



**NUTRITION SECURITY OF FARM WORKERS IN THE NORTH WEST PROVINCE,
SOUTH AFRICA**

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**Mini-dissertation submitted in partial fulfilment of requirements for the degree
Magister in Consumer Sciences at North-West University.**

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2005

Potchefstroom Campus.

POTCHEFSTROOMKAMPUS

DEDICATION

I dedicate this dissertation to my loving husband (Alec Sithole) and the children (Tebogo, Kenosi, Rapelang & Rorisang).

**Well, whatever you do, whether you eat or
drink, do it all for God's glory.
1 Corinthians 10:31**

ACKNOWLEDGEMENT

I would like to thank my GOD, the provider, who made it possible for me to come and study in Potchefstroom. Indeed, I grew spiritually. My coming here was indeed a blessing.

My gratitude goes to the following persons:

Dr Stefanie Lemke my supervisor who has been so patient with me, always smiling and passionate about my project. She gave me all the skills that will always remind me of her. Keep the going as long as you'll be on this job.

Dr Daleen van der Merwe my co-supervisor. Her soft spoken character will always be remembered. The knowledge and skills imparted to me will reign throughout my life.

Professor H. H. Vorster. Those motherly qualities she showed to me in times of happiness and trouble and that smile in the corridors always made my day. She also prepared me very well to be an informed nutritionist. Thank you Professor.

Dr Fanie Jansen van Rensburg and Dr Wilhelm van Deventer for the parental roles they provided in the research group. I will always remember the advice they gave and all those elderly jokes that made us laugh throughout the project.

Lineo Mathule - a friend and a partner in research who always encouraged and guided me. She was a shining star when my days were dark.

Grace Mongwa - my housemate and group partner. She was always with me through thin and thick. She will be remembered for her encouragement and jokes when it was tough.

Knowledge Magocha - a brother who was always there for me. Thank you for reading through my dissertation.

To all my research team members, especially Nicole, Lisa and Christine who assisted me with field work and data management. I also acknowledge Ingrid, Godwin, Lyna, Karin and Olivia. Thank you very much for all the support given and the moments we shared in our office.

My powerful prayer mates Kgomotso Moruise and Daisy Chassauka will be my life remembrance, because their prayers performed miracles in my study life.

Lastly but not least, I would like to appreciate and thank the owners of the farm where the study was conducted, together with their employees and their family members. God bless you all.

SUMMARY

Farm workers in the North West province have been identified through previous research as an extremely vulnerable group, regarding their poor nutritional, physical and mental health. It was also revealed that children living on farms are very vulnerable and more likely to be stunted and underweight than any other children in South Africa. Furthermore, farm workers in South Africa have been victims of chronic community poverty.

This present study was part of a larger research project on linkages of nutrition security, HIV/AIDS and livelihoods. The aim of this study was to explore underlying causes of nutrition insecurity of farm workers and their households in the North West province. A phenomenological qualitative social research methodology was employed to achieve this. Fourteen women and eight men were interviewed and follow up interviews were done with a sub-sample of eight participants. Furthermore, observations and household food inventories were carried out.

Findings revealed that the majority of the households interviewed on this particular farm were nutritionally insecure. Availability of food as such is not a problem to the farm dwellers, due to the closeness of the farm to town. However, not everyone has access to enough and nutritious food, due to a lack of money, the size of households, lack of education, limited time available and the dispersed nature of households. Farm dwellers' poor nutrition situation is aggravated by the lack of adequate infrastructure, sanitation and health facilities, which are below recommended standards.

In conclusion, findings highlighted that farm worker households lack food diversity, especially fruits and vegetables, and that they depend on social contributions from friends and relatives outside when they experience food shortages. All farm dwellers also rely on the farmer for financial assistance if they cannot get what they need from friends and relatives. However, this financial assistance they get from the farmer will be deducted from their salaries at the end of the month leaving them with little money to survive for the rest of the month. The results of this study will possibly help to form a basis for developing nutrition intervention programmes with the aim of improving the quality of the nutritional status of farm workers in the North West province, South Africa.

OPSOMMING

Plaaswerkers in die Noordwes provinsie is voorheen deur navorsing geïdentifiseer as 'n uiterse weerlose groep, betreffende hulle voedings-, fisiese- en geestesgesondheid. Daar is ook aangedui dat kinders wat op plase woon geneig is om te klein en ook ondergewig te wees, tot 'n groter mate so as enige ander kinders in Suid-Afrika. Daarbenewens was plaaswerkers die slagoffers van chroniese gemeenskapsarmoede.

Die huidige studie vorm deel van 'n groter navorsingsprojek wat handel oor die raakpunte tussen voedingsekuriteit, HIV/VIGS en ander lewensonderhoud. Die doelwit van die studie is om die onderliggende oorsake van swak voedingsekuriteit van plaaswerkers en hulle huishoudings in die Noordwes provinsie te ondersoek. 'n Fenologiese kwalitatiewe sosiale navorsingsmetodologie is aangewend om dit te bereik. Onderhoude is gevoer met veertien vroue en agt mans en opvolgonderhoude met 'n substeekproef van agt deelnemers. Verder is waarnemings gedoen en huishoudelike voedselinventarisse geneem.

Die bevindinge het aangedui dat die meerderheid van die huishoudings waarmee onderhoude gevoer is, nie voedingsekuriteit ervaar nie. Die beskikbaarheid van die voedsel op sigself is nie 'n probleem vir die plaaswerkers nie, omdat die plaas naby aan die dorp geleë is. Desnieteenstaande het almal nie toegang tot genoeg en voedsame voedsel nie, as gevolg van 'n tekort aan geld, die grootte van die huishoudings, gebrek aan opvoeding, beperkte tyd beskikbaar en die verspreide aard van huishoudings. Die plaaswerkers se swak voedingsekuriteitsituasie word vererger deur die gebrek aan voldoende infrastruktuur, sanitasie en gesondheidsfasiliteite, wat benede aanbevole standarde is.

Ten slotte het resultate aangedui dat plaaswerkerhuishoudings 'n gebrek aan voedseldiversiteit ervaar, veral vrugte en groente, en dat hulle op bydraes uit sosiale kringe van vriende en familie staatmaak wanneer hulle voedseltekorte ervaar. Alle plaasbewoners maak ook op die boer staat vir finansiële ondersteuning, indien hulle nie die nodige by vriende en familie kan verkry nie. Die geldelike ondersteuning vanaf die boer, word egter van hul salarisse afgetrek teen die einde van die maand, wat beteken dat hulle minder oorhet om van te lewe vir die res van die maand. Die resultate van die studie kan moontlik help om 'n basis te vorm vir 'n voedingsintervensieprogram wat dit ten doel stel om die kwaliteit van die voedingstatus van plaaswerkers in die Noordwes provinsie van Suid-Afrika te bevorder.

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ABBREVIATIONS

AHP -	Anti Hunger Programme
AIDS -	Acquired Immune Deficiency Syndrome
DOH -	Department of Health
FAO -	Food and Agricultural Organization
FASDEP -	Food and Agricultural Sector Development Policy
FIVIMS -	Food Insecurity Vulnerable Information and Mapping Systems
FLAGH -	Farm Labour and General Health Programme
HIV -	Human Immune Deficiency Virus
HTF-	Hunger Task Force
ICFI -	International Committee of Fourth International
IFPRI -	International Food Policy Research Institute
MDG -	Millennium Development Goal
NFCS -	National Food Consumption Survey
THUSA -	Transition, Health and Urbanization in South Africa
UN -	United Nations
WFD -	World Food Day
WHO -	World Health Organization

DEFINITIONS OF TERMS RELATED TO FOOD AND NUTRITION SECURITY

These definitions of terms were adopted from Food Insecurity Vulnerable Information and Mapping Systems (FIVIMS) established by the Food and Agricultural Organization (FAO, 2002) and Hunger Task Force (HTF, 2003).

Nutritional status: “The physiological condition of an individual that results from the balance between nutrient requirements and intake and the ability of the body to use these nutrients” (FAO, 2002; HTF, 2003).

Hunger: “People experience the sensation of hunger when they lack the basic food intake necessary to provide them with the energy and nutrients for fully productive and active lives. Hunger, principally refers to inadequate consumption of the macronutrients, carbohydrates in particular, and is an outcome of food insecurity. All hungry people are food insecure, but not all food insecure people are hungry” (FAO, 2002; HTF, 2003).

Malnutrition: “A physical condition or process that results from the interaction of inadequate diet and infection. It is most commonly reflected in poor infant growth, reduced cognitive development, anaemia, and blindness in those suffering severe micronutrient deficiency, and is also reflected in excess morbidity and mortality in adults and children alike” (FAO, 2002; HTF, 2003).

Under nutrition: “Malnutrition occurs due to inadequate food consumption or poor absorption or biological use of nutrients consumed, due to illness, disease, or nutrient imbalance. In addition to an absolute deficit in food consumption, under nutrition frequently results from imbalanced diets in which sufficient macronutrients are consumed (carbohydrates, fat, protein), but insufficient vitamins and minerals (in particular the micronutrients iron, iodine, zinc, and vitamin A), resulting in various physiological disorders and increased susceptibility to disease” (FAO, 2002; HTF, 2003).

Over nutrition: “Malnutrition due to an excess of certain nutrients, such as saturated fats and added sugars in combination with low levels of physical activity that may result in obesity, heart disease and other circulatory disorders, diabetes, and similar diseases. While individuals suffering from over nutrition are food secure, they do not enjoy nutrition security. Although the majority of malnourished individuals in Africa

are undernourished, problems of over nutrition are also present (FAO, 2002; HTF, 2003).

Vulnerability: “The presence of factors that place people at risk of becoming food insecure or malnourished, whether due to loss of access to food, proper nutritional care, or an inability to physiologically utilize available food, because of infection or other disease” (FAO, 2002; HTF, 2003).

Availability of food: “Availability of food is achieved when adequate food can be obtained by the public” (Von Braun, 1999:41).

Access to food: “Access to food is the ability of households to acquire available food” (Gross *et al.*, 2000:21).

CLARIFYING CONCEPTS

In literature, different concepts and definitions of "household" exist. In the present study, the following two concepts apply.

According to Lemke (2001:109), which was based on Murray (1976) and Spiegel *et al.* (1996), a household is defined as:

"All people who share income and other resources, possibly also certain obligations and interests, whether they belong to the same or different residential units. In most cases, members of these households are related along kinship links"

The U.S Bureau of Census (2000) defines a household as:

"A household includes all the persons who occupy a housing unit. A housing unit is a house, an apartment, a mobile home, a group of rooms or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters. Separate living quarters are those in which occupants live and eat separate from any other persons in the building and which have direct access from the outside of the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements (People not living in households are classified as living in group quarters)"

On the farm where this study was conducted, respondents share a housing unit with their workmates. They only share the house and do not eat together and only in few cases share any other resources. All farm workers on this specific farm have their households in the nearby towns / townships with their own family members, where they share all of the characteristics of a household as defined by Lemke (2001). Therefore, in this study, the term "household" refers to the study unit that is being investigated, while the term "housing unit" stands for the unit of accommodation shared by farm workers on the farm.

CATEGORIES OF NUTRITION SECURITY

Based on previous research (Lemke, 2001:218), the following categories and characteristics for nutrition security apply to the present study:

Very nutrition insecure

- Food is not sufficient, regarding quantity and quality.
- Households experience regular food shortages and hunger.
- Only a few basic food items are available and there is no or seldom variety in the diet.
- There are limited unpredictable incomes or small regular incomes or pension.
- High household size, many household members relying on income.
- More than half of total household expenditure is on food.
- There are no savings.
- There are no or very few social networks in place.

Nutrition insecure

- Basic food supply during the month.
- Regular, foreseeable times of food shortage and possible hunger.
- Limited food diversity.
- High household size.
- Almost half of household expenditure is on food.
- Only few households have small savings.
- Food shortage can partly be overcome with social networks and small credits.

Relatively nutrition secure

- No/seldom food shortage or experiences of hunger.
- Households can fulfil their basic needs.
- Households have some food diversity.
- Regular and often several incomes.
- Smaller household size.
- Household expenditure on food is lower than 40%.

- Households might have savings.
- Social networks help to overcome shortage or occasional periods of food shortage.

Nutrition secure

- Food is always sufficient, regarding quantity and quality.
- There are no worries about food.
- Households have food diversity.
- Food preferences are mostly fulfilled.
- Regular and secure incomes.
- Small household size.
- Household expenditure for food is lower than 30%.
- Households have savings.

CHAPTER 1

INTRODUCTION

1.1 Background and motivation

The North West Province is one of South Africa's smaller provinces. The size of the land is 116,320 km². About 3.5 million people live in the North West Province. It is one of the food baskets of the country. A third of the country's maize is produced in this region, as well as sunflower, groundnuts, fruits, tobacco, cotton and wheat. There are roughly 7,600 commercial farms in the North West Province (South African North West Parks and Tourism Board, 1997)

The main languages of inhabitants of the North West Province are Setswana, Afrikaans and Isixhosa. About 22% of the adult population has not received formal education and this causes human resource development levels to be low (PPT Pilots Project in Southern Africa, 2004). Furthermore, it is estimated that 65.1% of the population lives in rural areas and 34.9% in urban areas. However, there is a considerable amount of migration to urban areas, due to unemployment and poverty. The agricultural sector is one of the main employers in this province (Palitza, 2005). It is therefore suggested that poverty could contribute to food and nutrition insecurity in this particular province.

Food and nutrition security in the past has been and still remains an issue of great concern worldwide. Despite the fact that enough food is produced worldwide, the majority of people are still poor, food insecure and malnourished, especially in Sub Saharan Africa (Quashigah, 2001). Also in South Africa, nutrition insecurity, poverty and HIV/AIDS are pressing issues. Therefore, the present study will explore the nutrition security situation of farm workers and their households in a South African context, focusing on a farm in the North West Province.

The above issues of food and nutrition security and poverty are mostly associated with vulnerable groups, such as farm workers. The THUSA study by Vorster *et al.* (2000) identified farm workers as an extremely vulnerable group regarding their poor nutritional, physical and mental health. This study also revealed that children living on farms are very vulnerable and more likely to be stunted and underweight than any other children in South Africa. Furthermore, farm workers in South Africa have been victims of chronic community poverty. However, little is known about farm worker

families' handling of internal family functions and social life (Crystal, 2004). The present study will subsequently explore the in-depth issues concerning the internal and social life that could lead to nutrition insecurity.

It is a well-known fact that food and nutrition insecurity exists among some South Africans. Recently, the United Nations Development Program estimated overall food insecurity in South Africa at 16% for households with children younger than seven years of age and 26% for rural households with children at the age of seven and older (Zafar, 2005). In addition, in a report compiled by May *et al.* (1998) poor South Africans themselves agree that poverty includes the following: alienation from the community, food insecurity, crowded homes, use of unsafe and inefficient forms of energy, lack of jobs that are paying well or are secure, and unstable families. All these are characteristics of nutrition insecurity (May *et al.*, 1998). Therefore, the present study was aimed at exploring these underlying causes for nutrition security among black farm workers in South Africa in the North West Province.

1.2 Problem statement

Farm workers have been identified as an extremely vulnerable group regarding their poor nutritional status and their physical and mental health. Previous studies also revealed that children living on farms are vulnerable and more likely to be stunted and underweight than any other children in South Africa. However, in-depth research on nutrition security and living conditions of farm workers in South Africa is lacking. Therefore, the situation of farm workers, as well as underlying social causes for nutrition insecurity, urgently have to be addressed and investigated.

1.3 Setting and research participants

The study was conducted in the North West Province, Potchefstroom district, South Africa, on a commercial chicken farm. A total of 46 men and 42 women are employed on the farm, adding to a total number of 88.

1.4 Study design

This sub-study forms part of a larger research project entitled "Nutrition security, livelihoods, poverty and HIV/AIDS of South African farm worker households" (Lemke, 2005). The research is carried out within the infrastructure of the Farm Labour and General Health Programme (FLAGH), a multidisciplinary research, intervention and

development programme, consisting of several projects. It aims at improving the nutritional status and quality of life of farm dwellers.

1.5 Research aim

The overall research aim is to gain in-depth information on the nutrition situation and to explore underlying causes for nutrition insecurity of farm workers and their families in the North West Province, South Africa, at the micro level of households.

1.6 Specific research objectives

The objectives of this study were:

- To assess the socio-demographic situation by collecting baseline information about the informant and the household. The following indicators were investigated to accomplish this: age, place of birth, places lived in during childhood and adolescence, marital status, education, occupation, household composition, head of household and decision-making.
- To determine the socio-economic situation in terms of livelihoods and assets. The following indicators were investigated to attain this: composition of total household income from different sources (formal and informal incomes) meaning that whether people receive their income from wages or from elsewhere, including payment in kind, remittances from migrant household members, or social grants; possession of livestock and other assets (property, consumption goods, indicating living standards and savings).
- To investigate household nutrition security of farm workers by employing the following set of key defining characteristics:
 - * Food availability from sources within or outside the farming community or produced by the household; access to food.
 - * Infrastructure: access to health facilities, clean drinking water, sanitation and electricity, type of housing, and food storage facilities.
 - * Household level dietary diversity (household food inventory).
 - * Estimated total household expenditure spent on food.
 - * Experience of hunger and food shortage.
 - * Responses and coping strategies.

1.7 Ethical considerations

As this study consists of face-to-face interviews and observations, the project leader and the researcher approached the owner of the farm where this study was to be conducted, to obtain consent to carry out research on their farm. During this meeting, the researcher firstly explained all the ethical procedures to the farmer to present an understanding and assurance of confidentiality. After approval by the farmer, an appointment was made with the farmer to organize a group of women to be addressed and informed about the intended study. At this gathering, participants were told that interviews would be conducted only after oral consent had been obtained from individuals. They were also told that these interviews would be confidential and that their names would be protected.

The participants were also assured that they would not be held responsible for the outcomes of their contribution. The researcher also emphasized that there were no correct or wrong answers and that participants were to feel free to share whatever information they thought could be helpful to the study. Pseudo names were used in case studies and the interview numbers were used when analysing data. Findings were to be reported to the Nutrition Department in Potchefstroom and the University of Giessen in Germany, which funds this project. This study was approved by the Ethical Committee of North-West University (No 01M04) (See Annexure A).

1.8 The contribution of the study

This research is a small study within a larger project that is still continuing in other focal areas of the broader research topic that looks at the linkages of Nutrition Security, Livelihoods and HIV/AIDS of farm workers in South Africa. Therefore, the research results from this mini-dissertation will possibly help to form a basis for developing nutrition intervention programmes with the aim of improving the nutritional status and quality of life of farm workers in the North West Province, South Africa.

1.9 Chapter layout

The structure of this mini-dissertation is divided into five chapters. Chapter one consists of a general introduction of the project. The second chapter presents firstly the literature regarding the nutrition security situation globally, in sub Saharan Africa and then South Africa. The literature also presents the situation of South African farm workers and their families' living and working conditions. The methodology of this

study is presented in chapter three. In chapter four, the findings and discussions of the study are presented. The last chapter of the dissertation contains a conclusion, and the recommendations for the larger project and future studies are presented. The numbering system followed was derived from the Manual for Post Graduate Studies, revised and updated in December 2004 (North-West University, 2004).

1.10 Author's contribution

A team of both qualified and learning researchers planned all the study proceedings and findings reported in this mini-dissertation. Each researcher's contribution is illustrated in the following table:

Author's contribution to the study

Name	Role in the study
Ms T. S. Sithole	Author. Collected, interpreted, transcribed and analysed data, literature research and preparation of the dissertation.
Dr S. Lemke	Study leader and co-author. Since this research is a study within a larger project, the study leader formulated and conceptualized the study. All conceptualized and formulated ideas, descriptive analysis, interpretation and writing up of this mini-dissertation were supervised by her.
Dr M. Van der Merwe	Co-study leader and co-author. Performed the supervisory duties of descriptive analysis and interpretation of data. Also supervised the writing up of this mini-dissertation.

The following is a statement from the co-authors confirming their individual roles in the study:

I declare that I have approved the above-mentioned mini-dissertation, and that my role in the study, as indicated above, is representative of my actual contribution and that I hereby give my consent that it may be published as part of the Masters mini-dissertation of Mrs Tholiwe Sophie Sithole (2006).

Mrs T.S. Sithole

Dr S. Lemke

Dr M. Van der Merwe



Figure 1: Photograph showing part of farm workers' settlement where the study was conducted.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Poverty, household food, as well as, nutrition insecurity and malnutrition are said to be major causes of many deaths facing children and women in Africa (Rutengwe, 2004:169). Currently, the HIV/AIDS pandemic is also adding to the problem as it affects the productive age group which is the source of income for most households. Farm workers have been identified by several studies, such as Vorster *et al.* (2000), May *et al.* (1998), Crystal (2004) and others as being vulnerable as far as their health status and working conditions are concerned. In South Africa, the above factors are rampant amongst black farm workers and have not only depleted their livelihoods, but also the effectiveness of the labour force.

Considering the serious nature of the nutrition insecurity situation of many inhabitants of Africa, and especially farm workers in South Africa, it was necessary to conduct a thorough literature background of such issues before a study on their nutrition security could be undertaken. This chapter firstly covers the food and nutrition situation globally and in the South African context, while it also provides background information on working and living conditions of farm workers in South Africa.

2.2 Food and nutrition security: the global situation

Food and nutrition security is an issue of concern worldwide. Despite the fact that the world produces enough food to meet the world's food demand, many people in the world are food insecure and malnourished, especially in Sub Saharan Africa (Quashigah, 2001). The United Nations task force estimated that, on a global basis, approximately 50% of the hungry people are living in farm households, 22% are rural landless people, 20% are urban dwellers and 8% of the hungry are directly dependent on natural resources (FAO, 2004).

In Africa the number of people who are undernourished has increased to 200 million (FAO, 2002). It is reported that progress to achieve the World Food Summit Goal of halving the number of hungry people by 2015 is very slow. From 1992, the numbers have only decreased by 2.5 million. This is a concern, because if this pace continues, the World Food Summit Goal will only be achieved in about 100 years (FAO, 2002).

In the past, nutrition and food security were mainly associated with issues regarding food. Current research shows that there are various other factors contributing to food and nutrition insecurity. Among these are conflicts, water shortage, lack of facilities, such as clinics, schools, shops, shortage of land, unequal distribution of food and services; natural disasters, low paying jobs and unemployment. Factors that are related to traditional cultural practices and eating habits also exercise an influence (Drimie and Mini, 2003:18; IFPRI, 2004)

Contrary to the African situation, however, progress is being made in other parts of the world, especially China, in reducing nutrition insecurity. The prevalence of child malnutrition in these countries has declined significantly over the past 25 years. Rates of stunting (low height-for-age) among children aged 6 months to 5 years in all developing countries dropped with almost 20 percentage points from 49% to 30% between 1980 and 2000, while underweight (low weight-for-age) rates dropped from 38% to 25%. However, Africa is an unfortunate exception to these trends (Labadarios *et al.*, 1999).

Nutrition and food insecurity worsened worldwide and especially in Southern Africa with the interaction of the HIV/AIDS pandemic (Annan, 2002). A lack of food and nutrition security could be expected to lead to malnutrition, which may worsen the development of AIDS. The disease itself contributes to malnutrition, because it reduces people's appetites, hinders the nutrient absorption and causes the body to become weaker due to the absence of nutrients. During this period, an HIV-infected person's defence system is impaired and other viruses (opportunistic diseases) take advantage of this to further weaken the body and cause various illnesses. Diseases such as pneumonia, tuberculosis and oral thrush always take advantage (FAO, 2005). Since the prevalence of HIV/AIDS in the early 1980s more than 60 million people worldwide have been infected with the virus and over 20 million have died from AIDS. Forty-two million people are estimated to be living with HIV/AIDS, of whom 5 million acquired HIV in 2002 alone and 3 million young adults died (Annan, 2002).

Above all, the HIV/AIDS crisis affects human health and threatens social and economic development. The pandemic is exercising a serious impact on food and nutrition security and it forms a deadly circle. HIV/AIDS often affects the most active and responsible members in the households and when they become ill and cannot

work anymore, there is a serious problem of a lack of food and care. Parents die and leave children behind as orphans, who will then lack good care and be affected by starvation, which will eventually lead to stunting (FAO, 2005).

2.3 Food and nutrition security: the South African situation

The South African constitution, adopted in 1994, recognized nutrition as a basic right and is guaranteed in the bill of rights. The then Minister of Health linked to the National Nutrition Committee to help develop a nutrition strategy called the "Integrated Nutrition Programme". They found that an estimated 39% of the population was vulnerable to food insecurity (Department of Health, 2005). A later study in 1996 estimated that 57% of the South African population was living in poverty (Department of Health, 2005).

Oldewage *et al.* (2004) stated that in South Africa, certain population groups are poverty stricken. A study carried out in the Vaal Triangle proved that the majority of households were nutritionally insecure. Recently, the United Nations Development Program estimated overall food insecurity in South Africa at 16% for households with children less than seven years of age and 26% for rural households with children at the age of seven and older (Zafar, 2005).

In an earlier study, the National Food Consumption Survey (NFCS), which is related to the one by Zafar (2005), Labadarios *et al.* (1999) showed that at least 21.6% of children between the ages of one and nine years were stunted and were showing signs of chronic under-nutrition. Younger children between the ages of one to three years were the most affected, especially those who lived on commercial farms. The survey further pointed out that women and children were the groups most affected by micronutrient deficiencies, with iron deficiency and anemia being very common (Department of Health, 2005).

In addition, a study by Lemke *et al.* (2003) stated that out of 166 women interviewed three quarters of the households in the sample were chronically food insecure, despite the fact that South Africa has a developed economy and produces enough food. The study also pointed out that of the households interviewed, females headed more than half. The study further explained that families were disrupted because of

migrant work (going out to look for a job outside their home place), poverty and increasing societal violence.

2.4 Efforts to alleviate nutrition insecurity

In Rome in 1992, the Food and Agricultural Organization (FAO) held the International Conference on Nutrition, during which all participating countries agreed on abolishing malnutrition and chronic malnutrition (FAO, 1996). In 1996, the Rome Declaration of The World's Food Summit emphasized that all individuals should have access to safe and nutritious food to meet their dietary needs (FAO, 1996). The Millennium Summit held in New York in September 2000 adopted a millennium declaration. The Development Goals were set and all participants agreed to halve the number of undernourished people no later than 2015 (Sekitoleko, 2001).

Meanwhile, the Anti Hunger Programme (AHP) was developed by FAO in 2002. The aim was to facilitate long-term investment in rural development and to provide and mediate access to enough food for the poorest people. Every year, on the 16th of October, FAO of the United Nations celebrates World Food Day to make the general public aware of the struggle against poverty and hunger worldwide. The theme for 2003 was specially approved by FAO as "International Alliance Against Hunger". This strongly emphasizes the global campaign to create the political will to abolish hunger (FAO, 2004).

Another conference was held in Kampala from 1 to 3 April 2004, where causes and solutions with regard to assuring food and nutrition security in Africa by 2020 were discussed in preparation to the "2020 Nutrition in Africa Conference." This initiative was launched by the International Food Policy Research Institute in 1993 with the aim of developing and promoting a shared vision concerning the meeting of food needs, reducing poverty and protecting the environment (Benson, 2004).

At the same conference, new ideas and concepts were presented. Rukuni (2004) stated that food and nutrition insecurity in Africa is caused by inadequate food supply, distribution and access, traditional cultural practices prohibiting women and children from eating certain foods, and changing food habits. Rukuni also stressed the need to restructure the role of women in Africa by educating and empowering

them when it comes to the overall decision-making within the households (International Institute for Sustainable Development, 2004).

The 23rd conference for Africa was held in Johannesburg, South Africa in March 2004 on "HIV/AIDS and the Food Crisis in Sub Saharan Africa." One of the recommendations made at this conference was that vulnerable households should be given seeds to grow their own food in order to improve nutrition. The other recommendation was that school gardens should be introduced for both girls and boys. Students of all ages were to be involved based on the differences in access to control resources and livelihood assets. All of these efforts indicate that there is a worldwide concern about food and nutrition insecurity (FAO, 2004).

In 2001, in South Africa the Farm Labour and General Health (FLAGH) programme introduced vegetable gardens at several farm schools in the North West Province to improve the nutrition of farm school children by incorporating vegetables in their school meals every day (Kruger *et al.*, forthcoming), as a recommendation made by the THUSA study, which was carried out by Vorster *et al.* (2000:1-10).

2.5 Definitions of food and nutrition security

Definitions of nutrition and food security have developed over decades and varied depending on specific circumstances. Definitions are being restructured repeatedly. There is no doubt that they will continue to change as long as people's understanding and appreciation of this dilemma continues to grow.

The 1996 World Food Summit held in Rome approved the definition of food security, which was established by the Food and Agricultural Organization of the United Nations as: "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO, 1996:7). Madeley (2002) interprets the definition and adds that: "Food that is available at all times, to which all persons have means of access that is nutritionally adequate in terms of quantity, quality and variety, and is acceptable within a given culture"

Contrary to the above focus on access to food, the 1975 United Nation's definition focused on adequate production at the global and national level and food was the primary source of need. It further expanded that food security is a matter of both limited food availability and restricted access to food (Clover, 2003). Nevertheless, Maxwell (2000) shares this view that food insecurity does not only result from a failure of agriculture to produce enough food at national level, but instead is a failure to guarantee access to sufficient food at the household level. Today, most of the definitions entail individual entitlement, even though there are linkages between the individual, the household, the community, the nation and the international community.

Generally, nutrition security is broader than food security, because it is achieved when secure access to food is combined with a sanitary environment, adequate health services and knowledgeable care to ensure a healthy and active life for all household members (Benson, 2004). Therefore, the governments of different countries should try to provide in all the needed services, especially to the vulnerable groups to improve their nutrition security status.

Figure 2 provides a conceptual framework, which defines nutrition security and its underlying factors and causes, as illustrated by Hahn (2000). Food must meet physiological requirements in terms of quantity, quality and safety and must be socially and culturally acceptable. **Food security** is determined at the macro-, meso- and micro-level by **availability** (agricultural production and marketing), **access** (own income and transfer incomes) and **use and utilization** (nutrition behaviour, caring practices, as well as **health status** and its determinants). Availability, access, and utilization are very important and they should be **stable**. There should be employment expansion to assure broad **economic access** that will be sustainable and will develop economic growth.

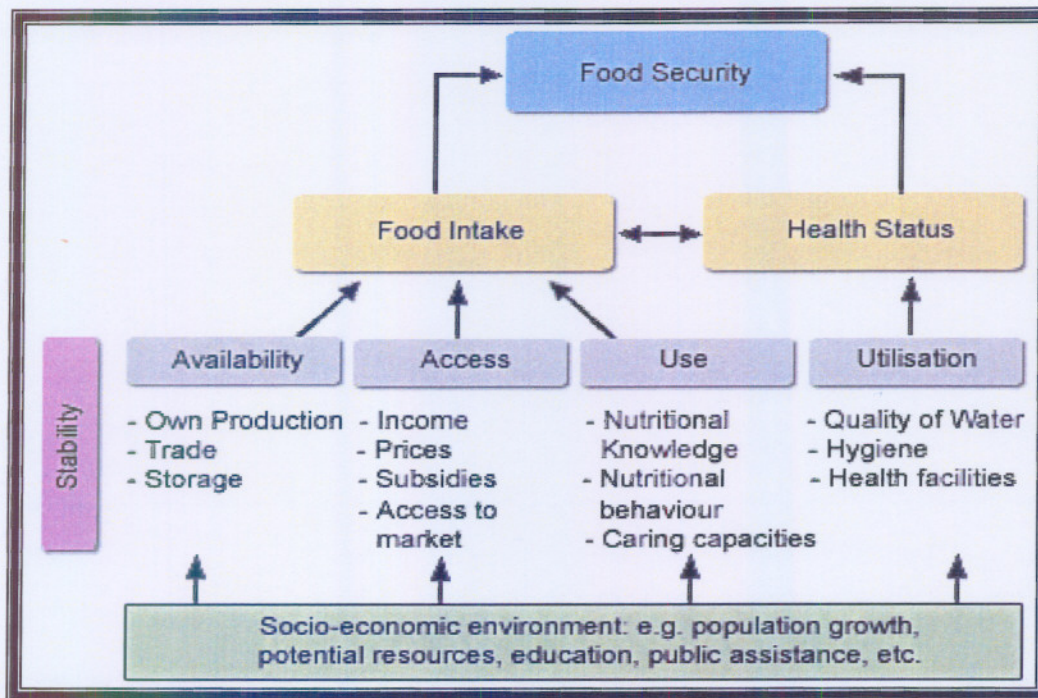


Figure 2: Conceptual framework illustrating indicators of food and nutrition security (Hahn, 2000).

The overall outcome of food security is the nutritional status of the population. All three key elements (availability, access and utilisation of food) are important for achieving a good nutritional status. Where the nutritional status is low, there is no food security even though there might be a surplus of food supply at the national or regional level (Hahn, 2000).

2.6. Farm workers in South Africa

Black South African families living and working on commercial farms have been identified as among the poorest and most vulnerable population groups of South African society (Leonhaeuser *et al.*, 2003). Farm dwellers account for 45.8% of the population classified as rural (May *et al.*, 1998). It was further revealed that 13.7 million people in South Africa live in poverty and that about 50% of them are farm dwellers (Budlender, 2000). Furthermore, the social and economic legacy of the “apartheid” era continues to affect the rights of those living on the farms in South Africa, especially the rights of children to education (Department of Education, 1997). The report found that 19% of children in rural areas, which include commercial farms and homelands, were not in schools as compared to 11% in urban areas. The infrastructure and the quality of staff on the farms are among the poorest in South Africa (Human Rights Watch, 2004).

Furthermore, rural farm workers in South Africa face serious problems of equity in development resources and opportunities. The most affected are women, for example, most women farm workers in the Western Cape are categorized as seasonal or “casual labour”. This means that they do not have permanent employment contracts or benefits, such as housing. Where they are employed on fulltime basis, they are governed by “dual patriarchy”. Their fellow male employees and their employers make all decisions about how and when they should work (Centre of Rural Legal Studies, 1999).

2.6.1 The issue of land in South Africa

The historical background of the depressing conditions encountered by black farm workers goes back to South Africa’s history of colonial conquest and dispossession of the indigenous people, especially the 1913 Native Land Act. This legislation outlawed the ownership of land by blacks in areas designated for white ownership (Van Onselen, 1990). The outcome of this was that 87% of land became white owned while only 13% was relegated to blacks. The Native Land Act gave power to white farmers, and enabled them to either evict black communities living on their land, or to inflict painful or hard conditions upon them (International Committee of Fourth International, 2003:1).

The inequality referred to above, is still continuing into the present as affirmed at a conference held in London 2004 on land in Africa, which pointed out that in South Africa, the livelihood of the poor is not a priority of government and that most of the land is still in the hands of white farmers. The issues of land distribution and wealth inequalities are still an enigma for the current government (Cousins, 2004).

In their study, London *et al.* (1998a) argued that one of the reasons why many black South Africans work on farms, is that one out of five farm workers have never received formal basic education. With no education it would be difficult to even run a farm. Yet, Francis (2000) argues in her study that black South Africans have been deliberately excluded from land ownership and that this could be one of the reasons why most of them do not farm themselves, but work for white farmers.

A report by Uyawuz’ Umoya Land News (2003) states that since 2001 the Land Distribution for Agricultural Development (LRAD) is aiming at facilitating the entry of black farmers into the agricultural economy. It further states that black farmers are

now becoming more active and efficient in the South African economy, because by September 2003, more than 400 000 ha of land was delivered to a benefiting group of almost 20 000 black emerging farmers. In the Eastern Cape for example, progress in the land reformation and delivery to the disadvantaged was reported since 1999 (Kleinbooi and Lahiff, 2004). It can therefore be concluded that the government is trying to improve the life of South African black farmers, though the process is very slow.

2.6.2 Tenure security in South Africa

Presently, South African farm workers' rights to reside on the farms are linked to the labour contract between the farm owner and the worker. In most cases, when employment is terminated, the right to reside in the dwelling is also forfeited. According to Kleinbooi and Lahiff (2004), an estimated number of 1.4 million people were evicted from farms in South Africa between 1950 and 1980. In 1997, the South African government introduced the Extension of Security Tenure Act (ESTA), aimed at protecting occupants of rural land to secure and extend land tenure rights of the victims of past discriminatory practices. Extension of Security Tenure Act is supposed to lay down strict requirements, including the issue of court order and the arrangement for alternative accommodation before an eviction takes place. However, it seems as if ESTA did little to improve the situation, because eviction is still continuing in some areas (International Committee of Fourth International, 2003:1).

2.6.3 Labour conditions on South African farms

Despite the introduction of legislation that should protect the rights of farmer workers by the government of South Africa, labour conditions in many cases have not improved. Low wages, long working hours, dangerous working conditions, victimization of trade union members and child labour practices are still occurring. Also the use of the "Dop system" (paying farm workers with alcohol instead of money) and employing illegal immigrants are amongst the violations of the law (ICFI, 2003:1). The protection provided by the labour department is regarded as inadequate. At the moment, there are only 800 labour inspectors for all work places in South Africa, who are supposed to be attending 70,000 farms in the country. Yet, this is not possible (Department of Labour, 2003; Cousins, 2004). Each farm has its own labour laws because there is no constant monitoring by government officers.

2.6.4 Previous studies on living conditions of farm workers

2.6.4.1 Farm workers categories

According to Waldman and Ntsedi (1997), there are different categories or groups of people living on farms. These are classified as farm workers who still work on the farm, and those who are accommodated on the farm but work on different farms. In addition, there are farm workers' dependants that may work on the farm or may not, while some of the farm workers also have dependants who work seasonally, especially women. In most instances Waldman and Ntsedi (1997) found that most of the farm workers previously employed on the farm remained on the farms after their previous farmer had abandoned the farm. Some migrants from different countries come every year to look for jobs on farms, drawing attention to the issue of illegal migrant workers who live in the hostels and work on the farms (Crystal, 2004).

Furthermore, farm workers decide to rent to tenants who are not working on their farm, but work elsewhere on other farms, because they work as casual labourers and thus could not be provided with accommodation on their farms. This is done without the knowledge of the farmer, because this type of renting is not allowed. These farm workers rent their houses to share the expenses because the rent is high. All these groups are diverse and unique and reflect dynamic household living conditions, which may be caused by the high flexibility of markets for farm labour (Congress of South African Trade Unions, 1999).

However, these unique groups live together and are overcrowded. This brings about the problem of bad labour relations and results in violent behaviour. This violent behaviour has been exacerbated by excessive alcohol intake, which leads to workers fighting with one another or workers with different cultural backgrounds fighting against each other (London *et al.*, 1998a). However, little is known about farm worker families' handling of internal family functions (Crystal 2004). As far as social life is concerned, farm workers and their households continue to rely on farmers for employment, accommodation and transport.

Accommodation is paid for even though the standards are very poor. Deductions for rent can be done only if the houses meet the set standard in the constitution. The conditions are as follows: durable roof, glass window that can be opened, electricity inside the house. Furthermore, the availability of water or tap facilities should be

inside the house and a flush toilet or pit latrine should be beside, in or close vicinity of the house if the house is not less than 30-sq meters minimum size (Mdladlana 2002). Further research by Crystal (2004) revealed these conditions not to be met and that regardless of this fact rent is always deducted on most of the farms.

2.6.4.2 Health status of farm workers and their households

A study on health status among farm workers in the Western Cape by London *et al.* (1998a) concluded that farm workers appeared to be a closed community with a high disease burden. Their health poses serious challenges to the health authorities also due to the HIV/AIDS pandemic. As mentioned, children on farms are also more likely to be stunted and underweight than any other children (Vorster *et al.*, 2000).

Apart from the above problems, a report by Medical News (2005) indicates that about 30% to 40% of agricultural workers in South Africa are HIV-positive, which could have a major effect on farm production. A programme that helps farm workers to receive AIDS treatment has been developed. It is said that there are currently 200 HIV/AIDS treatment centres on farms and approximately 1 000 workers are on anti-retroviral drugs. In KwaZulu-Natal, there are 140 AIDS educators to help farm workers with AIDS-related issues (Palitza, 2005).

2.6.5. Recent developments

2.6.5.1 Minimum wages for farm workers

As farm work has been associated with low wages, the government of South Africa has been trying to change the situation to improve the working conditions of farm workers. The South African minister of labour said that agricultural sectors should be regarded as a people's contract to create work and fight poverty (Mdladlana, 2002). The minister further said that the new labour law protects the most vulnerable workers by setting minimum wages and acceptable working conditions.

The Department of Labour announced that farm workers were entitled to a wage increase of 9% and 10% with effect on 1 March 2004 (Mantu, 2005). It was recommended that wages of farm workers in urban areas should be as indicated in Table 1.

Table 1: Minimum wages of farm workers in South Africa (Mdladlana, 2002)

Areas	Effective Dates	Hourly Rate	Monthly Rate
Urban Areas	1 March 2004-28 February 2005	4.47	871.58
	1 March 2005-28 February 2006	4.87	949.58
Rural Areas	1 March 2004-28 February 2005	3.66	713.65
	1 March 2005-28 February 2006	4.03	785.79

Regarding the wages of farm workers, some gender imbalances still occur within the farm work force. Female farm workers get lower wages compared to men. Married women also do not have separate employment contracts. The employment and housing security of women therefore lies with the farmer and men. Furthermore, there is no payment for maternity leave (Crystal 2004), despite the fact that the labour law clearly states that female farm workers are supposed to be paid part of their salary when they are on maternity leave and that they are entitled to at least four consecutive months maternity leave (Mdladlana, 2002).

2.6.5.2 Farmers' contribution to the livelihoods of farm workers

A speech by the Acting Premier of the North West Province on Farmer's Day stated that there was a good relationship between farmers and the government of South Africa (Thibedi, 2003). The report explained that there were 50 000 large scale commercial farmers who had predominantly, but not completely, been drawn from the white population. These farmers employ about one million workers, which is 11% of the total formal sector employment (Thibedi, 2003). The report further said that many of these workers live on commercial farms and their children receive education in farm schools.

Commercial farms provide livelihoods and housing to about 6 million family members. Of this number, about 1 million employees have their education needs taken care of by their employers. It is also stressed that some of the farmers have gone an extra mile by providing their employees with farming land to start their own farming activities (Thibedi, 2003). This information shows that farmers are also contributing much to the livelihoods of farm workers even though some improvements are necessary.

2.7 Conclusion

As much as farm workers are vulnerable and marginalized, they are a strong society that needs to be helped and loved. Poverty, abuse and lack of education are the main factors of bad living standards of farm workers in South Africa. The South African government's planning and implementation of policies should concentrate on these vulnerable groups and make sure that they meet the United Nations Millennium Development Goal of eradicating hunger and nutrition insecurity by 2015.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This study follows a phenomenological social qualitative research approach, which was used to collect data in order to obtain in-depth information on underlying concepts of nutrition insecurity. The goal of phenomenology is to preserve meaning of the phenomenon within the context of participants' experience (Creswell, 1998). A phenomenological study is a study that attempts to understand people's perceptions, perspectives and understanding of a particular situation (Leedy, 2001:149).

The above-mentioned research design is appropriate, because it identifies the essence of behaviour and promotes an understanding of how human beings experience events in their lives (Denzin and Lincoln, 1994:417). The qualitative approach as a method of research was chosen for the present study, because it provides the researcher with the perspective of targeting the audience, and enables direct interaction with the research participants (Denzin and Lincoln, 1994:4). Following this approach, a literature review should be performed after the findings of the research have been formulated (Leedy, 2001:149). Nevertheless, a phenomenological strategy also expects the researcher to have a distinct philosophical point of paradigm before data collection (Creswell, 1998).

The application of a variety of methods, such as observations, interviews and focus group discussions, helps the researcher to be confident about getting the same information through the study. Observations direct researchers' attention to a deeper and narrower portion of the people, behaviours, times, spaces, feelings, structures and processes. It can also help the researcher to modify the research question or other parts of the research (Denzin and Lincoln, 1994:382). The researcher also understands the meanings people assign to social phenomena and elucidate the mental process underlying behaviours through observations. These methods generate rich, detailed data that leaves the participant's perspective intact. However, data analysis can be labour intensive and time consuming (Weinreich, 2003:2).

This chapter will present an understanding of the specific research methodology applied to determine nutrition security among farm workers.

3.2 Research setting

As mentioned in chapter one, this study forms part of a larger research project entitled "Nutrition security, livelihoods, poverty and HIV/AIDS of black South African farm worker households". The latter is linked to the infrastructure of the Farm Labour and General Health Programme (FLAGH), which is a multidisciplinary research, intervention and development programme. FLAGH consists of several projects and studies aimed at improving the nutritional status and quality of life of black South African farm dwellers.

The commercial farm where this study was conducted, had already been selected in 2004 by the project leader, since this sub-study forms part of the larger research project, as mentioned. The farm is a family company, specializing in chicken layers, which is situated about 20 km away from Potchefstroom. The company started in 1973 with 5 000 hens. At the moment, it has 120 000 hens for the production of eggs, which are sold. Besides this main farming activity, they also have sheep (200), calves (50), and goats (30-40), which are also sold. Some land is rented out to another farmer who grows maize. The entire farm is 440 ha in size and employs forty-six men and forty-two women on a fulltime basis.

3.3 Study sample

Consent for data collection on the farm was obtained from the farm owner during March 2005, when the contents of the research were also discussed with the owner. Farm worker households on this farm were visited since the beginning of April 2005 and relationships of trust were established. Oral consent to carry out interviews was obtained from participants during each visit. A total of 20 households were visited, of which two members were not farm workers, but family members of farm workers. Eight men and fourteen women were interviewed. However, in two households, both the wife and husband were interviewed separately, leading to a total of 22 interviewees. During the second phase interview, eight households were interviewed, and of these interviewees one was male and seven were female.

Two different sampling methods were employed in this study, namely:

- Snowball sampling:

Snowball sampling was chosen, because it can be used to recruit hard to reach individuals (Strydom and Delport, 2004:336). The researcher firstly organized a

meeting with four women on the farm, used as a target population (Babbie and Mouton, 2001:180), and explained the intention of the research, as well as ethical procedures. The targeted women were then asked to recruit more women and men from the neighbourhood. This method worked very well and led to 20 households being interviewed. No inclusion or exclusion criteria were applicable to the study sample.

- **Purposive sampling:**

For follow-up interviews, which were carried out in the second phase of field research, purposive sampling was used. Households were selected according to certain household characteristics, such as household composition, head of household and also according to the level of trust that had been established between the researcher and the particular household. The purpose of follow-up interviews was to get more in-depth information. Therefore, the researcher approached interviewees who were best suited to answer the research questions (Creswell, 1994:148). In this context, apart from the above-mentioned criteria, these were those interviewees who were willing to talk about their personal situations.

3.4 Methods of data collection

During the first interview phase, structured face-to-face interviews, with mainly open-ended, but also some closed questions, were used (Annexure B). The interview was divided into two phases. As most people in this province understand Setswana, it was used to conduct interviews. While the research approach was qualitative in nature, a quantitative questionnaire was also employed for the collection of baseline socio-demographic information. As described under 3.3, eight of the 20 households were visited again and interviewed more in depth, to explore specific issues further, using structured interviews with open-ended questions (Annexure C). Due to time constraints, the scope of this study had to be limited and follow-up interviews could therefore not be carried out with all 22 interviewees. Answers of interviewees were written down in the native language Setswana. Furthermore, all interviews of the first and second interview phases were also tape-recorded, to ensure accurate recollection of data.

Observations were employed as another data collection method. The researcher, peers and field assistants, who always accompanied the researcher during field visits, did observations. The advantage of doing observations is that the researcher

obtains firsthand experience with the informant and that unusual aspects can be noticed (Creswell, 1994:150). Furthermore, the information obtained through interviews can be complemented and/or verified. Observations were recorded using an observation schedule (Annexure D) and also field notes. These observations were discussed after each field visit among the core team of field researchers and the supervisor and partly also at weekly supervision meetings that were held within the larger research and peer review team (3.6).

Employing several research methods also enabled triangulation. According to Erlandson *et al.* (1993:115), the researcher is advised to use different methods of data collection to provide ideas about the same event or relationship, which in the present study refers to living conditions and nutritional status of farm workers. Triangulation of measures is achieved when a researcher uses multiple or more than one measure to investigate the same phenomena. Triangulation in a qualitative study improves the reliability of the data obtained. Employing a variety of research methods furthermore enabled the researcher to investigate the research question from different aspects and perspectives, which is one of the characteristics of qualitative research (Creswell, 1994:149).

3.5 Data analysis

Data management was performed parallel to data collection. The recorded interviews of the first phase were transcribed, compared with the notes that had been taken during the interviews and were then carefully translated into English to ensure that the original meaning of participants' words was preserved. Answers to the open-ended questions were grouped according to evolving themes, to establish analytic concepts and categories (Creswell, 1994:155; De Vos, 2004:345-346). Observation sheets were also grouped together accordingly and results were used to describe the situation of the infrastructure and also the appliances available in each household.

The evolving categories were coded and entered into the Statistical Package for Social Sciences data base (SPSS, Inc., Chicago, IL). This enabled the findings that were mainly obtained through qualitative methods to be quantified. Owing to the nature of the data obtained, simple descriptive statistics were used, which included mainly frequencies and means.

The interviews of the second phase were fully transcribed, compared with the interview notes and then translated and analysed, similar to the other data analyses. The emerging concepts were summarized and are described for all eight selected cases, while three representative cases are described as case studies to illustrate the concepts and meaning of the material gathered. Case studies were chosen because according to Creswell (1998:61), "A case study can be regarded as an exploration or in-depth analysis of a 'bounded system' (bounded by time and/or place) or a single or multiple case, over a period of time".

3.6 Supervision and peer examination

Peer examination refers to discussing the research with other researchers or experts who are familiar with the field. They provide an audit trail of the key decisions made during the research process and in so doing, can validate the decisions (Guba and Lincoln, 1985:110). All steps of the research were discussed at the weekly meetings of the larger research team. Applying this process of peer examination ensured continuous supervision and critical reflection throughout this research. These meetings furthermore represented a forum that enabled the researcher to share and reflect on difficult situations, which were experienced during fieldwork.

3.7 Limitations

The researcher experienced a problem of time constraints, since farm workers sometimes worked until late and also needed time to clean their houses, cook and rest. The interviews were conducted in the afternoons or evenings, but due to distance from the researcher's place of residence, often only one interview could be done in a day, as the study was conducted in the winter season, so it became dark early. This led to a limited number of interviews conducted since there was also limited time for the completion of the study by the researcher.

3.8 Trustworthiness

The aim of confirming the trustworthiness of data in a qualitative study is to support the argument that the study findings are worth paying attention to. According to Denzin and Lincoln (1994:151), trustworthiness helps researchers to signify different sets of assumptions about research purposes. The model of Guba and Lincoln (1985:110) was used to confirm the trustworthiness of this study. The four concepts of credibility, transferability, dependability and conformability are provided in Table 2.

Table 2: Strategies of ensuring trustworthiness in a study of farm workers' nutrition security as illustrated through the four concepts of trustworthiness

Strategy	Criteria	Application
Credibility	Field experience	<ul style="list-style-type: none"> • Farm worker households were visited since April 2005, to establish relationships of trust. This process was given appropriate time before the start of the actual fieldwork, as this sensitive approach is crucial for the success of the research. Oral consent was obtained from the interviewees at each visit. • The interview questions used here had been used previously in a similar study on other farms. The interviews had been developed by Lemke (2001) and were adapted for the specific study setting on farms. • Follow-up visits and also informal visits allowed the researcher to spend enough time with research participants to understand their reality.
	Reflexibility	<ul style="list-style-type: none"> • During the interviews, both the researcher and assisting peers took field notes, while observations were further done using an observation schedule. All interviews were tape-recorded, and the data obtained from taking notes were compared with the transcribed data.
	Triangulation	<ul style="list-style-type: none"> • Data were collected word for word (verbatim) through interviews and also field notes. • Data management was carried out parallel to fieldwork. • After fieldwork, a report was given to the supervisor. In addition, on a weekly basis, the whole research team met and discussed the concepts and themes of the interviews for that particular week. • Through these weekly supervisions with experienced peer researchers, the fieldwork experience was continuously reflected on. • Literature on previous studies was gathered and compiled.
	Interview technique	<ul style="list-style-type: none"> • The researcher received training in interviewing skills of social qualitative research methodology. • The project leader supervised the student on initial interviews and also helped with interviewing the owners of the farm.
Transferability	Selection of sample	<ul style="list-style-type: none"> • Snowball and purposive sampling were chosen to recruit farm dwellers.
	In-depth description	<ul style="list-style-type: none"> • In-depth description of methodology and results, which are accompanied by verbatim quotations.
Dependability	Dense description	<ul style="list-style-type: none"> • Full description of methodological steps.
	Dependability audit	<ul style="list-style-type: none"> • Analyses of both phase one and phase two were done with the supervisor and also with other research team members.
	Triangulation	<ul style="list-style-type: none"> • Evaluation and comparison of both first and second phase interviews data. The interviews were coded separately. • Developing concepts and themes, which were checked and discussed with peer researchers. • Coding and entering of themes into SPSS. • Analysis of results of both phases.
	Peer examination	<ul style="list-style-type: none"> • Continuous and frequent meetings with research peers at several workshops and also with the larger research team.
	Independent concepts and theme formulation	<ul style="list-style-type: none"> • The researcher formulated own themes and reached consensus with other researchers through discussion.
Conformability	Conformability audit	<ul style="list-style-type: none"> • Filing of all records and transcripts.
	Reflexibility	<ul style="list-style-type: none"> • Field notes stemming from observations and informal interactions were used for data analysis.

3.9 Conclusion

The methods of research chosen were suitable for the topic that was studied. The instruments used were able to reveal the important information needed, even though the researcher experienced severe time constraints due to the farm workers' schedules. Observations helped considerably to determine the nutrition security of some households, especially for those participants who were not very open. In the next chapter results are presented and discussed.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

This chapter will present the results obtained during both the qualitative and the quantitative survey on nutrition security of farm workers in the North West Province. The results will be reported in two phases. Phase one presents the results of the first interview phase and phase two the results of the second interview phase.

Twenty households were visited; however 22 participants were interviewed, due to the fact that in two instances, both the wife and the husband were interviewed. This means that most calculations were done based on 20 cases, while in some cases 22 cases were considered. In the second interview phase, follow-up interviews were conducted with eight of the 20 households. Three of these eight households were selected to be presented as case studies selecting different household categories with different family structures which best represented the eight households.

4.2 Results phase one

In this section, socio-demographic data such as sex, age, duration of stay on the farm, language spoken, education and household size are presented and discussed, as well as household characteristics, infrastructure and selected indicators of nutrition security.

4.2.1 Socio-demographic data of farm workers

4.2.1.1 Sex

Of the 20 households that were visited interviews were carried out with eight men (36.4%) and 14 women (63.6%). All women on this farm are working fulltime, except for one woman who said that she stopped working due to her pregnancy and that she felt the duties were too much for her.

From the findings on the sex of farm dwellers it is apparent that the women on this farm are independent, because they are permanently employed. From the literature it is revealed that generally 70% of farm workers are men and also that most women

are employed as seasonal or casual labour (Department of Labour, 2003), but this was not the situation on this farm where the present study was conducted.

Women in the present study did not rely on men and the farmer for security and accommodation as indicated on other farms discussed in the literature. On this farm, all women are permanently employed and they all are entitled to a house on the farm (Department of Labour, 2003; Crystal, 2004:4). This may be the result of several factors, such as the nature of their job on the farm or the farm's closeness to town. In addition, there was no principal salary difference between men and women, while some of the women, especially those who work as domestic servants, earned more money than some of the men. Therefore, gender issues seemed to be minimal on this farm at first glance. However, there are more male than female supervisors on the farm.

Furthermore, women are denied their maternity allowance when they have babies and are not even allowed to acquire food on credit until their leave ends despite the fact that the labour law clearly states that female farm workers are supposed to be paid part of their salary when they are on maternity leave and that they are entitled to at least four consecutive months maternity leave (Crystal, 2004:4). One may be entitled to ask how a breast-feeding woman will survive without eating good food, while the effect of this less nutritious milk on the baby's growth could also be questioned. A study by Steyn and Labadarios (1999) reported that breast-feeding of infants during the first two years is still crucially important, because of the high nutrient density of this milk. However, this author also added that the prevalence of Vitamin A deficiencies was higher in non-urban areas in children with poorly educated mothers. These children were also at risk of being anaemic and having iron deficiency anaemia. This supports the fact that pregnant and breast-feeding women also need good nutrition to provide nutrition security for the unborn baby and infant so that the whole household would be secure.

4.2.1.2 Age

In this instance, both the wife and husband were interviewed in the case of two households, resulting in 22 interviewees. This group's average age was 32.5 years, with a minimum of 19 years and a maximum age of 51 years. Figure 3 illustrates a high percentage (45.5%) of the interviewees belonging to the category of 25 to 34 year olds.

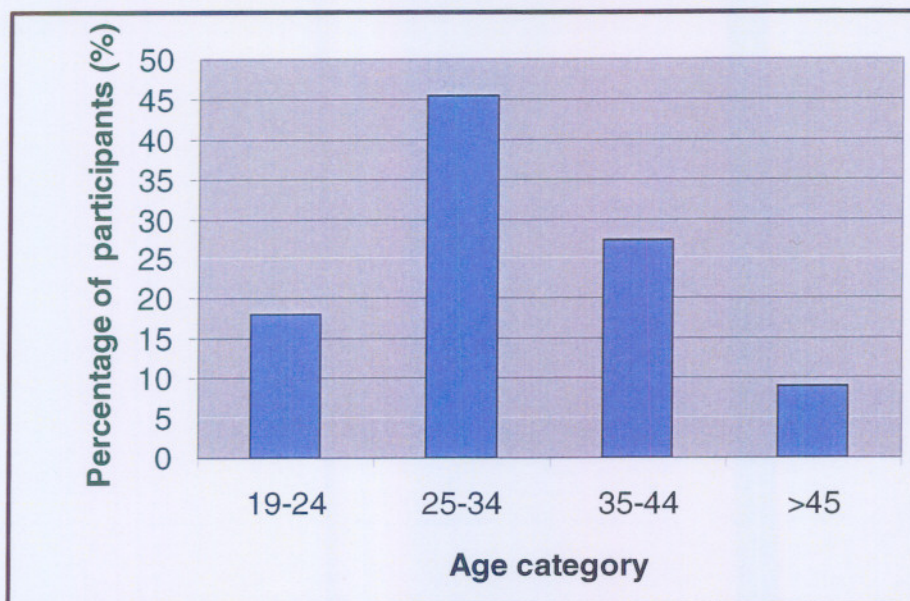


Figure 3: Age categories of farm workers interviewed to determine their nutrition security (n = 22).

As indicated (Figure 3), the majority of the farm workers' ages ranged between 25 and 34. Most of the workers on the farm were middle-aged, while few elderly people were found. There was only one couple that received a pension. This may be due to the fact that the farm is not far away from the town, resulting in the elderly moving back to town after retirement.

Furthermore, results of this study indicated that all workers have their own homes in towns or nearby townships, causing them to go back home when they get old. In this regard, when the farmer was interviewed, she said that there is a shortage of accommodation on the farm and some workers stay in town and are transported to the farm everyday. This situation is unlike situations on other farms described in literature which indicated that most farm workers "are trapped on farms", i.e. they were born and grew up on those farms and do not have anywhere to go after retirement or when they are redundant (London *et al.*, 1998b).

4.2.1.3 Duration of stay on the farm

The average duration (n = 22) of the farm workers' stay on this farm was 4.7 years. A total of 40% of the farm dwellers have spent between one to five years on the farm, while 25% have been staying there for one year only. Only 20% have been living on the farm for six to ten years. The minimum duration of stay was three months and the maximum 27 years.

The above results suggest that the duration of stay on this farm is not long, due to the fact that the farm is next to town where there are more available job opportunities. It was also revealed by the farmer that every year in December the farm receives many resignations, because people believe in a change of employment in the new year.

4.2.1.4 Language spoken

All interviewees (n = 22) spoke Setswana as their first language. On average four other languages are spoken besides Setswana. These are: Afrikaans, Sotho, English, and Isizulu.

4.2.1.5 Education

As illustrated in Figure 4, forty per cent of the farm dwellers interviewed (n = 22) have obtained grades seven to eight, while 36% have obtained grade six and 9% obtained grade nine to ten. There was only one interviewee who had no qualification at all and one interviewee who reached grade ten plus an additional tertiary qualification and one interviewee who reached grade ten plus trade.

The education levels of farm workers (Figure 4), suggest that workers on this farm have at least a higher primary level of schooling as a basic education. People who live closer to towns have access to schools presenting them with an understanding of the importance of an education, while the ones who live far away from towns on farms can only progress up to grade 7 in farm schools. Furthermore, there are normally few other people who are educated on farms far from towns resulting in farm dwellers not being challenged by any better situations. According to the Centre of Rural Legal Studies (1999), rural farm workers in South Africa face serious obstacles to equity in development resources and opportunities. This means that there are no facilities, such as schools and training institutes, e.g. vocational colleges, which they have access to.

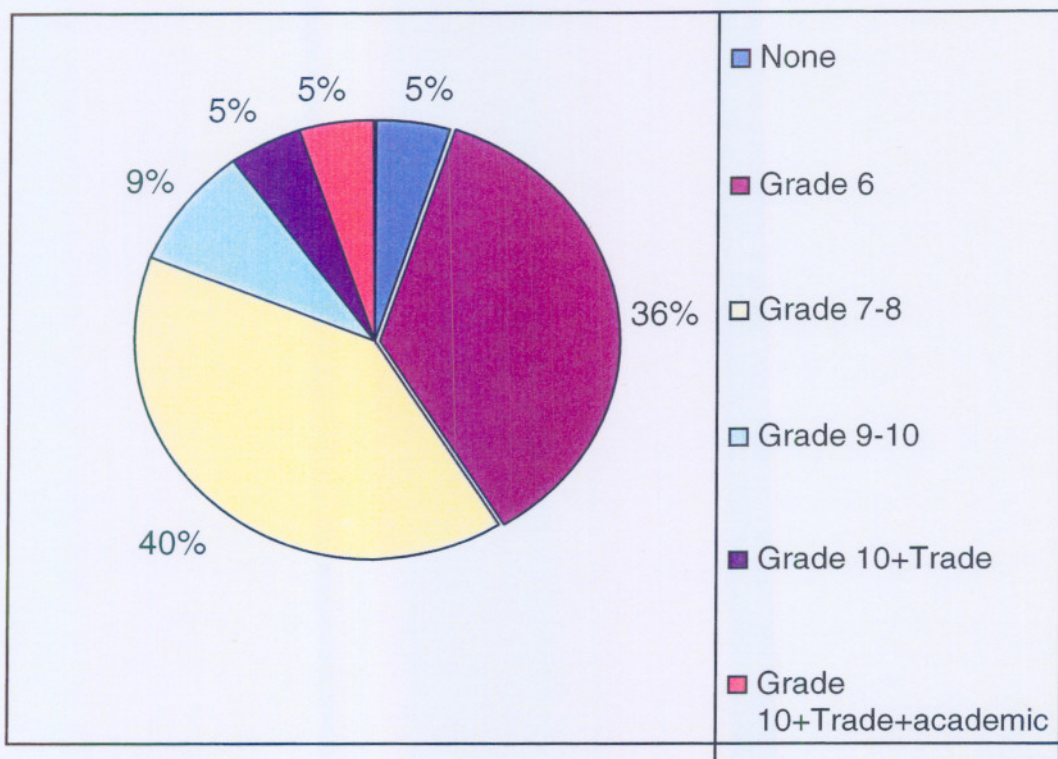


Figure 4: Qualifications of farm workers interviewed to determine their nutrition security (n = 22)

As stated in the literature review, several researchers have investigated how the lack of education has disadvantaged farm workers. London *et al.* (1998a) argued that one of the reasons why many black South Africans work on farms is that one out of five farm workers have never received formal basic education. With no education it would be difficult to even run a farm. Yet, Francis (2000) argues in her study that black South Africans have been deliberately excluded from land ownership and that this could be one of the reasons why most of them do not farm themselves, but work for white farmers.

4.2.1.6 Household size

Of the respondents 42.2% (n = 20) (compare Table 3) had an average of three members living in the house on the farm, with a minimum of one and a maximum of four people per household. Concerning family members living on the farm, 38% of the participants responded to have no other family members living on the farm, while 19% of the participants had between one and four members living on the farm. There was a minimum of two and a maximum of 15 family members indicated to be living outside the farm in townships or towns.

Table 3: Household size on the farm investigated, consisting of present family members of farm workers living in the same house, at other stands, on the farm and in townships or towns (n = 20).

	Number of family members in the house	Number of family members on the farm	Family members outside the farm	
			Number of members on nearby farms	Total number of family members on nearby farms/locations/towns
Mean	2.58	1.67	0.64	8.50
Minimum	1.00	0.00	0.00	2.00
Maximum	4.00	5.00	2.00	15.00

Household size is very small on this farm, due to the fact that all workers on this farm have their own homes in towns/townships. Sharing of small houses also discourages workers to stay with their families. Therefore, most of their relatives and even their children and spouses live in towns or townships to receive a better education and even better jobs.

4.2.1.7 Household categories

In the present study several household categories were established, which are illustrated in Figure 5. These categories were defined according to the definition of a household as provided by Lemke (2001:109). It should be considered that some of the workers are sharing a house with other workers who are not part of their family. Therefore, their household category was defined as farm workers who are connected to and form a household with their families living in nearby towns or townships.

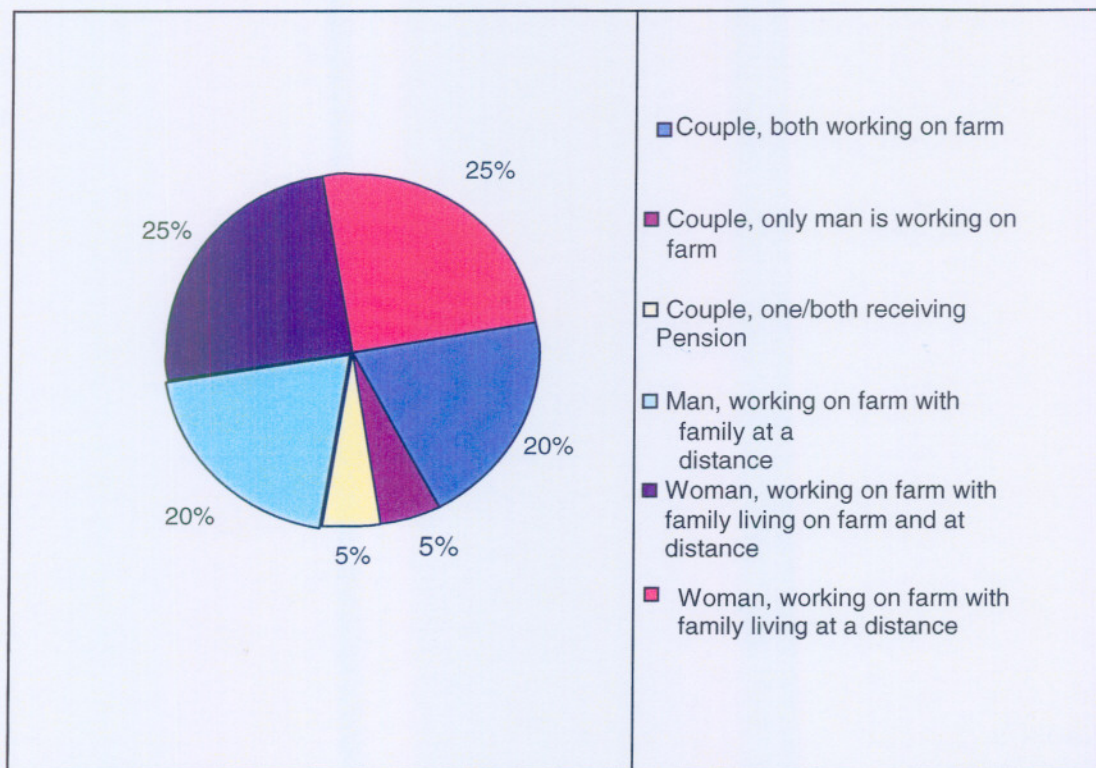


Figure 5: Household categories of farm workers as established on the farm investigated (n = 20)

Firstly, there are couples who both work on the farm (20%), couples who live on the farm, but with only the husband working (5%), and couples living on the farm with one or both of them receiving a pension (5%). Two other categories consist of men who work on the farm, with their family living at a distance (20%), and also women who work on the farm, with their families living elsewhere (25%). The last category consists of women who are working on the farm, with some of their relatives living on the farm and other relatives living at a distance (25%).

These findings suggest that several household categories are cropping up on this farm. According to Haddad *et al.* (1997:25), a household could be conveniently defined as follows:

- A production unit where its members work together and produce goods and internal division of labour is possible.
- A decision-making unit which could adopt innovations.
- A consumption unit where its members themselves consume goods (shared cooking and feeding arrangements).
- A residential unit where members use a common infrastructure (house, energy, water).

- A social unit (family, dowry, inheritance).

However, it is difficult nowadays to find households of this nature, which contain all of the above characteristics. This is due to issues such as migration, urbanization, disintegration of extended families and other circumstances (Haddad *et al.*, 1997:25). As the results indicate, a variety of household categories with different characteristics exist on the farm investigated. Migration to work on farms often leaves grandparents with their grandchildren or fathers or mothers with their children on their own. This has divided households as a nuclear family, which is hardly found together throughout the year. The household member who has migrated for work has to frequently go home to provide money, food, support, love and care. In this study, only one or two members of a family were found to live on the farm, while other close family members stayed elsewhere in town or townships. During weekends, these farm workers usually go home to visit their family members.

As a result of families being divided and farm workers staying away from their families, households as defined by the US Bureau of Census (2000) (see p xiii, Clarifying concepts) also exist on this farm. A number of farm workers share a residential unit with other workers, but do not plan or eat together, and usually do not share resources except for a two plate stove used for cooking (4.3.3), as there is only one plug in the kitchen. Each farm worker has responsibilities both on the farm and in the other households in the nearby township or town, such as buying food and other goods, doing the laundry and keeping the house and surroundings clean. Therefore, these farm workers actually have very limited time to rest.

4.2.2 Infrastructure

4.2.2.1 Access to housing

Most, but not all, workers are accommodated on the farm. There are some workers who commute from Potchefstroom to the farm every morning using the farm truck, due to lack of accommodation on the farm. On the farm, most of the farm workers living on the farm have to share a house with other residents. There is no choice offered of whom to share a house with, as the farmer decides this. The houses consist of two bedrooms and a sitting room, which is combined with the kitchen. It was therefore determined that most farm workers go home every weekend when

they are not on duty, because as mentioned all of them revealed that they have their own homes in the townships/towns.

Results highlighted that the conditions of the houses on this farm are of poor standard. Some of the houses merely consist of one bedroom and a kitchen. These are allocated to married men who are working on the farm and are staying with their families in these houses. They are also allocated to supervisors or other people who have been working on the farm for a longer period. Although these houses are small, the occupants feel privileged because they are able to stay with their family members. There is one unique case of a couple that was given a two-bed-roomed house for themselves. This is because both wife and husband have been working on this farm for a long time.

Apart from food, nutrition security also involves good housing. The hygiene situation is not pleasant, because the living quarters are situated next to a dumping site, which is always infested with flies and undesirable odours. This affects the nutritional status of these workers because if they get ill from this situation, they then would not be able to eat well, due to being weak and loss of appetite. It also affects their nutrition security because they would not be able to work and take care of themselves if they are sick.

The rooms are designed in such a way that there is no privacy since there are no doors for bedrooms. Instead, some workers decided to use curtains so that at least the people in the living room may not be able to see what is inside their bedrooms. According to Steyn and Labadarios (2003) and Vorster *et al.* (1997) the type of housing that people live in will directly or indirectly influence their health status. Room density may also play a role with respect to overcrowding and the burden on household resources.

The structural conditions of these houses are also of poor quality. The low quality roofs are leaking during rainy seasons, while the walls are very dirty and not painted. Most of the houses have a coal stove, which is used during winter when it is cold. Nevertheless, some workers do not have a coal stove, because they could not afford the necessary amount of R500.00 to buy these stoves, which are manufactured on the farm.

4.2.2.2 Access to health services

Despite the fact that this farm is only 20 km away from town, the farm worker community does not have regular access to primary health care facilities. All the interviewees confirmed that the mobile clinic only visits them once every two months, and 85% of them said that they call the ambulance if someone is ill, using their mobile phones. However, it can take up to four hours before the ambulance arrives.

From a health perspective, it is obvious that the children under the age of five's rights are violated. According to a policy which the Department of Health implemented, they are supposed to be weighed every month and their health and weight should be monitored frequently (South African Human Rights Watch, 2004). According to this policy care of pregnant mothers should also be taken into consideration by insuring that they see a doctor regularly. All these measures have to be carried out by committed and understanding individuals. But when farm workers seek permission to go to town and see the doctor, the money for their visit is deducted from their wages. This discourages many of them to do so.

With the HIV/AIDS scourge, health services need to be nearer to people, so that they can be advised accordingly and get preventative measures immediately. It is emphasized that treatment of sexually transmitted diseases needs to be undertaken, since they encourage the transmission of HIV/AIDS (Department of Health, 2000). Some farm workers suffer from tuberculosis, which needs constant monitoring and advice. Yet, they have to travel to town by taxis and might have to wait for hours before they are attended to. Furthermore, Hahn (2000) argues that the physical health status of an individual has an impact on the nutrition security of a household. This may be due to the fact that money is spent when seeing doctors, the lack of strength to work and provide for the family as a result of illness and many other reasons.

4.2.2.3 Access to electricity

Electricity is available in all houses and all workers cook with a two plate electric stove. A total of 81% of the respondents use electricity to charge their cell phones, while 66.7% have radios and 47.6% own televisions. Most of them have quite a number of electric appliances up to a maximum of ten, such as refrigerators, freezers, irons, kettles, sound systems, televisions, washing machines, heaters, cell

phones, toasters and electric stoves. The availability of electricity makes the life of a farm worker easy because it is a safe type of fuel, which is not hazardous to health. It is also quick and convenient to use unlike those farm workers who use other types of fuel e.g. fire wood which takes a great deal of time to be collected and also limits the type of dishes prepared. Fuel also has an impact on the number of meals prepared and offered each day in a household (Steyn and Labadarios, 1999).

4.2.2.4 Access to good sanitation

Generally, there are no bathrooms or toilets in the houses. The small bedrooms are used as bathrooms and at night farm dwellers have to keep buckets in the house, because toilets are not safe in the dark, and may be far from the house. There is only one hot shower block with four shower rooms inside (Figure 6). Both male and female farm workers share these showers. This makes the farm workers feel uncomfortable to take a shower there.



Figure 6: Photograph showing a four roomed shower with no doors shared by both men and women

Apart from the poor health conditions on the farm, the sanitation situation is unbearable. The sharing of the showers makes the workers feel uncomfortable, so they prefer not to use them. Instead, this leads to yet another disaster of fetching water and bathing in their bedrooms and throwing water anywhere in front of their

houses. This attracts mosquitoes and results in bad odours in summer and may be causal to some infections.

4.2.2.5 Access to clean drinking water

Although the farm workers have access to clean drinking water from a tap inside the house, there is no sink. This may encourage the breeding of mosquitoes in the house because at times water drips on the floor, adding to the poor sanitation conditions on the farm.

4.2.2.6 Access to safe toilets

An average number of 14 from the 20 households interviewed share a long drop toilet. Sometimes all of the residents would prefer to use a particular toilet, which will be in a better condition than others, with the consequences being that the risk of infections becomes high.

As shown in Figure 7, the long drop toilets outside the houses are in bad shape. The doors of the toilets cannot be closed, while many of the toilets in this community have already collapsed, leaving farm workers without trust that the remaining four are safe. This, together with the fact that these toilets are also very dirty, causes them to go outside and behind their houses. There is no one to be held responsible for cleaning the toilets, since it belongs to nobody in particular. These toilets smell badly and attract flies. This may lead to undesirable infectious diseases cropping up from nowhere. It is important for all family members to have good and clean toilets, because children are protected from infections and their chances of worm infestations are lowered (Labadarios *et al.*, 1999).

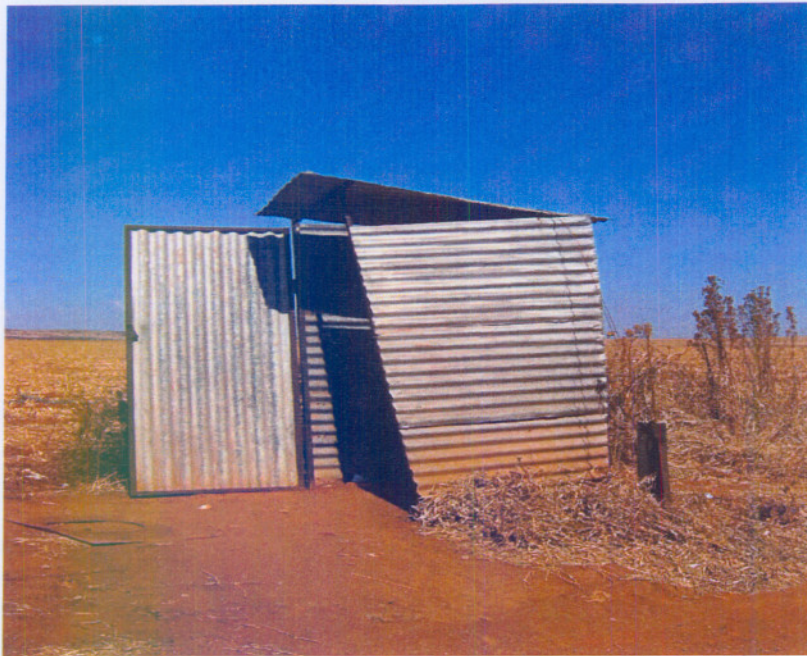


Figure 7: Photograph illustrating a long drop toilet or pit latrine available on this farm outside the houses

The infrastructure situation in general is very poor on this farm. These results set the scene for the discussion on the nutrition security of farm workers. From these results, it is argued that the lack of education of farm workers on health and hygiene contributes to their nutrition insecurity. The filthiness of toilets shows that there are no men and women on the farm who respect cleanliness and who are cautious about their health. Otherwise they would have volunteered to clean the toilets, even though many people share them.

4.2.3 Food and nutrition security

The indicators used in this study to investigate food and nutrition security of farm workers have already been described in the “Categories of nutrition security” section of this dissertation (p xiv). In the following section, the results will be presented.

4.2.3.1 Availability of food

All of the farm workers ($n = 20$) purchase food from shops in nearby towns, which are approximately 20 km from the farm, while food is also purchased from two general dealers (60%) and from a dairy (40.9%), which are situated at about 1 km from the farm. It was observed by the researcher that the two shops are well equipped and provide stock of all basic groceries, except for fruits and vegetables. However, prices are higher than in town. Availability of food is achieved when adequate food can be

obtained by the public (Von Braun, 1999:41). In the case of this specific farm, it is situated reasonably close to the main road, which leads to three different towns. Therefore, farm workers have some choice of where to purchase their food. All of them purchase food in one of those towns, as most farm workers go home on weekends to visit their families and they combine these trips with purchasing food. Some obtain food in the more distant cities like Johannesburg, mostly if one member of the family goes there as part of the job on the farm, such as selling eggs there.

4.2.3.2 Access to food

All farm workers go to town twice per month to purchase food, which is linked to the dates their salary is paid. Thus, the frequency of town visits is controlled by the time of payment, which takes place on the 15th of every month and during the first week of the month. The estimated expenditure was obtained by asking participants about the amount of money they spend every fortnight or monthly when they go shopping. Due to limited time available to perform this study, an in-depth investigation into the type of food bought every month and a calculation of money spent on food could not be done. However, since more or less the same food items are bought every month, as has been established by the household food inventory and also during individual interviews, the estimated expenditure obtained here can serve as an approximate figure for money spent on food (Table 4).

Table 4: Means of transport to obtain food, frequency of purchasing food and estimated expenditure for food

	Supermarkets in town	General dealers	Dairy
Transport	Get a lift (100%)	Walk (100%)	Walk (40.9%)
Frequency	Twice/month (100%)	Whenever something is needed.	Twice/month (32%)
Estimated expenditure	Average: R242/month Min: R81/month Max: R350/month	Average: R 55/month Min: R 81/month Max: R130/month	_____

As indicated under the “Clarifying concepts” section, access to food is reached when a household is able to acquire available food (Gross *et al.*, 2000). A household has to be able to acquire food through the use of their income. This income may be from permanent jobs, sales, and social grants or from other members of the family. The

results indicated that some of the households investigated on the farm are not able to acquire adequate food, due to limited financial resources, large household sizes and having to meet other responsibilities.

4.2.3.3 Food sold by the farmer

The farm where the study was conducted produces meat and eggs as mentioned in chapter one. Every worker receives a tray of 30 eggs every week, as well as two chickens fortnightly, whether liking it or not, as the money is automatically deducted from their wages at the end of the month. Thus, a couple where both husband and wife work get 240 eggs every month and four chickens, resulting in a deduction of R160.00 for eggs and R80.00 for chickens from both per month for this household. The farmer also sells maize meal to farm workers, which is bought by only 22.7% of the respondents.



Figure 8: Photograph illustrating some kind of food produced and sold by farmers to farm workers

From these findings, it is suggested that the farmer sells food to farm workers and does not supply it. Literature revealed that there appears to be a lack of clarity among employers and workers on the distinction between payments in kind and benefits, and there is also a tendency of payment in kind and deductions (Department of Labour, 2003). These findings make one wonder why farm workers in the present study are forced to obtain eggs and chickens from the farm owner. This could be regarded as an indirect way of selling farm products to the workers.

When asking one of the farm owners why this is done, the answer was that workers are forced to have these foods, otherwise they would starve, since most of them are not able to buy enough food for themselves. However, this practice does not solve the problem of the shortage of food, as many of the workers sell the eggs at a lower price than what they are paying for it, to the general dealers or to other individuals on the farm who take the eggs home to their families. This was proved by the fact that on the two occasions when a household food inventory was taken, many households would not have eggs in the houses. Most of the workers revealed that they had an aversion to eggs because they have to handle them at work every day.

On the other hand, the farmer may genuinely be helping some of the workers. London *et al.* (1998a) pointed out that alcohol consumption among farm workers is high, which often leads to neglecting other requirements of the family, such as obtaining basic needs. On this part then, one may be assured that at least food is supplied to the farm worker households. Despite this argument, farm workers should have the right and the freedom to use their money the way they like to. In the South African work force, there are also other employees who possess similar characteristics (alcoholism, and other irresponsible behaviour) as farm workers, but they are not subjected to their employers' decisions on how to use their money. It is therefore surprising that farmers determine how farm workers should use their money. It is suggested that this may reinforce their feeling of being trapped and isolated on the farm, which is favourable to the farmer since farm workers will spend all their extra time on the farm and sometimes be overworked by the farmer since they would always be available.

Furthermore, farm workers get credit from the farm owner on a regular basis. In the interviews, all farm workers said that they regularly borrowed money from the farm owner and that they also got food on credit, i.e. if they had run out of food. This leads to farm workers being indebted, thus increasing their dependence on the farm owner. Interchangeably, the farmer is also helping the farm workers because at times they have a serious problem and most of them do not qualify for loans at the banks.

The possibility of health risks, resulting from eating too many eggs also exists. Some households revealed that they only live on porridge, eggs and meat everyday. Due to the lack of knowledge and education on nutrition, they may not be aware that too much cholesterol in eggs is a risk factor for cardiovascular diseases. On the other hand, the benefit offered by the eggs and chickens are the prevention of a lack of

proteins in their diets. The latter could result in kwashiorkor and have an impact on their nutritional security through ill health (Weggermans, 2001).

In conclusion, as far as food sold by farmers is concerned, these results indicate that there are advantages and disadvantages towards food rations. However, the disadvantages outweigh the advantages, because these imposed food rations lead households into a spiral of food insecurity and debt.

4.2.3.4 Own food production

Only 25% of the workers had vegetable gardens either on the farm or at home in towns or townships outside the farm. The vegetables cultivated are mostly spinach or beans (50%) and also tomatoes (38%). Livestock is owned by only 30% of the respondents and then mainly chicken.

The data from this study also indicated that farm workers do not produce their own food, but rely on shops and the farmer. This is because there is no space on the farm, where they can rear their own livestock, while they also have a tight schedule, which does not permit them to do extra work like gardening after work or during weekends. It is also proposed that most of them may not be interested in gardening, since they get all the fruit and vegetables from the nearby towns. The situation on this farm is different from other farms in literature, where farm workers do not have any other home apart from the place on that farm (London *et al.*, 1998a). In the latter case, farm dwellers would be more encouraged to make use of their own gardens, since some are very far from towns or roads and would most of the time not have fruit and vegetables included as part of their meals.

4.2.3.5 Food mostly in the house

During the households' visits, food inventories were taken by checking and recording the type and quantity of food available at that particular time. It was revealed that maize meal, sugar, salt, meat, rice and potatoes were available in most households, as shown in Table 5.

4.2.3.6 Food seldom available in the house

In most households, food seldom available were cold drinks, fruit, sweets, cakes, polony, ice cream, vegetables and red meat. However, some households had a wider variety of food than others (Table 5).

From the above discussions and as illustrated in Table 5, food diversity in farm workers' households is really limited. Most of the time there are no fruit and vegetables, except for potatoes. This indicates that their meals are not diverse and lack vitamins, especially C, A and fibre from green leafy vegetables. This lack of vitamins may lead to certain deficiency diseases such as night blindness, scurvy and also constipation which is not a deficiency disease but causes discomfort and may lead to cancer of the colon (Vorster *et al.*, 1997).

Table 5: Illustration of food diversity in farm workers' households (n=20)

Food mostly in the house	Percentage	Food seldom in the house	Percentage
Maize meal	73.3	Cold drinks	86.7
Sugar, oil, salt	60.0	Fruit	46.7
Milk, meat, rice, potatoes	60.0	Sweets	26.7
		Cakes, polony, ice cream, vegetables, red meat	20.0

4.3 Results phase two

4.3.1 Introduction

During the first phase twenty-two households were interviewed. Eight of these households were singled out for in-depth interviews. Then, according to the information gathered for the eight households, three different household categories were selected to best represent the eight households. Information pertaining to these is presented in the form of case studies. Firstly, the general issues are described, which will be highlighted and illustrated in the case studies. Table 6 provides a summary of the nutrition security indicators of the eight households.

Table 6: Summary of nutrition security indicators for all eight households interviewed

Food security indicators	Interviewed households							
	1*	2*	3	4	5	6	7*	8
Household category	Couple both working on farm	Couple only woman working on farm, family at distance	Couple only man working on farm and living with family	Couple both working on farm	Couple both working on farm	Woman working on farm with family living at distance	Woman working on farm with family living at distance	Man working on farm with family at distance
Head of household	Husband jointly	Husband jointly	Husband jointly	Husband Jointly	Husband Jointly	Myself (woman) <i>de jure</i>	Myself (woman) <i>de jure</i>	Myself (man) jointly
Nutritionally secure?	Relatively secure	Relatively secure	Insecure	Relatively secure	Insecure	Relatively secure	Insecure	Insecure
Food diversity	17	16	7	15	9	11	7	5
Property	Furniture	Shack & furniture	Shack	Furniture	Nothing	House & furniture	House & furniture	House
Appliances	10	7	5	10	4	3	2	2
Regular income	R659 & R1150	R626 & R2800	R655	R600 & R720	R626 & R626	R626	R600	R690
Income grants	_____	_____	R170	_____	_____	_____	_____	_____
Income sale	_____	R852	_____	R476	_____	_____	_____	_____
Savings	NO	NO	NO	YES	NO	NO	NO	NO
Family-contributions	6	3	3	6	3	3	4	6
Friends	1	2	2	3	1	1	1	1

(***) indicates three households presented as case studies

4.3.2 Working conditions

On the specific farm used in this study, men and women in the work situation perform different tasks. The main task that women perform is the handling of eggs, because eggs are the core business of the farm. Eggs have to be sorted, graded, washed, collected, and stripped. Furthermore, some of the women are employed as domestic workers. Some men do the same jobs as the women above, while others work as drivers, welders, gardeners, and chicken sprayers. Working hours are usually from 7:00 am to 5:00 pm. However, most of the time employees work until 7:00 pm or sometimes even until 9:00 pm. Despite these long hours, no overtime is paid to workers. Farm workers also work on two alternate weekends per month.

The long working hours on the farm, the lack of payment for overtime working and the fact that women are not paid whilst on maternity leave are against the employment conditions of the South African Agriculture sector, which stipulates the working conditions and wages of farm workers (Mdladlana, 2002). Some workers even disclosed that cases of assault on the part of the farmer occurred.

Despite these poor working conditions the findings of the present study indicated that working conditions on this farm are still not as bad as conditions revealed in the literature, where farm workers on other farms were paid through alcohol or food only (London *et al.*, 1998a). At least the farm workers in the present study receive their wages every month and have protective clothing. Nevertheless, certain working conditions, such as collecting eggs, are hectic, because one person is given a whole poultry house with more than 10 000 chickens to collect eggs from throughout the day. This may affect worker's backbones, because there is no time to rest, while the workers who spray chickens are most likely to get pesticide poisonings and are subjected to other occupational hazards (London, 2003). For example, one participant resigned just before the end of data collection, because he was diagnosed with tuberculosis. He had to leave the farm, because he was complaining that the farmer did not allow him to frequently visit the clinic and that money was deducted for each day he went to the clinic.

4.3.3 Gender dynamics

Participants were asked whom they regard as the head of the family. Six of the eight households said that their husband, fathers, or other male household members were heads of household. Despite this tendency, in one household the interviewee stated

that she and her mother were heads of the households, even though this interviewee was a single woman who shared accommodation with another male worker on the farm. This woman said that culturally, even if that man was not her husband or partner, he was the head of this housing unit on the farm. However, she stated that at her home she was the head of the family.

Irrespective of who was regarded as the head of the household, interviewees were further asked who made most of the decisions with regard to how much and what food would be bought, and also who made other major decisions within the household. The answers revealed that the six households consisting of couples were in fact jointly-headed, meaning that they made decisions together. The two other households were *de jure* female-headed, meaning that there was no senior male person present and that women made the decisions on their own.

The issue of gender dynamics within the household is an essential factor that influences nutrition security, as it impacts on household decision-making and household expenditure on food. Regarding the gender perspectives from the eight households, there seemed to be some cooperation within households as far as decision-making and planning was concerned. This might be due to the fact that in these cases both the wife and husband worked. This emphasizes the independence of women on this particular farm.

In other instances where women were not working they also made no secret of the fact that they made decisions together with their husbands and that their husbands provided them with money. The status of women as a care giver and a decision-maker in the family will and does play a direct role in the care giving to young children and sustains the nutrition security of a household. It also influences the amount and type of food bought and distributed to the family (Steyn *et al.*, 2000). It is therefore suggested from these findings that the women have more responsibilities than the men, especially regarding the feeding of children and the purchasing of food.

In this instance, Steyn and Labadarios (1999) reveal that if women are caregivers and that if their workload is not shared they have less time for the preparation of good food and the feeding of young children. The women interviewed stop working very late and they also work on two Saturdays every month. They also have to go home during weekends to attend to the rest of the family. Hence, they are tired and

do not have enough time to spend with their families. Motiee (1997:205) confirmed that the independence of women also brings about some complications, since they have to do most of the chores by themselves. Yet, originally men would provide and women take care.

4.3.4 Nutrition security

In the following section, findings on nutrition security will be presented of the eight households that have been selected for the second phase in-depth interviews. The findings are structured according to the indicators that have been used to categorise the state of household nutrition security.

4.3.4.1 Food available in the house and food diversity

The household food inventory was repeated during the second in-depth interviews, in order to check the quantity, quality, and variety of food available in the house. Comparing the household food inventories of both interview phases, three of the eight households had a variety of foods and a sufficient quantity of food in the house at the stage of the second interview, as was the case at the time of the first interview. In addition, vegetables, such as cauliflower, were seen in these households. The other five households had the same limited variety of basic food during the second interview as at the time of the first interview.

Two of these households only had maize-meal, salt, meat and eggs. These two households, who run their own small business, also had stocks of those food and other items they sell in the house. Some farm workers have small spaza shops in their house and they sell items such cold drinks, beers, yoghurt, sweets, cigarettes, and biscuits. Sometimes they also sell home made beer called "skelem gemmer" meaning dangerous ginger. Therefore, the household food inventory of the second interview phase confirmed the previous findings, indicating that both household food inventories were congruent and that diversity is lacking in this sub-sample of eight households.

From these findings, it is evident that there is nutrition insecurity on this farm. As mentioned from the food and nutrition conceptual framework (Figure 2), nutrition security entails more factors than food security that affect the nutrition situation of a household (Benson, 2004). It has been shown that the infrastructure and health

conditions are poor, while there are also no health facilities available. Generally speaking, however, it can be concluded from the 22 interviews conducted, that farm workers' households on this farm are food secure but nutritionally insecure. Findings have actually confirmed that a variety of different food is lacking (Vorster *et al.*, 2000). These authors' guidelines emphasise variety, quality and taking five portions of fruits a day as basic good nutrition principles.

There is also a clear indication that education on the proper care of the nutrition needs of children and other household members and food balancing and preparation is lacking. This was illustrated by the fact that workers buy the same types of food every month. The preparation of special foods, especially for children, requires the necessary knowledge, skills and time (Steyn and Labadarios, 2003). Many of the farm worker households seemed not to value fruit and vegetables, which are mostly quite affordable in South Africa, especially in the case of some vegetables.

As mentioned before, different studies conducted by Labadarios *et al.* (1999), Vorster *et al.* (2000) and Phometsi (2004) concluded that children on farms are more likely to be stunted in growth, due to inadequacy of micronutrients, especially vitamin A and iron. Fortunately, the researcher observed that children on this farm, unlike children on other farms, did not appear to be stunted in growth according to the observations made. The researcher is also of the opinion that they generally looked healthy but filthy.

4.3.4.2 Number of meals per day

Participants were asked how many times during the day they and their children eat. Five households indicated that they eat three times per day. In households with school-going children interviewees stated that they eat in the morning, in the afternoon when they come home from school and in the evening. Two households have only two meals per day, arguing that they do not like to have three meals per day. One male interviewee stated that he eats only one meal per day in the morning, because he cannot afford to eat more often, due to lack of money and food. Some interviewees said that if enough food were available, they would like their children to eat as many times as they want, but unfortunately the little money limits them.

4.3.4.3 Income

The amount and also the regularity of income were investigated by using several follow-up questions during the interview. An average income of approximately R600.00 is paid to workers per month after deductions. The lowest wage of workers on the farm was found to be R600.00 while the highest was R1 150.00 per month after deductions.

It was indicated that there are extra incomes in some households, such as child grants and money from sales of small businesses. All eight households obtained regular wages, with the amount differing according to the nature of job and the duration of stay on the farm. Three households have irregular incomes from selling items, such as beer, cigarettes, biscuits, sweets, and one of the households brews a traditional homemade ginger beer. One out of eight households received a social child grant of R170.00 per month, while another interviewee has registered three of her children for this grant and is still waiting for the approval. Another household, which also has three small children, was not able to register for this grant because the children do not have birth certificates.

4.3.4.4 Savings

Financial assets of households were also investigated. It was pointed out that most farm workers have no savings. Of the eight households interviewed, only one interviewee stated that they have savings at the post office. Another interviewee said that she deposited some savings with the farm owner. Those participants, who indicated to have savings, however, were not asked about the amount of money they had in their accounts.

Savings are very important because during retrenchment or retirement due to age, and ill health, household members would be able to draw from their savings to bridge such difficult times (Rauch, 1999:125). All eight households indicated that their insufficient wages did not enable them to save money.

4.3.4.5 Property

Property is one of the indicators for household nutrition security, as it represents the state of wealth of a household. Three households each own a house and furniture outside of the farm at their home, where their extended family stays, while two

households own a shack and furniture at a place outside the farm. Two households own only the furniture in the house on the farm, and one household has hardly any possessions at all.

Property is one of the interacting factors, which play an essential role in determining the extent of food and nutrition security. For example, access to land, livestock ownership, food, gardens and cash can determine the nutrition security of a particular household. Property can also simplify house chores and food preparation or washing and cleaning within a short space of time to support a tired mother from work (Steyn and Labadarios, 1999). Property can act as a means of security so that if one requires some financial assistance property can be given away as security. A house is also very important for nutrition security, assuring family members of a home and safety.

4.3.4.6 Experience of hunger and coping strategies

Participants were asked whether they were worried about not having enough food and also whether they sometimes went to bed without food. Of the eight households, only three stated that they did not worry about having enough food. The remaining five households stated that they sometimes went to bed without food and that they were worried that they might not have food the following day. All eight households indicated that there was a need to have certain foods more often, thus referring to limited household food diversity. Among the foods, which would be preferred to be eaten more often were fruit, vegetables and also fruit juice. One household stated that they would prefer to eat meat more often.

Furthermore, respondents were asked how they coped when experiencing hunger or a shortage of food. All households said that they went to their neighbours or friends and ask them for food. Four households said that they went to the general dealer and exchanged eggs in return for other food items. Some of the respondents preferred to ask their close relatives first. One respondent said that, if there was no food and money he did some welding in the form of window frames, which he would sell. He also did some "piece jobs" for people who needed help.

The farm owner appears to be a key figure in the coping strategies of these farm workers. All eight households borrow money from the farmer if their resources become limited. This money is then deducted from their wages at the end of the month.

4.3.4.7 Social networks: contributions received from or given to relatives or friends

Social networks were also shown to contribute to households, in terms of money or in kind. These contributions were not revealed when participants were merely asked questions regarding their income or other sources of livelihoods, but came to the foreground when they were asked to name all their relatives and friends who occasionally or regularly assisted them. All of the households received some kind of help, either from their neighbours and friends or from their extended family members. Such contributions as food (especially maize meal, sugar and tea), money, taking care of the children, household chores, clothing, and many other items were mentioned. This social support system functions in a mutual way, meaning that most households both receive and give assistance. Rauch (1999:125) also confirms that during periods of food scarcity, people call on their friends, relatives, and even employers for assistance.

The study results have highlighted important roles of social networks amongst households and friends in attaining nutrition security. These social networks are grounded in the social support theory, which distinguishes the support into four qualitatively different types: emotional, companionship, informational, and instrumental (Marra, 2005). The most common support is the instrumental, which involves practical help when need arises. Anthropologists have confirmed that social support networks can have an impact on households' well-being. Individuals can call upon these social resources during the experience of hunger and stress. During food and financial scarcity people call on their friends, neighbours, relatives and even their employer in the case of farm workers (Marra, 2005).

4.3.5 Case studies

In the following three cases studies will be presented to investigate some of the main results from the previous sections in more depth. The case studies use pseudo names but the household category situation illustrations will represent real life of farm dwellers interviewed on that particular farm. The discussions for these case studies will focus on the theme that is given to each case study to explain the specific household's unique situation.

4.3.5.1 Case study 1

Mpho Kamoodi - A single mother whose family lives in another town

Mpho is a 53-year elderly single woman who works on the farm. Her family lives in a small town about 20 km away from Potchefstroom. Mpho migrated to seek employment on the commercial chicken farm. As a single mother with four children and two grandchildren to take care of, she was forced to leave her family alone. Her first daughter divorced and brought with her two children whom Mpho is bringing up, as their mother is not working. As the concept of extended family is very common in Africa, there is nothing wrong if a child comes back to be supported by the mother (Mazonde, 2000). Mpho is working in order to buy food, clothes, and pay school fees for the two children who are in grades 6 and 8. She also has to buy furniture and pay rent for both the houses in town and on the farm.

Mpho receives R400.00, as her monthly wage on the 1st or 2nd and on the 15th of every month she receives another R200. Mpho is very positive about the chicken and eggs, because she says when her children visit she can just go to the farmer and get more food on credit. Mpho tries hard to push herself to work every day, otherwise she would not get her "bonus" on the 15th of every month.

Although Mpho earns as little as R600.00 per month, she owns a four-roomed house in town, which she pays off at R160.00 every month and buys an electricity coupon for R80.00. Yet, on the farm, she pays another R170.00 for rent, including electricity.

Her house in town is equipped with furniture, but Mpho says it is very old, and she wishes to have new furniture. She also manages to pay school fees for her grandchildren, who are in grades 6 and 8. However, on the farm she does not even have a cupboard or a bed. She sleeps on the floor and puts card boxes under her blankets to protect herself from the cold. Looking at Mpho's clothes, they are not appealing at all. Even during weekends when she goes home, one cannot tell that she is someone who is working.

As the head of the family in her household in her home area, Mpho makes all of the decisions by herself. She sometimes includes her older daughter in these decisions, especially with the purchasing of food. She borrows money from the farmer if she has serious problems.

On the farm, Mpho shares a house with a male worker. They also share the two plate electric stove, but eat separately. This man does not contribute anything to Mpho and her family, except maybe socially, because they live in the same house. Mpho respects this man and calls him "Ntate" which means "Sir" as a sign of cultural respect. She does all the cleaning of the house, as her housemate is male.

On the two occasions that this household was visited, Mpho was interviewed about the food available in the house. She only had maize meal, eggs, salt and chicken meat. She buys her groceries in Potchefstroom on the 16th or on the day after the bonus payment.

Case study one (continued)

She then takes all the groceries to her family in town. She said that for herself, she gets credit from the farmer for maize meal and meat. Most of the time she eats porridge and meat or eggs. She also buys her groceries one the 1st or 2nd of every month and on this occasion she spends roughly the sum of R250.00.

Mpho has relatives, who sometimes help her children by buying them food or giving them clothes. This is her aunt Botho, who regularly looks after the children and gives them money to visit their mom on the farm, if their food is finished, and an aunt, who also sometimes helps with money. Her sister, Sisy, helps with soap, sugar and sometimes, money. On the farm, if Mpho is desperate, she asks for some food from a friend. At times Mpho exchanges eggs with the local shop owner for money or any food that she would need at that particular time. When asked if she sometimes asked for something from her housemate, she replied affirmatively. She stated that members of her household in town never went to bed without food, but she emphasized that they did not eat enough and good food as she wished. So far, none of her children or grandchildren has been registered for social grants, because they do not have birth certificates.

Generally speaking, Mpho is a strong woman who struggles to get everything necessary for her household. She tries to do the best for her children, thereby neglecting herself, since she sleeps on the floor and does not eat enough. Unfortunately, poor eating habits may cut short her life and there will be no one to take care of her children.

Case study 1: Too many mouths to feed

A study on the nutritional status of children by Labadarios *et al.* (1999) stated that women, particularly in female-headed households, have large workloads in general. They are employed, and leave young children to be cared for by someone else (Murray, 1976). Consequently, they do not have enough time to feed and care for their children. This is exactly the case with Mpho, who lives far from her family and sometimes sees her children only during weekends. She has many children to take care of on her own, causing her R600.00 wage to be divided between many expenses, such as school fees, food, clothing for both her children and grand children (De Onis *et al.*, 2004).

There is a cycle of debt within Mpho's life, since she goes to the farmer to get maize meal, eggs and chickens on credit, whenever her children come to report that they do not have food. As can be gathered from Table 6, Interview 7, this household is nutritionally insecure. This is due to the above-mentioned problems. The divorced daughter with her two children makes Mpho's life even more difficult, because of the extra support she and her children require. The situation is aggravated by the fact that these three children, who qualify for child grants, are not registered for this

benefit due to their lack of birth certificates. This is an indication of a lack of information on government resources on the mother's behalf.

4.3.5.2 Case study 2

The Seroromela family - A couple both working on the farm

Lisbeth is a married woman working as domestic servant on the farm. She was born in 1962 and brought up on another farm. Her husband Daniel is 45 years old and is also working on the farm as a trusted senior driver. The two have been married for 18 years. The couple was blessed with four children, three boys and a girl. Their daughter is 28 years old and is married and living in a township. Their two eldest sons are 26 and 23 years old and the youngest son is 13 years old. The two elder sons are working on nearby farms. Both wife and husband are pastors of a church called "*New Father Church of South Africa*". This couple has enjoyed the pleasure of staying and bringing their children up together on the farm.

Lisbeth is working in the farmer's kitchen as a cleaner and she also does their laundry. She has been working on this farm for eight years now. Her husband Daniel delivers eggs to Johannesburg and is also sent to other places. Lisbeth has leave every fortnight, on a Saturday. This couple seems to enjoy their work, because both of them have been on the farm for a long period. Lisbeth gets R449.00 on the 1st or 2nd of every month, while Daniel gets R950.00 every month, which is the amount that is left after all the deductions.

The Seroromelas live in a two-bed-roomed house and are the only couple in the community to have two bedrooms. Probably these are incentives for them for having worked on the farm for such a long time. Each of them pays R170.00 for rent and electricity. They do not own any house or shack in any other place. When they visit their families at home, they stay at Daniel's parents' place. The farm is actually like their home, because they have lived there for so many years. Their house is equipped with three beds and a wardrobe, one double bed and two three-quarter beds, a 73 cm television, sound system, dining table with chairs, sofas, however old, a washing machine, a heater, kettle and refrigerator. Both of them own cell phones. Lisbeth is a very popular woman on the farm. Almost all women go to her when they have social problems, financial difficulties or are running short of food. She is a spiritual healer, therefore many people come to her house to seek healing, and they pay her. This brings her extra money on top of her wages.

Both Lisbeth and Daniel have many relatives on the same farm. Daniel has a younger brother, who once also worked on the farm, but is now disabled, because his leg was amputated. The brother is married to a woman who also works on the farm. He also has a cousin who is working with his wife on the same farm. Daniel's brother has now become a burden to them, because they have to help him with food and take him to hospital. The brother's wife is an alcoholic and does not care for her husband. Lisbeth also has two female cousins who work on the farm. These are the children of Lisbeth's sisters who died. This is a clear indication of how responsible they have to be, since everyone on the farm considers them rich and respects them for their status as pastors and senior workers.

Case study 2 (continued)

Lisbeth is well off in the sense that she does not have any problems of access to and availability of food. She makes a shopping list and gives it to her husband who buys food in Johannesburg, which is considered reasonably cheap compared to Potchefstroom, while less money has to be spent on transport. She only goes to Potchefstroom if her children invite her there to buy some things for her. She proudly says that her two boys do really support them. They sometimes contribute money and buy food for the parents; however, not every month. On two occasions when the house was visited there was enough and a variety of food; even vegetables like cauliflower were available. From her experience in the kitchen, even if she is not a cook, she learnt to cook, by helping the other domestic worker (Sallie) when she cooks.

Case study 2: Full plate and yet empty lives

This household has a good income and social networks as indicated in Table 6, interview 1. Both of them get high wages and their three children are working and providing for them. However, Lisbeth and her family are one of the two households, which do not own any house or shack. As stated in the literature (Anon, 1997) farm dwellers are people without security of tenure or place which they can call a house. They also do not have any savings. This case study is an indication of the fact that it is not only money that makes a household nutritionally secure. Furthermore, the couple lacks basic knowledge of caring for their home and family and also of budgeting well and prioritising issues (Francis, 2000).

Looking at this couple, they both have the lowest qualifications of the interviewees. A study by Steyn and Labadarios (1999) revealed that the educational status (level of schooling) of the mother has a direct relationship with the nutritional status of the child and the household. This may be the case with Lisbeth, because it seems as if there is some mismanagement or lack of budgeting, since when asked what property they have apart from the farm house and furniture, she said that they do not have anything and that she was planning to build a shack. Furthermore, it seems as if social background also has an influence on the way one perceives things. Lisbeth was also born on a farm and grew up on the farm where her parents were working. The household is relatively nutritionally secure at present on the farm, but it does not provide any future guarantee. What would happen if their jobs would be terminated or one of them came to die? It is therefore suggested that the family would face a serious and disastrous nutrition insecurity because it would be as if no-one from this household ever worked.

In conclusion this household has many people who give different types of support. Rauch (1999:125) said that the larger the people's ego networks, the more support they would receive since many people would provide in their needs. Their popularity within the farm quarters makes them to enjoy a variety of contributions from all those who receive healing from them.

4.3.5.3 Case study 3

The Polelo family - A married woman who works on the farm with her family staying in a nearby town

Ellen is a forty-year-old woman, who is married and she has four children. At the time of this study, she was pregnant with the fifth baby. Her husband Nick is staying in a township about 22 km away from the farm in a shack. Their children live with Ellen's parents in the township. All four children go to school in that particular township. On the farm, Ellen is sharing a house with a couple that is both working on the farm. She does not eat with them. She has three households to take care of; that is her household on the farm, her mother's household in the township since this is where her children are, and her husband's shack in another township away from them. Ellen is working as an egg sorter, grader, stripper, and collector and sometimes she also washes the eggs. She is a full time worker. Her husband Nick is working as a flagman at South African Railways in Potchefstroom. Their wages are as follows: Ellen gets R426.00 and R200.00 as her "bonus", while her husband gets R2 800.00 monthly. Ellen also gets some money from her small business, since she owns a spaza shop (small tuck shop in the house). She also brews a traditional beer called "skelem gemmer", which means dangerous or crook ginger. She earns an extra amount of R852.00 monthly from selling beers, "skelem gemmer", biscuits, and stock sweets.

The Polelo family owns the shack in the township. They are on a waiting list for a Rural and Development Programme (RDP) house. These houses are cheap, small houses that the South African government is building for the disadvantaged people and are provided without cost. Ellen stays with her husband during weekends. During weekdays, they are separated and her husband looks after the shack. Ellen pays R170.00 for rent and electricity on the farm. Nick pays R678.00 at the township.

Ellen sometimes also contributes to paying rent at her mother's house, which is R80.00 monthly. At the township, Ellen says her two aunts who are living with her mother sometimes also help her to pay for rent and buy food.

Ellen calls her husband the "head of the family" for cultural reasons. Nick is responsible for buying their groceries at the shack, while Ellen buys clothes and pays school fees for the children in the township. When she was asked who the head in the house on the farm was, she said it was the husband or her housemate, since he is a male. Ellen does not have any savings. She says that she does not have any money to save, because her responsibilities are too many. They also have to look after her parents-in-law in another township.

Case study 3 (continued)

On the two occasions that Ellen's household was visited, she had enough and also a variety of food. Her refrigerator was full of vegetables, meat and also beers and cold drinks, which she sells. She says that she buys her groceries in Potchefstroom and also at two general dealers on the nearby farm, after she has received her bonus on the 15th of every month. When asked how she transports her groceries with cases of beers and all the other goods, she said she hired a white lady farmer who charges her sixty rand to transport her to town. She also buys food during the weekend after her payday. She regularly sends money to her children in the township. When she visits them during the weekends that she is not on duty, she takes with her three trays of eggs and two chickens.

Case study 3: Dispersed household

The Polelo household has two regular and one irregular income. However, they have three households to take care of. They need to do their budgeting very well and make sure that the children get enough of food, clothing and good accommodation. It would be better if the children were staying with their father so that at least Ellen would have two households to look after. It is suggested that this would also reduce their expenditure in many aspects, such as food, rent and so on.

When Ellen was asked about savings, she said that she did not have enough money to save because she paid her debts every month. It is confirmed by literature that there is a high rate of indebtedness among farm workers, with some spending more money on debt repayments than on food (Abdoesalaam, 2003). Ellen works on the farm and also owns a small shop, and her husband works for the railway company as flagman and their income is attractive. Steyn and Labadarios (1999) state that the employment as well as income status of parents determine whether adequate economic resources are available at household level, including cash to buy food. This determines the quality and quantity of food. Households should be secure with regard to all aspects entailed in the definition of nutrition security, but this is not the case with this family.

It is concluded that all these three households discussed above, well represent all the other five households, which were interviewed in the second phase. There are several similarities of characteristics. All eight households interviewed share one common aspect, namely a lack of food diversity in their meals and depending on contributions from outside in times of hunger. In addition, they all rely on the farmer if they cannot get what they need from friends and relatives. The problem is that the farmer lends them money, but deducts it immediately from their wages at the end of

the month and they get food on credit for that month. This becomes a continuous circle that does not end (see Figure 9).

Figure 9 summarises the networks of resource contributions of the three households selected as case studies. The networks illustrate the kinds of contributions that are offered by relatives and friends among connected households. The arrows that point towards each household indicate contributions flowing into that household from outside, while the arrows that point away from the household to other places represent contributions going out of that particular household to another household. Finally, a central figure within these networks is the farm owner, who is the employer and is also often the last resort for farm workers, where they can borrow money or receive whatever help they need. Farm owners, who are often willing to assist and also have no other choice, regard this system of assistance as business. Whatever has been borrowed has to be paid back by the end of the month through an automatic deduction from the farm workers' wages. This leaves farm workers without or with little money to cope with during the rest of the month.

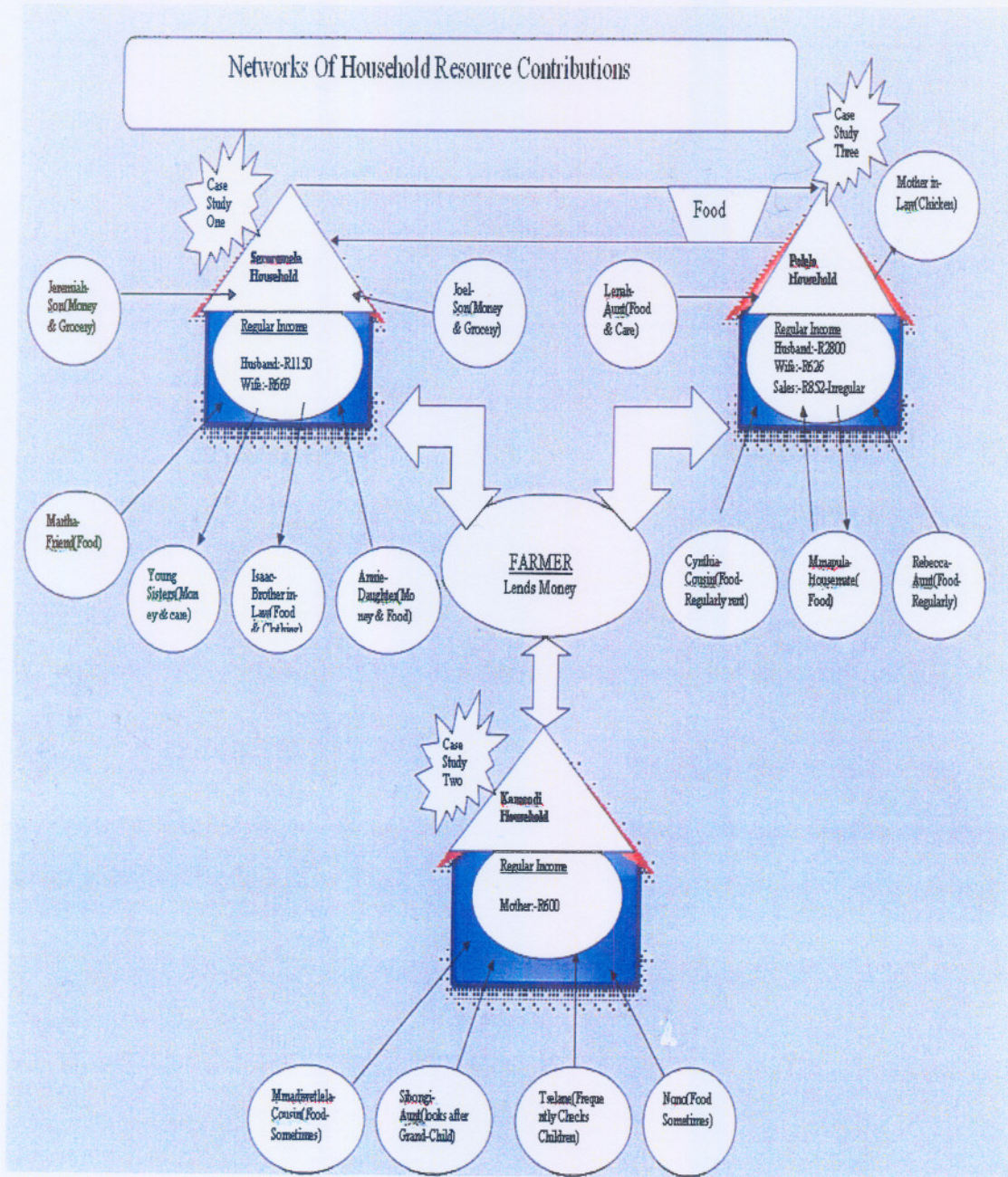


Figure 9: Illustration of three case studies on networks of household resource contributions

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the conclusions drawn from the literature review and the general empirical findings of the study. While this study was conducted, some attention was given to issues that need more consideration to help with the continuation of the larger nutrition security project of which this study formed a smaller sub-study. These issues will be addressed in this chapter and will be implemented within the larger project.

5.2 Summary

It is concluded that farm workers on the specific farm investigated are also vulnerable, as was indicated to be the case with other farm workers indicated in the literature. This is the consequence of their working, living and health conditions, which are poor and below the recommended standards of living. These circumstances are aggravated through their prevalence in combination with other factors, such as access to a healthy and good sanitary environment, adequate health facilities and conditions and adequate health services together with good knowledgeable care to ensure a healthy and active life for all household members.

The sanitary conditions are very poor and need immediate attention to avoid the situation from worsening and impacting even further negatively on food and nutrition security in this community. In addition, the inadequacy of health services is yet another issue of concern, especially nowadays with the threat of the HIV/AIDS scourge. If all the above factors can be attended to with due respect, this situation together with the nutrition security of these farm workers may improve.

When viewing household nutrition security as dependable on an adequate and stable food supply, which is accessible to all household members and meets their nutritional needs, it can be concluded that the farm workers in this study have access to enough food. The conclusion further suggests that the food diversity aspect is lacking, especially in terms of fruit and vegetables. Furthermore, both husbands and wives on the farm lack the education to choose correct and nutritious food. In general,

knowledge on the preparation and serving of food and the care taking of children also lack on their part. This results in children on the farm being neglected as far as their education and health are concerned. In addition, gender issues such as women being disadvantaged in many regards are still persisting and need attention from higher authorities.

Due to the relationship of all of the above with the occurrence of food and nutrition insecurity, the latter remains South Africa's fundamental challenge for human welfare and economic growth. Poverty is the main causal factor of food and nutrition insecurity, especially among farm workers due to their limited educational background, social background, their low income and the living conditions on the farm.

5.3 Recommendations

In South Africa, farm worker households have been identified as vulnerable as far as food and nutrition security is concerned. Therefore, policies should be formulated in such a way that they cater for all vulnerable groups. For example, agriculture will have to respond to changing patterns of demand for food and prevent food insecurity and poverty amongst these marginalized communities. The Department of Health should balance the building of health facilities in all rural areas, especially farms and urban areas, and equip them well. At the same time the Social and Welfare departments should make sure that farm workers are aware of their rights as far as government services are concerned.

Gender issues need more serious attention, because women and children have been identified as the most vulnerable and disadvantaged in many respects, such as lack of power and access to land and other resources and also with regard to access to public services and education. Although women's roles vary because of the diversity of Africa's culture, religion and ethnic traditions, women play an important role in the family for food and nutrition security in all cultures. Therefore, they should not be disadvantaged in any aspect. It is recommended that women should be educated so that they can be able to take care of their households and also teach other members of their households, especially their husbands and sons in this regard.

As children are vulnerable, it is better for them to live with their parents and attend good and nearby schools. Priority should be given to policies which will ensure that there is enough funding for schools on farms and children living on farms. The rights of children should not be violated. Therefore, the people responsible should always make follow-ups on such issues as farm schools. The government should monitor the management of the education department and there should be policies in place that will allow appropriate action if the farmer obstructs access to farm schools. Frequent supervision of teachers and school inspectors should be carried out to make sure that farm school children receive a good quality education. For example, the farm where the study was conducted does not have a school, but the few children who live with their parents and have no other options of schooling walk a very long distance to the nearest school.

The problem of hygiene on the farm, especially the surroundings, toilets, the general cleanliness of houses and farm workers' children is also below the standard necessary to achieve good health. It is therefore recommended that the health department should form health committees on farms, such as the farm in the present study, where particularly women meet and teach each other on hygiene issues and once in two or three months a health educator should visit to check on progress and to give advice.

The social welfare department should introduce the formation of committees on nearby farms to hold meetings and discuss any important issues among themselves. This will make farm workers feel that they are also recognized and will own whatever changes would be done. Each farm should be represented and the farmers should sometimes be invited to these meetings. The government officers should at least visit these committees once in three months to check the progress.

The issue of deductions of money for forced rations from farm workers' wages needs serious attention and it is suggested that farm workers should be educated on how to sign contracts and that they should be clear about their working conditions before they sign employment contracts.

Regarding the research method, it is recommended that the sample number is to be increased in subsequent studies to get a clearer picture of the whole situation of nutrition security in the North West Province. Follow ups should be made to schools

where the children of this farm attend, so that it can be checked whether they do well or not, despite the distance they have to walk to school. Visits could also be paid to churches around the farms to see if these institutions have any impact on the social life of farm workers and their households.

In conclusion, this study in general brought interesting and useful data to the foreground. This study also sketches an emotionally touching picture of these farm workers, due to their circumstances on the farms and the poor living conditions that they have to face. The application of the recommendations from this study within the larger project has the potential to bring some improvement to their situation and nutritional security.

REFERENCES

ABDOESALAAM, I. 2003. Trapped farm labour obstacles to right and freedom. Development update. Vol 4. No2. 2003 July. [web:] <http://www.ukzn.ac.za/ccs/files/Research%2520r1/9.pdf>. [Date of access: 24 Oct. 2005].

ANNAN, K. 2002. HIV/AIDS and the food crisis in Sub-Saharan Africa: Twenty-third regional conference for Africa. Johannesburg, South Africa, 1-5 March [Web:] <http://www.fao.org/docrep/meeting/007/j1418e.html> [Date of access: 30 Mar. 2005].

ANON. 1997. S.A. Farm Dwellers: Citizens without rights. The unfinished question. S.A.

ANTHROPOLOGY SOUTHERN AFRICA (ASA) 2005. Ethical guidelines and principles of conduct for anthropologists. Anthropology Southern Africa, 28 (3&4): p. 142-143.

BABBIE, E., MOUTON J. 2001. The practice of social research, 9th ed. Belmont: Wadsworth. 674 p.

BENSON, T. 2004. Where are we and how did we get there? Africa's food and nutrition situation. 2020 discussion paper no 37 August 2004. Washington, USA. [Web:] <http://www.ifpri.org/2020/dp/dp37.html> [Date of access: 8 Mar. 2005].

BUDLENDER, D. 2000. Earning inequalities in South Africa and measuring poverty. Pretoria: Statistics South Africa. [Web:] <http://isw.sagepubcom/cgi/content/refa/47/1/81> [Date of access: 09 Oct. 2005].

CENTRE OF RURAL LEGAL STUDIES. 1999. Promoting equitable and sustainable development for women farm workers within the Western Cape. International Centre for research on women. SA. [Web:]

<http://www.icrw.org> [Date of access: 26 Jun. 2005].

CLOVER, J. 2003. Food security in Sub-Saharan Africa. *Africanus* 31(1) [Web:] http://www.sarp.org.za/documents/d0000216/p205_clover.html [Date of access: 14 Apr. 2005].

CONGRESS OF SOUTH AFRICAN TRADE UNIONS. 1999. Submission on farmworkers [Web:] <http://www.queensu.ca/samp/sampresources/migrationdocuments/documents/1999/far...html>. [Date of access: 09 Sep. 2005].

COUSINS, B. 2004. Land in Africa: Market assets or secure livelihoods Conference. Rethinking its role in growth, investment and poverty reduction. London. Nov 8-9, 2004.

CRESWELL, J.W. 1994. Research design: qualitative and quantitative approaches. Thousand Oaks: Sage. 228 p.

CRESWELL, J.W. 1998. Qualitative inquiry and research design: choosing among five traditions. Thousand Oaks: Sage. 268 p.

CRYSTAL, P. 2004. Conditions on farms. A draft paper - desktop study. Unit for Social Research. Directorate research & population development. Cape Town.

DENZIN, W.K., LINCOLN, Y.S. 1994. Handbook of Qualitative Research. London: Sage. 643 p.

DE ONIS, M.M., BLOSSNERI, E., BORGHI, R.M., FONGILLO, E.A. 2004. Methodology for estimating regional and global trends of child malnutrition. *International Journal of Epidemiology* [Web:] http://www.ifpri.org/2020/dp/dp37/dp37_refpdf. [Date of access: 30 Nov. 2005].

DE VOS, A.A. 2004. Qualitative data analysis and interpretation. In: De Vos, A.S. ed. Research at Grassroots for the social sciences and human service professions. Pretoria: Van Schaik. 493 p.

DRIMIE, S., MINI, S. 2003. Food security and sustainable development in Southern Africa. Human Science Research Council. Cape Town, SA. 18 p.

ENSIGN, J. 2003. Ethical issues in qualitative health research with homeless youths. Journal of Advanced Nursing, 43 (1): p. 43-50.

ERLANDSON, D. A., HARRIS, E.L., SKIPPER, B.L., ALEEN, S.D. 1993. Doing naturalistic inquiry: a guide to methods. London: Sage.

FOOD AND AGRICULTURAL ORGANIZATION. 1996. Rome declaration on world food security and world food security plan of action. Rome.

FOOD AND AGRICULTURAL ORGANIZATION. 2002. The undernourished in the developing world: comparison with world food summit Rome. [Web:] <http://www.fao.org/docrep/006/y4525e/y4525e04.html> [Date of access: 30 Mar. 2005].

FOOD AND AGRICULTURAL ORGANIZATION. 2004. Assessment of the world's food security situation. 30th session. Rome. September 20 to 23 [Web:] <http://www.fao.org/docrep/meeting/008/j2716e/j2716e00.html>. [Date of access: 30 Mar. 2005].

FOOD AND AGRICULTURAL ORGANIZATION. 2005. Household food security & community nutrition: HIV/AIDS and nutrition [Web:] http://www.fao.org/es/ESN/nutrition/household_hiv_aids_en.stm.html. [Date of access: 4 Apr. 2005].

FRANCIS, E. 2000. Making a Living: Changing Livelihoods in Rural Africa. London : Routledge. 39 p.

GROSS, R.H., SCHOENEGER, H., PFEIFER, H., PREUSS, HJ. 2000. Four dimensions of food and nutrition security: definitions and concepts. SCN NEWS/United Nations, Administrative Committee on Coordination, Sub-Committee on Nutrition, No 20 : p. 20-25.

GUBA, E.G., LINCOLN, Y.S. 1985. Effective evaluation: Improving the usefulness of evaluation results through responses and naturalistic approaches. Pub Jossey Bass. 424 p.

HADDAD, L. J., HODDINOTT, J., ALDERMAN H. 1997. Intra household resource allocation in developing countries - Models, methods, and policy. IFPRI, London: Baltimore. 692 p.

HAHN, H. 2000. Conceptual Framework of Food and Nutrition Security [Web: <http://www.fao.org/waicent/faoinfo/economic/esn/books/books.htm>

[Date of access: 15 Jun. 2005].

HUMAN RIGHTS WATCH. 2004. Obstacles to the right to education on commercial farms [web] <http://www.hrw.org/reports/2004/southafrica0504/4.html>. [Date of access: 27 Jun. 2005].

HUNGER TASK FORCE. 2003. Halving hunger by 2015: A framework for action. Interim report of the millennium project. New York. United Nations Development programme (UNDP) [Web:] http://www.ifpri.org/2020/dp/dp37/dp37_refpdf. [Date of access: 30 Nov. 2005].

INTERNATIONAL COMMITTEE OF FOURTH INTERNATIONAL. 2003. South Africa: report reveals dire conditions facing farm workers. [Web:]

<http://www.wsws.org/articles/2003/farm-o0.2s.html>. [Date of access: 27 Jun. 2005].

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE. 2004. Assuring food and nutrition security in Africa. 58, April 1-3. A summary report of the conference.

Kampala, Uganda. [Web:] <http://www.iisd.ca/sd/ifpri/sdvol158num6e.html>. [Date of access: 30 Mar. 2005].

INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT. 2004. Assuring food and nutrition security in Africa by 2020.58, April 6-5. A summary report from the conference Kampala, Uganda [Web:]

<http://www.iisd.ca/sd/ifpri/sdvol158num6e.html>. [Date of access: 30 Mar. 2005].

KLEINBOOI, K., LAHIFF, E. 2004. Research PLAAS. Participatory monitoring and evaluation of the South African land programme. [Web:] http://www.uwc.za/plaas/Research/research_m&e_land_reform.html. [Date of access: 02 Sep. 2005].

KRUGER, A., LEMKE, S., PHOMETSI, M., VAN'T RIET, H., PIENAAR, A.E., KOTZÉ, G. 2006. Poverty and Household Food Security of Black South African Farm Dwellers: The Legacy of Social Inequalities. Public Health Nutrition, in press.

LABADARIOS, D., STEYN, N.P., MAUNDER, E., MACINTYRE, U. E., SWART, R., GERICKE, G., HUSKINSSON, J., DANNHAUSER, A., VORSTER, H.H., NESAMVUNI, A.E. 1999. The national food consumption survey (NFCS) Department of Health 2000. 21(1): Nutrition. Pretoria, S.A, January 3-4. [Web:] <http://www.sahealthinfo.org/nutrition.module/nfc/chapetr2methology> [Date of access: 21 Jun. 2004].

LEEDY, P. D. 2001. Practical research: planning and design. 7th ed. New Jersey: Merrill Prentice Hall. 269 p.

LEMKE, S. 2001. Food and Nutrition Security in Black South African Households: Creative Ways of Coping and Survival. Munich: Centre of Life Sciences, Technical University Munich-Weihenstephan (Germany). (Thesis: PhD) [Web:](<http://tumb1.biblio.tumuenchen.de/publ/diss/ww/2001/lemke.pdf>) [Date of access : 11 Mar. 2005].

LEMKE, S. 2005. Nutrition Security, Livelihoods and HIV/AIDS: Implications for Research among Farm Worker Households in South Africa. *Public Health Nutrition* 8 (7): p. 844-852.

LEMKE, S., VORSTER, H.H., JANSEN VAN RENSBURG, N.S., ZICHE, J. 2003. Empowered women, social networks and the contribution of qualitative research: broadening our understanding of underlying causes for food and nutrition insecurity *Public Health Nutrition*, 6 (8): p. 759-764.

LEONHAEUSER, I.-U., LEMKE, S., VORSTER, H. H., KRUGER, A., PHOMETSI, M. 2003. Nutrition Security: Living conditions and food security of black-African farm workers and their families in South Africa from the household and gender perspective. [Web:] <http://www.uni-giessen.de/zeu/english/section2.html> [Date of access: 05 Apr. 2005].

LINCOLN, Y.S., GUBA, E.G. 1985. *Naturalistic inquiry*. Newbury Park: Sage.

LONDON, L. 2003. Human rights, environmental justice, and health of farm workers in South Africa.
[Web:] http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uid... [Date of access: 26 Jul. 2005].

LONDON, L., SANDERS, D., TE WATER NAUDE, J. 1998a. Farm workers in South Africa - the challenge. Occupational and environmental health research unit, University of Cape Town.

LONDON, L., NELL, V., THOMPSON, M.L., MYERS, J.F. 1998b. Health status among farm workers in the Western Cape: collateral evidence from a study of occupational hazards. *PubMed*. [Web:] http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uid...html. [Date of access: 26 Jul. 2005].

MADELEY, J. 2002. Food for all: the need for a new agriculture. London: Zed Books.

MANTU, R. 2005. Wage hikes for farm workers. Bua news. [Web:] http://www.southafrica.info/public_services/citizens/your_rights/update/farmworkers-.html. [Date of access: 26 Jul. 2005].

MARRA, J. 2005. Social support networks and homeless mothers. American Public Health Association. Philadelphia .P.A. [Web:] <http://apha.confexcom/apha/133/techprogram/paper-10807.htm> [Date of access: 15 Nov. 2005]10p.

MAXWELL, S. 2000. The evolution of thinking about food security. ITDG SA, Botswana, Lesotho, Swaziland and Namibia.

MAY, J., BUDLENDER, D., MOKATE, R., ROGERSON, C., STAVROU, A. 1998. Poverty and inequality in South Africa. Summary report.[Web:] <http://www.polity.org.html/govdocs/reports/poverty.html/rebookmark=1>. [Date of access: 27 Sep. 2005].

MAZONDE, I.N. 2000. Social Transformation and Food Security in the Household: The Experience of Rural Botswana. p. 53-73. In: KRUEGER, F., RAKELMANN, G., SCHIERHOLZ, P. eds. Botswana. Facets of a changing society.

MDLADLANA, M. M. S. 2002. Basic conditions of employment Act 75 of 1997. No R.1499. Sectoral determination 8: Farm worker sector, South Africa.

MEDICAL NEWS. 2005. Up to 45% of farm workers in South Africa HIV-positive: Agricultural production threatened. [Web:] <http://www.medicalnewstoday.com/medicanews.php?newsid=21427.html>. [Date of access: 27 Jul. 2005].

MOTIEE, N. 1997. Female headed households in Iran. Vulnerable or Powerful. In: UNICEF (ed.) State of Children in Iran, Autumn, Tehran.

MURRAY, C. 1976. Keeping House in Lesotho. Cambridge: University of Cambridge. (Thesis: PhD).

NORTH-WEST UNIVERSITY. 2004. Manual for post graduate studies. [Web:] www.puk.ac.za [Date of access: 21 Jul. 2005].

OLDEWAGE, W.H., DICKS, E.G., NAPIER, C.E., RUTENGWE, R. M. 2004. A community based integrated nutrition research programme to alleviate poverty. Public health, 119 (4): p. 321-320.

PALITZA, K. 2005. AIDS Policy for subsistence farmers underwhelms. [Web:] <http://www.ipsnews.net/news/asp?idnews=28968.html>. [Date of access: 21 Jul. 2005].

PHOMETSI, M. 2004. The development of nutrition knowledge and good dietary practices among farm workers. Potchefstroom: PU vir CHO (Dissertation: MSc).

PPT PILOTS PROJECT IN SOUTHERN AFRICA, 2004. The North West Province [Web:] <http://www.nw-platinumprovince.co.za>. [Date of access: 24 May 2005].

QUASHIGAH, C. 2001. Prioritizing actions, strengthening actors and facilitating Partnership. Chapter 10, Strategies and Options. [Web:] http://www.ifpri.org/_pubs/books/vl24.htm-2 [Date of access: 05 Apr. 2005].

RAUCH, T. 1999. Food security in the context of global markets, agricultural policy and survival strategies of rural people in Sub-Saharan Africa. p. 107-129. In: Kracht, U.; Schulz, M. eds. Food Security and Nutrition. The Global Challenge. New York: St. Martin's. 692 p.

RUKUNI, M. 2004. Assuring food and nutrition security in Africa by 2020. 58, April 6-5. A summary report from the conference. Kampala. Uganda [Web:]http://www.iisd.ca/sd/ifpri/sdvol_158num6e.html [Date of Access: 30 Mar. 2005].

RUTENGWE, R.M. 2004. Identifying strategic interventions for improving household food and nutrition security in urban informal settlements, South Africa. *Asia Pacific Journal of Clinical Nutrition*, 13(1) [Web:]http://...science?_ob=articleURL&_udi=B6WVB-4D401TK-1M9&_user=577557&cover [Date of access: 14 Jun. 2005].

SEKITOLEKO, V. 2001. Strategies for improving food and nutrition security in Africa. Chapter 10, p 88-89 [Web:]<http://www.ifpri.org./pubs/books/v124.htm-29k> [Date of access: 04 Apr. 2005].

SOUTH AFRICA. DEPARTMENT OF EDUCATION. 1997. Education White Paper 3: A programme for transformation of Higher Education. SA. (Notice 1196 of 1997). Pretoria.

SOUTH AFRICA. DEPARTMENT OF HEALTH. 2000. HIV/AIDS/STD Strategic plan for South Africa 2000-2005. Pretoria. [Web:] <http://hpq.sagepub.com/cg1/content/refs/9/2/263> [Date of access: 14 Apr. 2005].

SOUTH AFRICA. DEPARTMENT OF HEALTH. 2005. Cluster: maternal, child, women's health organizational structure-integrated nutrition programme (INP). [Web:] <http://www.doh.gov.za/programmes/nutrition.html> [Date of access: 5 Apr. 2005].

SOUTH AFRICA. DEPARTMENT OF LABOUR. 2003. The farm workers report: [Web:]<http://www/labour.gov.za/docs/legislation/bcca/farmdocs/farmworkers:20Report.doc-June2003> [Date of access: 26 Jun. 2005]

SOUTH AFRICAN HUMAN RIGHTS WATCH. 2004. Obstacles to the right to education on commercial farms. [Web:] <http://hrw.org/reports/2004/southafrica0504/4htm>. [Date of access 27 June 2005].

SOUTH AFRICAN NORTH WEST PARKS AND TOURISM BOARD. 1997. An overview-North West Province, South Africa. [Web:] <http://www.tourismnorthwest.co.za/about/...> [Date of access: 24 May 2005].

SPIEGEL, A.D., WATSON, V., WILKINSON, P. 1996. Domestic Diversity and Fluidity among Some African Households in Greater Cape Town. *Social Dynamics*, 22 (1): p. 7-30.

STEYN, N.P., LABADARIOS, D. 1999. Nutrition Policy Implementation, Chronic Diseases of life style unit, .Medical Research Council. Department of Human Nutrition. University of Stellenbosch. Cape Town.

STEYN, N.P., LABADARIOS D., HUSKINSSON J. 2000. A South African perspective on preschool nutrition .SAJCN, 13 (1): S9-S12.

STEYN, N.P., LABADARIOS, D. 2003. Nutrition Policy Implementation, Chronic Diseases of Life Style Unit, Medical Research Council, Department of Human Nutrition, University of Stellenbosch [Web:] <http://www.hst.org.za/uploads/files/chapter17.pdf> [Date of access: 03 Nov. 2005].

STRYDOM, H., DELPORT, C.I.M. 2004. Research at grass roots - for social sciences and human service professions. In: DE VOS A.S. ed. *Research at Grassroots for the social sciences and human service professions*. 2nd ed. Pretoria: Van Schaik. 493 p.

THIBEDI, J. 2003. Speech on farmers day. South African Government Information.[Web:]<http://www.info.gov.za/speeches/2003/03091516461002.html> [Date of access: 26 Apr. 2005].

US BUREAU OF CENSUS. 2000. Census of Population, Profiles of General Demographic Characteristics [Web:]

<http://www.quickfacts.census.gov/qfd/metallong-71061.html>. [Date of access: 12 Aug. 2005].

UYAWUZ'UMOYA LAND NEWS. 2003. Policy and guidelines on integrating environmental planning into land reform and land development. No 5. [Web:]http://www.land.pwv.gov.za/publications/formal/land_info/fivenews.html.

[Date of access: 28 Apr 2005].

VAN ONSELEN, C. 1990. Race and class in the South African country side. The American historical review, Vol. 95 (1): p. 99-123. [Web:] <http://www.jstor.org/> [Date of access: 25 Jul. 2005].

VON BRAUN, J. 1999. Food Security – A Conceptual Basis. p. 41-53. In: Kracht, U.; Schulz, M. eds. Food Security and Nutrition. The Global Challenge. New York: St. Martin's. 692 p.

VORSTER, H.H., OOSTHUIZEN, W., JERLING, J.C., VELDMAN, F.J., BURGER, H.M. 1997. The Nutritional Status of South Africans. A Review of the Literature from 1975-1996. Durban: Health Systems Trust.

VORSTER, H.H., WISSING, M., VENTER, C.S., KRUGER, A., MALAN, J.H., DE RIDDER, J.H., VELDMAN, F.J., STEYN, B.M., MARGETTS, B. M., MACINTYRE, U.E. 2000. The impact of urbanization on physical, physiological and mental health of Africans in the North West province of South Africa: The THUSA study. South African Journal of Science, 96: p. 1-10.

WALDMAN, L., NTSEDI, M. 1997. Here you will remain: Gender, violence and movement on farms in the Western Cape. ISBN: 0-9583755-7-7. Stellenbosch: Centre of Rural Legal Studies.

WEGGERMANS, R. M. 2001. Dietary cholesterol from eggs increases the ration of total cholesterol to high-density lipoprotein cholesterol in humans: a meta-analysis. *American Journal of Clinical Nutrition*, 73: p. 885-891.

WEINREICH, N.K. 2003. *Integrating qualitative and quantitative methods in social marketing research*. Thousand Oaks, California: Sage.

ZAFAR, S. 2005. We need to hear rural voices. *Mail and Guardian*, 21, Feb. 11-17 [Web]www.mg.za [Date of access: 24 Apr. 2005].

ANNEXTURE A

ETHICAL APPROVAL OF THE STUDY

ETHICAL CONSIDERATIONS

The proposed study consists of face-to-face interviews and observations. Interviewees were fully informed about the aims and proceedings of the study. Participation was voluntary and interviews were only conducted after oral consent was obtained. This consent was obtained at each visit and also tape-recorded for later documentation. Farmers were approached to obtain consent to carry out research on their premises. The study was approved by the Ethical Committee of North-West University (No 01M04). The study also followed the ethical guidelines and principles of conduct for anthropologists (Anthropology Southern Africa, 2005). South African farming communities in the present political and social context are areas of tensions and potential conflict. As is the case for other vulnerable population groups, there is a need for the increased guidance for the ethical conduct of research (Ensign, 2003). This will not only have implications for the people that are being studied, but will also affect the quality of results.

ANNEXTURE B

PHASE ONE INTERVIEWS – SETSWANA AND ENGLISH VERSIONS

Interviewee number			
Bong	Monna	1	
	Mosadi	2	
Leina			
Letlha			
Lefelo			
Aterese			

1. Puo ya kwa gae?	Setswana	1
	Afrikaans	2
	English	3
	Xhosa	4
	Zulu	5
	Puo nngwe	6

2. A o kgona go bua dipuo tsidingwe?	No	1
	Setswana	2
	Afrikaans	3
	English	4
	Xhosa	5
	Zulu	6
	Puo nngwe	7

3. Ke mang wa lelapa yoo dirang mo polaseng kgotsa yoo direlang rapolase?

4. Motho yo o dira malatsi ale makae mo bekeng?		
	Person 1	Person 2
Modiri yoo otlang nako nngwe (piece job)	1	1
Modiri wa nakwana (1-4 malatsi)	2	2
Modiri wa nako tsothle (5-6 malatsi)	3	3
Modiri ka nako ya kotulo	4	4

5. Batho ba bangwe ba dira tiro ya mofuta ofe? (A badira mo tshimong, mo ntlong jalo jalo..)		
	Person 1	Person 2

9. A o nale motlakase mo ntlong?	Eya	1	
	Nyaa	2	
10. Ga e le eya – o o dirisetsa eng?			
11. Ga e le nyaa – o dirisa eng go tshuba wlese kgotsa tv? (if there is radio/tv in hh)			
12. O dirisa eng go apaya? (ka metlha)			
	Gantsi	Fa gongwe	Nako nngwe
Motlakase	1	1	1
Gase	2	2	2
Parafini	3	3	3
Dikgong	4	4	4
Dibi/Disu	5	5	5
Magala	6	6	6
Sengwe gape	7	7	7
13. O bona metsi a gonwa kae?			
		Pompo ya motse	1
		Pompo ee fa gaufi	2
		Pompo ka fa ntlong	3
		Felo lengwe gape	4
14. O dirisa mofuta ofe wa ntlwana boithusetso?			
		Gaeyo	1
		E epilwe kwa ntle	2
		E e dirisang dibolaya ditwatsi kwa ntle	3
		E e gogiwang/e edirisang metsi kwa ntle	4
		Mo ntlong ee dirisang metsi	5
		Mofuta mongwe	6
15. A o dirisa ntlwana boithusetso le bamalapa a mang mo polaseng?			
		Eya	1
		Nyaa	2
16. Fa ele eya – o dirisa ntlwana boithusetso le malapa a makae?			

17. A go nale tirelo ya boitekanelo mo polaseng kgotsa mo polaseng ee fa gaufi?	Eya	1
	Nyaa	2
18. Fa ele eya – ke mofuta ofe wa tirelo?		
19. E tla ga kae? (<i>gangwe ka beke, gangwe mo kgweding, ka 2/3 ya kgwedi, ...</i>)		
20. O dira eng fa mongwe a lwala/kula?		
21. A go nale ditirelo tse dingwe mo polaseng (e.g. kereke / thapelo tse di tswarwang mo gae,di komiti tsa diphitlo, le dikomiti tsa motes)		

22. O bona dijo kae?	Lebenkele la toropo	Tuck/Spaza shops	Shopong (General dealer/Kafing/supermarket)	Felo gongwe
O tsaya lobaka lolo kae go fitlha koo? Go fa kae?				
O tsamaya ka eng goya koo?				
Oya leng koo? (mo bekeng kgotsa mo kgwedding)				
O reka dijo tse di teng? O dirisa bokae go reka dijo ka kgwedi/beke?				

	Molemi o rekisa dijo	Gotswa go rrapolasa jaaka dijo tsa tuelo	Moagisanyi o rekisa dijo	Losika	Ditsala/Baagisane
Di tswa kwa go mang?	/	/	/		
O di bona leng?					
Ke mofuta ofe wa dijo? Di le kahe?					

23. A o nale leruo la gago?	Eya	1
	Nyaaa	2
24. Fa ele eya – Ke leruo lefe ebile le le kanakang?		
Leruo	Boleng	
Dikgomo		
Pigs		
Dikgogo		
Duckling		
Leruo lengwe		
25. A o nale tshimo ya merogo?	Eya	1
	Nyaa	2
26. Fa ele eya – ke merogo efe e oe jalang mo ngwageng?		

27. O ngwaga dile kae? (O tsetshwe ka letlha le fe.?)		
28. O tsaletswe kwa kae?		
29. Ke lebaka lo lo kae o dula fa?		
30. Pele ga o tla fa one otshela/dula kae?		
31. A o na le motlhankane?	Eya	1
	Nyaa	2
32. O ka thlalosa thlakanelo eo jang? (Kopano/Leratola/ ya kgale, Lenyalo, ...)		

33. O feletse mo mophatong ofe?	Ga o a ya sekolong	1
	< Std. 6	2
	Std. 6-8	3
	Std. 6-8+thekiso	4
	Std. 9-10	5
	Std. 9-10+thekiso	6
	Std. 9-10+setheo sese golwana	7

Interview number:

name:

in:

date:

HOUSEHOLD FOOD INVENTORY

- Le Baya kae/jang dijo tsa lona? (say that you are interested to see where they store their food, may refer to something you see in the house, e.g. tin box, buckets)

Food stored openly	1
Food stored in bin/bucket/tin box	2
Food stored in cupboard	3
Food stored in refrigerator	4
Food stored in freezer	5
No food is stored	6
Don't know	7

Other:

- Ke mefuta e fey a dijo e o nang le yona mo ntlong jaanong? (if they show you ask if you can may write down the food items, if they don't show just write down and ask follow up questions 'anything else')

- Ke dijo dife le dino dife tsê o nang le tsone mo ntlong bontsi ba nako kapa nako tsotlhe? (Kitsiso: Go ya le dijo tsa nako tsotlhe. Go ka batlega dipotso tsê dingwe gore batho ba ne le nako ya go akanya pele)

- A o ka bolelela gore ke ka goreng o na le dijo tsê le dino tsê nako tsotlhe mo ntlong?

- Ke dijo dife le dino dife tsê o nang le tsone gangwe le gape fela mo ntlong? (Kitsiso: Go ya ka dijo tsa monobonobo, dijo tsê di leng teng fela fa go na le madi a mantsi le fa e le mekete)

- A o ka tthalosa gore ke eng dijo tsê di le teng fela nako e ngwe le ngwe?

Interviewee number			
Sex	Male	1	
	Female	2	
Name			
Date			
Place			
Home address			

1. What is your home language?	Setswana	1
	Afrikaans	2
	English	3
	Xhosa	4
	Zulu	5
	Other	6

2. Do you speak other languages?	No	1
	Setswana	2
	Afrikaans	3
	English	4
	Xhosa	5
	Zulu	6
	Other	7

3. Who of your family works on the farm or for the farmer?		
4. How many days of the week does this person work?		
	Person 1	Person 2
Irregular (piece work)	1	1
Part time (1-4 days)	2	2
Full time (5-6 days)	3	3
Seasonal work	4	4
5. What kind of work do you/they do? (includes domestic work, gardener, ...)		
	Person 1	Person 2

9. Do you have electricity inside your house?	Yes	1	
	No	2	
10. If yes – for what do you use it?			
11. If no – what do you use for e.g. radio/tv? (if there is radio/tv in hh)			
12. What kind of energy do you use for cooking?			
	most	sometimes	seldom
Electricity	1	1	1
Gas	2	2	2
Paraffin	3	3	3
Fire wood	4	4	4
Dung	5	5	5
Coal	6	6	6
Other	7	7	7
13. Where do you get your drinking water from?	Communal tap	1	
	Tap on premises	2	
	Tap in house	3	
	Other	4	
14. What type of toilet do you have?	None	1	
	Outside long-drop	2	
	Outside chemical	3	
	Outside water flush	4	
	Inside water flush	5	
	Other	6	
15. Do you have to share your toilet with other households?	Yes	1	
	No	2	
16. If yes – with how many houses do you have to share?			

17. Are there some kind of health services available on the farm or on neighbouring farms?	Yes	1
	No	2
18. If yes – what kind of service?		
19. How often does it come? (<i>weekly, monthly, every 2/3 month, ...</i>)		
20. What do you do if someone is ill?		
21. Are there other services available on the farm? (e.g. church/prayer meetings, burial societies, any other community societies)		

22. Where do you get your food from?

	Shops in Town	Tuck/Spaza shops	General dealer/café/supermarket	Other
How long does it take you to go there? Where is it?				
How do you get there?				
How often do you go there?				
What food do you buy there? How much do you usually spend (for monthly/weekly main groceries)?				

	Farmer sells food	Farmer (<i>Ration as part of salary</i>)	Neighbour sells food	Family	Friend/Neighbours
From whom?	/	/	/		
How often do you get food?					
What kind of food do you get? (How much?)					

23. Do you have your own livestock?	Yes	1
	No	2
24. If yes – what livestock and how many do you have?		
Livestock	Amount	
Cows		
Pigs		
Chicken		
Duckling		
Other		
25. Do you plant vegetables?	Yes	1
	No	2
26. If yes – what kind of vegetables do you have through the year?		

27. What is your age? (or date of birth)		
28. What is your place of birth?		
29. How long have you been here?		
30. Where did you live before coming here?		
31. Do you have a partner?	Yes	1
	No	2
32. How would you describe your partnership? (<i>Long term relationship, marriage, ...</i>)		

33. What is your highest qualification?	None	1
	< Std. 6	2
	Std. 6-8	3
	Std. 6-8+trade	4
	Std. 9-10	5
	Std. 9-10+trade	6
	Std. 9-10+academic	7

Interview number:

name:

in:

date:

HOUSEHOLD FOOD INVENTORY

- Where do you store your food? (*say that you are interested to see where they store their food, may refer to something you see in the house, e.g. tin box, buckets*)

Food stored openly	1
Food stored in bin/bucket/tin box	2
Food stored in cupboard	3
Food stored in refrigerator	4
Food stored in freezer	5
No food is stored	6
Don't know	7

Other:

- What kind of food do you have in your house at this moment? (*if they show you ask if you can may write down the food items, if they don't show just write down and ask follow up questions 'anything else'*)

- What kind of food and something to drink do you always or most of the times have in your house?

- Can you say why you have these kinds of food most of the time in the house?

- *What kind of food and something to drink do you have only sometimes or seldom in the house?* (*refers to different types of food on weekend, special occasions etc*)

- Can you say why you have these kinds of food only sometimes or seldom?

ANNEXTURE C

PHASE TWO INTERVIEWS - SETSWANA AND ENGLISH VERSIONS

4. Ke batho ba fe ba ba nnang mo lelapeng/ mo jareteng e ba ba abelang thuso go ba lelapa?
Botsa gore ba thusa ka tsela di fe!

(se se tsenyeletsa sengwe le sengwe se motho a se direlang lelapa kgotsa maloko a lelapa, sekao, go abelana ka madi, dijo, metswedi ya matla, tiro (tlhokomelo ya bana – se se kaela go bana ba ba nnang le balosika ba ba kgakala; go ga metsi/go rwalela dikgong; go phepafatsa ntlo/jarata jalo jalo.)

Motho:	Kabelo:

5. A lelapa la gago le duela rente? Ee Nnyaa

5.a) Ke mang yo o duelang rente?

5.b) Ke bokae?

6. A lelapa la gago le duela motlakase? Ee Nnyaa

6.a) Ke mang yo o duelang motlakase?

6.b) Ke bokae?

9. A go na le mongwe kwa ntle ga ba ba umakilweng kwa godimo ba ba abelang lelapa la gago ka didiriswa?

10. A go mongwe gape yo o motlamelang kwa ntle ga lelapa?

11. A mongwe wa leloko la lelapa le, o na le tshiamelo ya go nna le thoto jaaka ya gagwe? (Thoto e ka nna ya nna golo gongwe gape, e seng mo polaseng e, sekao, ntlo, setsha sa bonno, mekhukhu, kamore, lefatshe, diruiwa golo gongwe gape kwa bangwe ba maloko a lelapa ba nnang gona, kgotsa or ba duelang khiro ya go nna gona, kgotsa leruo golo gongwe gape)

If 'yes':

11.a) Ke mofuta ofe wa thoto?

11.b) Ke mang yo o e tihokomelang?

11.c) Qe dirisa jang?

12. A o na le dipolokelo dingwe?

12.a) Fa e le ee – a o na le dipolokelo tsa gago kwa kae?

Nna/ rona re rata go ithuta sengwe ka ga batho ba o dulang le bone mo ntlong kgotsa mo lelapeng la gago, go tla go na le kitso le go tihaloganya ka ga lelapa le ditsalapa.

13. Ke mang tihogo ya lelapa?

14. Goreng ene e le tihogo ya lelapa?

15. A motho yo ke ene yo a akanyang dilo mo lapeng?

15.a) Fa go se jalo ke mang yo a akanya?

16. Ke mang a akayang gore go rekiwe dijo dife le tsê kae?

17. Ke mang yo o swetsang fa ditheko tse di kgolo di rekiwe? (*tlhokomediso ya motshwaraditheriso: diphatlho dingwe ntle le dijo, sekao, fenitshara, didiriswa tsa lelapa, dijego tsa dithoto*)

Kitsiso: Botsa potso e fela fa motho yo o mmotsang e se motho yo a akanyang gore madi a dirisiwe jang:

18. Fa nkabo e le wena o akanyang gore madi a dirisiwa jang, a nkabo o fetotsê tiriso ya madi go ya le dilo tsê di fa godimo?

18.a) Fa go le jalo tlhalosa gore jang?

19. Ke mang a tlhokomelang bana mo lelapeng jaaka go ba fa dijo le go ba tlhokomela le jalo-jalo?

20. Ke mang gape yo o tlhokomelang bana, fa motho yo o a se teng?

21. Se se diragala gantsi jang?

22. Gantsi o ja ga kae mo nakong ya motshegare? (*Tatediso: leng? – mosong, sethoboloko, mantsiboa*)

23. Gantsi bana ba gago/bana mo lelapeng le, ba ja ga kae mo nakong ya motshegare? (*Tatediso: leng? – mosong, sethoboloko, mantsiboa*)

24. A o tle o tshwennwege ka go se ye go na le dijo tsa letsatsi le le latelang?

24.a) Fa go le jalo ke eng se se dirang gore o tshwennwegwe?

25. Fa go na le ditshwenyego tsê di dirang gore go se amogelwe dijo kgotsa dijo tsa mofuta o mongwe?

25.a) Fa go le jalo bolelela gore ditshwenyego ke eng?

26. A go a tle go diragale gore bana ba se bone dijo tse di lekaneng.

26.a) Fa go le jalo tiragalo ê e tlhagelela leng le leng?

27. Go diragala gangwe le gape gore o lale ka tlala? (*Tatediso: go robala lesa ja*)

27.a) *Fa karabo e le "Eê" Botsa - A o ka bolelela gore go diragala leng le leng?*

28. A o nagana gore bana ba gagwe/ bana ba ba mo lelapeng ba tshwanetsê go ja dijo/dino tsa mefuta e mengwe gantsi go feta tsê dingwe?

28.a) Fa go le jalo - Ke dijo/dino dife? (*Tatediso: goreng?*)

29. Ke dijo/dino dife tsê o ka di ithhopelang go di ja go feta tsê dingwe?

29.a) Fa go le jalo - Ke dijo/dino dife? (*Tatediso: goreng?*)

30. Fa o na le mathata ago bona dijo, o ka dira eng gore nne ledijo sa ntlha? *(Let people talk first, then follow-up: is there anything else you could do; anywhere else you could go?)*

31. Ke bomang ba o ka yang kwa go bone fa o tshwerwe ke tlala mme o se na dijo?
(Kitsiso: A ba arabe pele mme morago botsa gore a ke balosika, ditsala, mothapi, kereke le ba bangwe.....)

32. O ka dumela go fa mang dijo fa ba tla go go di kopa ka metlha?

33. A go a diragala gore o refosane dijo kgotsa dilwana dingwe le batho ba bangwe kwa ntle ga go kopa thuso? *(Sekao, thefosano e seng ya ka gale ya "dimphe" ka mokgwa wa dijo kgotsa dilwana dingwe kwa ntle ga go kopa thuso ka tebano)*

Fa e le 'ee':

33.a) ke dilo dife tse o di refosanyang?

33.b) E diragala gantsi jang?

34. Re fitlhile mo bokhutlong ba tiro ya rona mme a go na le sengwe se o batlang go re bolelela ka sone?

Interview number:

name:

in:

date:

HOUSEHOLD FOOD INVENTORY

- Le Baya kae/jang dijo tsa lona? (say that you are interested to see where they store their food, may refer to something you see in the house, e.g. tin box, buckets)

Food stored openly	1
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No food is stored	6
Don't know	7

Other:

- Ke mefuta e fey a dijo e o nang le yona mo ntlong jaanong? (if they show you ask if you can may write down the food items, if they don't show just write down and ask follow up questions 'anything else')

- Ke dijo dife le dino dife tsê o nang le tsone mo ntlong bontsi ba nako kapa nako tsotlhe? (Kitsiso: Go ya le dijo tsa nako tsotlhe. Go ka batlega dipotso tsê dingwe gore batho ba ne le nako ya go akanya pele)

- A o ka bolelela gore ke ka goreng o na le dijo tsê le dino tsê nako tsotlhe mo ntlong?

- Ke dijo dife le dino dife tsê o nang le tsone gangwe le gape fela mo ntlong? (Kitsiso: Go ya ka dijo tsa monobonobo, dijo tsê di leng teng fela fa go na le madi a mantsi le fa e le mekete)

- A o ka tlhalosa gore ke eng dijo tsê di le teng fela nako e ngwe le ngwe?

Interview number:	
Name:	
Place:	
Address:	
Date:	

1. What kind of food do you have in your house at this moment?

--

2. May I ask how much money you get per month?

--

2.a) When do you get the money?

--

3. Does any other household member earn/get money?

Yes	
No	

If 'yes':

Family member	3.a) Can you tell me how much this person gets?	3.b) When does s/he get money?

Other comments

--

4. Who of the people that live in this household or in this yard contribute to the household resources? Please specify in which ways!

Person:	Contribution:

Other comments:

--

5. Does your family pay rent?

Yes	x
No	

If 'yes':

5.a) Who pays the rent?

--

5.b) How much is it?

--

6. Does your family pay electricity?

YES	
No	

If 'yes':

6.a) Who pays the electricity?

--

6.b) How much is it?

--

7. Do family or friends that live on other stands on this farm support your household? Please specify in which ways! No

Person:	Contribution:

Other comments:

--

8. Do family or friends that live on another farm or in town support your household? Please specify in which ways! Yes

Person:	Contribution:

Other comments:

--

9. Is there anyone apart from those mentioned above who contributes to household resources?

--

10. Do you support anyone else (outside the household)?

--

11. Does any member of this household have the right to own property as his/her own?

Yes	x
No	

If 'yes':

11.a) What type of property?

11.b) Who looks after it?

11.c) How do you use it?

12. Do you have any savings?

Yes	
No	x

If 'yes':

12.a) Where do you have your savings?

13. Who is the head of the household?

14. Why is this person the head of the household?

15. Does this person also make the decisions in the house?

If 'No':

15.a) Who makes decisions most of the time?

16. Who decides what kind and how much food is bought?

17. Who decides if larger purchases are bought?

18. If you were in charge, would you decide differently on some of these resources/purchases?

Yes	
No	

If 'yes':

18.a) Can you explain how?

19. Whose responsibility is it to look after the children in this household, like giving them food, looking after them etc.?

--

20. Who else is looking after the children, if that person is not here?

--

21. How often does this happen?

--

22. How many times during the day do you usually eat?

--

23. How many times during the day do your children/the children in this household usually eat?

--

24. Are you ever worried that there will be no food for the next day?

YES	
No	

If 'yes':

24.a) What makes you worry?

--

25. Are there sometimes problems to get food or certain kinds of food?

Yes	x
No	

If 'yes':

25.a) What are the problems?

--

26. Do you feel that there is sometimes not enough food for your children/the children in this household?

:

26.a) Can you say

Yes	
No	x

If 'yes' how often or usually when this happens?

--

Yes	
-----	--

27. Does it sometimes happen that you go without food?

No	x
----	---

If 'yes':

27.a) Can you say how often or usually when this happens?

--

28. Do you think your children/the children in this household should get certain kinds of food or something to drink more often?

Yes	
No	

If 'yes':

28.a) Can you say what kinds of food or something to drink?

--

29. Are there foods or something to drink that you would prefer to eat more often?

Yes	x
No	

If 'yes':

29.a) What kinds of food?

--

30. If you have problems getting food, what will you do first of all to solve this problem?

--

31. Who are the people you can go to if you are hungry and if you don't have food?

--

32. To whom are you willing to give food on a regular basis if they come and ask for it?

--

33. Does it happen that you exchange food or other items with other people without asking for help?

Yes	
No	x

If 'yes':

33.a) What are the things you do exchange?

--

33.b) How often does it happen?

--

34. Is there anything that we have forgotten, that is important to you and that you would like to mention?

Interview number:

name:

in:

date:

HOUSEHOLD FOOD INVENTORY

- Where do you store your food? *(say that you are interested to see where they store their food, may refer to something you see in the house, e.g. tin box, buckets)*

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Don't know	7

Other:

- What kind of food do you have in your house at this moment? *(if they show you ask if you can may write down the food items, if they don't show just write down and ask follow up questions 'anything else')*

- What kind of food and something to drink do you always or most of the times have in your house?

- Can you say why you have these kinds of food most of the time in the house?

- *What kind of food and something to drink do you have only sometimes or seldom in the house?* *(refers to different types of food on weekend, special occasions etc)*

- Can you say why you have these kinds of food only sometimes or seldom?

ANNEXTURE D

OBSERVATION SHEET

Interview number:

name:

in:

at:

OBSERVATION SCHEDULE

• Type of house: Brick house Traditional house Shack other:

• Amount of rooms:

• Commodities of household:

	Yes	No
Radio		
Hi-Fi		
TV		
Iron		
Kettle		
Stove		

	Yes	No
Refrigerator		
Freezer		
Cell-phone		
Motorcycle		
Car		
Bicycle		

Other:

• Setting/conditions outside the house (e.g. yard, fences, plants & flowers):

• Setting/conditions inside the house (e.g. furniture, type of floor, tidiness):

• Atmosphere during the interview (e.g. personalities of interviewees, experienced dynamics and tensions in hh, specific characteristics)