

**ASSESSMENT OF WELFARE SHOCKS AND FOOD INSECURITY IN EPHRAIM
MOGALE AND GREATER TUBATSE MUNICIPALITY OF SEKHUKHUNE
DISTRICT, LIMPOPO PROVINCE, SOUTH AFRICA**

by

PETER TEMITOPE AGBOOLA

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SUPERVISOR: PROF A.S. OYEKALE

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DECLARATION

I declare that **ASSESSMENT OF WELFARE SHOCKS AND FOOD INSECURITY IN EPHRAIM MOGALE AND GREATER TUBATSE MUNICIPALITY OF SEKHUKHUNE DISTRICT, LIMPOPO PROVINCE, SOUTH AFRICA** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Name: Agboola Peter Temitope

Student Number: 50812424

Degree: Master in Agriculture

SIGNATURE

DATE

DEDICATION

I dedicate this master dissertation to my wife Agboola Olabisi Dorcas and my son Agboola Ayomide for their absolute support and encouragement. You are my strength and joy.

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ABSTRACT

This study has assessed the welfare shocks and household food Insecurity in Ephraim Mogale and Greater Tubatse municipalities of Sekhukhune district, Limpopo Province in South Africa. The study identified shocks affecting livelihood at household level and also analysed the food insecurity status of households.

The study is restricted only to two local municipalities out of five municipalities in Sekhukhune district. Structured questionnaire was administered for data collection. A total of 200 households were involved in the study with 100 households selected from each municipality. Within each municipality several villages were selected for survey through stratified random sampling selection. Data was collected between 10th July and 22nd September 2014. All response from the questionnaires was tabulated and processed with the use of statistical package for social sciences (SPSS) programme. Three analytical tools were used to achieve the objectives of the study such as, Descriptive statistics, Household Food Insecurity Assessment Scale (HFIAS) and Linear regression model.

Majority of households experience different form of shocks in their households. Increase in food prices, high level of livestock disease, drought, death of a household member and chronic illness such as Diabetes, HIV/AIDS and Tuberculosis are the most important shocks experienced.

Approximately 22.2% of households were characterized as being food secure, 32.2% as mildly food insecure, 34.2% as moderately food insecure while 11.4% are severely food insecure. The main determinants of food security from the sample survey were education, unskilled wage labour, grants, pension and disability funds whereby high-level of livestock diseases, illness or accidental loss, death of a household member tends to expose households to higher risk of food insecurity. Policy recommendations are made on promoting education in the rural areas. High priority should be given to industrialization in the district which will in turn boost the rate of employment and also add to the economic growth. Policy measures should be made in supporting people and organizations on how to respond to shocks and stresses experienced in their communities.

Key word: Household Food insecurity, welfare shocks, Education, Sekhukhune, Limpopo Province, South Africa.

ACRONYMS

AGRI SA	Agriculture South Africa
AIDS	Acquired Immune Virus
BCPR	Bureau for Crisis Prevention and Recovery
CPEG	Centre for Poverty, Employment and Growth
CS	Community Survey
DEA	Department of Environmental Affairs
DOA	Department of Agriculture
DWAF	Department of Water Affairs and Forestry
FANR	Federal Authority for Nuclear Regulation
FANRPAN	Food, Agriculture and National Resource Policy Analysis Network
FANTA	Food And Nutrition Technical Assistance
FAO	Food and Agricultural Organization
FIVIMS	Food Insecurity and Vulnerability Information and Mapping
GDP	Gross Domestic Product
GHS	General Household Survey
HFIAP	Household Food Insecurity Access Prevalence
HFIAS	Household Food Insecurity Access Scale

HIV	Human Immune Virus
HSRC	Human Sciences Research Council
IDP	Integrated Development Programme
IES	Income and Expenditure Survey
IFAD	International Fund for Agricultural Development
IFRC	International Federation of Red Cross and Red Crescent Societies
IFSS	Integrated Food Security Strategy
IPPC	Intergovernmental Panel on Climate Change
LFS	Labour Force Survey
NAMC	National Agricultural Marketing Council
NFCS	National Food Consumption Survey
SADC	Southern African Development Community
SASAS	South African Social Attitudes Survey
SPSS	Statistical Package for Social Sciences
STATS SA	Statistics South Africa
TLC	Transitional Local Council
TRC	Transitional Rural Council
UN	United Nation
UNDP	United Nations Development Programme

USAID United States Agency for International Development

USDA United State Development Agency

WHO World Health Organization

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CHAPTER ONE

INTRODUCTION

1.1 THE BACKGROUND

South Africa has long been food secure at the national level. Nevertheless, food insecurity at the household level is still a major challenge. In point of fact, the level of food insecurity is on the increase in many South African households (Altman et al., 2009). An estimate of the number of South Africans who are food insecure ranges from 50 to 80% (National Department of Agriculture, 2002; Labadarios et al., 2009; Jacobs, 2009). These variations at the national level could be ascribed to the different measures used to determine food insecurity line (e.g. under-nutrition versus under-nourishment) and the type of survey data upon which each study was based. These estimates, despite the differences, highlight the severity of food insecurity at the household level in South Africa.

The Centre for Poverty, Employment and Growth (CPEG) at the Human Sciences Research Council (HSRC) was established in 2004 with the objective of identifying, by 2014, approaches to sustainably reduce unemployment and poverty by half (Miriam et al., 2009). Achieving food security in every household is the area of concentration of the CPEG, and is a crucial component of their poverty and unemployment reduction efforts. The Centre found that food insecurity is a major problem facing South African households, which is attributed to incessant poverty and unemployment (HSRC 2007). Both were caused by increased rates of shocks affecting households in the country. Consequently, these conditions have exposed many South African households to different levels of shocks and stressors, including droughts, HIV/AIDS, poor education, increase in food prices, and climate change.

The increasing levels of these shocks have become a major concern in the country. According to a national report released in 2014 that concurred with World Hunger Day, South Africa is the second largest economy in Africa, but only 46% of South Africans are food secure, and 26% of the country's population experience chronic starvation (Shisana et al., 2014).

The problem of food insecurity is also ravaging some other Southern African countries. For example, in 2012, it was assessed that 1.63 million individuals were suffering from food shortage in Malawi and would need sustenance. Likewise, in Lesotho, failure of two consecutive crop seasons was experienced in 2012 and 2013, which was a result of flooding and bad weather conditions. This made the production of maize to reduce by 77% when compared to the 2010/2011 season, which was not a good year for agriculture. Angola is also suffering from problems related to food supply and food insecurity, besides experiencing an extreme drought in 2012, which affected 1,833,900 people, of which 533,000 are children under five (5) years old. Still in Zimbabwe, the domestic production of cereals in 2012 was estimated to be 33% less than the 2010/2011 season of harvest and 15% below the 2006 – 2011 average (IFRC 2012).

Meanwhile, in South Africa, variability in weather and climatic conditions has severe effects on the revenue of small-scale subsistence farming households, which is a significant factor in the nation's food insecurity problems (Kochar, 1995; Mirza, 2003; Christiansen and Subbarao, 2005; Dercon and Krishnan, 2007; DEA, 2011). This, is however appalling on the grounds that there are around 1.3 million small scale farming units in South Africa, and it is evaluated that 70% of this poorest families dwell in these regions that are thought to be food-independent (DEA, 2011). Subsequently, farming households experience several income shocks as a result of high dependence on rain-fed agriculture and low adaptive capability (IPPC, 2007; Shields and Fletcher, 2013). Thus, it is evident that majority of South Africans who are food insecure dwell in deprived rural areas (Shisana et al., 2014). Apparently, severe food insecurities are likely to arise from weather-related shocks, such as droughts and floods (FAO, 2008; Nhemachena et al., 2010; Nelson et al., 2010; Shields and Fletcher, 2013).

In South Africa, frequent occurrences of droughts and floods are common. These have led to several disasters in terms of economic losses due to low farm outputs. Agri SA (2015) found that inadequate amount of rainfall negatively affected maize farmers in the Free States Province. Ipso facto this situation made farmers to be in need of huge financial supports.

For instance, Mozambique and Zimbabwe which are in the northern part of South Africa were heavily affected by severe floods in the year 2000, with a consequential death of about 600 people, in addition to damages and loss of properties. Several extrapolations were made

by research that rainfall will turn out to be more intense and frequent occurrence of drought will be experienced imminently (Fauchereau et al., 2003, Christensen et al., 2007). Moreover, this will have tremendous effect on South Africa's water administration schemes which is dependent on storage facilities (Department of Tourism, 2004). The water table levels will likewise be affected by climatic changes even when ground water is utilized for irrigation purposes (Bouraoui et al., 1999). These impacts will be intensified by increased burdens associated with the adverse climatic conditions.

According to the South African government, food security is accomplished when access to sufficient and nutritive food is easily acquired by people in order to live an active life (Republic of South Africa, 2002). Although, South Africa is considered to be food secured as a country, yet many households within the country are still food insecure. Therefore, in order to identify the status of food security in South Africa, several studies must be carried out on households' food access and distribution. Additionally, there are different accessibility and distributional problems that needed to be understood. Household income, in turn would be enhanced by expanding employment opportunities which will bring about ending solutions to poverty and food insecurity. The level of employment has improved significantly over the decade but not enough to eradicate food insecurity, for available statistics show that since 2001, social grants have contributed to reduction in households' food security, although employment generation is also essential (Aliber, 2009; Vander Berg, 2006).

Access to social grant seems to have the most astounding contribution to poverty eradication and reduction of hunger among poorest South African households (Vander Berg 2006). In 2007, about 12 million people received social grants. This implies a significant increase from the 4 million people that received in 2002. According to the 2007 General Household Survey (GHS), Aliber (2009) submitted that although 51% of extremely starving households qualified for social grants but are entitled to get more than the amount they were receiving. Aside this, one third are not getting any grants at all, regardless of being qualified. In the meantime, to stem this, it was further suggested that if the age of child support grant were raised to 18 years, 13% of extremely starving households will have access to grants which they are entitled for. Improving access to social grants for the qualified may perhaps vividly lessen the rate of hunger in several households.

Increasing rate of food insecurity has been a major concern in South Africa. This is caused by the low level of income, and a resultant poverty in the country. Despite tremendous advancement in eradicating poverty in other parts of the world, Sub-Saharan Africa still keeps on falling behind. Several predictions have shown that frequent occurrence of poverty will be experienced unless proper precautionary methods are put in place. Numerous occurrences of different disasters such as: HIV/AIDS, drought and famine have been discovered to be several reasons that have contributed to this trend. Since 1970, the rate of food insecurity in Africa has increased drastically and the percentage of undernourished populace has persisted within the range of 33 to 35 percent in Sub-Saharan Africa. However, the rate of malnourishment within the continent differs. Northern Africa experiences the lowest percentage - 4% and the highest in Central Africa 40% (Angela Mwaniki, 2005).

According to HSRC (2004), it was noted that in South Africa, the existence of food security among households and communities within the country differs, reflecting continuous societal and financial disparities regardless of the strong governmental obligation in addressing developmental issues in the country. Estimates suggest that approximately 14 million people are food insecure and 1.5 million children suffer from malnutrition (Drimie et al., 2009). This shows that there is still an increase rate of poverty within the country. This trend has led to increase in the rate of unemployment, HIV/AIDS, increase in food price, and adverse environmental conditions.

The highest number of individuals living with HIV/AIDS in the world is in South Africa (IFAD, 2007). A total number of 5.2 million people are estimated to be HIV positive, representing an HIV-commonness rate of 10.6% among the total estimated population (Haldenwang, 2009). This disease has been a challenge to the whole world and evidently South Africa is not exempted from this malady today. Approximately 3.2 million individuals worldwide were living with HIV/AIDS in 2007 (UNAIDS, WHO, 2007), and lots of lives have been lost due to this disease. Several reports indicated that South Africa has the largest number of HIV-positive individuals in the world, and around 5.5 million individuals affected by this disease (UNAIDS, WHO, 2007). 90% of new infection rate falls between the age group of 15 and 24 years old. Kwazulu-Natal province has been found to have the highest prevalent rate of HIV/AIDS, followed by Mpumalanga province (fig1) (Department of

Health, 2007 report). This epidemic is affecting many households in the country, thereby exposing them to adverse economic conditions.

In South Africa, HIV/AIDS' caregiving affects household's savings and resources, which often exposes households to different disasters. (SADC FANR, 2003). Caring for the diseased has reduced the capacity of households to produce or acquire food which has led to increase in food insecurity combined with the effect of climate change (Boudreau and Holleman, 2002; SADC FANR, 2003; Ziervogel and Drimie, 2008). Economically active person who are breadwinners in their households have been affected due to the burden of looking after the diseased. Ultimately, this disease and increasing poverty have worsened the persistent food crisis in South Africa (Maunder and Wiggins, 2007).

1.2 Problem Statement

According to Integrated Food Security Strategy for South Africa (IFSS), food insecurity and chronic poverty in South Africa are the result of centuries of imposed and politically sanctioned racial segregation rules, which was intended particularly to make general living conditions uncomfortable and hostile for the black people (Department of Agriculture, 2002). Compelled by social and monetary goals, progressive white governments all through the twentieth century changed the agrarian culture through a two dimensional approach that get under way a procedure that would handicap and suspend African agriculture and entrepreneurial advancement. This approach permitted and authorized white farmers as entrepreneur and pioneers of industrial enlargement (Department of Agriculture, 2002). These political moves and economic rules thereby drove blacks to end up engaging themselves in compensation work such as mining and small scale agriculture.

The magnitude of food insecurity experienced within households differs. The food security status of a household is very sensitive to livelihood shocks (short duration) and stressors (long durational) (Miriam et al., 2009). The intensification rate of shocks is therefore a major concern in South African households. The influence of shock encountered by households has caused increase in food insecurity in the country.

In South Africa, more than half of the population (65%) is found in rural areas and 78% of those people are liable to be chronically poor (Woolard and Leibbrandt, 2002). In Sekhukhune

district, the Department of Agriculture (DOA) discovered that there is an increasing rate of hunger within the district with 63% of households being food insecure. It also confirms that the least wage income earners in the district emerge from Tubatse and Fetakgomo constituency with both regions experiencing the largest amount of food scarcity in the district.

In the district, high rate of unemployment is found and a substantial number of individuals are not financially stable. The rate of unemployment stands at 69% and is one of the highest in Limpopo province, 4% higher than some other region in the province (Greater Sekhukhune District Municipality, 2009/2010). Despite the fact that the government employs 16% of the labour force, the vast majority of them depend on government stipends for survival or settlements from relatives working somewhere else. At present, the national land reform process is liable to claim 75% of the land in Sekhukhune District (Greater Sekhukhune District Municipality, 2005).

The economic and social improvement of citizens in any country depends on its level of education. It is the foundation in which a country's financial stability is built, especially in today's knowledge driven economy (Greater Sekhukhune District Municipality, 2009/2010). In Sekhukhune district, only 1% of the population has acquired tertiary educational qualification and nearly 28% of the populace have no formal education. This trend shows a high illiteracy level in the district. Estimates show that the majority of the inhabitants (42.64%) in Sekhukhune above the age of 20 years have no formal education at all, this trend is the highest in both Limpopo and Mpumalanga provinces (Greater Sekhukhune District Municipality, 2009/2010). Health challenge is also a major concern in Sekhukhune district. This is supported by Zanner et al, (2004), who discovered that hypertension, diabetes, tuberculosis and asthma are the most common health problems encountered in the district. According to Sekhukhune IDP review there are chronically low levels of medical professionals in medical centres (Greater Sekhukhune district municipality, 2005).

This research work is therefore designed to analyse farm household's exposure to shocks and their effect on food insecurity in district of South Africans. It therefore tries to answer several questions such as: what are the shocks affecting individuals at households and district levels?; and also to identify the impact of shocks along with other factors on food insecurity.

1.3 Motivation for the Study

Food security is multifaceted in nature and that makes precise estimation and strategic measurement very difficult. The numerous features that impact food access are not well understood.

Several assessments designed in achieving food security status at household's attained diverse results. The 1995 income and expenditure survey in South Africa showed that household's food insecurity stands at 45%. In 2005, the national consumption survey showed that 52% of households were suffering from hunger. In 2007, the General Household Survey assessed that 41% of households were food insecure. The differences in the results acquired is an indication of several dimensions of food security measurements and indicators used (Hart, 2009; Altman et al., 2009; Jacobs, 2009; Baiphethi, 2009).

On account of the aforementioned information, the principal inspiration behind this study is to contribute and ensure accurate measurement of food security and shocks at household level using the primary data survey at two local municipalities. A clear picture of food security at household level will be shown and also will reveal the historic and current patterns in food security. The study will further give a clear understanding of how food security is theorized and evaluated in Sekhukhune district.

1.4 Study Objectives and Benefits

1.4.1 Broad Objectives

The main objective of the study is to analyse the effect of welfare shocks on food insecurity in Ephraim Mogale and Greater Tubatse Municipalities in Sekhukhune District of Limpopo Province.

1.4.2 Specific Objectives

The specific objectives of the study are:

- I. To identify shocks affecting livelihood at household level.
- II. To determine the food insecurity status of households.
- III. Identify the impact of shocks along with other factors on food insecurity.
- IV. To make policy recommendations based on the four major findings from the study.

1.4.3 Benefits of the Study

The objectives above are expected to lead to the following benefits:

- I. To give up to date detailed information of shocks affecting people at households and district level and how it can be eradicated.
- II. Allow accurate measurement of food security in South Africa at household levels.
- III. To expose the rate at which the level of shocks influences food insecurity and also to develop an accessible assessment tool to measure food security.
- IV. To make policies related to food security.

CHAPTER TWO

LITERATURE REVIEW

2.1 The concept of food security

The perception of food security is a multifaceted occurrence which is difficult to understand. There are more than 200 definitions as early as 1996 but the food security concept only originated sometimes around 1970 during a period of global food crises (Maxwell, 1996). Food security was originally defined as concentrating on food supply and availability, i.e. at local and international levels. In 1974, at the World food Summit food security was further described as a process that can sustain food consumption, expansion, reduced fluctuation in price and production of world basic food stuff through constant supply of food to the people (UN, 1975).

This definition was later revised by the Food and Agricultural Organization of the United Nations as a circumstance that exists when people have access to nutritious, as well as safe food that meets dietary needs of people and are sufficiently supplied economically, physically and socially for a vibrant and healthy life (FAO, 2008). Four key factors of food supply were mentioned in this definition which are: accessibility, availability, utilisation and stability. However, when any of these factors are uncertain, then food system is vulnerable and insecure (FAO, 2008).

2.1.1 Food Availability

Food availability in adequate quantity and good quality are some of the ways to attain food security, such that foodstuff can be obtained from different channels, such as food assistance, household production, commercial import or other domestic output (United State Development Agency, 2006). Young (2004) argued that food security cannot be attained by one-dimensional production orientated approach, either at national or household level due to the effects during green revolution that did not reduce malnutrition by increasing food production. Sen (1981) mentioned in his entitlement concept that the inability of people to

secure food is the reason for hunger and not the lack of unavailable food; therefore, though food availability is very vital but it is not the only aspect needed to address food security problem.

2.1.2 Food Accessibility

Food accessibility is established when household members are entitled to adequate and appropriate, balanced nutritious diet, which is equally safe for consumption; food can either be obtained as gifts, grants or market transfer. Nonetheless, food accessibility is influenced by household income and distribution, as well as food prices (USDA, 2009). Thus and so, this is an indication that for all households to achieve food security it ought to have sufficient resources to purchase adequate amounts of food for the family. Meanwhile entitlement or income does not equate food security because households may have the same income and entitlement, but differs in the kind of foodstuff they purchase. Additionally, the magnitude of their earnings spent on food purchases would make a difference in their household food security levels; hence, the necessity for households to socially acquire their preferred foodstuffs in an acceptable manner. Therefore, the two major factors needed to determine food accessibility are food availability and the capacity to access food. Accordingly, the several choices people make, cultural background, including how and what they eat are a vital key to understanding the concept of food security.

2.1.3 Utilisation of the Food

Food utilisation relates to the ability of the household or individual to make an effective use of the food that is acquired. Alongside this, some important factors should be noted; they are: food storage, preservation, preparation and consumption according to Food Security Working Group (1997). Devereux and Maxwell (2003) also urged that the processes food undergo, such as selection, distribution, storage, preparation and eaten consequently affect the nutrient absorption of the food. Whilst FAO (2006) further explains that the different reason for utilizing food is beyond quantity and necessary diet, but also inclusive are: adequate food nutrient absorption and utilisation.

Nutrient absorption is inclined by sustenance, clean water, hygiene, health education and health maintenance amenities. As such to ensure optimal food utilisation, education on

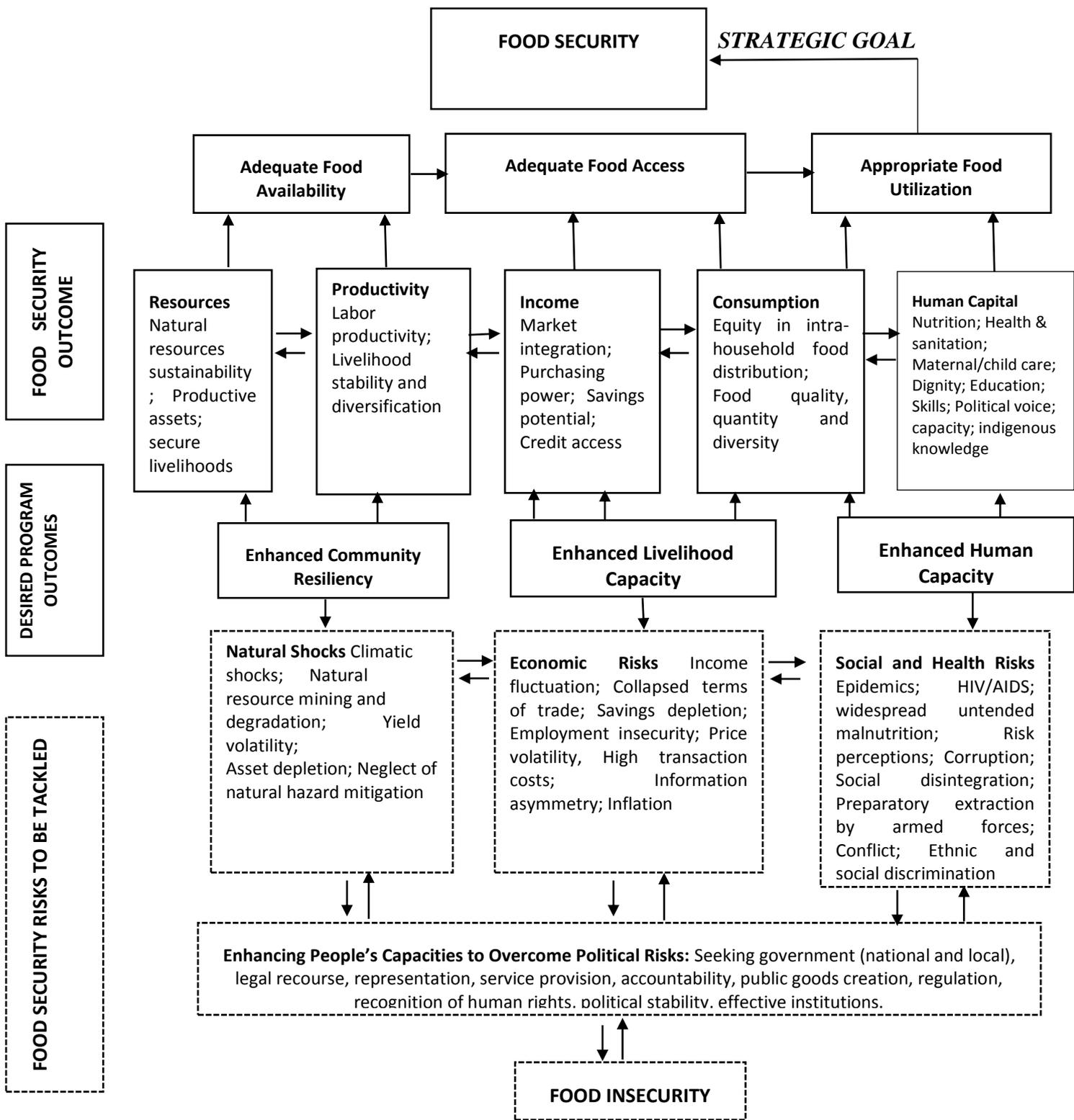
nutrition and health care should be invested into according to Boadi et al. (2005). Knowledge about food storage and processing techniques among household would boost food nutrient absorption and utilisation (USDA, 2006). Withal, there are usually high rate of disease in most developing countries with poor sanitation, limited safe water and poor storage equipment which affects food security and utilisation according to the findings of Boadi et al. (2005).

2.1.4 Stability

The fourth pillar of food security concept is stability and it is the ability to maintain food security over a specific timeframe. However, the stability level of food secured households may be affected by periodical and cyclical shocks. These shocks include unexpected job loss by members of the household and food regularity may influence sustenance access. Webb and Rogers (2003) summarized the conceptual framework for food insecurity as shown in Figure 2.1.

Consequently, to attain food security, food stuff should be available, accessible and properly utilized. While food availability is influenced by labour, natural resource, productive assets and secured livelihoods, so also, sufficient accessibility of food is influenced by income, savings or credit access.

It should be noted that the environment in which a household lives, natural shocks, economic risks and social and health risks may affect its food security situation (Webb and Rogers, 2003). In view of this, in order to understand the food security concept, Webb and Rogers (2003) further proposed a theoretical framework. This, they argue, can be achieved when there is sufficient availability of food, proper food accessibility and correct food utilisation.



Source: Webb and Rogers, addressing the “In” in food Insecurity, 2003

Fig 2.1 A Conceptual frame work for Food Insecurity

2.2 Food Security Status in South Africa

South Africa is widely known to be a food secured country due to its capacity to import food, coupled with the ability to produce sufficient stable food locally, which is the basic requirement of its population (FAO 2008). This was further supported by Hart et al, (2009), who stated that food security is met at the national level in South Africa, but majority of the household's in the rural areas are still food insecure.

Meanwhile, the General Household Survey (2009) estimates that 20% of South African households have insufficient access to food. The General Household Survey (GHS) in 2008 reported that Free State household had the highest inadequate food access at 33.5%, followed sequentially by Kwazulu Natal with 23%, Eastern Cape 21.4%, Mpumalanga 21.5%, Limpopo (11.9%) and Western Cape (14.5%). Correspondingly, several issues that contribute to food insecurity in South Africa are high rates of unemployment, deprived social welfare and increasing rate of HIV/AIDS (FAO, 2008). Even Landam (2004) points out that after fifteen years of democracy, food insecurity is still a continuous trend that still persists in the country. Equally, Statistics South Africa estimates 1.7% rise in population per annum and had an assessed population of 49 million in 2009 (Stats SA, 2009). Although National food security report showed that over the previous years, South Africa had possessed the capacity to meet the food needs of its population.

As stated by Demetre et al,(2004), more than 14 million people in the country, or around 35% of the populace are assessed to be susceptible to food insecurity. It was also discovered that about 1.5 million of children under the age of six are stunted. Thusly, it is obvious that food insecurity in the rural areas is growing more intense with almost 75% of people who are chronically poor (Machete et al., 2004).

2.3 Household Food Security Targets and Measurement

Household food security is complex in nature with broad perception and difficult to measure (Hart et al., 2009). Anderson (1990) argues that national food security and household food security are sometimes mixed up. Household food accessibility relies on how food is distributed in the market rather than the total agro-food produced; while business imports are utilized to evaluate food security at national level. According to Jacobs (2009), the objectives of food security greatly depends on food insecurity measurement and indicator. Given this fact, three groups of food security pointers occur with their distinct qualities and constraints. Firstly, food availability measurement pays little attention to individual nutritional status, but concentrates more on national food supply. Secondly, food expenditure and access indicators measure disregard individual nutritional status, but concentrate on the financial worth of food as a substitute for food utilisation. Thirdly, composite indexes might have misrepresented weights attached to components of the index values in practice than incorporating all the available dimensions of food security into a single index.

Notwithstanding these security pointers, lack of precise and acknowledged ways of measuring food security in South Africa are not yet discovered and no regularized methods of checking have been put in place (Hart et al., 2009). Policy maker's capacity to recognize ways that are suitable for various circumstances are limited. This shows the feeble connection between government, private sector and the civic society.

In South Africa, diverse measurements have been used by researchers such as National Food Consumption Survey (NFCS); Food Insecurity and Vulnerability information and Mapping System (FIVIMS); General Household Survey (GHS); Income and expenditure Survey (IES); Community Survey (CS) and South African Social Attitudes Survey (SASAS) to measure food security status of households. Due to the multifaceted nature of food security, numerous techniques yield diverse results. The GHS, IES, LFS and Community Survey are all applied by Statistics South Africa, which are all working in line with The South African government formulation policy.

2.4 Impact of shocks on household

2.4.1 High food prices in South Africa

The problem of high food prices has become a major concern in South Africa. High poverty level (Du Toit, 2005b) and persisting food insecurity (HRSC, 2007), have been a frequent occurrence in South Africa, this is due to the effect of income distribution and structural disparities (Seeking and Natrass, 2006). Statistics shows that 20% of children are stunted as a result of chronic food insecurity, while 10% are underweight (Labadarios et al., 2008; Chopra et al., 2009). Majority of households in South Africa rely on paid employment in order to access food (Du Toit, 2005b). This is mostly encountered among the urban and rural poor people who are net purchasers of food (Hendriks & Maunder, 2006). Individual's capacity to obtain foods of adequate amount and quality at the retail market has been negatively affected due to high food prices. The National Agricultural Marketing Council (NAMC, 2009b) discovered that in 2008, that per annum increment on food price was 16.7%, which was significantly higher than that of 2006 per annum increase of 6.7%, while product costs appeared to have levelled, retail food prices experienced slow rate of reduction (NAMC, 2009b). In 2009, it was reported that the cost of food was reduced between the periods of January and April, signifying per annum increment of 8.4%. Drastic increment was experienced as food prices rose by 5.3% in 2004 (NAMC, 2009b). This increment in price can be clarified as a shock, whereas the present situation may be affirmation of relentless changes, despite the fact that yearly food price increment stay high.

Global food system has experienced tremendous adjustment due to the effect of food demands and quantity in this present generation, this situation makes low food price to be a historic trend (Von Braun, 2007; Evans, 2009). Consumers in South Africa encounter diverse effect of differences in the universal food scheme and those arising in the local food cycle. Connections between households and difficult commodity chains and marketable system have been strengthened through the process of modernization and changes. Relationships with these linkages have been strengthened and restructured due to globalization. Most households in the rural areas encounter the effect of global fluctuations.

It has been discovered that diverse effects such as political and economic procedures outside the country have tremendous effect on the escalating rate of food prices in South Africa,

which are caused by the impact of the dynamic forces in the global food structure (Von Braun, 2007). Local consumers are experiencing increases in food prices, which is due to the effect of current global economic recession. However, foreign responses to the economic problem have been ignored by both public and private sector in order to achieve economic stability. In the meantime, it is projected that more people will be exposed to these shocks. Ipso facto, households might not have the capacity to adapt due to the effects of this shock; and subsequently, food accessibility will be difficult to attain by rural households (Hendriks, 2005).

2.4.2 Drought

The effect of drought has been put into consideration basically because it is known to affect households in achieving food security. There is no gainsay that this pandemic is ravaging rural households and farmers as whole. For instance, extreme weather temperature has been on the increase and conversely, rainfall has become increasingly low. The concept and proper description of drought have been difficult to realize; hence this difficulty has contributed to uncertainty and indecision of policy makers (Wilhite, 2000).

In South Africa, frequent occurrence of drought is discovered. All through the twentieth century, occurrence of drought has been consistent in South Africa (Vogel, 1995). Over the past 15 years three important drought periods below normal rainfall have been experienced in the country (Mason and Tyson, 2000). Terrific drought was experienced in 1991/92, 1997/98 and 2001/02 (Mason and Tyson, 2000). The effects of drought have been seen to be unavoidable natural hazards which have adverse effects on societies and agriculture (Glantz et al., 1997). This was further elaborated that the inconsistency of rainfall is the main reason why drought occurs in South Africa (Mason and Tyson, 2000; Tyson and Preston – Whyte, 2000 and Vogel et al., 2000). This has been shown to have serious effects on agriculture and food availability as a whole.

2.4.3 Impact of Drought on Food Security

Several events of droughts have been discovered to affect food production in any given area. Effect such as food prices and availability are one of the major concerns during drought. Increasing food prices stands to be one of the major consequences of drought in an economy. Thus, the consequences of droughts have significant effects on farming and tend to increase food prices (UNDP–BCPR, 2005).

Maize consumption is one of the major foods demanded by low-income deprived households, which is affected by price instability due to the consequence of drought. Higher food prices have been found to cause malnutrition and hunger among low-income households who cannot afford to purchase higher food prices (Chabane, 2003). The variation in price fluctuations is caused by two factors. Firstly, bad weather conditions, pest and diseases which will in turn reduce total crop yield thereby increasing prices. The second factor is the interval between planting season and the in-gathering of crops.

Buttressing this, Agri SA (2015) submits that large and small scale farmers have been severely hit by the worst drought since 1992. Yet , state of emergency has been declared in two provinces due to the terrific effect of this drought on the economy and farmers. As a consequence, food prices are on the increase, and its effect on inflation is one of the concerns for the South African reserve bank’s monetary policy committee. South Africa has now started maize importation and food imports could be very expensive due to the current state of bad economy.

2.4.4 Impact of HIV/AIDS on Food Security

It is generally recognised that HIV/AIDS has direct significant impact on households, communities and societal levels in an economy. This syndrome has caused dramatic loss of labour supply in the economy, which has led to several increases in health care expenses and reduction in food consumption. HIV/AIDS affects the overall living conditions of the infected people and destruct their capacity to provide for themselves and families; this syndrome affects the income generation of the infected people, and deprives them of living a good and quality life. The magnitude of this syndrome on agriculture and food supply in Sub-Saharan Africa is worrisome (Sibanda et al., 2007).

Policy makers in South Africa and the rest of the world have been concerned on the impact of HIV/AIDS on the economy. According to Sibanda et al, (2007), the Food Agriculture and Natural Resources Policy Analysis Network (FANRPAN) conducted a study in seven countries in Southern Africa. The result showed that although good policies are aimed at fighting HIV and poverty in some countries, but the effect of the disease continues to be experienced with more persons becoming infected and continuing to die of AIDS related diseases.

HIV/AIDS has been disclosed to have adverse effect on agriculture in rural areas. This pandemic affect agriculture in diverse ways thereby affecting various planting and harvesting seasons due to the loss of labour supply. The consequence of this disease on agriculture has led to lack of ability of household to produce staple foods which has thereby caused low production rate and income loss of households employed in this sector.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter emphasizes on the description of Limpopo province mainly: Ephraim Mogale and Greater Tubatse municipalities in Sekhukhune district. It also deals with the research instrument, sampling and problems encountered during field work. Details on how data were analysed are presented in this chapter.

3.2 Study Area

The study area of this research is Sekhukhune district of Limpopo province. The district is situated in the south-eastern part of Limpopo province. Two local municipalities were chosen out of five municipalities in the district. This is because the two municipalities are the most populated local municipalities in the district. Sekhukhune district is one of the five districts in Limpopo province. The Greater Sekhukhune District municipality was established in December 2000. This district consist of five local municipalities namely, Fetakgomo, Makhuduthamaga, Elias Motsoaledi, Ephraim Mogale and Greater Tubatse local municipalities (Stats SA, 2011). The vast majority of the district is mostly rural, with approximately 94.7% of the population living in the rural areas and 5.3% living in the urban areas.

Greater Tubatse local municipality was incorporated in the year 2000, after the local government elections. This area came out as a result of the municipal segregation process. The area is made up of 29 wards and 166 villages with its main office in Burgersfort. Each ward is represented by a councillor which is managed by a local municipality. Their focal commercial economic sectors are mining, agriculture, civil services and retail services.

Ephraim Mogale local municipality was incorporated in the year 2000. The municipality was integrated into Limpopo province after the municipal election in the year 2006. The municipality came out as a result of the unification of the eight former TLCs. This area

comprises of 16 wards and 75 villages with one town and two R293 towns. Their major economic activities are: Agriculture, mining, construction, trade, transport and finance.

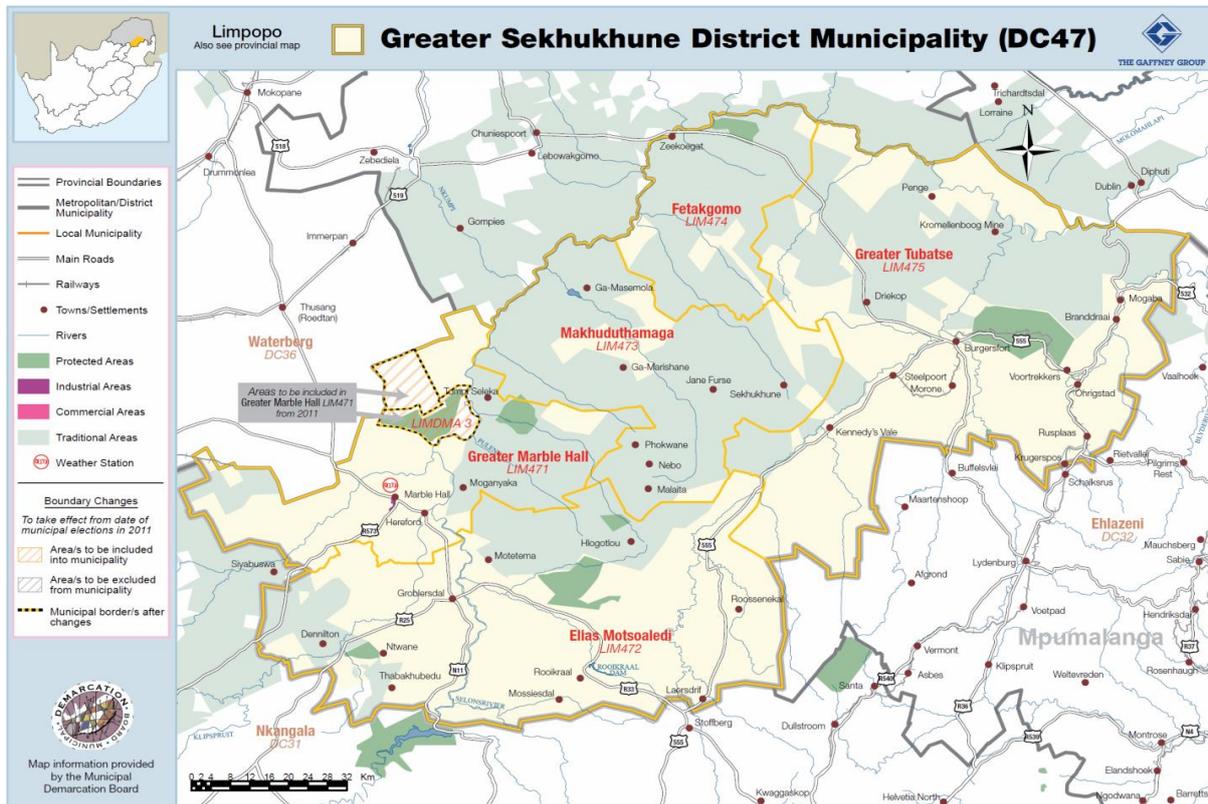


Fig 3.1 Geographic location of Greater Sekhukhune District Limpopo Province (Greater Sekhukhune District Municipality Profile, 2011)

3.3 Data collection design

This research used a quantitative design. Permission was first collected from the Sekhukhune district municipality to conduct the research. Questionnaires were explained to the local councillors of the two municipalities before surveying. Focus group discussion was conducted in Groblersdal and the session lasted for 45 minutes and assurance was given to all participants that their responses during data gathering will be held anonymous and used only for research purpose.

3.4 Data Collection Instrument

Well-structured household questionnaire was used as the research data collection instrument for this study. This device was selected because of its low cost and it requires little expertise to run. It was designed to accommodate areas such as demographic characteristics, assessment of household food availability and affordability, shocks affecting livelihood and household food accessibility, food source and consumption. The questionnaires were divided into different sections to collect information. The sections include: (a) Household demographics (b) Household assets and productive assets (c) Inputs to livelihood (Household's main livelihood activities and income) (d) Food sources, food access and consumption (e) Shocks, stress and coping strategies affecting the household.

3.5 Sample size and procedure

A total of 200 questionnaires were administered in the two municipal areas. Greater Tubatse municipality consist of a population density of 335,676 (72.94 per km²) and 83,199 households while Ephraim Mogale comprises of a population density of 123,648 (61.48 per km²) and 32,284 households (Stats SA, 2011). Within each municipality several different villages were selected. The selections occurred through stratified random selection; however, costs as well as the feasibility associated with the location of the selected village were taken into account when selecting villages.

The research was conducted within the following 20 villages: Phetoane, Tisimanyane, Letebejane, Masanteng, Mafisheng, Ditholong, Mohlalaotwane, Kolokotela, Dichoueng, Kromdraai, Ga-masha, Ga-Mampuru, Ga-Phaspha, Ga-Mouru, Santeng, Mokotaseng, Mapodile, Ga-Manoke, Kgautswane and Puma. Within each village 10 households were surveyed. Random sampling technique was chosen to select houses to be surveyed. Sample survey on household level was obtained between the 10th of July and 22nd of September 2014.

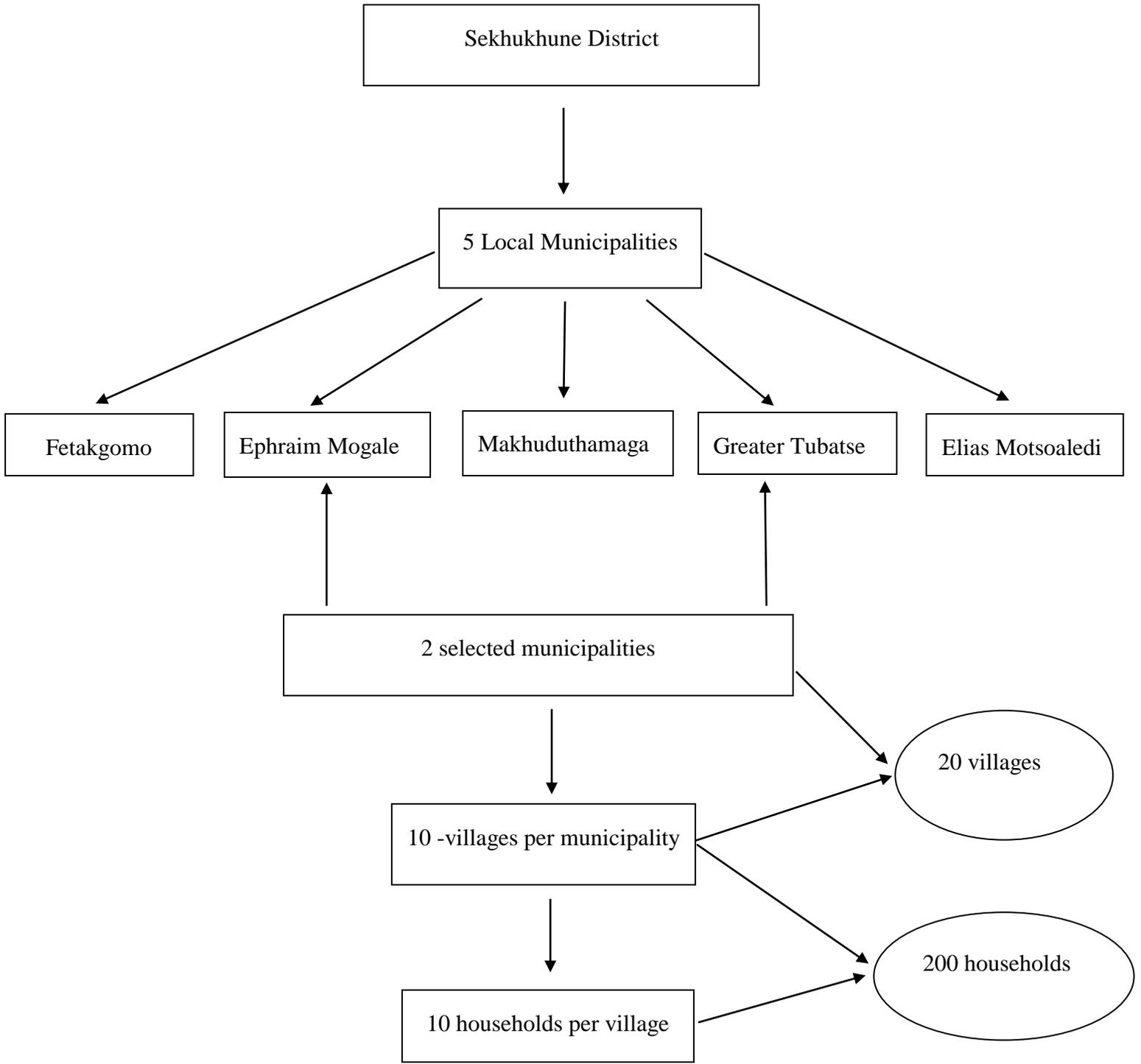


Fig 3.2 Schematic flow of work

3.6 Statistical Analysis

The data collected were analysed using the Statistical package for social scientist (SPSS) version 20. This software assisted in calculating vast variety of statistical analysis which has a dynamic data processing ability. This was used to accomplish descriptive statistics and other data analytical interpretations.

3.6.1 Descriptive Statistics

Descriptive analyses were used to analyse the household demographics information and other data samples in the study. Diverse statistical calculations and graphical representations where all achieved calculations such as standard deviations, mean, variance and standard error of mean were prepared.

3.6.2 Statistical Inference

The Household Food Insecurity Access Scale (HFIAS) was used in the study as a survey instrument to find out whether households are having problems in accessing food for the past 30 days. The effectiveness of this tool has been discovered to check the severity level of household food insecurity. HFIAS was developed by the USAID which was funded by the Food and Nutrition Technical Assistance (FANTA). This was done in order to distinguish food secure and food insecure households.

The HFIAS comprises of nine generic questions which are directed to respondent in order to identify household with food accessibility problem. This question represents general areas of experiences of unstable access to food by households (Deitchler et al., 2010). The answer to each question is represented by a score which ranges from 0 to 27. These scores are used to measure the level of food insecurity in households. The higher the score, the more the intensifying rate of food insecurity experienced. Whereas the lower the score, the lesser the rate of food insecurity experienced by households.

The Household Food Insecurity Access Prevalence (HFIAP) is used in classifying households into four different levels of food insecurity such as, food secure, mildly food insecure, moderately food insecure and severely food insecure. Households are classified as severely food insecure as they respond to severe conditions repeatedly (Coates et al., 2007).

3.6.3 Multiple Linear Regression

The multiple linear regression model was used to analyse the data and also to recognise the factors that determined the household food security in the study area. The model was used to generate regression factor score to determine the factor analysis as the dependent variable and also used the regression factor score on its independent variables.

The regression model specification is shown below:

$$\hat{Y} = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 \dots\dots + \beta_kX_k + \varepsilon$$

Where \hat{Y} is the limited dependent variable Food security level of household head (1- SS/DD;

1 = food secure, < 1= food insecure)

X_1 through X_k are k distinct independent predictor variable

β_0 Is the value of Y when all the independent variables (X_1 through X_k) are equal to zero and

β_1 through β_k are the estimated regression coefficients. The table 3.1 below explained and summarized the independent variables.

Table 3.1: Variable definitions

Variable	Description
Household size	Indicates number of people in the household
Age	Indicate age of household head (years)
Gender (Dummy)	Indicate male/female headed of household 1 = Male 0 = Female
Married (Dummy)	Indicates household head as married (1= Married, 0 = Not married)
Partner (Dummy)	Indicates household head as partner (1= Yes, 0= No)
Divorced (Dummy)	Indicates household head as divorced (1 = Yes, 0 = No)
Living apart not divorced (Dummy)	Indicates household head as living apart and not divorced (1 = Yes, 0 = No)
Widow (Dummy)	Indicates household head as being a widow (1 = Yes, 0 = No)
Never married (Dummy)	Indicates household head as never married at all (1 = Never married, 0 = Married)
Employment status (Dummy)	Indicate employment status of household head (1= Employed, 0= Otherwise)
Level of education (Dummy)	Indicate educational level of household head (1= Educated, 0= Otherwise)
Household Sickness (Dummy)	Indicate household members with sickness (1= Sick, 0 = Otherwise)
Diabetes of diseased (Dummy)	Indicate household suffering from diabetes (1= Have diabetes, 0 = Otherwise)
Access to agricultural farmland (Dummy)	Indicate the size of cropping land of households (1= Access to farmland, 0 = Otherwise)
Access to farm animals (Dummy)	Indicate household with access to farm animals (1=Access to animals, 0 = Otherwise)
Household income (Rand)	Indicate household income per month
Household food expenditure	Indicates household expenditure spent on food per month
Household non-food expenditure	Indicates household expenditure on non - food activities per month

Food crop production (Dummy)	Indicate households that produce food crops (1=Food crop production, 0= Otherwise)
Livestock production (Dummy)	Indicate household that rear livestock's (1= Livestock production, 0 = Otherwise)
Unskilled wage labour (Dummy)	Indicate households with income from unskilled labour as their main source of income (1 = Yes, 0 = Otherwise)
Agricultural labour (Dummy)	Indicates households with income from agricultural labour as their main income source (1 = Yes, 0 = Otherwise)
Salary/wages (Dummy)	Indicate households with formal income as their main income source (1 = formal income, 0 = Otherwise)
Pension, grants and disability funds (Dummy)	Indicates household with pension, grants and disability funds as their main income source (1 = Yes, 0 = Otherwise)
No shocks (Dummy)	Indicates household with no experience of shock in their household (1= Yes, 0 = Otherwise)
Theft (Dummy)	Indicates households that experience theft and robbery as shock experienced in their household (1= Yes, 0 = Otherwise)
Death of household member (Dummy)	Indicate shock experienced through loss of household member (1= Yes, 0 = Otherwise)
Accident (Dummy)	Shock experienced by household for reason of accident or chronic illness (1 = Yes, 0 = Otherwise)
Loss or reduced unemployment (Dummy)	Indicates shock experienced through loss of employment of households (1 = Yes, 0 = Otherwise)
Unusually high level of livestock diseases (Dummy)	Shock experienced by high level of livestock diseases (1 = High livestock disease, 0 = Otherwise)
Unusually high level of crop pest diseases (Dummy)	Indicates shock experienced by crop pest diseases (1 = Pest diseases, 0 = Otherwise)
Drought (Dummy)	Shock experienced through drought (1 = Yes, 0 = Otherwise)

3.6.4 Limitation and Delimitation of the study

The purpose of this study is to administer questionnaires to categorize the level of food insecurity and shocks affecting households in Ephraim Mogale and Greater Tubatse municipalities in Sekhukhune district of Limpopo province.

Several challenges regarding the disclosure of the income earned by individuals and their various expenses were difficult to acquire. This was because majority of the individuals residing in the area were not enthusiastic about divulging the data regarding their daily wages. As a consequence, the study was only restricted to only two local municipalities of Sekhukhune district in Limpopo province, and as such the outcome may not reflect the entire circumstances in the district.

The study is delimited to these two municipalities and data samples were collected and conducted between the months of July and September 2014. The study was designed with the aid of primary data collection such as questionnaire administration during field survey.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The main purpose of this chapter is to answer the questions raised in the study through analysing responses from the questionnaire by using appropriate methodology and interpretation of data collected from respondents in the study area.

4.2 Demographic characteristics of study households

The result in table 1 shows that the samples consist of 200 households, of which 59% of households were headed by female and 41% were male headed. Household size represents the total number of people residing in the household. The average household size for the two municipalities was 4.4.

Table 4.1 Household demographics

Household characteristics	Category	Frequency	Percentage (%)
Gender	Male	82	41.0
	Female	118	59.0
Age	20 – 30	6	3.0
	30 – 40	22	11.0
	40 – 50	30	15.0
	50 – 60	98	49.0
	60 – 70	38	19.0
	70 – 80	6	3.0
Average age	52	-	-
Average Household size	4.4	-	-

Marital status	Married	60	30
	Partner	17	8.5
	Divorced	17	8.5
	Living apart not divorced	12	6
	Widow or Widower	44	22
	Never married	50	25
Education level	No schooling	40	20.0
	Some primary	46	23.0
	Completed primary	36	18.0
	Some secondary	22	11.0
	Completed secondary	32	16.0
	Completed advance level	2	1.0
	Completed tertiary	16	8.0
	Completed university degree	6	3.0
Employment status	Full time employment	80	40.0
	Par-time employment	14	7.0
	Seasonal employment	14	7.0
	Informal employment	18	9.0
	Grant	40	20.0
	Pension	34	17.0

4.2.1 Gender of household head

Fig 4.1 shows that out of the 200 households interviewed, 59% were female headed and 41% were male headed. Based on this figure, this shows that mostly female respondents are interested in participating in the research than their male counterparts.

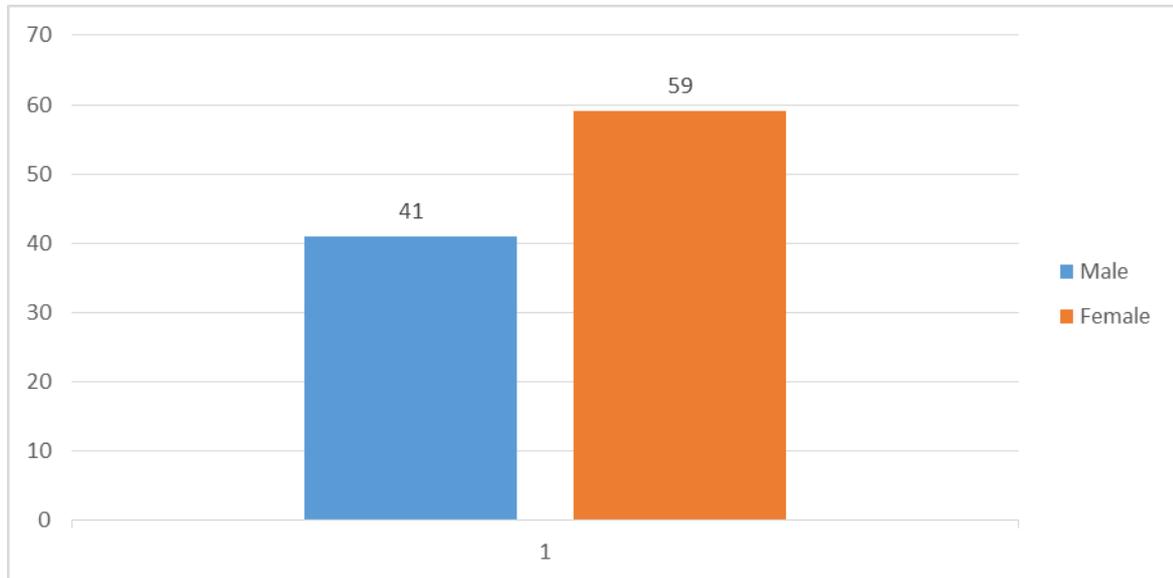


Fig 4.1 Gender of household head

4.2.2 Age group

Fig 4.2 shows the age group of respondents. 2% are from the age group of 20-30, 11.5% are from 30-40 years, 18% are from 40-50 years, 49% are from 50-60 years, 18% are from 60-70 years, 1% represents respondents from 70-80 years while 0.5% identifies those who are between the ages of 80 and 90. The majority of respondents fall between the ages of 50 and 60 years. The average age of the household head is 52 years old. This reflects an aging population of the household heads, which could in turn have crucial effect on household food security.

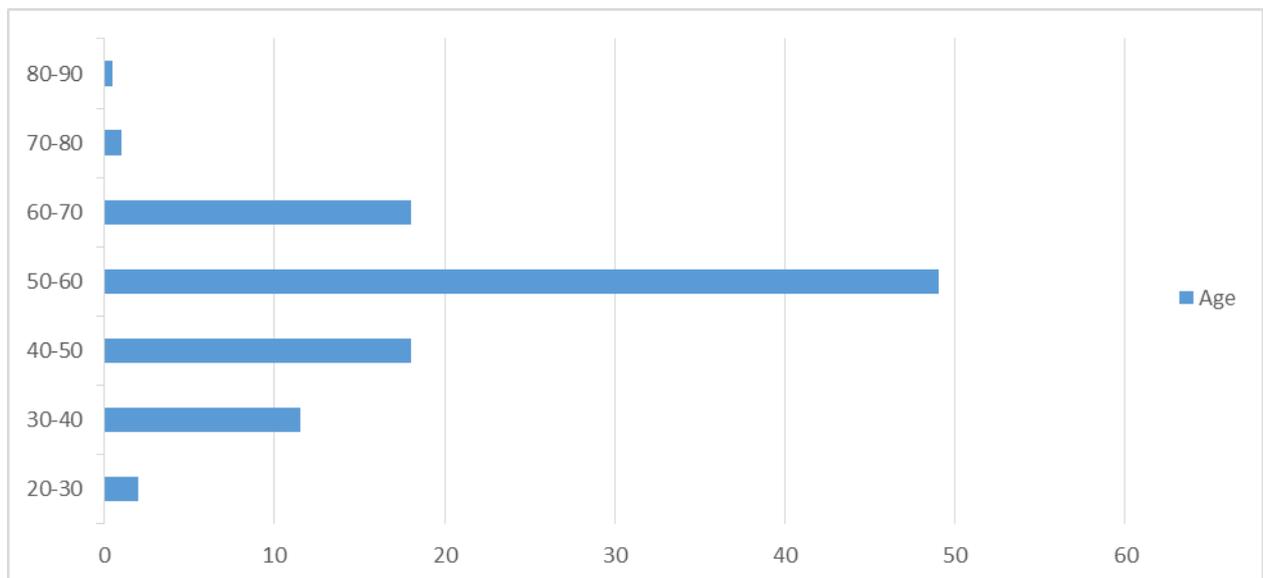


Figure 4.2 Age group of household heads

4.2.3 Household size

The average size of household is composed of 4 to 5 household members. The majority of the households had 3 - 4 members followed by 5 – 6 members. About 18% of household comprises of 3 household members. The graph (Figure 4.3) shows the distribution of household size.

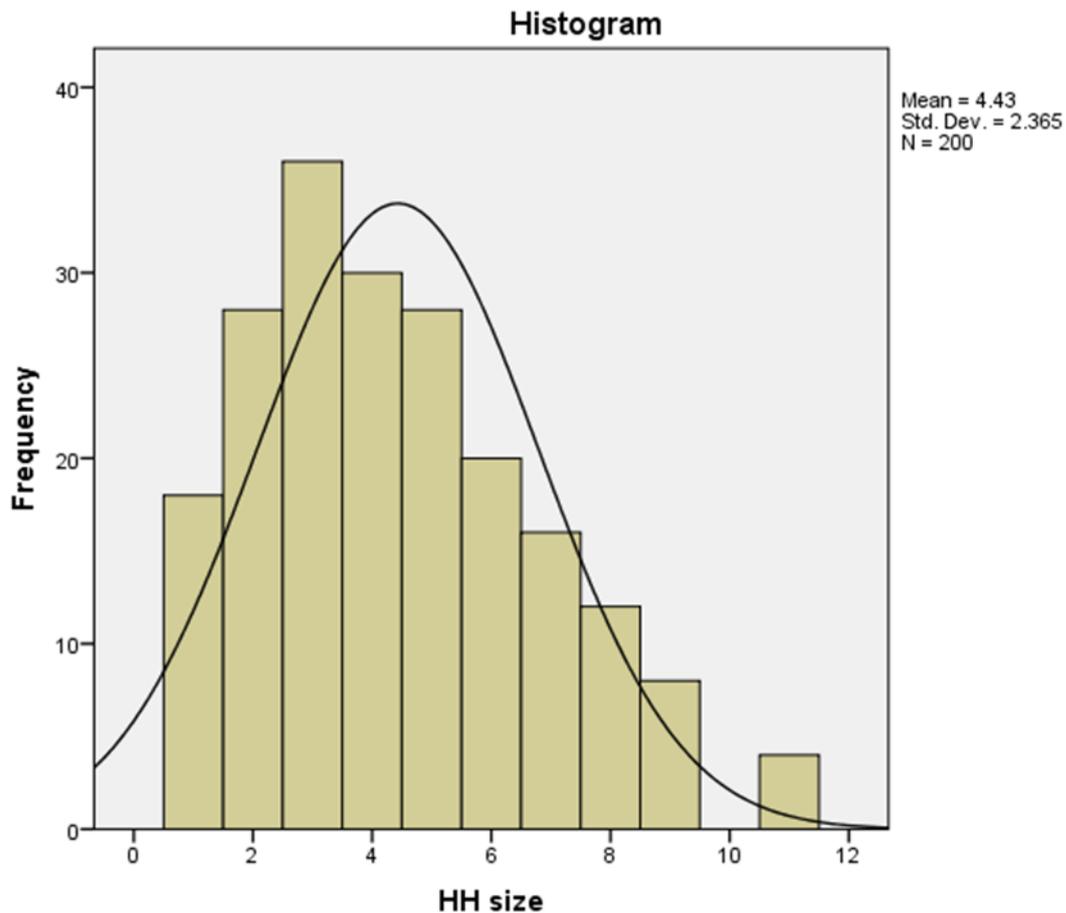


Fig 4.3: Distribution of household size

4.2.4 Educational level of the household head

Figure 4.2 shows that 20% of the household heads did not attend any form of schooling at all. This figure shows low level of education in the study area. This is worrisome since education is strongly linked to household food security and poverty reduction (Amaza et al., 2009). About, 18% completed primary school, 16% completed secondary school, 8% completed tertiary education and only 3% completed university education.

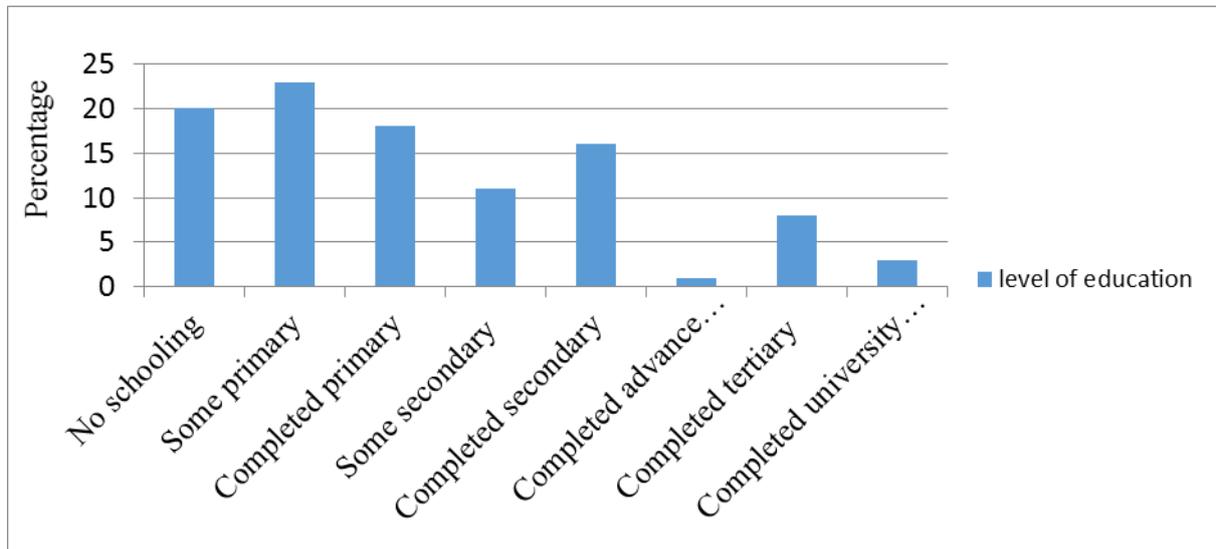


Fig 4.4 Education level of household head

4.2.5 Employment status of household head

According to FAO (1999), income from both farming and non-farming activities are very vital; this enable households to diversify their income which in turn reduce the risk of food shortages and severe hunger in households (Derereux, 1993; Maxwell and Franken-burger, 1992). Figure 4.3 shows that 40% of the total household heads are formally employed while majority depends on grants and pension. This study also revealed that 9% of the household heads are not formally employed.

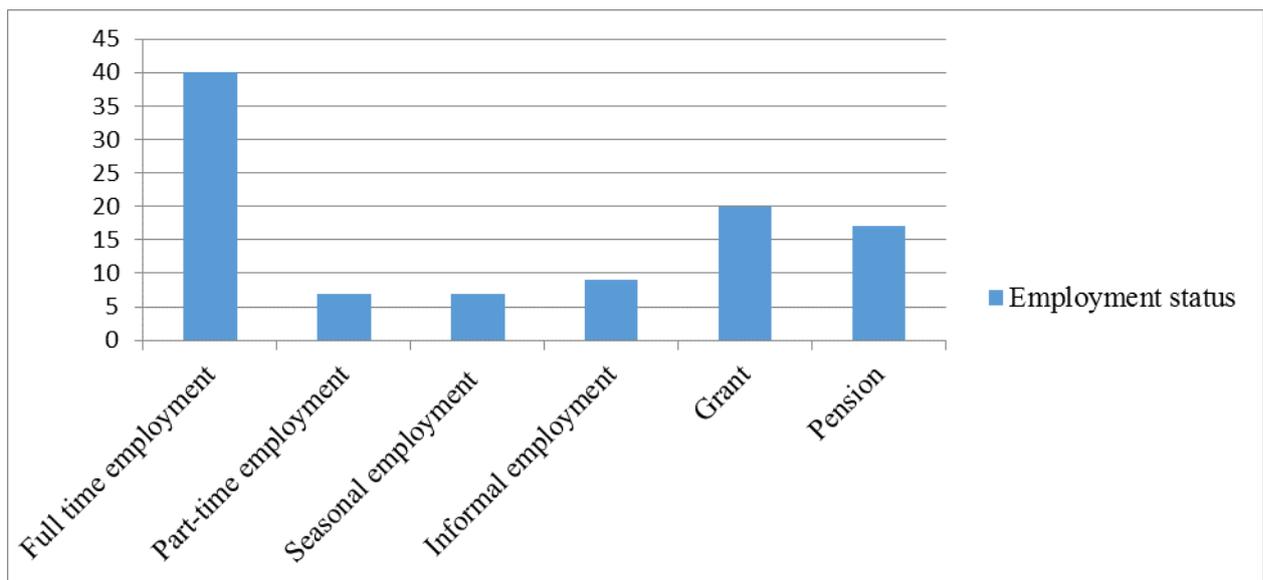


Figure 4.5 Employment status of household head

4.2.6 Distribution of household heads by main source of income

Many households obtained their income from different activities or sources. These main sources of income are indicated in Figure 4.4 below. This study revealed a high income generating pattern in which many households are engaged in formal jobs (23%), obtaining their main source of incomes from formal salaries and wages. The majority of the households, precisely 30% depend on government allowance such as grants, pension and disability benefits. Therefore, the importance of social grants to household income cannot be overemphasized. Results from the 2005/2006 income and expenditure survey of South African households as reported by Statistic South Africa (2008) underscored the importance of income from work such as those from formal employment as one of the main income source of households.

Engagement in agricultural activities such as food crop production, livestock production and animal products contributes to the main income source for just about 21% household. Among the households, 21% engaged in unskilled wage labour, agricultural labour and skilled labour as main income source. Other sources of income identified were through petty trading, selling commercial activities and gathering.

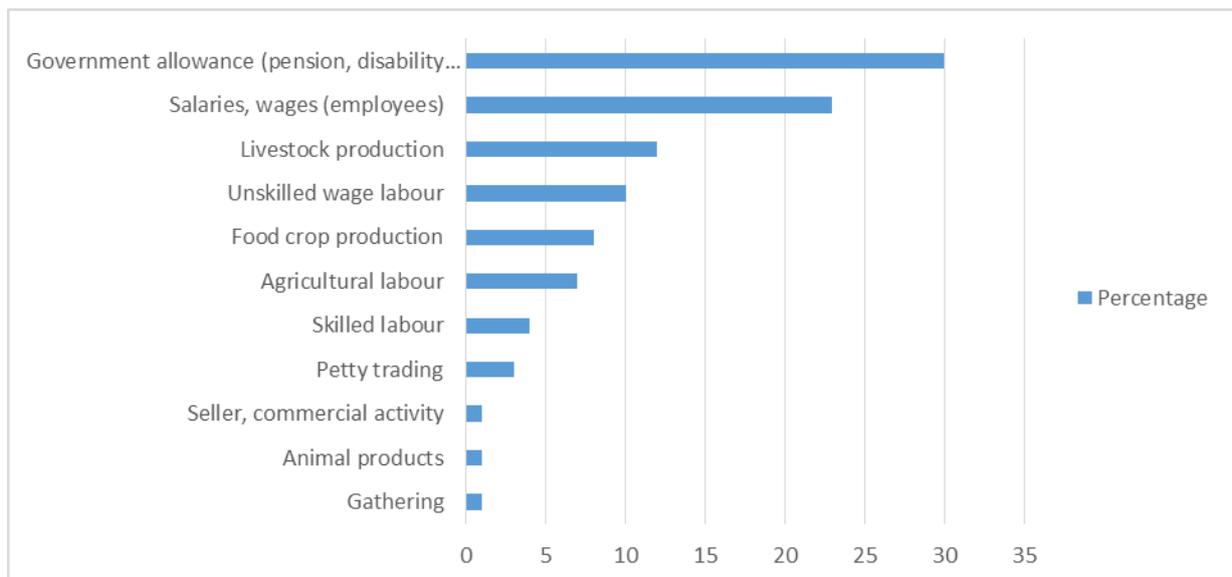


Fig 4.6 Percentage distribution of household head by main sources of income

4.2.7 Household income classes

The income distribution of households was classified into eight categories in Fig. 4.5. Majority of household earned income between the range of R 3001.00 and R 5000.00, as well as R 2001.00 and R 3000. Only 13.5% of the household were receiving between R 1001.00 and R 1500.00; while 4% of households were receiving high income above R 7500. The average household income in the study area was R 3182.80 per month (SD: R2463.70). This shows a low indication of monthly income in the study area.

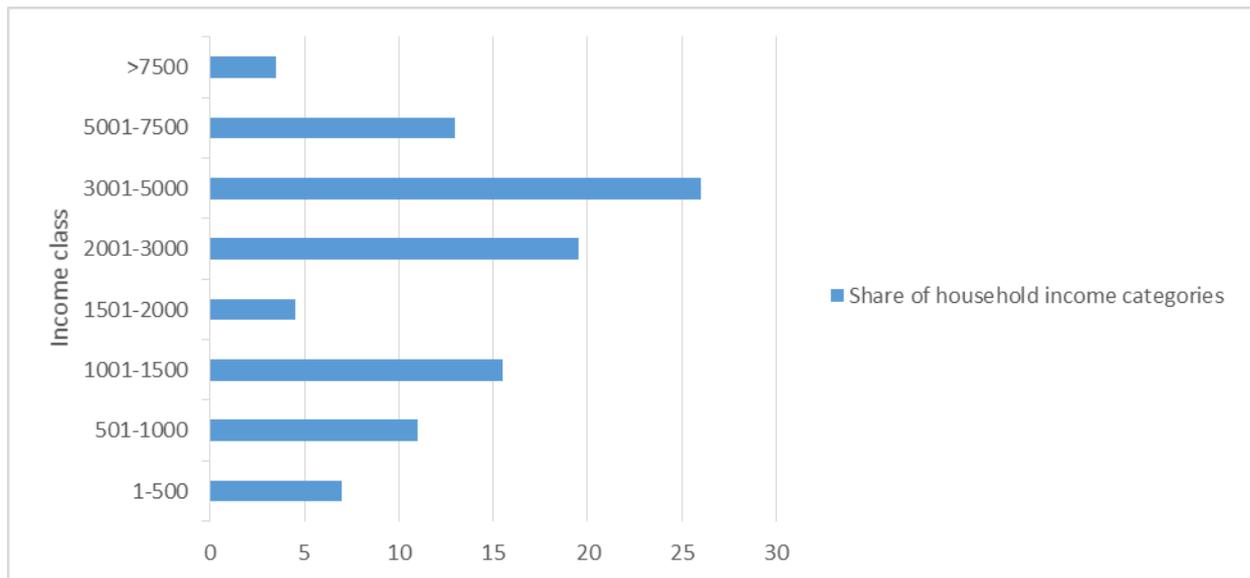


Fig 4.7 Household head income class

4.2.8 Household expenditure

The household expenditures were classified into food and non-food. Fig 4.6 shows that households with income range of R 1- 500 spend 69% of their income on food and 31% on non-food expenses, R 501 -1000 spend 65% of their income on food and 35% were spent on non-food expenses, R 1001-1500 spend 66% of their resources on food while 34% were spent on non-food expenditure. This trend shows that household with lesser income spend more on food expenditure while household with higher income spend less on food, but on other important things. This clearly exhibit Engels law which states that the amount of money spent on food expenditure decreases has income rises.

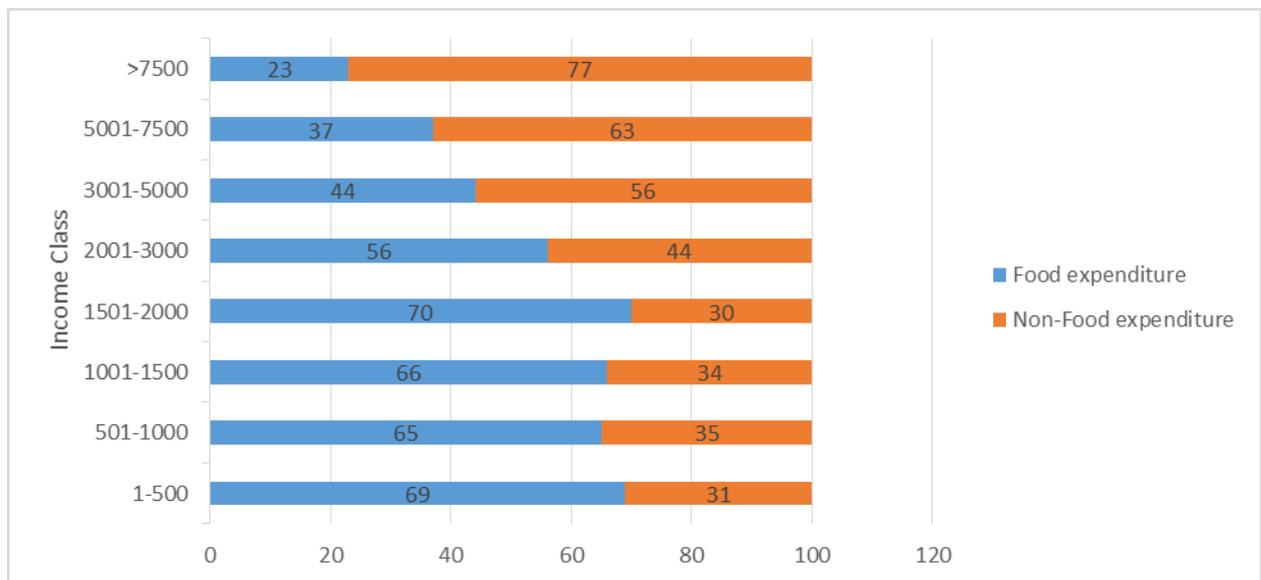


Fig 4.8: Household food and non-food expenditure

4.2.9 Household farm sizes

The average farm sizes observed in the study area are shown in table 4.3. Two variables were put into consideration about the household farm size which are the total land area that farmers have access to and the total amount of land that was put under crop cultivation. In this study, farm sizes refer to the actual amount of land put under crop cultivation by households. The average farm size under cultivation is 2.6ha with standard deviation of (1.2ha). Farm holding ranges from 0.8ha to 5.0ha. This shows a low variation in farm holdings by households.

Table 4.2 Average household farm sizes (ha)

Variable	Minimum	Maximum	Mean	Std. Deviation
Total land have access to	0.8	6.0	2.9	1.3
Total land under cultivation	0.8	5.0	2.6	1.2

4.2.10 Household Access to agricultural farm land/types of crop grown

In this study, 40% of the households indicated that they had access to agricultural farm land, while 60% did not practice agricultural farming system. The most widely cultivated crops are cereals. Maize appears to be the most widely grown cereal crop in the two municipal areas. Starchy tuber only constitutes 4% of the crops grown in the area while vegetables made up to 5% of the cultivated crops in the area.

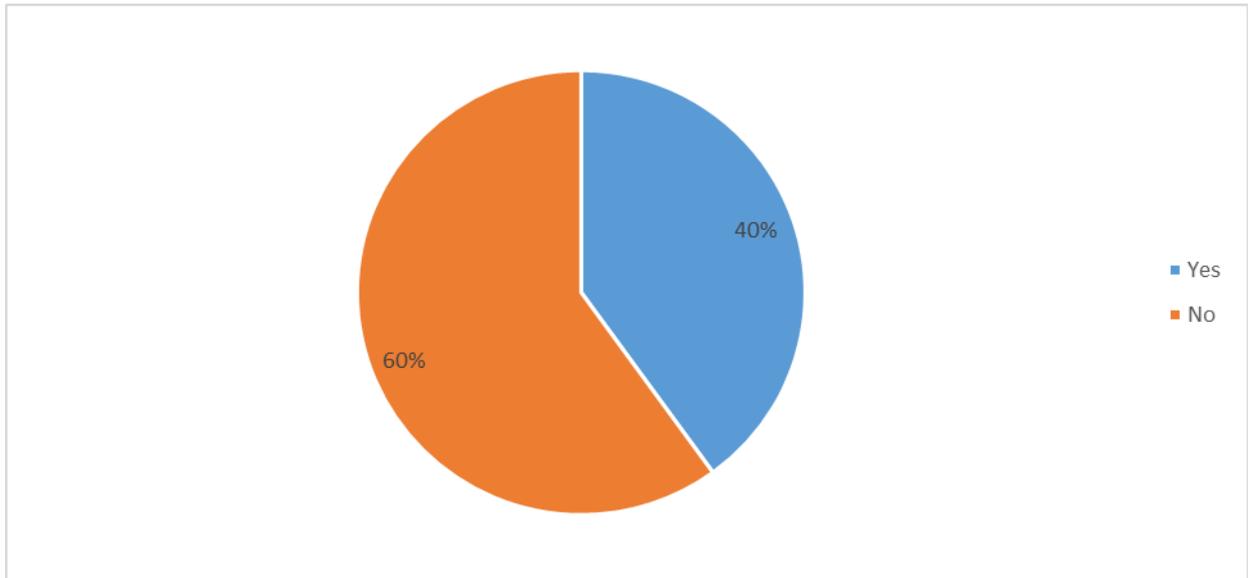


Fig 4.9 Household access to agricultural farm land

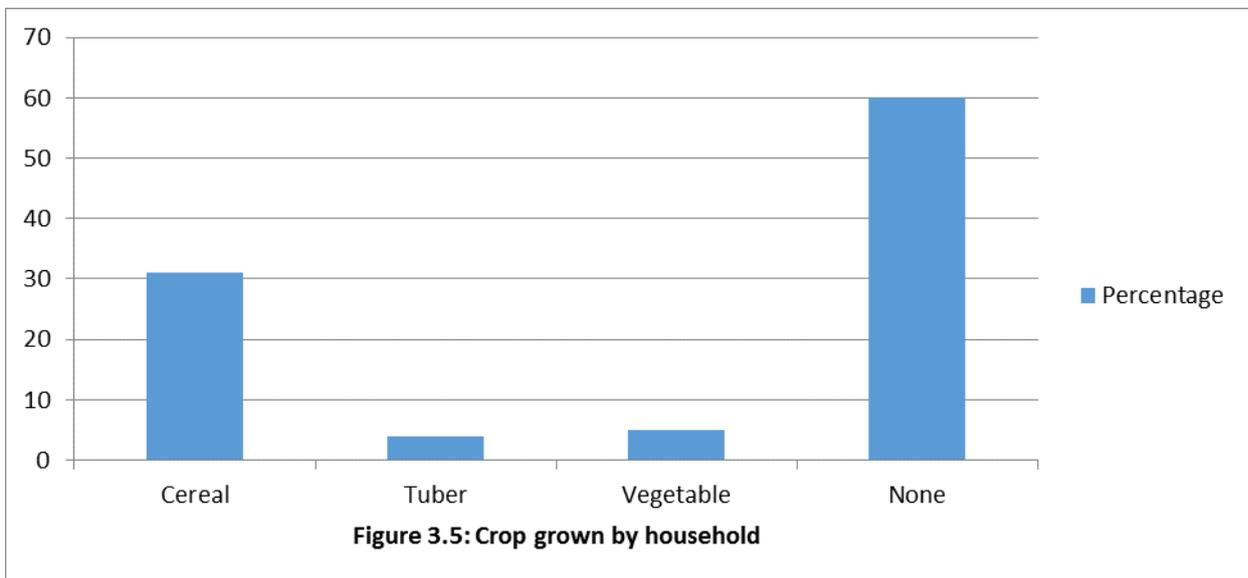


Figure 3.5: Crop grown by household

Fig 4.10 Types of crop grown by household

4.2.11 Access to Farm Animal/Livestock Ownership

Generally, figure 4.13 shows that 55% of the households indicated that they own farm animals. The most important livestock owned by households are cow, goat and chicken. Also, 26% of the households owned cows, whereas 21% owned goats, while 17% owned chicken.

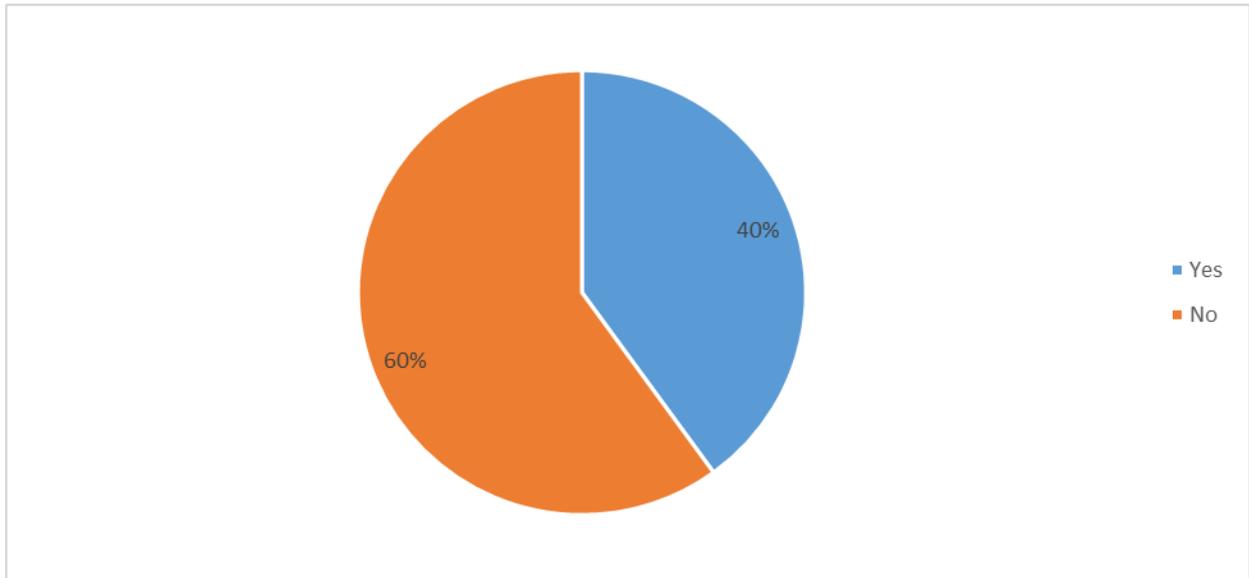


Fig 4.11 Household access to farm animals

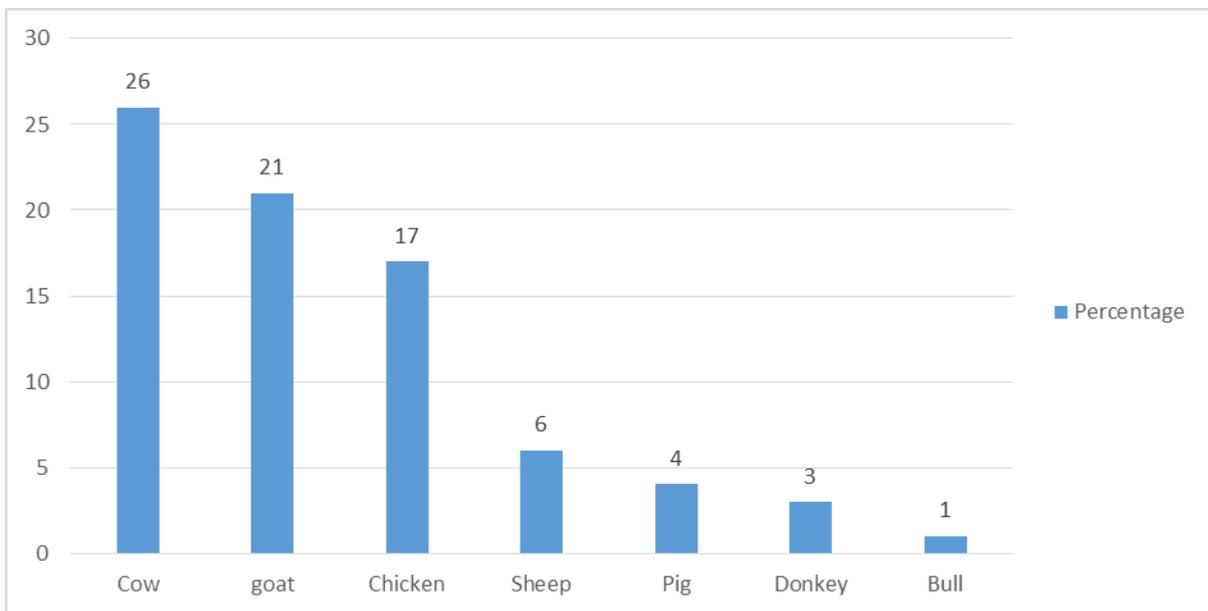


Fig 4.12 Percentage distribution of livestock owned by households

4.3 Household Food Accessibility

4.3.1 Household food consumption pattern

In order to know how household meet their food needs, a food consumption assessment was carried out. This was centred on the number of frequencies a food type was eaten in the last seven days. The Figure below shows that maize product is the most consumed food in the past seven days before survey.

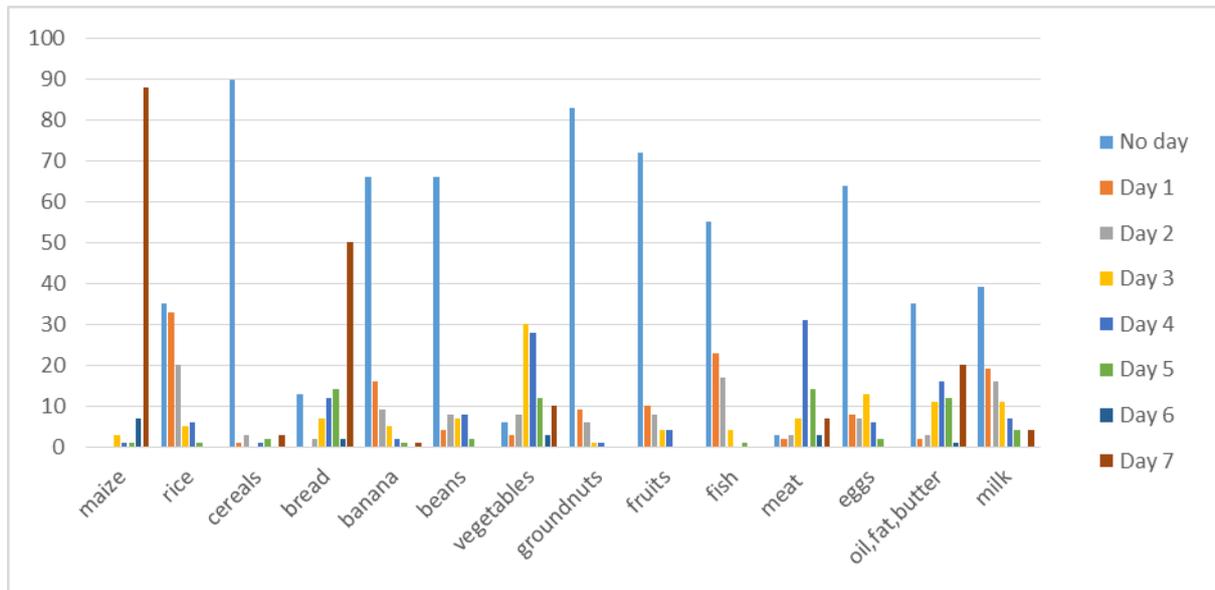


Fig 4.13 Household food consumption type over the last seven days

In addition, information regarding the number of times both adults and children eat in a day was also captured. The result shows that 63% of adults eat twice in a day while 36% eats thrice daily. The children’s daily eating pattern also shows that 53% eat two times in a day while 43% eat three times and 2% four times.

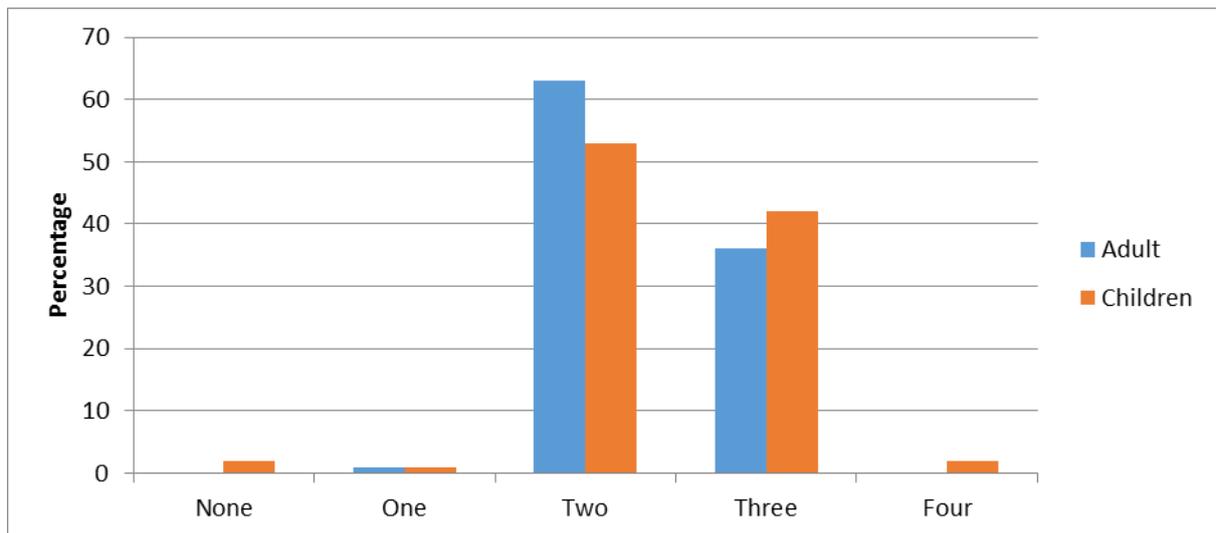


Fig 4.14 Household eating pattern

4.3.2 Household Food Sources

The majority of households in the study indicated that their main sources of food consumption are from purchases. Others are owned production and gift from family members. The figure below shows that 84% of households indicated that they purchase maize, 85% buy bread, 35% get banana, 58% purchase vegetables, 87% purchase meat, 45% purchase milk, 62% purchase oil and butter, 29% purchase eggs and 43% make a purchase fish.

Source of food from owned production includes maize, as 14% of households pointed out that they obtain them from their own production. Also, 16% of households produce their own vegetables, 7% produce meat, 5% for eggs and 15% produce their own milk. In the meantime, 2% derive their source from production of fruits; while 4% obtain their source of food from groundnuts and 5% from beans.

Other sources of food consumed are from gifts, family or relatives, borrowed, food aid and hunting. All obtain a very minimal percentage.

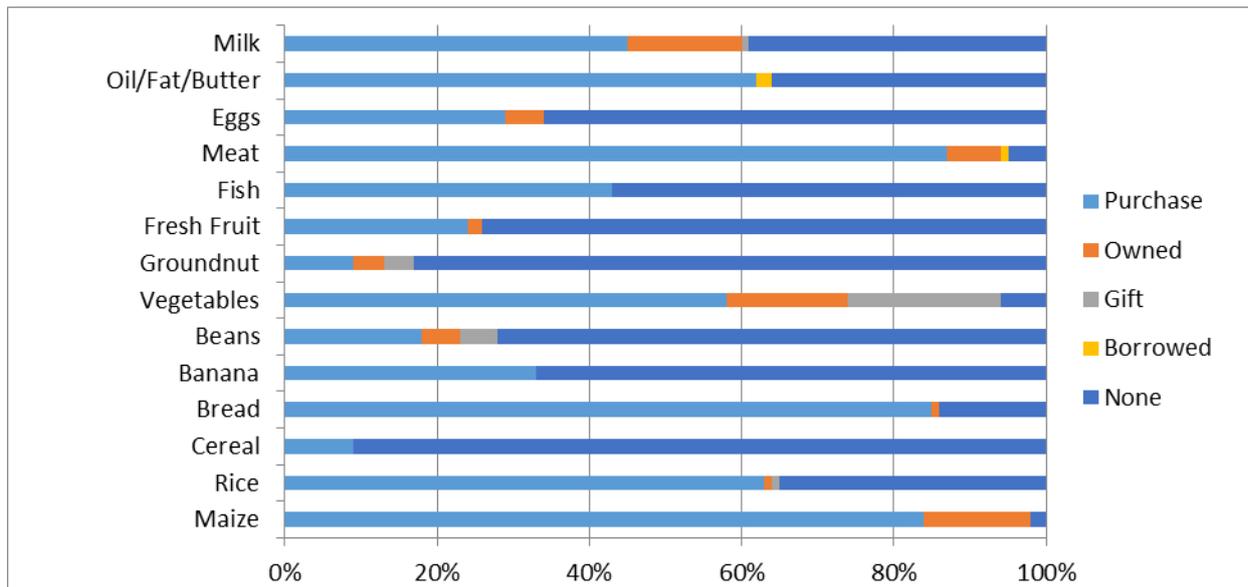


Fig 4.15 Percentage distribution of household food sources

4.4 Shocks stresses and coping strategies

4.4.1 Common shocks and stresses

The issue of shock has been perceived to be a concern in the study area. The majority of the households indicated that they experience a form of shock in their households while only 13% never experience any form. About 37% of households indicated that high prices of food is the most common shock experienced, 16% indicated that high levels of livestock diseases affect their farm animal which lead to a form of stress in their household. 9% household experienced the death of a household member, 8% of households affirmed high level of crop pests and diseases of crop grown. About 7% household said they experienced drought/irregular rains. Other forms of stress experienced by household include loss of employment of a household member, severe illness or accident of a household member and death of a household working member.

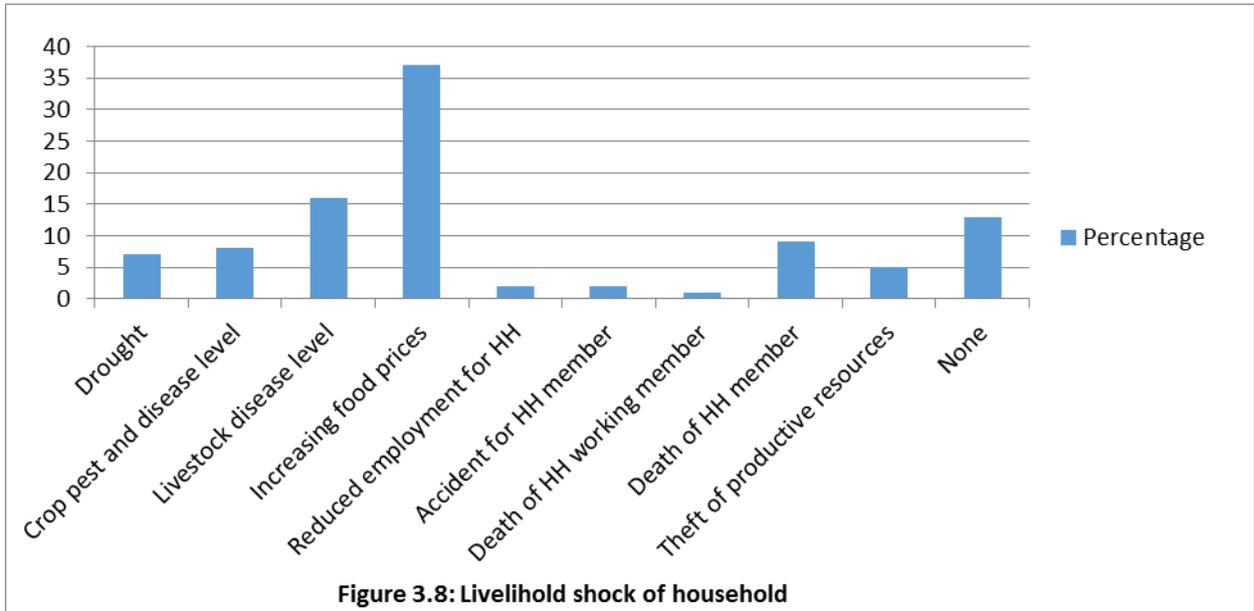


Fig 4.16 Household common shocks and stress experienced

4.4.2 Sickness of Household Member

General question was asked about household members experiencing any form of sickness. Fig. 4.19 shows that 36% of households responded that they experience sickness of a household member.

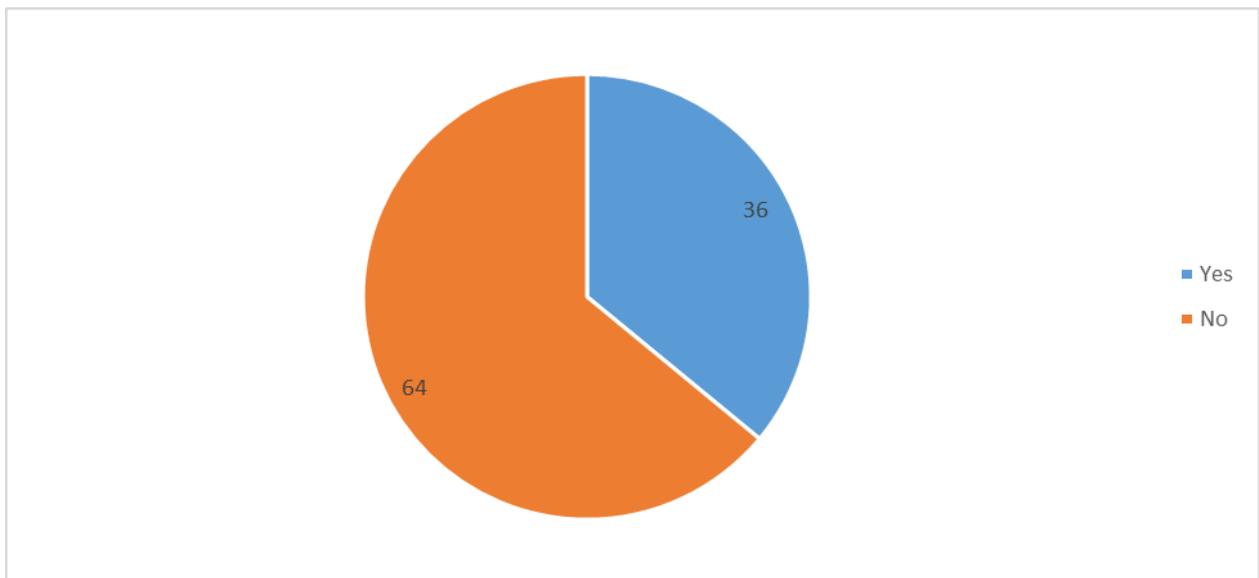


Fig 4.17 Sickness of household member

4.4.3 Age of diseased

Fig 4.18 shows the age of household members experiencing any form of sickness. 1% fall between the age group of 10-20, 2% are from 20-30 years, 3% are from 40-50 years, 8% are from 50-60 years, 12% are from 60-70 years.

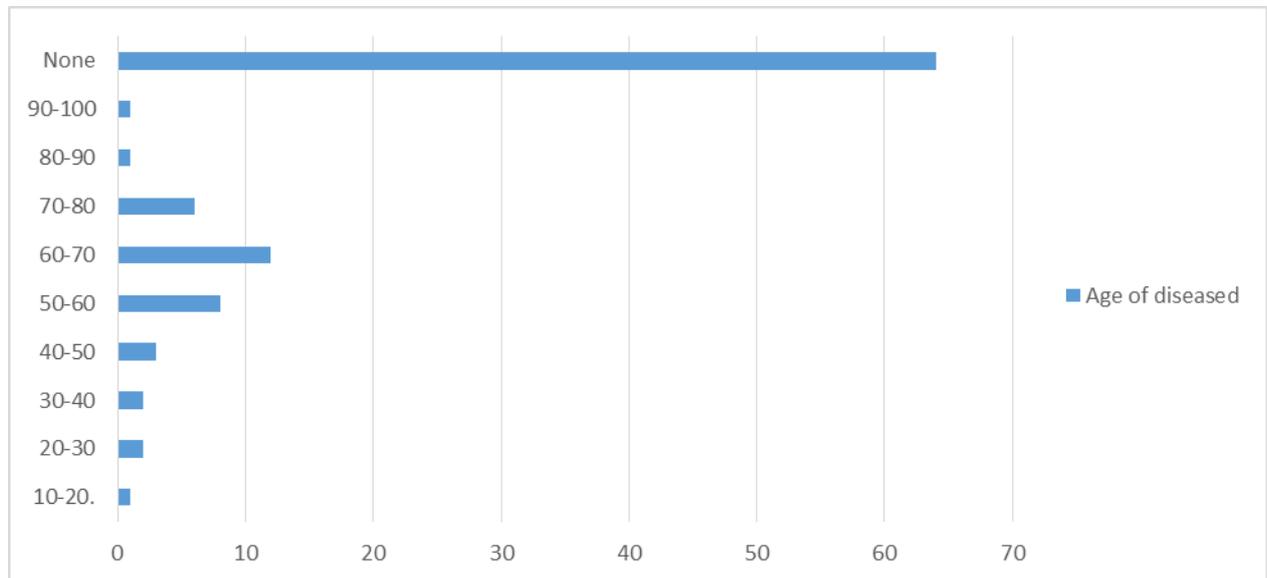


Fig 4.18 Age of diseased

4.4.4 Nature of Sickness

Fig 4.19 shows the nature of disease suffered by households. 28% have diabetes, 10% are physically disabled, 7% have Tuberculosis, 3% have HIV/AIDs and 3% are mentally disabled. Diabetes seems to be the major chronic sickness suffered by the sampled households in the study. This is supported by Zanner et al. (2004) who indicated that severe health problems faced in Sekhukhune district are hypertension, diabetes, asthma and tuberculosis.

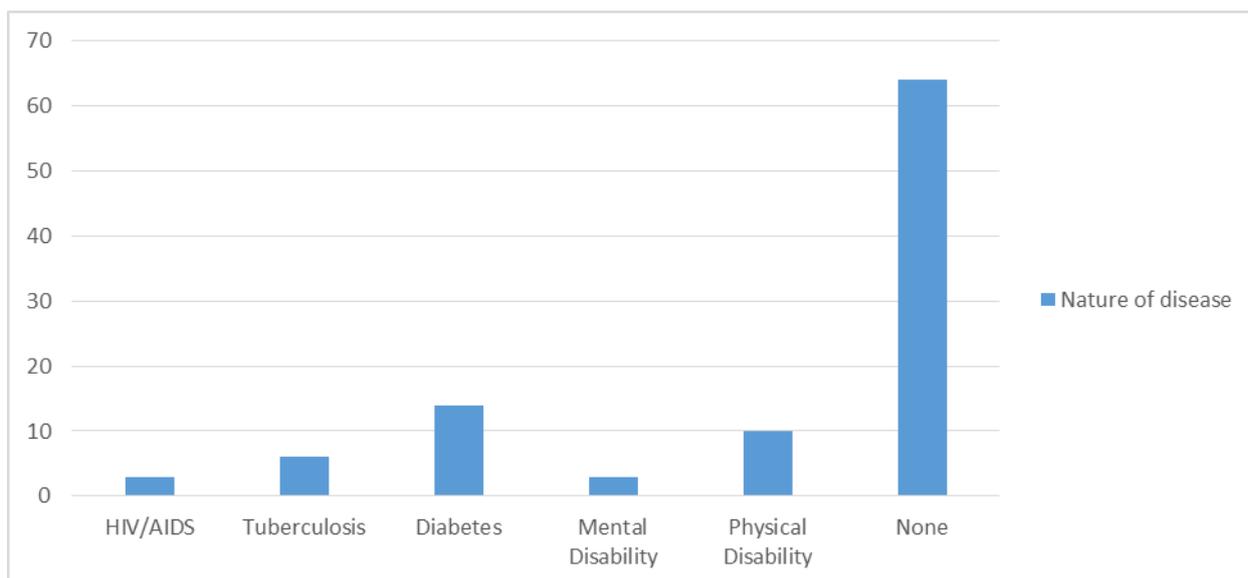


Fig 4.19 Household nature of disease

4.4.3 Impact of shocks on household

The impact of shocks on household members was also taken into consideration. Questions were asked whether shocks experienced had affected the households in one way or the other. 50% of households responded that shocks experienced had created a decrease or loss in their household income and in kind receipts. About 14% claimed that shocks affected both their income and assets, 18% experienced change in their assets (e.g. livestock, cash savings) while 4% mentioned that they did not experience any change at all in their household.

Also 60% of the respondents indicated that they experience a decrease in food availability due to shocks experienced in their households and 20% of the households never experienced any decrease in food availability. 5% responded that they do not know if they have experienced any.

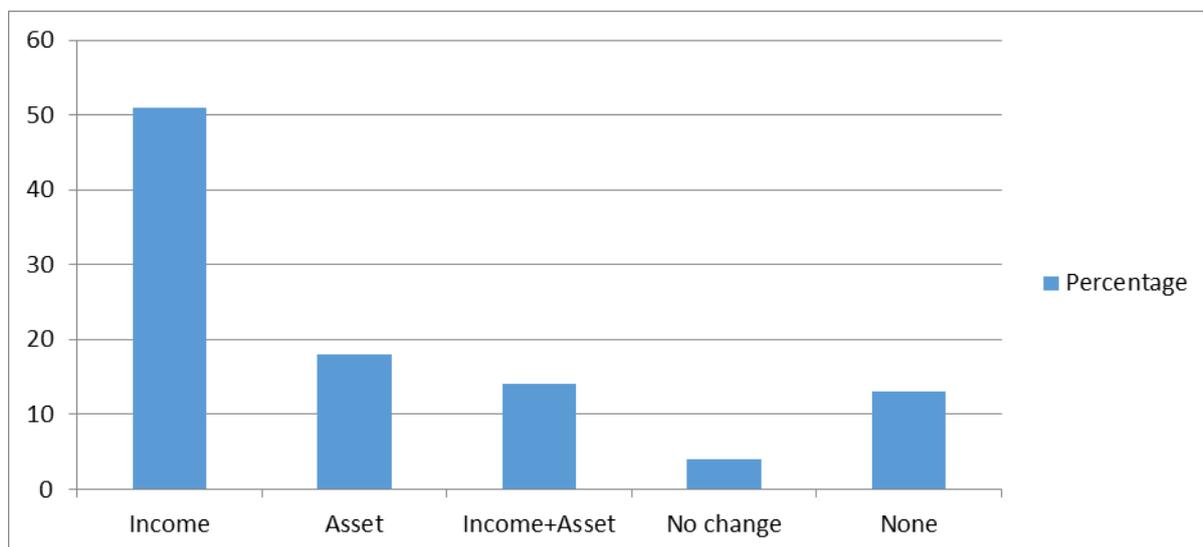


Fig 4.20 Impact of shock on household

4.4.4 Coping strategies for food availability and shortage

Household's coping strategies to food shortage has been documented in the studies. The aim is to capture people's behaviour in response to short term insufficiency of food (Maxwell, 1996; Davies, 1996; Hamilton et.al., 1997)

The most well-known coping strategies used by household to cope with shocks and food shortages encountered are shown in Figure 4.18. it shows that 27% of the households rely on less preferred or less expensive food, 17% reduced the proportions of meals, 13% preferred to borrow money, 9% sold small animals like goats, sheep and pigs. Only few proportions of the respondents used other alternative methods such as purchasing food on credit, sold agricultural asset, borrowed food etc.

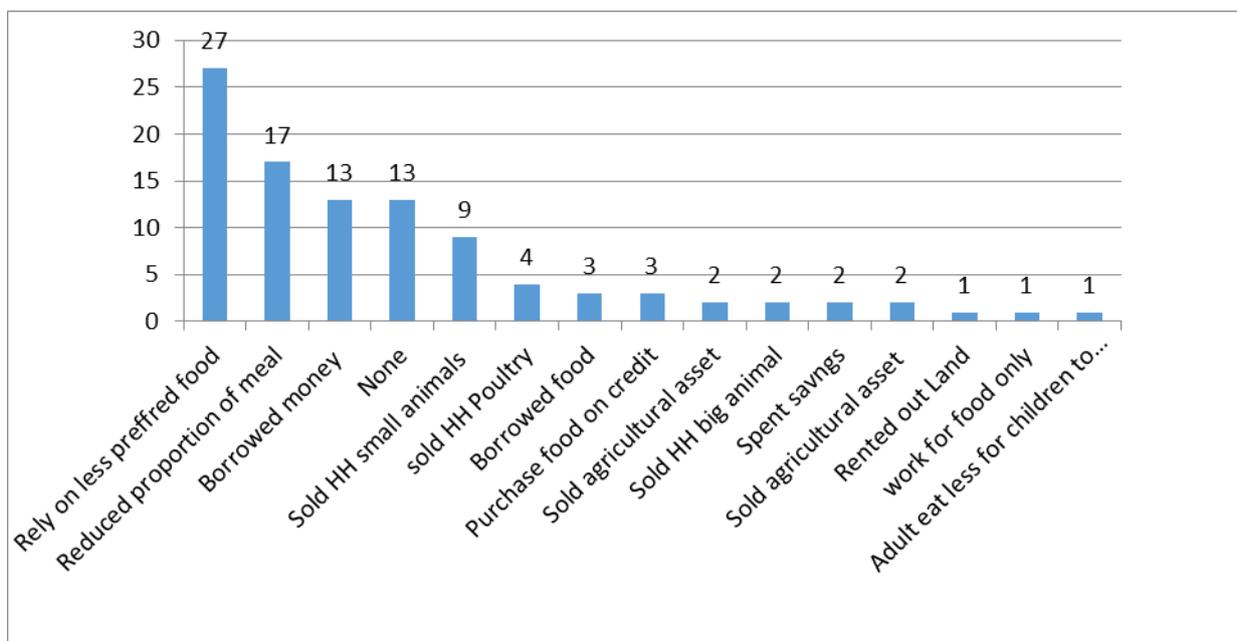


Fig 4.21 Household coping strategies for food shortage

Household members were also asked if they have recovered from the inability to have enough food. The result in figure 4.22 shows that 59% were yet to recover and 13% of households have not recovered at all, 15% of household have completely recovered and 13% did not experience inability to have enough food.

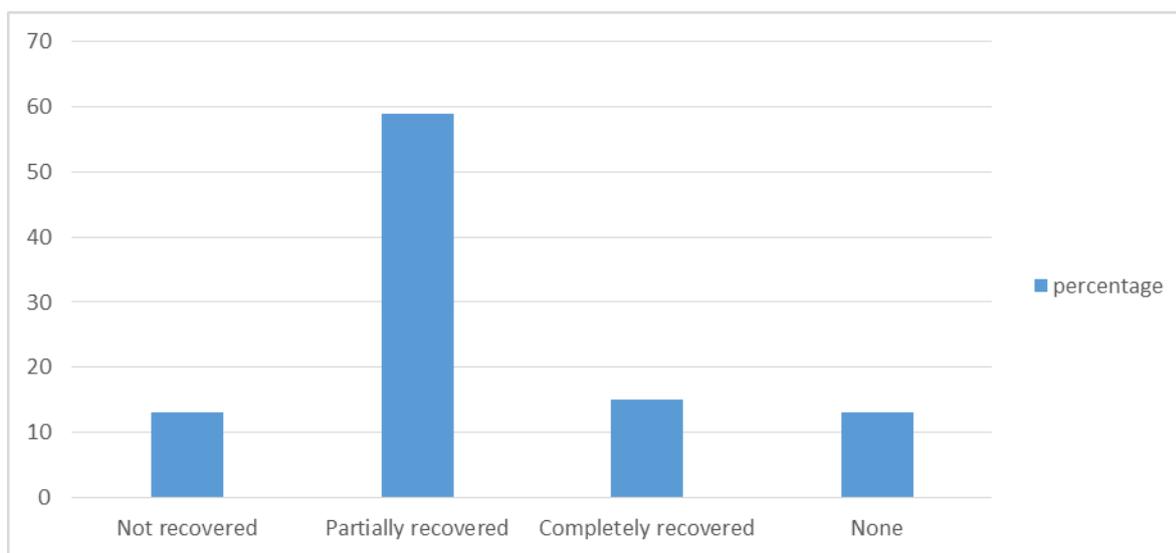


Fig 4.22 Household recovery ability for food shortage

4.5 Household food security status

The decision to get the HFIAS score in the study has been motivated by numerous different studies on this issue in the past. The HFIAS score has been extensively used in food security studies, including; Coates, et al. (2006). It has also been used in recent studies in South Africa such as: Ballantine et al. (2008) and Drimie, et.al. (2009).

The household food security was assessed and the results are presented in Figure 4.19 below. The categorical designations of household food security status were based on the household food insecurity access scale (HFIAS), this scale was developed by the Food and Nutrition Technical Assistance (FANTA). The scale helps in categorizing households into four different levels of food insecurity. HFIAS was used to measure food insecurity of rural households (n=200) in Sekhukhune district. The HFIAS was constructed in order to distinguish food secure and food insecure households.

The Food and Nutrition Technical Assistance (FANTA) project (Deitchler, Ballard, Swindale and Coates, 2010) is a project in which the Household Food Insecurity Access Scale (HFIAS) was developed. The HFIAS is a composite index consisting of nine key indicators of food insecurity at rural households. The HFIAS has been validated and standardized (Coates, Swindale and Bilinsky, 2006 and 2007; Fringilo and Namana, 2004; Sakyi, 2012). It has been used globally to measure the rate of food insecurity in rural households and to check the level of food shortage, poverty, lack of skills, lack of formal education and poor dietary intake in rural communities. The scale is used to check food shortages encountered in households in the past 30 days.

4.5.1 Household worrying about inadequate food

From the survey, 16% of the respondents are often worried about not having enough food for themselves and their families; 46% sometimes get worried while 20% rarely get worried and only 18% never get worried. The fig below shows that most households in the villages had poor food accessibility.

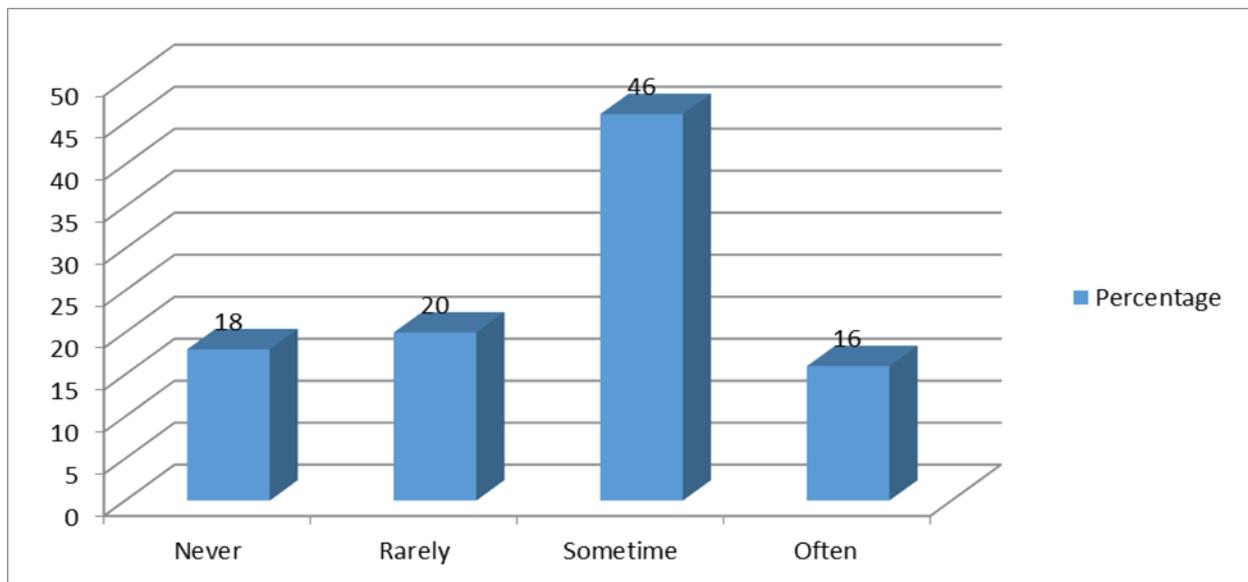


Figure 4.23 Frequency distribution of households worrying about not having enough food

4.5.2 Household members not able to eat foods they preferred

From the survey, just 9% of the respondents often get worried about not being able to eat their preferred meal due to lack of resources; and quite differently, 50% sometimes get worried and a proportion of 26% rarely eat their preferred meal. Only 15% of household members have enough resources to provide for themselves and eats whatever they like. The result shows that the majority of the respondents eat less preferred meal due to lack of resources.

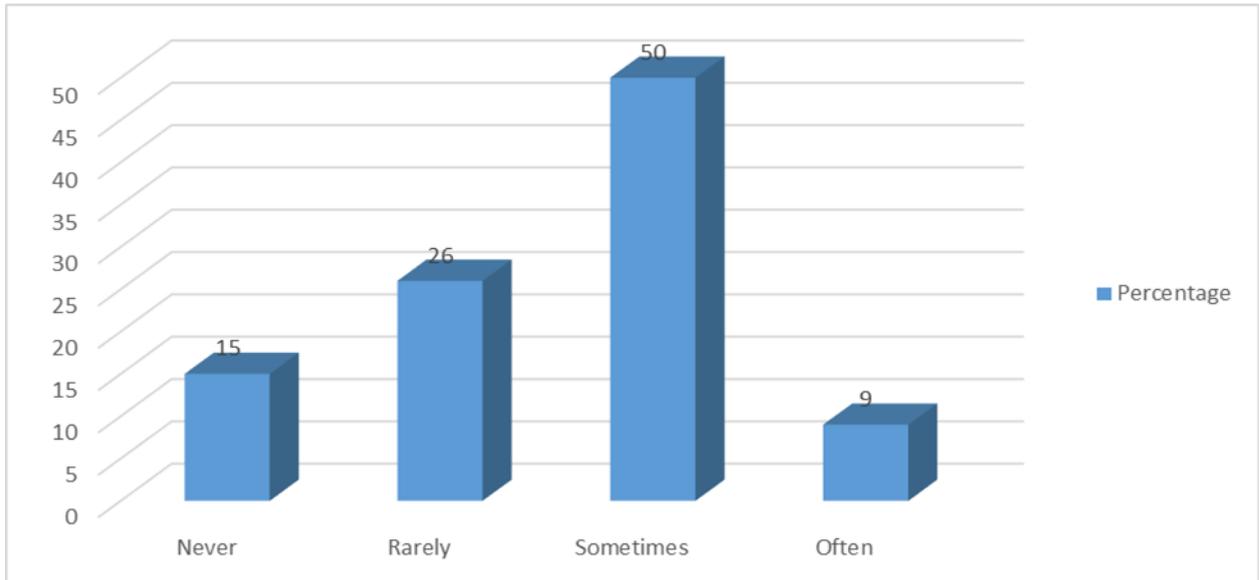


Figure 4.24 Frequency distribution of households not eating preferred meal

4.5.3 Household members eating just a few kinds of foods

Only 12% of the respondents had access to different kinds of food while 13% often eat few kinds of food. 29% rarely had access to different kinds of food, while in contrast, 46% sometimes experience difficulties in accessing food varieties in a month due to lack of resources.

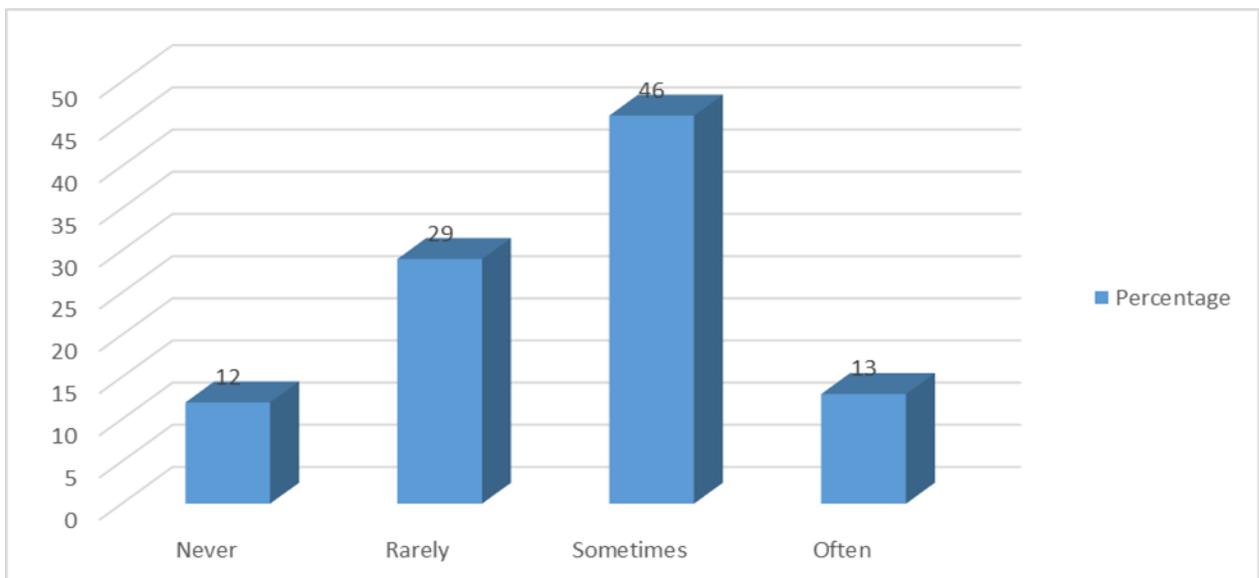


Figure 4.25 Frequency distribution of households eating few kinds of food

4.5.4 Household members eating foods that are not preferred

A ratio of 22% of the respondents agreed that they often eat food that are not preferable because they could not afford to purchase the food they preferred. Meanwhile, 35% indicated they sometimes eat unpreferable meal due to lack of food accessibility, while 13% professed that they never experience any form of difficulty in eating their preferred meal.

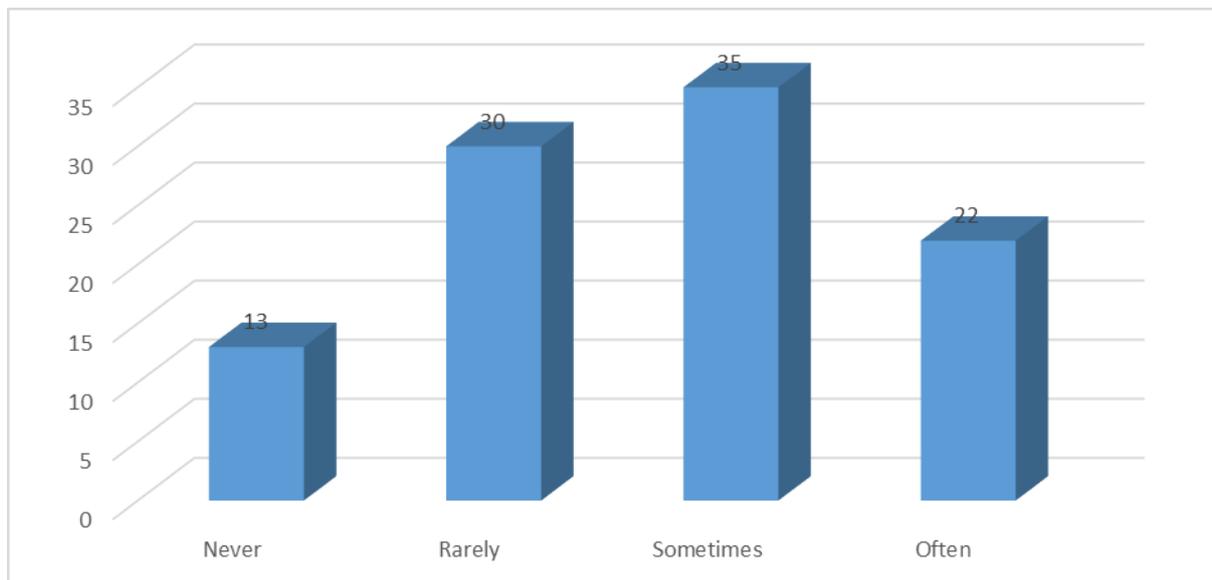


Figure 4.26 Frequency distribution of households eating foods not preferred due to lack of resources

4.5.5 Household members eat a smaller meal

When asked how often the respondents ate smaller meals due to lack of access to food, 11% assented that it happened more often. On the contrary, 42% submitted that it occurred sometimes, while 34% enunciated that it rarely happened to them. Oppositely, 13% indicated that they never experience eating smaller meals because there was not enough food in their house.

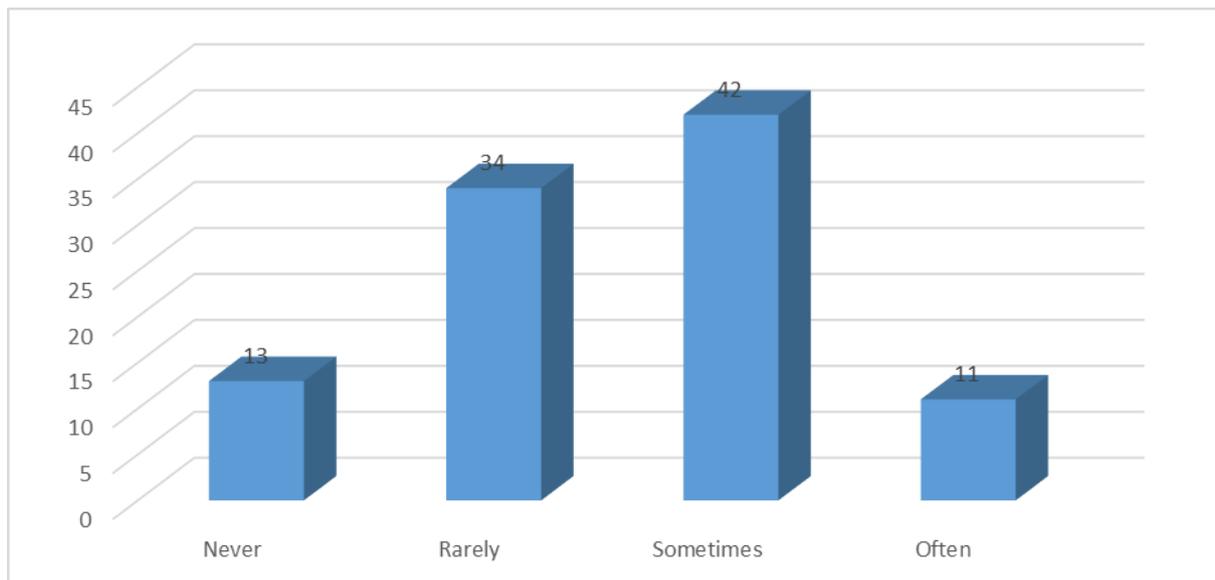


Figure 4.27 Frequency distribution of households eating smaller meals due to not having enough food

4.5.6 Household members ate fewer meals in a day

An aggregate of 36% of the household members indicated they sometimes ate fewer meals in a day while 14% indicated that such an experience often occurred consistently for 30 days. Conversely, 33% indicated it rarely happened while 17% of households said they never experience eating fewer meals in a day.

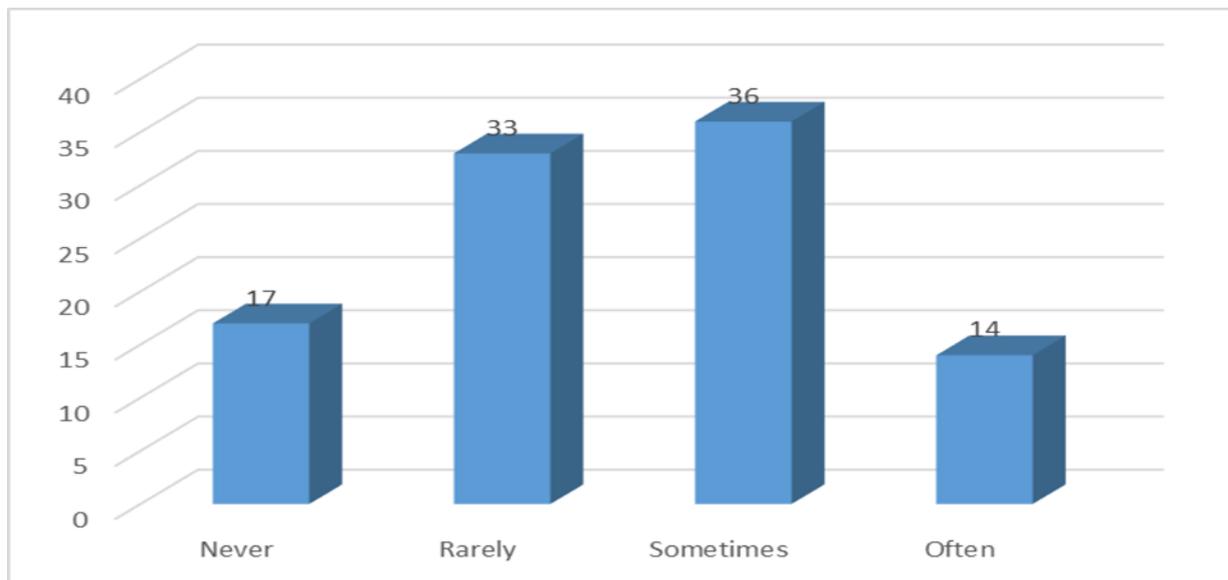


Figure 4.28 Frequency distribution of households eating fewer meals due to lack of food accessibility

4.5.7 Household members having no food at all in their household

A total respondent of 45% indicated that they never experience not having food at all in their household. On the contrary, 24% said they rarely experience that at all, while 23% agreed that they sometimes have no food at all in their households due to lack of resources to get more. 8% concurred that they often have no food at all.

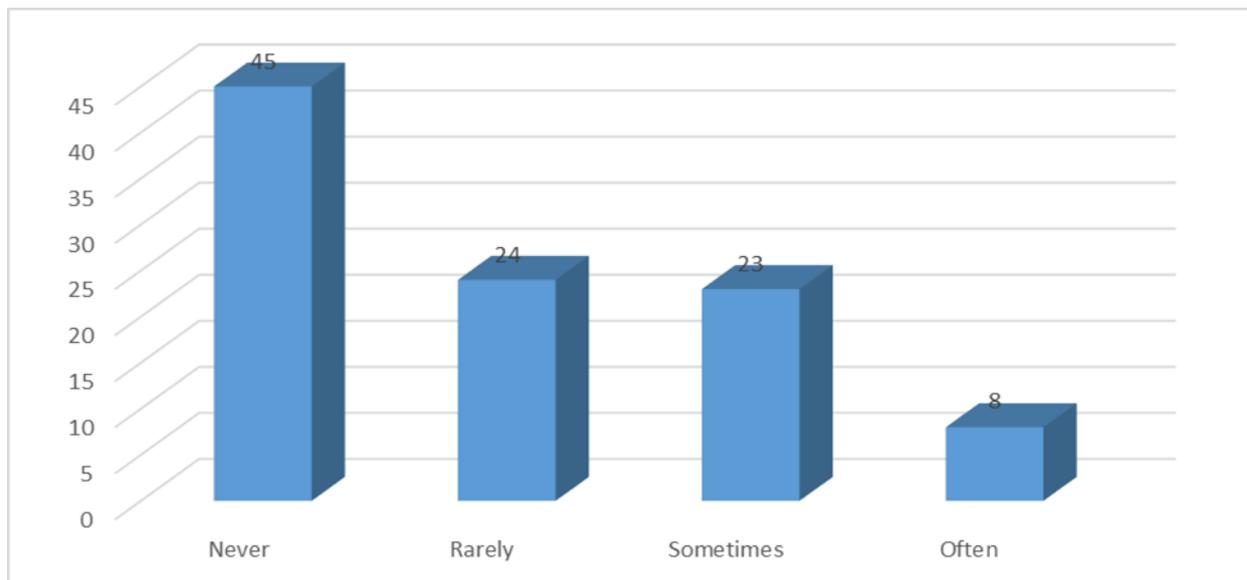


Figure 4.29 Frequency distribution of households with no food due to lack of resources

4.5.8 Household members went to sleep hungry

When asked how often household members went to sleep without eating, 18% of the respondents indicated they sometime went to bed hungry, 22% indicated they rarely went to bed without eating and only few respondents 3% indicated they often went to beg hungry. The results show that 43% of households live below the poverty line.

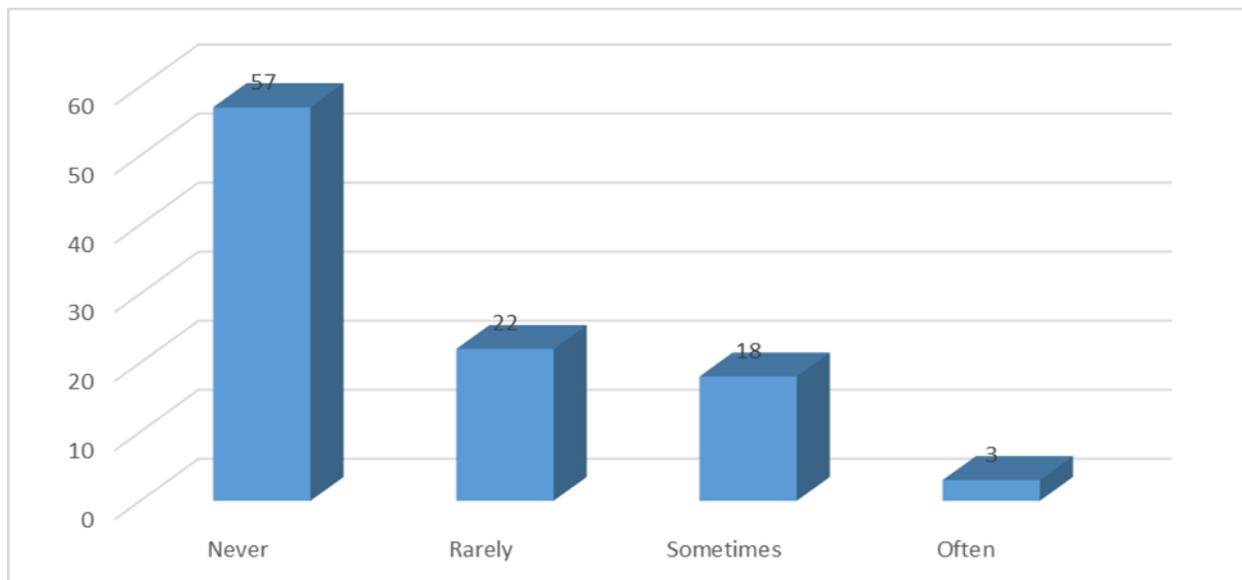


Figure 4.30 Frequency distribution of households going to bed hungry due to lack of food

4.5.9 Household members went a whole day without eating

When asked how often members spend a whole day without eating, only 1% of the respondents indicated that they often pass through such experience due to lack of food access. Contrariwise, 76% of household members said that they had never passed through such occurrence. On the other hand, 13% of respondents indicated that such cases rarely happen to them; while 10% of households said they sometimes went a whole day and night without eating any food.

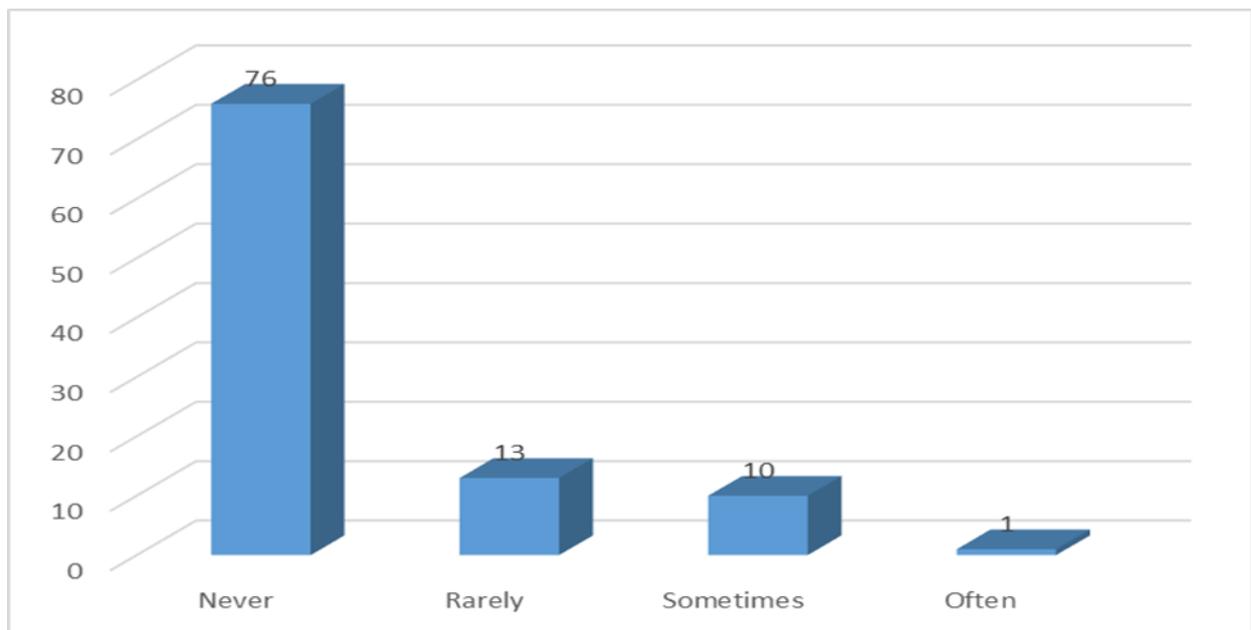


Figure 4.31 Frequency distribution of households spending the whole day without eating any food

4.6 Percentage distribution of household responses to the HFIAS questions

This section serves as a major determinant to measure food accessibility in the study area. Table 4 below represents results from the household responses to HFIAS questions. The result showed that about 82% of households expressed worries about running out of food, more than 85% of households were not able to eat balanced meal and 88% got worried that their households would not have enough food while 87% ate meals that were not preferable. Less number of households reported the severe forms of food access problems such as having no food at all in the household and having no way to get at least once. About 55% of households indicated no food at all in the household and 43% went to sleep hungry due to

lack of food access while 14% indicated they did not eat the whole day and night. The results show that the majority of households in the study area are food insecure.

Table 4.3: Percentage distribution of household responses to the HFIAS questions

Food access statement	Percentage of (%Yes) responses
1. Worried that food will run out	82
2. Unable to eat balanced meal due to lack of resources	85
3. Worried that household would not have enough food	88
4. Ate non preferred meal due to lack of resources to obtain other type of food	87
5. Reduced size of meal due to not having enough food	87
6. Skipped some meals in a day	83
7. No food at all in the household	55
8. Went to sleep hungry	43
9. Did not eat for a whole day	14

4.7 Percentage distribution of household food security level

The Household Food Insecurity Access Prevalence was used to determine the percentage of household food security status. This was used to classify households into four dimensions of food insecurity categories such as, food secure, mildly food insecure, moderately food insecure and severely food insecure. Households that are considered to be food secure experience none of the food insecurity conditions or only experience less stress about worrying or rarely. Households that are considered to be mildly food insecure sometimes or often worry about not having enough food or not being able to eat their favourite meal. Nevertheless, this type of food insecure household does not experience any of the three severe conditions, i.e. household going an entire day without eating, running out of food or going to bed hungry. In this case the quantity of their meal still remains intact. Households that are moderately food insecure sometimes or often reduce the quantity of meals they eat daily. This food insecure status regularly reduces the quality of their food, as they eat food

that is less preferred or repetitious diet. Households that are severely food insecure experience the worst severe conditions. Households in this category often reduce the size of their meals daily and often go to bed hungry, or not eat the whole day. Household classified in this group frequently run out of food and have no other options to take care of themselves.

The fig 4.32 below, shows that 22.2% of inhabitants are food secure, 32.2% are mildly food insecure while 34.2% of the population are moderately food insecure and 11.4% of the people are severely food insecure.

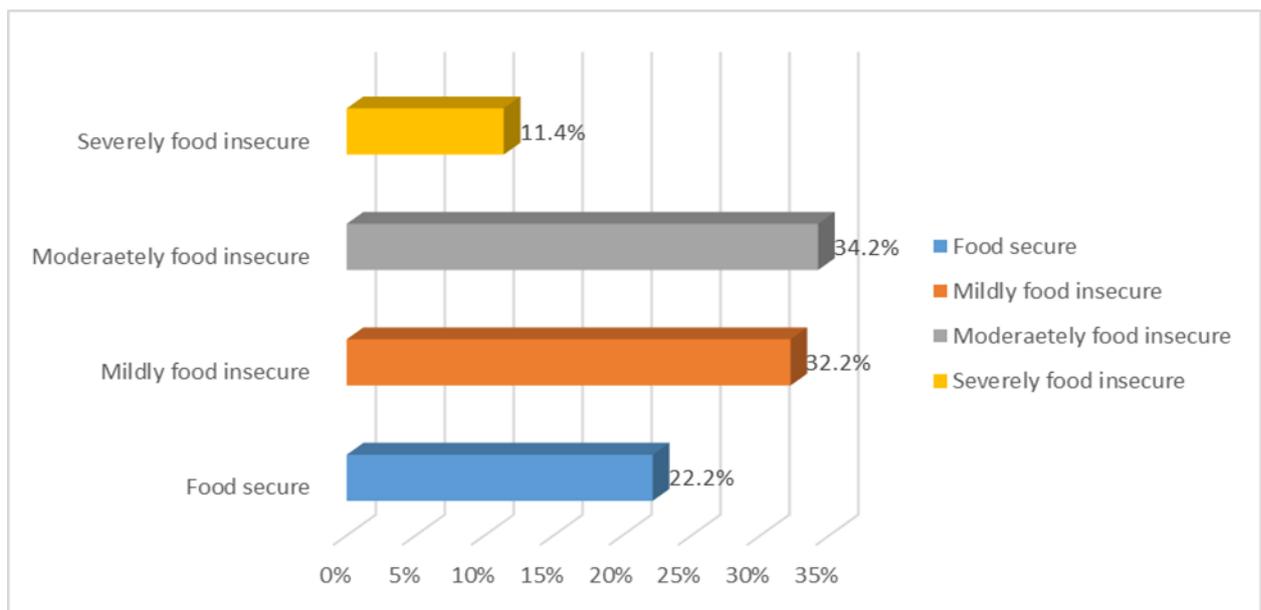


Figure 4.32: Percentage distribution of household food security level

Table 4.4 Parameters estimates of determinants of food security**Linear regression model**

Variable	Unstandardized coefficient	Standardized coefficient	Standard error	Significance level
Constant	.695		.799	.386
Household size	.061	.144	.028	.033**
Age	-.007	-.069	.008	.364
Gender	-.429	-.211	.145	.004***
Married	-.760	-.350	.629	.229
Partner	-.553	-.165	.579	.341
Divorced	-.700	-.201	.618	.259
Living apart not divorced	-.546	-.130	.616	.379
Widow or widower	-.679	-.283	.632	.284
Never married	-.674	-.293	.620	.279
Employment	-.122	-.060	.159	.442
Education	.443	.178	.167	.009***
Household sickness	.255	.123	.136	.064*
Diabetes of diseases	.253	.114	.135	.063*
Access to farmland	.223	.110	.146	.127
Access to farm animal	-.076	-.038	.144	.597
Household income	.000	-.268	.000	.815
Household food expenditure	.000	.161	.000	.647
Household non-food expenditure	-.005	.000	.115	.130
Food Crop production	-.283	-.077	.331	.394
Livestock Production	.271	.090	.252	.285
Unskilled wage labour	1.032	.311	.275	.000***
Agricultural labour	.105	.027	.312	.736
Salary wages	.248	.104	.237	.298

Pension/disability funds and grants	.551	.254	.236	.021**
No Shocks	-1.200	-.405	.196	.000***
Theft	-.877	-.192	.301	.004***
Death of Household member	-.617	-.186	.208	.003***
Illness or accident	-.768	-.108	.455	.093*
Loss or reduced employment	-1.156	-.163	.440	.009***
Unusually high level of livestock stock diseases	-.547	-.199	.192	.005***
Unusually high level of crop pest diseases	.445	.121.	.285	.121
Drought	-.530	-.136	.291	.071*
R	.726 ^a			
Adj R ²	.433			
F-value	5.597			
Durbin-Watson	2.022			

* Statistically significant 10% level, ** statistically significant 5% level, *** statistically significant 1% level.

4.8 Parameter Estimates of the Determinants of Food Security

According to the results shown in Tables 4.3 above, majority of the variables had both positive and negative significant impact on household food security. From the analysis; household size, education, household chronic illness, diabetes, unskilled wage labour, pension, disability funds and grants, as well as no shocks were found to have positive relationship to the probability of household being food secure; while gender, theft, death of an household member, illness or accidental loss or reduced employment, unusually high level of livestock diseases had a negative and significant impact on household food security.

4.8.1 Household size

Household size has a positive and significant effect on household food security at 5% level of significance. A unit increase in household size of the respondents will result in an increase of 6.1% of the food security of the household, with other factors held constant. The reason may be due to the fact that in South Africa, government pays child grant to low income households, which implies that the more children a low income households have, the more children grants received which may result in better security of the household. This result is contrary to several findings from other researchers. Bashir et al, (2012) finds that in rural Pakistan, an additional increase of a household member reduces the opportunity of food security in households. Similar result was found in India by Sindhu et al., (2008) that an increase in family member increases the chances of a household becoming food insecure. Household size has become one of the major determinant factors of household food security. Other studies further explain that household size has been the most important factor to effect household food security in Nigeria (Omosho et al., 2007).

4.8.2 Education

Household head educational level influences the impact of food security positively. A strong correlation exists between education empowerment and food security (FAO, 2009). It further explained that formal or informal education as well as training skills are very useful and tends to improve the capacity of people to enhance food security. Food security can be effective and positive if household heads are literate and are willing to acquire new skills and ideals (Amaze, et al., 2006). Food insecurity in households will be absolutely reduced if household heads increase their level of education. Bashir et al, (2012) also specified that in rural Pakistan, household heads with middle class educational level such as grade 8 – 12 significantly have positive impacts on household food security.

The educational level of household head has been reported to be one of the determinant factors of household involved in farming activities because the more educated a farmer is, the more food secure the farmer would be (Henri-ukol et al., 2013). Alene et al, (2000) also agree that the level of education influences farmer's adaptation rate of improved practices and food security in Ethiopia.

4.8.3 Household Sickness

Household chronic illness was found to have a positive impact on household food security at 10% significance level. This implies that households suffering from chronic illness or disability are food secured. This may be due to free medical health care services offered at public primary health care clinics and community health care centres in South Africa. This in turn enables the sick to have more money to spend on feeding themselves correctly in order to live a healthy life. This result is contrary to findings from various researchers. Masuku et al, (2009) explains that household member suffering from chronic illness may lead to income loss and poor outputs of agricultural activities. This may lead to household food insecurity due to extra spending on health care and also reduction of extra food expenditure or selling household properties for cash.

4.8.4 Diabetes

The effect of Diabetes on household food security was found to be significant at 10%, meaning that diabetes has a positive impact on household food security. This result is also contrary to findings from other researchers. Diabetes is a chronic disease which has adverse effect on household through the high cost of treatment and high cost of nutritious food, including loss of income at work.

According to Dyson (2009) diabetic individuals suffering from food insecurity is initiated by inappropriate meal intake and high consumption of sugary foods. She further explains that access to good health care and medication is disrupted because of poverty, which in-turns leads to difficulties in acquiring proper meal due to high cost of getting medications.

4.8.5 Unskilled wage labour

Livelihood activities such as unskilled wage labour have been found to have significant (1%) and positive relationship with household food security. This implies that unskilled wage labour contributes effectively for a household to be food secure. Statistic SA (2013) indicated that commercial agriculture employs 5.2% of the South African labour forces, totaling over 600,000 people, most of which are unskilled or semi-skilled workers with little formal

education, such as mining, commercial agricultural labour forces etc. This shows that there is an oversupply of unskilled labour in the country.

4.8.6 Pension disability funds and grants

The absolute dependency on social grants as a major source of income was significant and serves as one of the major determinant factors to measure household food security. Grants such as, old age pension, disability funds and child support were mostly given to rural household by the South African government. Many rural households in South Africa depend on various social grants to sustain livelihood.

General household survey (2013) reported that more than 33.1% of households in Limpopo province depend mostly on grants and pension as their major source of income. The impact of social grants on food security has been discovered to improve the standard of living in rural households in South Africa. Old age pension played a significant role in reducing the rate of poverty in households with most of this money primarily used in acquiring food. Studies found that more than 90% of black South African old age adults have access to pension (Burns et al., 2005 and Ferreira, 2006).

4.8.7 No shock

Household experiencing no form of household shock has been found to be significant at 1% level. This shows that any form of shock experienced contributes to a household being food secured. The study showed that 13% of households did not encounter any form of shock in their household. This has contributed positively to household food security.

4.8.8 Gender

The gender of the household head, as reported by many studies is one of the major determinant factors to measure food security of households. It has a negative impact on food security at 1%. The result of this study shows that households headed by females are likely to be food secured than their male counterparts.

4.8.9 Theft of productive resources

Theft as shock has been found negative and significant to household food security at (1%) significant level. This study reveals that only 5% of households are experiencing theft of the productive resources.

4.8.10 Death of a household member

The death of a household member has a negative effect on household food security at 1% significance level. The study shows that only 9% of households experience death of a household member as a shock in the study. A case study in Bangladesh found that per capita rate of food consumption was reduced by 15% due to the death of a household member, but increased per capital non-food consumption by 46% (Khurshid and Mahal, 2004).

4.8.11 Illness or accident

Serious illness or accident of a household member was found to have a negative and significant level. Only 2% of households indicated that they suffer shock through illness or accident of a household member.

4.8.12 Loss or reduced employment

Loss or reduced employment of a household member has been found to have a negative and significant impact on food security at 1%. This has been a serious issue in most countries in the world. Unemployment in South Africa has adverse effects on individuals and the whole family at large which in turn cause physical and psychological effects on households. Majority of South African households depend on government allowance for their daily living.

4.8.13 Unusually high level of livestock diseases

Shock experienced through high level of livestock diseases has been found to have a negative and significant impact on food security at 1%. High level of livestock disease exposes households and family whom their main source of income comes from livestock production to shock. This also puts families at a risk of losing their livestock, which ultimately leads to their not being able to provide for their families.

4.8.14 Drought

Drought has been reported to have major implications on food security. The effect of drought on household was found to have a significant negative impact on household food security at 10% significance level. It has been reported that drought is a common occurrence in South Africa according to Vogel (1995). Studies have also shown that drought affects agricultural production in South Africa (Willite, 2000). This is due to the high variability and unpredictability of rainfall. The effect of drought has led to massive increase of food prices in South Africa and a consequent concern among small scale farmers. Watlanson and Makgirtla (2000) found that farmers are likely to use market prices of maize to determine the quantity of their plantation. Groenewald and Nieuwondt (2003) also reported that international competition has exposed many farmers to the process of deregulation and many have diverted into grazing due to the effect of drought on their plantation.

CHAPTER FIVE

CONCLUSION AND POLICY RECOMMENDATION

5.1 Conclusion

This study was set out to assess the welfare shocks and food insecurity in Sekhukhune district of Limpopo province. The study was restricted to only Ephraim Mogale and Greater Tubatse municipalities of Sekhukhune district.

Primary data were used to gather information from 200 rural households. Information on household demographics, household food source and consumption, housing and facilities, household income and expenditure, shocks and common stress affecting livelihood were all gathered through the use of questionnaires.

Three analytical tools, namely, Descriptive analysis, Household Food Insecurity Assessment Scale (HFIAS) and linear regression model, were used to achieve the objectives of the study.

The result of the study shows that 11% of households are suffering from severe food insecurity while 66% of households face mild to moderate food insecurity and 22% are food secure. This shows that the majority of households were suffering from food insecurity. This report is supported with the observation by Altman et al (2009), that majority of South African households are suffering from food insecurity. The average income in the study area was R 3182.80 (SD: 2463.70).

The majority of households in the study area depend on government allowances, the most important source of income are grants, pension and disability funds, formal income and informal income. Some households are involved in agricultural activities such as livestock production and food crop production.

Animal product also contributes to the main source of income of households by 21%. Agricultural activities such as cattle rearing, poultry, maize and vegetables are the most important agricultural activities involved in by households.

The study also found that the majority of households experience a form of shock. The most common shocks are high food prices, chronic illness and high level of livestock diseases. This makes a tremendous impact on households, thereby causing a decrease in food availability and on household income and assets. The majority of households rely on less preferred and less expensive food as their coping strategies for food shortage and availability.

In order to identify the determinants of food security, linear regression model was used. The model discovered that household size, education, social grants, unskilled wage labour, gender of household head, high level of livestock diseases, chronic illness such as diabetes have significant impact on household food security.

5.2 Policy implications

Policy recommendation should be made in the area of supporting people, organizations and institutions on how to respond to shocks and stresses experienced in their communities. Areas in poverty alleviation such as income, housing, nutrition and food provision, employment should all be looked into by the South African government in order to improve the standard of living in the rural communities.

Industrialization in the district should be given high priority by the government; this will increase the rate of employment and also add to the growth of the economy. In this way more money will be available which will in turn bring about poverty eradication in the district. Likewise, tourism should be promoted in the district. Sekhukhune has several potential tourist places that need development. Once this is achieved, this will bring about avenue for other job creation opportunities in the district.

Climate change has been experienced in the district. The issue of drought should be another area of concentration for the government. Government should provide drought relief system either in the form of financial support or provision of other alternative system such as building desalination plants, borehole drillings, upgrading water infrastructure and provision of emergency water service scheme.

The South African government constitution section 27(1) clearly states that “everyone has the right to have access to sufficient food, water and social security” and that “the state must take reasonable legislative and other measures, within its available resources, to achieve the realization of this right” (IFSS, 2002). But in order to achieve this aim and address the problem of food insecurity in the study area, the study suggests further improvement in these four key areas.

Education: The study finds that the education of household heads was generally lower in the study area. The majority of household head experienced no schooling at all. In this case, policy priorities should emphasize on rural education since the education of households tends to be a significant determinant of household food security. Promoting rural education in the study area is highly recommended, infrastructural facilities for quality education and easy affordability should be provided for everyone in the rural communities.

Dependency on Social grants: The majority of households depends on social grants for their source of living. It is evident that social grants cannot solve the problem of food insecurity. Employment opportunities should be created in order to improve the household standard of living to ensure food security in the rural communities. People should be encouraged to work and not depend on social grants for their main source of living.

Employment: Informal income, such as unskilled wage labour has been discovered to be one of the most important sources of employment in the study area. This is due to that fact that it requires little formal education before job can be accessed by people. Policy priorities should be given to high labour intensive growth. Government should create more jobs that are suitable for job seekers in this category. For example, massive growth in the low-wage manufacturing sector should be created in order to tackle the issues of unemployment and poverty in the country. Different types of growth strategy should be put in place in order to eradicate unemployment and also government should introduce a targeted wage subsidy policy to improve the income levels of people.

Health: Chronic disease has been discovered to be one of the major health challenges facing individuals in the study area. One of which is diabetes, it has been found to have significant impact on household food security. Government needs to intervene in order to promote health and nutrition education of dietary intake. Policies for caring for non-communicable disease in the country should be set and implemented. Further assistance should also be rendered in supplying basic medications such as Insulin, Oral hypoglycaemic and hypertensive agents should be available at all medical centres. Government funding will also play an important role in order to improve diabetes education and prevention in rural communities. Areas of self-management education should be implemented so that people can be aware of how to take care of themselves in case of emergencies. Development of new health care strategies should be put in place so that limited available resources can be utilized efficiently for the care of people.

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SECTION 1 – DEMOGRAPHICS: Read - "I would now like to ask you a few questions on the composition of your household"

A household is defined as a group of people currently living and **eating** together "under the same roof" (or in same compound if the HH has 2 structures)

1.1 -	How many people are currently living in your household?	_ _													
1.2a -	What is the gender (sex) of the household head?	1	Male	2	Female										
1.2b -	How many wives does he have?	_ _													
1.3 -	What is the age of the household head (<i>in years</i>)?	_ _													
1.4	Are you currently employed full time Part-time employment Seasonal employment Informal employment Grant Pension	1	Yes	2	No										
		1	Yes	2	No										
		1	Yes	2	No										
		1	Yes	2	No										
		1	Yes	2	No										
		1	Yes	2	No										
1.5 -	What is the marital status of the household head?	1	Married												
		2	Partner												
		3	Divorced												
		4	Living apart not divorced												
		5	Widow or widower												
		6	Never married												
1.6 -	What is the level of education of the household head / spouse (use codes below)	Household Head		Spouse (if any)											
	<table border="0"> <tr> <td>01 = No School</td> <td>06 = Completed Secondary</td> </tr> <tr> <td>02 = Some Primary (Std 1-Std6 but not Std 7)</td> <td>07 = Completed Advance level or "A" level</td> </tr> <tr> <td>03 = Completed Primary-Std7</td> <td>08 = Some / Completed Tertiary</td> </tr> <tr> <td>04 = Vocational School</td> <td>09 = Some / Completed University or College</td> </tr> <tr> <td>05 = Some Secondary School (Form1-Form3, not Form4)</td> <td>10 = Other (Specify) _____</td> </tr> </table>	01 = No School	06 = Completed Secondary	02 = Some Primary (Std 1-Std6 but not Std 7)	07 = Completed Advance level or "A" level	03 = Completed Primary-Std7	08 = Some / Completed Tertiary	04 = Vocational School	09 = Some / Completed University or College	05 = Some Secondary School (Form1-Form3, not Form4)	10 = Other (Specify) _____	_ _		_ _	
01 = No School	06 = Completed Secondary														
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04 = Vocational School	09 = Some / Completed University or College														
05 = Some Secondary School (Form1-Form3, not Form4)	10 = Other (Specify) _____														

1.7-	Is anyone in your household chronically ill or disabled?	1	Yes	2	No			
1.8-	Please complete table on the right for each chronically ill member	<i>Enter 99 if not ill or disabled in all sections</i>	Age	Gender			Disease/Disability (see code table)	
	Chronic disease / Disability Codes 01 = HIV/AIDS Diagnosed 02 = Tuberculosis 03 = Diabetes 04 = Cancer 5 = Mental Disability 6 = Physical Disability 10 = Unsure 11 = Don't know 12 = Other, Specify: _____	Household Head	_ _	1	Male	2	Female	_ _
		1	_ _	1	Male	2	Female	_ _
		2	_ _	1	Male	2	Female	_ _
		3	_ _	1	Male	2	Female	_ _
		4	_ _	1	Male	2	Female	_ _

SECTION 2 – HOUSEHOLD ASSETS AND PRODUCTIVE ASSETS

2.1-	Does your household have access to agriculture / farming land?	1	yes	2	No
	<i>Cropping season</i>	1 st Agriculture Season		2 nd Agriculture Season <i>(if not applicable enter 99.9)</i>	
2.2-	Total land you have access to	_ _ . _ acres		_ _ . _ acres	
2.3-	Total land under cultivation	_ _ . _ acres		_ _ . _ acres	
2.4-	Month of the onset of the harvest from this season <i>(1=Jan; 12=Dec)</i>	_ _		_ _	
2.5-	How long did the total produce from this season last from the end of the harvest?	_ _ months		_ _ months	
2.6-	Did you use chemical fertilizer during this Cropping Period?	1	Yes	2	No
2.7-	Did you use natural (from animal/plant etc.) fertilizer during Cropping Period?	1	Yes	2	No

2.8 -	If yes, please how many of each of the following animals do you own? <i>(write 00 if none)</i>						
		Owned	Borrowed/Rented			Owned	Borrowed/Rented
a	Chicken	_ _	_ _	g	Pig	_ _	_ _
b	Duck	_ _	_ _	h	Bull	_ _	_ _
c	Other Birds	_ _	_ _	k	Cow	_ _	_ _
d	Rabbit	_ _	_ _	l	Oxen	_ _	_ _
e	Goat	_ _	_ _	m	Donkey	_ _	_ _
f	Sheep	_ _	_ _	n	Camel	_ _	_ _

SECTION 3 – INPUTS TO LIVELIHOOD

a. - What are your household's main livelihood activities throughout the year ? (use activity code, up to four activities)		b. - What proportion of this activity do you directly use for your consumption? Not applicable = 888 Don't know =999	c. – Estimate the total cash value earned from this activity over the last year <i>Use the Cash Code below</i>	d. - What is proportion of the activity (that is not directly consumed) do you use to purchase food? Not applicable = 888 Don't know =999	
3.1	<u>Main</u>	_ _	_ _ _	_	_ _ _
3.2	<u>Second</u>	_ _	_ _ _	_	_ _ _
3.3	<u>Third</u>	_ _	_ _ _	_	_ _ _
3.4	<u>Fourth</u>	_ _	_ _ _	_	_ _ _

Livelihoods activity codes

01 = Food Crop production (e.g. cereals, tubers)	13 = Skilled labour (artisan)
02 = Gathering	14 = Handicrafts
03 = Livestock production (e.g. animal husbandry)	15 = Brewing
04 = Animal products (e.g. herders with milk, cheese, butter)	16 = Sale of nat. resources (firewood, charcoal, bricks, grass)
05 = Fishing	17 = Remittance / kinship
06 = Hunting	18 = Salaries, wages (employees)
07 = Growing Non-Food crops (e.g. coffee growers)	19 = Rental of property (parcels, building)
08 = Trading in Food Crop or Non-Food Crops, Animals or their products (e.g. middlemen)	20 = Government allowance (pension, disability benefit)
09 = Seller, commercial activity	21 = Savings, credit
10 = Petty trading	22 = Begging, assistance
11 = Unskilled wage labour	23 = Rental of Agricultural Equipment
12 = Agricultural labour	24 = Others, specify _____

Member code

1 = Head of the Household only	5 = Adults only
2 = Spouse of the head of the Household only	6 = Children only
3 = Men only	7 = Women & children
4 = Women only	8 = Men & children
	9 = Everybody

Cash Income Code

1 = R 1-500	5 = 2001 to 3000
2 = 501 to 1000	6 = 3001 to 5000
3 = 1001 to 1500	7 = 5001 to 7500
4 = 1501 to 2000	8 = >7500

3.5 -	Do you have access to a place to borrow money? circle all that apply	1	Yes – relatives / friends
		2	Yes – charities / NGOs
		3	Yes - local lender – loan account
		4	Yes- banks
		5	Yes – Other (Specify) _____

Please complete the following table one crop at the time, use the codes outlined for each question. If household is not involved in agricultural activities then enter complete each entry with a 9 (i.e. 9, 99 or 999 as appropriate) and continue to **Section 5**

	Crop Grouping	a – Of the overall crop production what proportion does this CROP GROUP contribute? (e.g. if HH only produces maize & rice then Cereals = 100%)	b – What is the MAJOR CROP cultivated in the corresponding crop type? <i>Use the Crop Codes below</i>	c – How do you normally acquire [MAJOR CROP] seeds/planting Material? 1 = Purchase 2 = Exchange with farmers 3 = Gift from relatives/family 4 = Reserved from previous harvest 5 = received from NGOs, govt,... 6 = Other, specify: _____	d – Of this [MAJOR CROP] approximately what percentage is lost/became spoiled, as to have no value, after harvesting? (% - write 000 if none)
3.6	Cereals	_ _ _ %	_ _	_	_ _ _ %
3.7	Starchy Vegetables/ Tubers	_ _ _ %	_ _	_	_ _ _ %
3.8	Legumes	_ _ _ %	_ _	_	_ _ _ %
3.9	Vegetables	_ _ _ %	_ _	_	_ _ _ %
3.10	Fruit	_ _ _ %	_ _	_	_ _ _ %
3.11	Cash Crops	_ _ _ %	_ _	_	_ _ _ %

Crop Codes

Cereals

- 01 = Maize
- 02 = Millet (any variety)
- 03 = Sorghum
- 04 = Rice
- 05 = Other cereals Specify _____

Starchy Veg/Tubers

- 06 = Irish Potato
- 07 = Sweet Potato
- 08 = Cassava
- 09 = Other roots/tuber Specify _____
- 10 = Plantain

Legumes

- 11 = Beans
- 12 = Cow peas
- 13 = Pigeon peas
- 14 = Soya beans
- 15 = Ground nuts
- 16 = Garden/field peas
- 17 = Other Legumes Specify _____

Vegetables

- 18 = Greens
- 19 = Tomatoes
- 20 = Other Vegetable Specify _____

Fruits

- 20 = Ripe Banana
- 21 = Pineapple
- 22 = Other Fruits

Cash Crops

- 23 = Tea
- 24 = Coffee
- 25 = Tobacco
- 26 = Cashew Nut
- 27 = Cloves
- 28 = Sugarcane
- 29 = Coconuts
- 30 = Other cash crop Specify _____

SECTION 4 – FOOD SOURCES, FOOD ACCESS AND CONSUMPTION

Read : I would now like to ask you a few questions about food consumption in your household

4.1	Yesterday, how many times did the <u>adults</u> in this household eat?	_ times			
4.2	Yesterday, how many times did the <u>children</u> in this household eat?	_ times			
4.3	Is this unusual at this time of year?	1	Yes	2	No

Could you please tell me how many days in the **past ONE WEEK** your household has eaten the following foods and what the source was *(use codes below, write 0 for items not eaten over the last 7 days and if several sources, write up to two)*

For Food Recall in last 7 days (check box if consumed)							Food Item	1. # of days eaten last 7 days (total of boxes on left)	2. Food Source (write all)		
1	2	3	4	5	6	7			Primary	Secondary	
							6.4-	Maize	_	_	_ , _
							6.5-	Rice	_	_	_ , _
							6.6-	Other cereals (<i>Sorghum, millet, ...</i>)	_	_	_ , _
							6.8-	Bread	_	_	_ , _
							6.9-	Banana	_	_	_ , _
							6.10-	Beans and Peas	_	_	_ , _
							6.11-	Other vegetables	_	_	_ , _
							6.12-	Ground nuts	_	_	_ , _
							6.13-	Fresh fruits	_	_	_ , _
							6.14-	Fish	_	_	_ , _
							6.15-	Meat (domestic or wild)	_	_	_ , _
							6.16-	Eggs	_	_	_ , _
							6.17-	Oil, fat, butter	_	_	_ , _
							6.19-	Milk	_	_	_ , _

Food Source codes

- | | |
|-------------------------------------|---|
| 1 = Own production (crops, animals) | 5 = purchases |
| 2 = hunting, fishing, gathering | 6 = gift (food) from family/relatives |
| 3 = exchange labour/items for food | 7 = foods aid/subsidized food (NGOs, government...) |
| 4 = borrowed | |

HOUSEHOLD FOOD INSECURITY ACCESS SCALE (HFIAS) MEASUREMENT TOOL

For each of the following questions, consider what has happened in the past 30 days. Please answer whether this happened never, rarely (once or twice), sometimes (3-10 times), or often (more than 10 times) in the past 30 days?			
NO	QUESTION	RESPONSE OPTIONS	CODE
1.	Did you worry that your household would not have enough food?	0 = Never 1 = Rarely (once or twice in the past 30 days) 2 = Sometimes (three to ten times in the past 30 days) 3 = Often (more than 10 times in the past 30 days) __
2.	Were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?	0 = Never 1 = Rarely (once or twice in the past 30 days) 2 = Sometimes (three to ten times in the past 30 days) 3 = Often (more than 10 times in the past 30 days) __
3.	Did you or any household member eat just a few kinds of food day after day due to a lack of resources?	0 = Never 1 = Rarely (once or twice in the past 30 days) 2 = Sometimes (three to ten times in the past 30 days) 3 = Often (more than 10 times in the past 30 days) __
4.	Did you or any household member eat food that you preferred not to eat because of a lack of resources to obtain other types of food?	0 = Never 1 = Rarely (once or twice in the past 30 days) 2 = Sometimes (three to ten times in the past 30 days) 3 = Often (more than 10 times in the past 30 days) __
5.	Did you or any household member eat a smaller meal than you felt you needed because there was not enough food?	0 = Never 1 = Rarely (once or twice in the past 30 days) 2 = Sometimes (three to ten times in the past 30 days) 3 = Often (more than 10 times in the past 30 days) __
6.	Did you or any other household member eat fewer meals in a day because there was not enough food?	0 = Never 1 = Rarely (once or twice in the past 30 days) 2 = Sometimes (three to ten times in the past 30 days) 3 = Often (more than 10 times in the past 30 days) __
7.	Was there ever no food at all in your household because there were not resources to get more?	0 = Never 1 = Rarely (once or twice in the past 30 days) 2 = Sometimes (three to ten times in the past 30 days) 3 = Often (more than 10 times in the past 30 days) __
8.	Did you or any household member go to sleep at night hungry because there was not enough food?	0 = Never 1 = Rarely (once or twice in the past 30 days) 2 = Sometimes (three to ten times in the past 30 days) 3 = Often (more than 10 times in the past 30 days) __
9.	Did you or any household member go a whole day without eating anything because there was not enough food?	0 = Never 1 = Rarely (once or twice in the past 30 days) 2 = Sometimes (three to ten times in the past 30 days) 3 = Often (more than 10 times in the past 30 days) __

SECTION 5 – SHOCKS AND FOOD SECURITY

5.1-	Did you experience any situation during the last year that affected your household to provide for itself, eat in the manner you are accustomed or affected what your family owned?				1	Yes	2	No
5.2-	By order of importance, what were the main causes for the problems you faced this year? <i>Do not read options, write number in front of the identified cause by order of importance (1=highest)</i>							
	__	A. Drought/irregular rains, prolonged dry spell	__	G. Unusually high prices for food	__	M. Death of other household member		
	__	B. Floods	__	H. Unusually high cost of agric. inputs (seed, fertilizer, etc.)	__	N. Theft of productive resources		
	__	C. Landslides, erosion	__	I. Loss or reduced employment for a household member	__	O. Insecurity/violence		
	__	D. Unusually high level of crop pests & disease	__	J. Reduced income of a household member	__	P. Other _____		
	__	E. Unusually high level of livestock diseases	__	K. Serious illness or accident of household member	__	Q. Other _____		
	__	F. Unusually high level of human disease	__	L. Death a working household member				

For the four first main shocks above, please complete the following table using the codes. Please be consistent in the ranking. Complete one line at the time. (i.e. Letter attributed to cause listed above identified with HH heads rank 1-4)

Rank & Cause <i>(copy code from above the four main causes)</i>	5.3- Did [cause] create a decrease or loss for your household of: 1 = Income & in-kind receipts 2 = Assets (e.g. livestock, cash savings) 3 = Both income and assets 4 = No change	5.4- What did the household do to compensate or resolve these problems caused by the shock <i>Use codes below, record all used</i>	5.5 - Did [cause] create a decrease in your household's ability to have enough food to eat for a period of time (not including the annual 'lean season')? 1 = Yes → 7.6 2 = No → Section 8 3 = Don't know → Section 8	5.6 - Has the household recovered from the inability to have enough food? 1 = Not recovered at all 2 = Partially recovered 3 = Completely recovered
1. _____	__	1. __ __ , 2. __ __	__	__
2. _____	__	1. __ __ , 2. __ __	__	__
3. _____	__	1. __ __ , 2. __ __	__	__
4. _____	__	1. __ __ , 2. __ __	__	__

01 = Rely on less preferred, less expensive food	14 = Borrowed money
02 = Borrowed food, helped by relatives	15 = Sold HH articles (utensils, blankets) or jewelry
03 = Purchased food on credit	16 = Sold agricultural tools, seeds
04 = Consumed more wild foods or hunted	17 = Sold building materials
05 = Consumed seed stock held for next season	18 = Sold HH furniture
06 = Reduced the proportions of the meals for all	19 = Sold HH poultry, birds, ducks
07 = Adults ate less so that children could eat	20 = Sold small animals – goats, sheep, pigs
08 = Reduced number of meals per day	21 = Sold big animals – oxen, cow, bulls
09 = Skipped days without eating	22 = Rented out land
10 = Some HH members migrated temporarily (< 6 months)	23 = Sold land
11 = Some HH members migrated permanently (> 6 months)	24 = Worked for food only
12 = Reduced expenditures on health and education	25 = Extended working hours
13 = Spent savings	26 = Children taken out of school

UNIVERSITY OF IBADAN, IBADAN, NIGERIA

DEPARTMENT OF ENGLISH

E-mail: akinsola.odebunmi@mail.ui.edu.ng
Papaabnm2@gmail.com



+234-803-378-6713

20 September, 2016.

Prof. M. Masafu,
Department of Agriculture,
Animal Health and Human Ecology,
University of South Africa.

Dear Prof. Masafu,

EDITORIAL REPORT ON THE MANUSCRIPT: “Assessment of Welfare Shocks and Food Insecurity in Ephraim Mogale and Greater Tubatse Municipality of Sekhukhune...”

The above manuscript was received for editing on Saturday, 17 September, 2016 with the following details:

Type of manuscript: MSc project

Author: Peter Temitope Agboola

Institution: University of South Africa

Number of pages: 103 (out of which 68 pages constituting the main chapters were contracted for editing)

Total word size: 19,161 (for 103 pages)

The manuscript was thoroughly edited for grammatical and stylistic errors by Ms Taiye Odionkhere, a specialist in English who holds BA and MA degrees in English, and who is currently an end-stage PhD research student in the Department of English, University of Ibadan. The changes/corrections made were vetted by me. The details of the corrections are provided below:

Categories of errors found: Concord, spelling, omission and wrong use of grammatical words, wrong word choices, wrong phrasing of expressions and punctuation.

Broad report on the corrections done: Corrections were effected on spelling; grammatical words (mainly articles) and punctuation marks that were omitted were inserted, and the wrong ones were equally corrected. Wrong/inappropriate nominal, adjectival and connecting items were corrected. Errors of concord, including subject-verb agreement and pronominal agreement, were also corrected.

Method of correction: All corrections are effected as track changes in the manuscript, and are attached as document, in addition to a clean, submittable copy of the same document. In other

words, two versions of the edited works are prepared: a version showing the changes made, and a clean version in which the changes have been accepted.

Concluding Remarks

Generally, the candidate demonstrates an average level of competence in English. With the errors corrected, the manuscript reads well and can be subjected for examination.

Thank you.

Sincerely yours,

SAO

Prof. Akinola Odebunmi.