less than R100 [ ] Between R101 and R500 [ ] More than R500 [ ] Not applicable

50. What do you do with income generated? [ ] purchase food for household consumption [ ] Investment [ ] Saving [ ] purchase farming resources [ ] Other ……

51. How much of the income generated do you use for household food consumption? [ ] Less than R100 [ ] Between R101 and R500 [ ] More than R500 [ ] Not applicable

Section G: Recommendations

52. What kind of support do you need to enhance and ensure sustainability of smallholder subsistence agriculture? [ ] Technical [ ] Financial [ ] Skill development [ ] Other …

53. Where or who do you think should provide the support mentioned above? [ ] Private sector [ ] Government [ ] NGO's [ ] Other ……

54. What kind of constraints do you encounter when practicing smallholder subsistence agriculture?

[ ] Technical [ ] institutional [ ] Not sure [ ] Other ……....

55. What would you say about the current nature of smallholder subsistence agriculture?

……

Thank you for your cooperation and support.