FOOD DESERTS AND HOUSEHOLD FOOD INSECURITY IN THE INFORMAL SETTLEMENTS OF WINDHOEK, NAMIBIA

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Declaration

I hereby declare that this submission is my own work and effort and that it has not been submitted anywhere for any award. Where others contribution and sources of information have been used, they have been duly acknowledged.

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Abstract

Rapid urbanization and rising urban poverty characterize much of Sub-Saharan Africa in the 21st Century. Africa's urban transition provides the context within which this thesis examines the causes and consequences of poverty and food insecurity in the growing informal settlements of Windhoek, Namibia. Rapid urbanization in Windhoek has been accompanied by limited industrialization with few job opportunities in the formal employment sector. Moreover, the informal sector has not been able to absorb the ever rising volume of migrants from the rural areas, increasing urban poverty and food insecurity among the most vulnerable group in the urban environment: female-centred households in informal settlements. The informal settlements in Windhoek are an ideal site in which to examine the struggle for food security and other basic needs by poor women. Despite the accumulated literature on the food security of female-centred households, much of this work has focused on the rural sector and has paid little attention to the contribution of women to food security in the urban areas, and the strategies they adopt to eke out a living. This study combines qualitative and quantitative research methods in order to understand the factors that determine the food security status of female-centred households and to explore their strategies to access food and build resilience to food insecurity. Firstly, the thesis demonstrates that female-centred households in the informal settlements are poorer and more food insecure than all other types of household. Secondly, these households source food from a variety of sources including supermarkets, the informal food economy and rural-urban food transfers. Urban agriculture is completely unimportant as a food source. Thirdly, formal food sources such as supermarkets may offer cheaper quality food but they are located too far from the informal settlements for regular use. Fourthly, female-centred households rely heavily on the informal food sources, both as consumers and as a source of income for their own households. The informal food economy is dominated by women who find it extremely difficult to access formal sector jobs. Fifthly, food borrowing, sharing of food with neighbours and consumption of food provided by neighbours are increasingly important food sources in coping with food shortages. This thesis also addresses the broader question of whether the informal settlements of this African city qualify as "food deserts" and whether this concept (developed to describe inner-city neighbourhoods in Europe and North America) helps to shed light on the food security situation in Namibia. The thesis concludes that the concept needs to be redefined to be appropriate to African realities. The fundamental problem in the African city is not lack of spatial access to formal sector outlets such as supermarkets. Supermarkets are distant but the informal economy ensures that sufficient and diverse food is available in the informal settlements. In Windhoek's food deserts, as one respondent noted, the problem is not food but income.

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"If I have seen further it is by standing on the shoulders of giants"
(Newton's letter to Hooke, February 5, 1676)

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CHAPTER ONE

INTRODUCTION

"I was born in northern Namibia, in Omusati region and moved to Windhoek in 1992 just after independence. I had always wished to come to Windhoek to escape political torture, poverty and economic hardship in the village. Living in Windhoek is a challenge, I know what it means to suffer. My children and I live in this two-bedroom *kabashu* [corrugated-iron shack] and there is a small kitchen/lounge. We obtain water from a communal tap and there are five communal toilets which are hardly functioning and not safe for the children and a makeshift shower. I do not have a job to date but I do get by with the little I make from selling *okapana* (grilled/fried meat), dried spinach, *eembe* [dried berries] *mahangu* [millet flour] and sorghum flour at construction sites. But with the children, I could no longer sell far from the house as they needed constant care. Shops like Shoprite and WoermannBrock are far and people here buy from us local street vendors, but a day may go by without customers, because we are now many who are doing this kind of business. But I don't stop selling, I have to struggle. I have to pay school fees, transport, paraffin, water and with the food it is an everyday struggle. I mainly buy food from Shoprite, but because we do not have electricity here, I do not buy fresh food such as vegetables, fruits and fresh fish and when I do we consume it immediately. I store the meat for the business with someone who has a generator but I have to pay a little fee on a monthly basis for that. Some of the products which I sell I get from my family and friends in the north and nowadays they are also sold in the open market. I also buy from there for re-selling here in Havana. When I go to visit in the north I also receive some *mahangu*, beans and dried spinach from family members, but not always and not in huge quantities, as they are affected by the lack of rain and the yield is no longer sufficient. In return, people in the village want to receive something. In our house we do not starve but we do go hungry at times. In most cases we do not eat the kind of food we want- such as nutritious food, but we constantly consume *oshifima, oshifima* every day! [porridge made from maize or sorghum]. At times we have nothing to eat and have no choice but to beg from neighbours for some ingredients. When I used to sell cooked offal we would consume the remains, but that was also not good for business. Some households here even borrow food and some send children to other households to share meals with them. You cannot send these kids away because tomorrow it will be yours. I have tried to make a garden to grow spinach on that small patch but either people steal it at night or the water bill increases, the soil is also rocky. Life is tough here in the informal settlement, food prices are increasing daily."[1]

[1] Interview with Mkwaanyoka (not her real name), Windhoek, 2 June 2012.

1.1. Introduction

Mkwaanyoka *is* a 38 year-old female head of household with three children and a nephew who lives in the Havana informal settlement on the northwestern side of Windhoek. Havana exhibits all of the typical characteristics of Windhoek's informal settlements, including extreme poverty and inequality, informal housing structures, poor sanitation, and an absence of essential services. As Mkwaanyoka notes, there is no water, electricity or toilet in her home. Water is obtained from a communal tap, the five communal toilets are "hardly functioning" and the absence of electricity and refrigeration means that fresh food has to be eaten as soon as it is bought.

The qualitative research component of this study provided many such accounts of life in Windhoek's informal settlements. These narratives are drawn on extensively throughout this thesis, both as sources of evidence and to illustrate particular themes that emerged from the complementary quantitative survey research I undertook. Mkwaanyoka's account is also valuable because it draws attention to the key themes and questions that are addressed in this thesis. The first major theme concerns the nature and drivers of Namibia's post-independence urban transition. Like many Namibians, Mkwaanyoka is caught up in broader process of rapid urbanization and social change which is transforming the country from a predominantly rural to a predominantly urban society. This urban transition is irreversible but raises important questions about the quality of life and means of survival of new urban dwellers in the country's growing urban centres.

Mkwaanyoka joined the movement of rural Namibians to the city right after independence as a 17 year old. She did so "to escape political torture, poverty and economic hardship." While political torture ended with the collapse of the illegal South African occupation of Namibia (Leys and Saul, 1995), poverty and economic hardship did not. In the rural areas, population pressure, land degradation and increasing rural poverty combined to destroy rural livelihoods, forcing many to seek a livelihood in the urban areas. While she "had always wished to come to Windhoek", independence in 1990, and the final end of internal controls on movement, made that possible. Mkwaanyoka was just one of the tens of thousands of young Namibians, male and female, who left the countryside and moved to Windhoek in the years after independence. In her 20 years in the city, Mkwaanyoka has never managed to obtain a formal sector job. Yet she has stayed there rather than returning to the rural areas. While she clearly maintain links with her rural "home" in the north, she has no intention of going back. Life in Windhoek, although hard, is preferable to life in the rural north.

The second question raised by Mkwaanyoka's account addressed in this thesis concerns the nature of informality and the informal food economy in the contemporary African city. A number of scholars have noted that informality is not a passing phase but a permanent condition for growing numbers of residents of African cities (Abdelghani, 2005). Every aspect of Mkwaanyoka's life in Windhoek is defined by informality. Not only does she live in an informal dwelling in an informal settlement but all of her decisions and activities are framed by Windhoek's expanding and highly competitive informal economy: As she notes,

"life is an everyday struggle." Her narrative describes the activities of a typical day in the informal food economy and the intense competition she faces: "A day may go by without customers, because we are now many who are doing this kind of business. But I don't stop selling." Her competitiveness and income potential is constrained by her gender role as a female household head, however. For example, she cannot go to more distant construction sites to sell food to construction crews because she has children to care for at home.

The third question of relevance concerns the levels of urban food insecurity in Windhoek's informal settlements. "In our house" says Mkwaanyoka "we do not starve but we do go hungry at times… at times we have nothing to eat and have no choice but to beg." There is no shortage of food in Windhoek but that does not mean it is accessible for poor female-headed households with low and erratic incomes like Mkwaanyoka's. Consumption is also characterized by poor dietary diversity and food that is rich in carbohydrates, fat and sugar. The diet is poor and monotonous: "In most cases we do not eat the kind of food we want- such as nutritious food, but we constantly consume *oshifima, oshifima* every day!" As this thesis will demonstrate, female-centred households in the informal settlements of Windhoek are not only severely food insecure, they are worse off than all other types of household, including female-centred-households in more formal areas of the city. This thesis attempts to capture both the subjective experience of food insecurity through personal narratives and the objective reality of food insecurity using a household survey and rigorous quantitative indicators.

The fourth question concerns the food procurement strategies of poor female-centred households in the informal settlements. All of these are mentioned, directly or indirectly, by Mkwaanyoka. Within the city, she purchases food (for consumption and re-sale) from supermarkets, open markets and other informal vendors. When the household has no food at all, it consumes food purchased for sale and draws on informal social protection mechanisms such as food borrowing and meal sharing. Urban agriculture, which is often advocated as the solution to food insecurity in African cities, is of little help (Crush *et al.,* 2011b). As she said: "I have tried to make a garden to grow spinach on that small patch but either people steal it at night or the water bill increases, the soil is also rocky." Previous research has shown that informal rural-urban food transfers are particularly important for poor households in Windhoek (Frayne, 2004:503; Frayne, 2010). Mkwaanyoka confirms that "some of the products which I sell I get from my family and friends in the north and nowadays they are also sold in the open market. I also buy from there for re-selling here in Havana. When I go to visit in the north I also receive some *mahangu*, beans and dried spinach from family members, but not always and not in huge quantities, as they are affected by the lack of rain and the yield is no longer sufficient." Her account draws attention to the fact that informal food transfers are not simply for household consumption but also enter the informal food economy. She also suggests that the supply of food from the rural north is being affected by drought and declining yields.

Finally, there is growing evidence that agribusiness and supermarket supply chains are playing an increasingly important role in the organization of the urban food supply in

Southern African cities, including in the poorer areas. Mkwaanyoka mentions two supermarket corporations (the South African-owned Shoprite and the Namibian-owned Woermann Brock). Both are too far away for many Havana consumers, opening up a market niche for the informal food vendor. There is a large literature in Europe and North America on the phenomenon of urban 'food deserts' (poorer areas of the city with limited access to supermarkets and therefore characterized by extremely poor dietary quality and diversity). Battersby (2012) argues that in Africa the concept of the food desert would need to take account of the central role of the informal food economy. This thesis discusses whether Windhoek's informal settlements classify as 'food deserts' and also aims to contribute to the emerging debate on food deserts in African cities.

1.2. Background to the Research Problem

The world population is projected to increase by 2.5 billion from 6.7 billion to 9.2 billion between 2007 and 2050 (UN, 2008), with ever larger proportions living in urban areas. For the first time in history, the urban share of the world's population reached more than 50% in 2008. The total urban population is expected to reach 86% in developed counties and 66% in developing countries by 2050. Globally, the urban population will be 70% by mid-century (UN, 2008:2; UN, 2009:2) or about 6.4 billion urban dwellers. While many developed countries have already surpassed 70%, urban populations in developing countries are generally below 50%, except in Latin America and the Caribbean where the levels have reached nearly 80% (UN, 2008). The Global South as a whole is currently less

urbanized, but is experiencing the most rapid rates of urbanization, 5% in Sub-Saharan Africa, 4% in Asia and the Pacific and 3.3% in North Africa (Tettey, 2005; UN, 2008).

In Africa, the overall level of urbanization is still relatively low although the continent is experiencing a rapid increase in its urban population (Crush *et al*., 2007; UN, 2008). In 2007, Africa's urban population was estimated at 39% of the total, a figure expected to reach nearly 60% by 2020 (UNFPA, 2007) and 80% by 2030 (UN 2006). The phenomenon of rapid urbanization is spatially uneven: more than half (57%) of Southern Africa's population is already urban, compared with 42% in West Africa and only 22% in East Africa (FAO, 2008). The unprecedented re-distribution of population from rural to urban areas across Sub-Saharan Africa has been accompanied by significant growth in urban poverty (Garrett, 2000; Satterthwaite, 2005; Ravallion, 2007). Of the estimated 3.49 billion people now living in urban areas across the globe, more than half (51%) live in slums (UN Habitat, 2010/2011). In urban Africa, the majority of the urban population (62%) lives in slums, a number projected to reach 400 million by 2020 (UN Habitat, 2007). Although residents in the cities benefit from the "urban advantage", the cities are increasingly becoming epicentres of poverty (Potts and Mutambirwa, 1998; UN Habitat, 2010/2011). Nevertheless, people continue to move to urban areas where they confront the stark realities of lack of shelter, transport, ability to acquire basic services, poverty and food insecurity.

Rapid urbanization in Southern Africa is driven by a combination of rural-urban migration, natural increase, the reclassification of rural areas and international migration (White *et al*., 2008; Potts, 2006; Crush *et al*., 2007). Namibia is urbanising at a rapid rate (Pendleton, Nickanor and Pomuti, 2012). The 2011 Census indicates that over 800,000 people (or 42% of the national population) now live in urban areas (up from 33% in 2001) (Government of Namibia, 2012). The capital city of Windhoek is the major focus of urbanization although all of the country's urban centres are increasing in size. Windhoek's urban and peri-urban population increased from 235,500 in 2001 to 340,900 in 2011 (an annual growth rate of 5%). The city has 16.2% of the national population (up from 13.7% in 2001) and 36% of the total urban population. The next four towns in the urban hierarchy are considerably smaller in size: Rundu (61,900), Walvis Bay (61,300), Swakopmund (44,700) and Oshakati (35,600).

The main driver of Namibia's urban transition is rural to urban migration (Frayne and Pendleton, 2002; Pendleton, 2005; Mufune *et al*., 2008; Niikondo, 2010). In 2001, about 60% of the population of Windhoek population were migrants (i.e. they were not born in the city). In the African Food Security Urban Network's (AFSUN) 2008 survey of poor neighbourhoods in Windhoek, only 11% of households were non-migrant (i.e. every household member was born in the city), a trend similar to other 11 SADC cities (Crush, 2012:8). As many as 49% were migrant households (i.e. every household member was born outside the city). Although rapid urbanization through in-migration is occurring across Africa, a number of factors within Namibia have accelerated the process. First,

Namibia was one of the last African countries to achieve independence. The post–independence relaxation of all formal and informal constraints on movement has therefore only taken place in the last two decades in Namibia (Pendleton and Frayne, 2000). Second, "push factors" in the rural areas (including environmental degradation, population pressure, declining agricultural production, rural poverty, food insecurity and HIV/AIDS) have induced more and more people to move to the urban centres of the country (Pendleton and Frayne, 2000). Third, although people leave the rural areas for a variety of reasons, the primary factor determining rural–urban migration is the "pull" of better economic conditions and income-generating opportunities in the towns and cities (Pendleton and Frayne, 2000; Mufune *et al.*, 2008; Niikondo, 2010). Namibia's urban areas, and Windhoek in particular, offer the hope of improved livelihoods for migrants as well as their rural households.

Namibia's rapid urban transition is characterised by four major changes to the country's urban landscape which are of particular relevance to this thesis. First, the urban areas of the country are experiencing growing unemployment and urban poverty. Unemployment has consistently been on the rise in the urban areas of Namibia: it was 23.8% in 1997; 24% in 2000; 22.8% in 2004 and 28.3% in 2012 (Namibia Statistics Agency, 2012). The 2008 Namibia Labour Force Survey recorded an unemployment rate of 36.4% but this figure has been disputed on methodological grounds (Mufune, 2013:23). Mwinga (2012) notes that even during periods of economic growth, employment opportunities did not outpace the growth in unemployed people. Not only is urban unemployment increasing but it is higher

amongst females (33% in 2012). As many as 61% of women living in the informal settlements of Windhoek are unemployed (Jauch *et al*., 2011). As many as 74% of urban households depend on employment and wages as their main source of income. High and rising unemployment therefore has negative implications for survival and food security among urban households (Namibia Statistics Agency, 2012).

Various income-based measures have been used to determine the extent of urban poverty in Namibia (Pendleton, Nickanor and Pomuti, 2012). The 2003-4 Namibian Household Income and Expenditure Survey (HIES) used three Cost of Basic Needs income poverty lines (Central Bureau of Statistics, 2006). The first was the food poverty line which was based on the cost of a food basket enabling households to meet a minimum nutritional requirement (of 2,100 Kcal); a value of N$127 per capita per month. The other two added in costs of basic non-food items to define a “severely poor” poverty line of N$185 per capita per month and a "poor" poverty line of N$262 per capita per month results yielded by this method. Using these measures, the HIES found that 28% of Namibian households were poor and that half of these were severely poor (14% of the total). Based on household income for the previous month, the AFSUN survey found that 33% of surveyed Windhoek households had monthly incomes of less than N$1,900 (about US$2/person/day) (Pendleton, Nickanor and Pomuti, 2012).

The second major change accompanying the post-independence urban transition in Namibia is a shift in the gendered nature of urbanization and the urban population. As

Chapter 3 shows, urbanization during the colonial period was male-dominated as a result of colonial and rural patriarchal constraints on women's mobility. Contemporary migration patterns are no longer male-dominated but involve a significant proportion of women who are migrating independently. In 2001, the female population of Windhoek was 123,613 (or 49% of the total). By 2011, the number had reached 171,100 (or nearly 51% of the total). In the urban areas of Namibia and Windhoek, women therefore now outnumber men and the proportion of female-centred households has also increased significantly (Pendleton, 2006:7). Poor households headed by women are a growing feature of Windhoek life. These households have dependent children, relatives and/or friends, but do not have spouses or conjugal partners. Surveys of the Katutura area of Windhoek found that female-centred households made up 25% of the total in 1991 and 28% in 2000 (Pendleton and Frayne, 2000). The 2008 Windhoek AFSUN survey recorded 34% female-centred households, suggesting that the growth of female headship has continued over time (Pendleton, Nickanor and Pomuti, 2012). Twenty nine percent of households were male-centred, 16% were nuclear households and 22% were extended family households.

The third major post-independence transformation in Namibia's urban areas is the growth in informality. The two clearest indicators of this are the rapid expansion in the number and size of informal settlements and the growing informal economy. The uncontrolled, unauthorized and unplanned occupation of urban land by unemployed rural-urban migrants continues to grow on the periphery of Windhoek. Non-adherence to land-use and building regulations by the urban poor are characteristic of these informal settlements. In

2001, 13,500 households with more than 48,000 people were estimated to be living in shacks (National Planning Commission, 2001). By 2011, this population is estimated to have risen to nearly 114,000, with informal settlements growing at a rate of 9% per annum (City of Windhoek, 2012). The 2001 Census indicated that more than a third (38%) of the total population (233,000) of Windhoek lived in constituencies with informal settlements. By now, the figure may be as high as 50%.

Namibia's labour market is characterised by a distinct formal employment sector and an informal sector. The informal sector's contribution to the national economy is small and dominated by trade and retailing. Despite this, it provides jobs and incomes for up to 80,000 people. The 2008 Labour Force survey indicated that 53% of the operators in the informal sector had no employees other than unpaid family workers and business partners, reflecting the limited potential for employment creation. In urban areas, income disparities were also observed between the formal and informal sectors, while only 7% of formal employees earned between N$1 and N$599 per month, as many as 43% earned in this range (Namibia Statistics Agency, 2012). The 2009/2010 HIES found that the informal economy is dominated by women.

The final shift accompanying rapid urbanisation in Namibia has been a major change in the nature of urban food system. The rapid growth in urban populations has provided new mass markets for food retailers. More and more food consumed in the urban areas is purchased from the modern retail economy. This economy is controlled by South-African

owned supermarkets which lie at the end point of integrated food supply chains which extend beyond the borders of Namibia. In Namibia, 95% of the food consumed is imported, mainly from South Africa (National Food Security and Nutrition Council, 2007), and is distributed to the general public through the supermarket outlets. In a study on supermarkets in Namibia, Botswana and Zambia, Emongor (2009) found that 80% of all processed food, 100% of temperate fruit, and 70-100% of tropical fruit sold in Namibian supermarkets were sourced from South Africa, whereas 80% of fresh vegetables were sourced from local farmers. Shoprite (with its brands Shoprite, Checkers, OK Foods and U-Save) predominates in Namibia, with over 65 stores and an estimated sale of over US$ 121 million in 2007. Spar takes second place with 26 outlets and an estimated sale of over US$29 million in 2007. Pick 'n Pay and Woermann Brock (originally with a mother company in Hamburg but now Namibian-owned) have 15 outlets each in the country (Crush and Frayne, 2011b:788). Windhoek is served primarily by the following food supermarkets: 15 Shoprite, 11 Woermann Brock, 5 Spar, 4 Pick 'n Pay, 2 Fruit and Veg and 1 Woolworths outlets (Crush and Frayne, 2011b:788). What is unknown is what impact, if any, supermarketisation is having on the urban poor of the city and how it is impacting on the informal food economy and the food security of poor households.

1.3. Statement of the Research Question

The general research problem addressed in this thesis is how the four processes associated with Namibia's post-independence urban transition (high unemployment and urban

poverty; the feminization of rural-urban migration; the growth of informality; and the transformation of the urban food supply system) impact upon the food security of one of the most vulnerable populations in the city of Windhoek: female-centred households in informal settlements. In 2008, I directed the implementation of the African Food Security Urban Network (AFSUN)'s urban food security baseline survey in Windhoek. Subsequent analysis of the data yielded a number of key findings and conclusions that suggested that the type of household had a significant impact on the levels of food insecurity of household members (Pendleton, Nickanor and Pomuti, 2012). There were clearly many other variables that affected household food security (Frayne *et al*., 2010). The other major finding was that most poor households purchased the majority of their food, engaged in multiple income-generating strategies and obtained their food from a variety of sources. This thesis examines the food security strategies of households and relates them to the rigorous quantitative measurement of household food insecurity and the qualitative experience and situation of female-centred households.

The basic research question addressed in my research was whether and why female-centred households in these areas are more vulnerable to food insecurity, what food sourcing strategies they adopt and how they try and deal with food insecurity in this harsh urban environment. This thesis therefore aims to explore the factors that mitigate and worsen food insecurity in the female-centred household. In answering the research question, this study attempts to explore the activities that women undertake in the process

of securing food and how these strategies contribute to their households' status of being food secure or food insecure in the informal settlements of Windhoek.

The specific research objectives of the thesis are:

- To examine the levels and experience of food insecurity in female-centred households in the informal settlements of Windhoek,
- To explore activities that female-centred households undertake to procure food for their households in Windhoek,
- To examine the coping strategies that female-centred households employ to increase household resilience to food insecurity,
- To make recommendations for further research aimed at addressing urban food security in informal urban settlements in Namibia.

The thesis aims to make a contribution to broader scholarship in two main areas. First, the thesis aims to make a contribution to the new literature on the crisis of urban food security under conditions of rapid urbanization in Africa by focusing attention on the experience of a sub-set of the new urban poor who are suffering the worst effects of the crisis. Second, the thesis intends to contribute to the general study of urban 'food deserts' in the food security literature. The concept of 'food deserts' as developed in Europe and North America has some relevance to the African city but it needs to be rethought and reconceptualised to have any real value in exploring the determinants of food insecurity in the contemporary African city.

1.4. Organization of the Thesis

The remainder of this study consists of eight chapters. Chapter Two discusses the relevant empirical, theoretical and conceptual scholarly literature upon which this study is based. Chapter Three presents an overview of the country's urban history and post-independence urban transition and in particular the movement of women to urban centres in the country. Chapter Four discusses and justifies the complementary quantitative and qualitative research methodology used in this study. The remaining chapters analyse the results of the research. Chapter Five examines the nature and severity of poverty among female-centred households in the informal settlements. Chapter Six discusses the levels of food insecurity in Windhoek's informal settlements with a particular focus on female-centred households. Chapter Seven examines how these households obtain food in the impoverished urban environment on Windhoek. Chapter Eight describes the different coping strategies employed by poor female-centred households and demonstrates how they remain resilient to food insecurity in the challenging urban environment. Chapter Nine draws particular and general conclusions and makes recommendations for further research.

CHAPTER TWO
URBAN FOOD SECURITY LITERATURE REVIEW

"Life here in town is merciless especially in the informal settlements. You are stripped of your dignity. When you are hungry you don't think straight"[2]

2.1. Introduction

The contemporary concept of food security began to take shape after the Hot Springs Conference of the Food and Agriculture (FAO) in the United States of America in 1934 (Weingartner, 2004). Subsequent debates culminated in the recognition of the right to food as a core element of an adequate standard of living in the Universal Declaration of Human Rights in 1948 (Article 25, the right to food) (De Schutter, 2010; Maxwell and Smith 1992). In 1963, the World Food Programme (WFP) was established (Clay, 2002). Thereafter, food security began increasingly to appear as an issue in international development work (Von Braun *et al*., 1992). However, it was not until the mid-1970s that food security issues began to receive serious research attention at a time of severe famine, food shortages and a dramatic increase in global food prices (Maxwell, 1996).

In the 1970s and 1980s, the solution to food insecurity for the poor in Africa was seen to lie in greatly increased agricultural production and rural development (Low, 1988; Bembridge, 1986). This line of thinking was affected by the apparent success of the 'Green Revolution' in Asia and codified at the 1974 World Food Conference which defined food

[2] FGD No 6, 7de and 8de Laan, Khomasdal North, 27 February 2010.

security as the 'availability at all times of adequate world food supplies of basic foodstuffs….to sustain a steady expansion of food consumption…..and to offset fluctuations in production and prices' (UN, 1975). Inadequate food production was seen as the major cause of food insecurity and led to considerable investments in smallholder agriculture in Africa in order to increase food supplies (Frankenberger, 1992). However, despite the focus on increasing food production, the number of undernourished people in Sub-Saharan Africa rose from 170 million in 1990/1992 to 234 million in 2010/2012 (FAO, 2012). The failure of the post-independence rural development project in Africa led many international organizations, governments and researchers to refocus their attention away from the rural areas. In the 1990s a new body of research began to emerge on urban food security and urban food systems in Africa. However, scholarly and policy interest in the implications of rapid urbanization for urban and rural food security in Africa soon diminished. In the last decade, driven by international organizations and western donors, the idea has resurfaced that Africa needs a Green Revolution focused on improving the production and productivity of small farmers. This view has become so dominant that the urban food challenge has become almost completely sidelined in research and policy agendas in large parts of Africa.

This chapter explores some of the reasons for the pendulum swing from the rural to the urban and back again to the rural in food security thinking. It argues that the issue of urban food insecurity is not given the attention it deserves in a continent undergoing an unprecedented transition away from a rural past towards an urban future. Extensive

research on food security in the North has not shied away from the urban, mainly because the vast majority of people actually live in cities. This raises the question of whether any of the concepts and methodologies developed in that context are appropriate to Africa. Battersby (2012) has recently suggested that the applicability of the urban 'food desert' concept warrants examination in the African context. One of the purposes of this thesis is to assess whether it is helpful to classify Windhoek's informal settlements as 'food deserts.' This chapter therefore provides a discussion of the background and nature of this concept as developed in the North and suggests that it needs redefining to accommodate the realities of urbanization and urban life in the South.

2.2. Changing Approaches to Food Security in Africa

In the 1970s, research on food security was mostly concerned with global or national food supply and shortages (Gilbert and Gugler, 1992; Atkinson, 1995). However, the work of Indian economist Amartya Sen completely redefined general approaches to food security. Sen observed that that even during the severe famine of Bengal in 1943, enough food was available, but people did not have the means to access it. Food prices were exorbitant and households lacked any "entitlement" to access food. Sen termed this an *entitlement failure.* In his analysis, a household suffers a failure of entitlement when their entitlement set (those resources the legally own such as land, equipment, labour power, membership of a particular community) does not contain enough food to enable them to avoid starvation or if any changes occur in their endowment set (such as loss of labour, ill health or in their

exchange entitlement such as a reduction in wages, rise in food prices, loss of employment or a drop in the prices of food which one produces).

Rather than food insecurity being the simple result of insufficient agricultural production, Sen's approach viewed poverty as the primary cause of food insecurity through people's inability to gain access to sufficient food. In his seminal book *Poverty and Famines: An Essay on Entitlement and Deprivation*, Sen wrote that 'a person starves either because he does not have the ability to command enough food or because he does not use this ability to avoid starvation through the legal means available in the society' (Sen, 1981:45). Putting aside the gender bias of Sen's statement, he noted that food security was only partially related to 'what one grows'. Equally important was 'what one buys', 'what one earns' and 'what one is given' (Sen 1981). This means that a range of socio-economic factors determine access to food: '*starvation* is the characteristics of some people *not having* enough food to eat. It is not the characteristics of there *being* not enough food to eat. While the latter can be a cause of the former, it is but one of many *possible* causes" (Sen, 1981:1).

Sen's theory challenged the idea that rural development and increased food production would inevitably lead to greater food security for all. His emphasis on the causes of vulnerability to poverty and food insecurity led to a much greater focus on households and individuals, where questions of food accessibility and entitlement could be better understood and addressed. His articulation of a more complex, and realistic, understanding

of food insecurity as well as his methodological focus on the household were major contributions.

Entitlement theory has been criticized by several scholars (see Devereux, 2001). De Waal (1990), for example, notes that the theory is ahistorical and does not take into account the historical processes which lead to vulnerability to food insecurity. Households confronting famine in Africa are also not the passive victims portrayed by Sen; they resist impoverishment and hunger with vigour and skill. When entitlements decline, for example, they adapt by reducing their demand for food or buying low quality food of less variety. Finally, many of the entitlements are informal and do not fall within the legal framework proposed by Sen. It is these informal entitlements which are crucial when household food security declines (Frayne, 2001; Swift and Hamilton, 2001). Despite such criticisms, Sen's influence on the general understanding and analysis of food security is clear.

By the 1990s, for example, food security was being viewed as a far more complex phenomenon with multiple dimensions (Maxwell and Smith, 1992). This was reflected in the 1996 Rome Declaration on Food Security which has become the standard definition of food security. The Declaration defined food security as:

> A situation in which 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 healthy life (FAO, 1996).

Importantly, this concept of food security put access to food at the centre and also made reference to the quality of food consumed ('sufficient, safe and nutritious') and people's

cultural and other food preferences. This quickly led to the idea that food security was not only about how much food was produced or available but also whether it was accessible, nutritious and desirable (Kennedy, 2003).

The redefinition of food security opened the way for a new focus on the nature of food security in cities of the Global South where people buy rather than produce most of the food they consume. A prominent contributor to this new attention on urban food security was the geographer David Drakakis-Smith (1991; 1994). He examined various systems of food distribution and the importance of food to the urban households and the urban economy in the South. He compared the production, processing and distributive processes of food and highlighted the underlying factors affecting consumption patterns of urban households. He also pointed out that in urban areas food is accessed through subsistence production (urban agriculture, rural-urban transfers) or from the commercial sector (formal and informal food retailers). While the nature and extent of urban agriculture varied considerably, he argued that there was a need to legally recognize and encourage the urban poor to grow food (Drakakis-Smith, 1991; 1994).

Drakakis-Smith further explored urban food distribution systems by comparing 'conventional retailers' and 'petty commodity retailers' in Harare and noted that although 43% of food purchases were from conventional retailers due to greater choices and competitive prices, a majority of the urban poor purchased their food from petty commodity traders. He predicted that increased urbanization, and growing urban

unemployment, would lead to an expansion of the informal food economy as the formal food supply system would not be able to meet the needs of the urban poor (Drakakis-Smith, 1994:18). Drakakis-Smith's work on urban food systems is now largely forgotten but was very innovative at the time.

Towards the end of 1990s, international research and policy organizations such as the International Development Research Centre (IDRC) and International Food Policy Research Institute (IFPRI) began to develop programmes focused on food production in cities. IDRC conducted a series of studies on urban agriculture, arguing that it was a critical source of food for poor urban residents and could solve the challenge of food insecurity in cities (Egziabher *et al*., 1994; Koc *et al*., 1999; Mougeot, 2005; Mougeot, 2006). In Southern Africa, researchers became strong advocates of policies favouring urban agriculture and critical of municipalities that suppressed it (Drakakis-Smith, 1994; Drakakis-Smith *et al*., 1995; Sheldon, 2003).

IFPRI focused more on understanding broader questions of food insecurity in the city. Ruel *et al.* (1998), for example, attempted to identify and understand the challenges of urban areas with regard to the nature of food, and the factors that determine food availability and accessibility. They proposed a framework that took into account issues of food insecurity, poor health and caregiving practices and concluded that urban food security was determined by a number of factors including sources of food and food prices; income and employment; social protection; sanitation and childhood mortality. Garret and Ruel (1999)

used a model of nutritional determinants and found that in Mozambique the factors that determine food and nutritional security are not much different between urban and rural areas. However they maintained that nutrition interventions applicable to rural areas could not simply be transferred to urban areas as the levels and magnitude of food insecurity were completely different (Garret and Ruel, 1999).

IFPRI also conducted in-depth research on food insecurity on particular African cities, such as Accra, Ghana (Maxwell *et al*., 2000). The study revealed that urban livelihoods are dependent on wage labour; that urban households spend more than 50% of their household budgets on food; that female-centred households involved in petty trading and food vending are more vulnerable to food prices and income shocks and subsequently food insecurity; and that urban agriculture does not play a major role in urban household livelihoods strategies but is important to those living on the city's periphery. In Abidjan and Accra, geographic targeting of small areas in neighbourhoods was used to establish whether malnutrition was confined to low income areas. Targeting specifically avoided using city averages for poverty and malnutrition which can conceal huge inequalities (Morris *et al*., 1999). However, simple geographic targeting is insufficient as variations occur at the household level as well as the community level. IFPRI also devoted attention to methodological questions of how best to measure food insecurity. In an effort to develop appropriate indicators to measure food insecurity at the household level, Maxwell *et al.* (1999) developed sets of questions based on household coping strategies. However,

measuring food insecurity in this way assumes that all households have access to all coping strategies.

Despite the growing literature on urban food security in the 1990s, it made less impact on the policy agenda in Africa. Maxwell (1999) argued that policy-makers were still giving insufficient attention to urban food security for three main reasons: 1) at the city level, urban planners and managers were dealing with more visible problems of unemployment, decaying infrastructure, burgeoning informal sector, housing and deteriorating service delivery; 2) urban managers and policy makers equated urban food insecurity with rural food insecurity and therefore only saw it is an issue when there were seasonal fluctuations in the food supply or when food price increases occurred which affected the majority of people; and 3) urban food insecurity is usually experienced at the household or individual level and so long as food insecurity is a household-level problem and did not translate into a political problem, it did not attract policy attention, except when food riots occurred.

In the early 2000s, even those organizations most closely associated with urban food security in Africa, such as IDRC and IFPRI, abandoned their work on urban areas, closing down research programmes devoted to urban food security. Their food security research and policy programmes became rural in orientation, and part of what Crush and Frayne (2010; 2011a) call the 'new international food security agenda'. They note that a key failure of this agenda is that it ignores food security in the urban context and fails to address how the adoption of rural development and increased agricultural production by smallholders

will alleviate urban poverty and meet urban household food needs, thus making the urban 'all but invisible' (Crush and Frayne, 2011a:530).

International agencies, donors, NGOs and governments now view food security as a rural problem and believe that poverty and the reduction of hunger can be solved through the intensification, promotion and investment in agriculture and rural development. They continually emphasize that the majority of the poor population of Africa lives in the rural areas and so that is where food insecurity is most intense (Crush and Frayne, 2012). They do not look at changes over time which shows that rural populations are growing at much slower rates than urban and that a growing proportion of the population in every single African country is living in cities. Ravallion *et al.* (2007:14), for example, note that during the period 1993-2002 the world's rural poor living on $1 a day fell by 150 million whereas that in the urban areas increased by 50 million.

The new rural food security agenda does not view urbanization as inevitable or irreversible. Rather it is viewed as an extremely negative process that urgently needs to be managed and slowed down. FAO and IFAD make the argument that rural development and increased agricultural production will alleviate rural poverty and reduce rural-urban migration. For example, the President of IFAD recently noted: "If smallholders are excluded from the region's food security response, they will follow a well-trodden path to over-crowded urban areas and abroad. Rural areas will become increasingly depopulated. Food demand will be met by high-input carbon-intensive farms without addressing poverty,

unemployment or greenhouse gas emissions. But by investing in agricultural systems that are inclusive of smallholders we can transform rural. Africa needs vibrant rural areas that offer a variety of enterprises of all sizes, providing employment, income and food security, as well as offering essential environmental services" (IFAD, 2013).

For the last decade, international agencies and donors have argued that Africa's first 'green revolution' failed in the 1970s and 1980s for technocratic reasons and that a second or new green revolution is necessary and feasible. The highest profile example of this argument is the Alliance for a Green Revolution in Africa (AGRA) initiated by Kofi Annan and supported by many governments and philanthropists including the Rockefeller Foundation through the Consultative Group on International Agricultural Research (CGIAR) and the Bill and Melinda Gates Foundation. The main idea of AGRA is that Africa's backbone is small farmer agriculture, and if these farmers are given full support the outcome will be a green revolution as happened earlier in Asia (Dano, 2007); Sanchez *et al*. 2009). AGRA maintains that broad-based increases in small farm agricultural productivity are a precondition to reduce poverty and hunger in Africa and improve living standards. Increased agricultural production will occur through the adoption of improved seeds, chemical pesticides and inorganic fertilizers and the extensive use of crop science knowledge. The idea that Africa can and will experience a Green Revolution is also strongly supported by the World Bank (2008) which advocates a new 'agriculture for development', the FAO and many international donors including Canada, the United States and the UK.

The new rural food security agenda was given added credibility by the 2007/2008 global crisis in food prices. Virtually every African country and consumer was affected because so many countries import food, especially commodities such as wheat (Cohen and Garret, 2010:471). Levels of food insecurity dramatically increased. The response to the impact of the crisis in Africa was not to address the fundamental causes of the price hikes but to argue that Africa needed to insulate itself from global food markets by becoming more self-sufficient. The FAO's 2008 *State of Food Insecurity in the World* argued that this could only be achieved by strengthening small-holder agriculture and social protection (FAO, 2008). Since 2005, the African Food Security Urban Network (AFSUN) has attempted to put the crisis of urban food security in Africa back on the research and policy agenda. Progress has been slow and there are few signs that the pendulum has begun to swing back again towards the urban, as the reality of the crisis demands. This thesis is a small contribution to the effort to re-establish urban food insecurity in the context of rapid urbanization as a critical area of research. The main elements of the AFSUN approach, with which this study is in agreement, are as follows:

- While food security is commonly defined as a situation in which 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 healthy life (FAO, 1996), in practice this definition is ignored by the international food security agenda which focuses only on production and food availability.
- In the urban context, food accessibility is the key determinant of food security and insecurity. Accessibility refers to the ability of households to afford food, their

ability to allocate food and to meet their food preferences. Food accessibility therefore depends on income, the price of food and the location of food outlets. It also implies that there is equal distribution of nutritious food to all members within a household. Urban food insecurity is primarily about the risk factors (loss of a household income, food price increases) associated with the ability of individuals or households to cope with shortfalls.

- The primary sources of food at the urban household level are formal food outlets such as supermarkets and the informal food economy. The urban poor patronise both but for different products and with different frequency. The interaction between formal and informal food economies has important implications for the food security of poor urban households (Crush and Frayne, 2011b).
- Formal and informal social protection such as social grants, borrowing food, sharing food and remittances are growing in importance as means of accessing food in urban areas. While these show great variation they are a precarious alternative food security strategy at household level. Social linkages and informal food chains between rural and urban households fostered by the migration process can also contribute to urban food security (Frayne, 2010; Tawodzera, 2012).
- Access to food in the urban context depends on individual attributes such as gender, age, marital status, as well as household characteristics such as household type. These characteristics are crucial in enabling or constraining means of acquiring food. Women and female-centred households have fewer economic and social options and this make them more vulnerable to food insecurity. Yet they play a

central role in producing food, preparing food and in its distribution including care for children and the elderly (Dodson *et al*., 2012).

The idea that urban agriculture will feed Africa's growing cities is consistent with the production emphasis of the new international food security agenda and its emphasis on small-farmers to grow more food. The AFSUN approach is skeptical about the extent, importance and potential of urban agriculture (Crush *et al*., 2011a).Most writings from a gender and development perspective have focused on female–headed households (Chant, 2003; Buvinic and Gupta; 1997 Stuart, 1996). These works recognize that household heads are not necessarily male and that families can take diverse forms. Most agree that female headed households are disproportionately represented amongst the poor and are more vulnerable to poverty. With regard to food security, most of the emphasis has been on female-headed households in the rural setting. Scholars have shown how large–scale colonial dispossession of productive land led to the impoverishment of rural people forcing adult men to migrate. Male migration intensified the gendered nature of rural farming, with women performing much of the work while usually not enjoying control and ownership of the land and produce (Boserup, 1970). Similarly, customary land tenure systems in Africa are primarily patriarchal and patrilineal and have consistently limited women's access to land. These historical patterns have led to two main threads in the scholarship on contemporary gender and food production. The first explore women's role in and the effects for women of, land reform programs. The second examines gender relations of food production in subsistence or small-scale farming systems. What they share is a

focus on women and food security in a largely rural context. This thesis therefore also attempts to demonstrate the vulnerability of households with female heads to food security in the context of rapid urbanization and growing informal settlements.

2.3. Approaches to Food Security in Namibia

Approaches to food security in Namibia do not seem to follow the general African trend of a 'pendulum' swing from a rural focus to urban and back to rural again. Instead, there have been two main phases of research focus, the first rural (the 1990s) and the second urban (post-2000). However, neither has produced a large body of research. The small number of studies on urban food security in Namibia, primarily by Frayne and Pendleton, provide an important platform for this study. This study seeks to build on and go beyond their research both methodologically and conceptually. Methodologically, the thesis goes beyond earlier analyses by adopting a more rigorous approach to the objective and subjective understanding of the different dimensions of urban food security. Conceptually, this study focuses attention on one of the most vulnerable groups in the urban context and also seeks to see what an analysis of their experience can shed on our understanding of 'food deserts' in the African context.

Food security has been an area of research in Namibia since independence in 1990. Prior to that, the food security literature is limited compared to other countries in the region, mainly because the South African administration restricted critical research in the country

for fear of international exposure (Pendleton, 1996). However, some studies were conducted on the national food supply and the impact of extreme environmental conditions on agricultural production. Cross and Kinsey (1982), for example, compared commercial and subsistence food production and concluded that they were threatened by environmental harshness and economic marginalization. National food production policy was biased towards commercial agriculture. The authors concluded that agricultural development through land reform, agricultural services, marketing, provision of improved seeds, credit facilities, advisory services to new technology and investment were key to improving smallholder production.

In the early 1990s, new food security research began in Namibia but with an exclusive rural focus (Hay *et al*., 1990; NISER, 1992; Government of Namibia, 1993). This was the result of two main features of the immediate post-independence period. First, the new government was a developmental state and prioritized issues such as land reform and redistribution, health, education, community structure, poverty and livelihoods, and inequality and other social problems (Hansohm and Presland, 1998). Researchers became pre-occupied with these post-independence development priorities. Using anthropometric measures (such as wasting, stunting and the Body Mass Index or BMI) and household surveys methodologies, researchers assessed vulnerability to food insecurity in the rural areas of the country (Hay *et al.*, 1990), assessed the health and nutrition of women and children by building models that would explain nutritional status among children, (Cogil and Kiugu, 1990) and used

'problem-centred' approaches to identify the major constraints faced by rural communities (Yaron *et al.*, 1992).

Secondly, the widespread 1992 drought which affected the entire Southern African region severely impacted on small-scale crop farmers, livestock rearers and commercial farmworkers in Namibia. This prompted a research focus on the dynamics of rural survival. Devereux and Naeraa (1996) built on Sen's entitlement approach and suggested that when rural food availability declines through disruption of food production, for example through drought, the poor become vulnerable to food insecurity. People are forced to adopt a variety of coping strategies, especially informal transfers (food, cash, cheap credit), to protect their consumption (Naeraa *et al*., 1993). Strengthening smallholder agriculture was seen as key to increasing agricultural production and reducing rural food insecurity (Vigne and Whiteside, 1997). However, the main impact of the drought on research priorities was to divert the food security focus from the household level to national food production.

Urbanization in post-independence Namibia began to receive attention from scholars in the 1990s. Rapid urbanization and the growth of informal settlements led to a growing policy research focus on urban growth and development and its socio-economic consequences (Frayne, 1992; Devereux *et al*., 1993; Melber, 1996; Pendleton, 1996). The main concern in this literature was not so much the speed with which the cities and towns were growing but the crisis of unemployment and growing urban poverty. A host of urban management challenges were addressed by researchers including housing and environmental problems,

water, sanitation, roads, schools, health and other infrastructure and services concerns. Other issues of importance included rural-urban migration; urban planning, finance, urban land tenure, employment and the informal economy, urban poverty, and urban–rural links (Kotze, 1990; Pendleton and Du Boois, 1990; Fröhlich and Frayne, 1991; Frayne, 1992; Devereux *et al.*, 1993; Hangula, 1993; Tvedten and Mupotola, 1995; Pomuti and Tvedten, 1998; Frayne, 2004; Seibes-Bock, 2004; Simon, 1994; Tvedten, 2004). All of this research on urban poverty and urban livelihoods had a strong policy orientation. However, urban food insecurity remained a neglected subject with little mention of it as a concern to be addressed with other urban challenges.

The work of Bruce Frayne was the first to demonstrate the dimensions and causes of food insecurity in Namibia and especially Windhoek (Frayne, 2004, 2005, 2010). His primary contribution was to show how poor urban households survived in Windhoek because of food remitted from the rural areas through informal and family urban-rural links. However his work says less about other sources in the urban areas from which households, and particularly those with no links to the rural areas, obtain food. This is an important issue given that most households in the urban areas access food from supermarkets and the informal food economy. Furthermore his work showed that despite the increasing number of people and especially women in the informal sector, very few derived income from this source. Frayne drew attention to the importance of food sharing and food borrowing, and the lack of urban agriculture in Windhoek. Methodologically and conceptually, he confirmed the importance in understanding urban food security of focusing on the multi-

spatial household as a unit of analysis. On the other hand, his analysis does not explicitly provide a quantitative methodology for measuring levels of household food insecurity. This thesis builds on the important work of Frayne by using rigorous measurements of food insecurity, focusing in greater depth on the food sourcing strategies of households and providing a more detailed analysis of the vulnerability of female-centred households in informal settlements.

2.4. Conceptualising Food Deserts

'Food deserts' have been defined as "those areas of the inner cities where cheap nutritious food is virtually unobtainable. Car-less residents, unable to reach-out-of-town supermarkets, depend on the corner shop where prices are high, products are processed and fresh fruit and vegetables are poor or non-existent" (Macintyre, 2007). The concept emerged from studies of the UK and North American urban food systems trying to understand the complex and interrelated differential access to food, social inequity and the consumption of foods with negative health consequences in poorer neighbourhoods (Wrigley, 2002:1).

The food deserts literature highlighted the heavy consumption of processed foods (especially those containing high levels of fat, salt or sugar) in inner-city neighbourhoods and the associated growth of obesity and other health related problems. Healthier fresh fruits and vegetables were not easily accessible by poorer urban residents (Donkin *et al.*,

1998; Cummins and Macintyre, 2002; Shaw, 2006; Wrigley, 2002). The inability to access cheap but quality food was seen primarily as a function of geographical proximity to and distance from particular food sources. In other words, the term 'food desert' refers not to the complete absence of food (as the word 'desert' might suggest) but to areas where the only food available is of poor nutritional quality and higher cost.

The primary barrier to accessing healthy food in 'food deserts' is seen as the radical reorganization of the food retail during the 1980s, which corresponded with a decline in small shops in central locations and an increase in large-scale supermarkets (Cummins and Macintyre, 1999). Supermarkets tend to be located in well-serviced, higher-income areas of the city and are not within walking distance of poor urban neighbourhoods (Larsen and Gilliland, 2008; Battersby, 2012). Although they tend to offer lower-cost, higher-quality and a greater variety of healthy food, they are geographically inaccessible to households in poor areas of the city (Zenk, 2005; Larsen and Gilliland, 2008). Residents of 'food deserts' obtain most of their food from small local stores and fast-food outlets where food tends to be more expensive, less diverse and of poorer quality. Thus geographical location and spatial access are key factors in the mapping of urban food deserts.

Several critiques of the 'food deserts' concept have subsequently emerged in Europe and North America. A number of studies have noted that most research on food deserts does not actually measure the quality of food available in the food deserts but simply uses the absence of supermarkets as a proxy (Raja *et al.*, 2008; Zenk *et al.*, 2005), on the assumption

that supermarkets sell fresher and a greater variety of produce than small grocery stores. This is a methodological problem which could easily be addressed. Another methodological critique is the argument that using GIS methods to map spatial inequality in access to supermarkets is a potential problem since travel time and distance are not the only barriers to access; others include social barriers (e.g. crime), other non-social factors (e.g. store operating hours), and individual mobility issues (Zenk *et al*., 2005).

More serious that these methodological points is the criticism that the food desert approach is supermarket-centric, assuming that the presence of supermarkets automatically means improved diets and lower low food prices. However, the evidence suggests that when supermarkets are located closer to poorer urban areas, they can also increase the availability of less nutritious food with high fat and sugar content. In other words, a food desert is not necessarily eliminated by the arrival of a supermarket in an area (Cummins and Macintyre, 2002). Another criticism of the supermarket-centric nature of the food desert argument is that it focuses on full-serviced retailers and fails to include all food retailers (Raja *et al*., 2008). Short *et al*. (2007) argue that it neglects the role of small, full-service retailers that are neither full-supermarkets nor non-mainstream outlets which provide a wide variety of low-cost foods. Their presence within low income areas potentially challenges some of the basic precepts of the food deserts concept (Short *et al*., 2007). The general point about alternative food sources is particularly relevant in the African and Namibian context.

On the basis of work in Cape Town's informal settlements, Battersby (2012) argues that an Africa-centric conceptualization of urban food deserts needs to take into account several features of the spatial and social organization of the African city. Firstly, due to the legacy of segregation and apartheid, the urban poor are geographically located far from sources of basic needs including food. They therefore have to travel long distances to access food from formal retail outlets, which is costly, inconvenient to transport and often unsafe. Windhoek is not in South Africa but because of its long colonial occupation of Namibia, it reproduced many of the same features of the South African city (see Chapter Three). The location of Windhoek's informal settlements and their inaccessibility are therefore definitely attributable to the legacy of segregation and apartheid. Secondly, even when supermarkets are accessible to the urban poor, one of the key things they do not offer is the flexibility of a credit system, which the urban poor often need to be able to acquire food not only when they do not have hard cash to pay for it. Thirdly, although supermarkets are moving closer to low-income areas in many Southern African cities, they tend to be on major transportation routes and not within residential areas. This means that geographical distance is not necessarily a good measure of accessibility. Finally, and most important, poor urban households source a great deal of their food from sources within their own community particularly from the informal food economy.

In many African cities, the informal food economy is a critical element of urban food systems in making food accessible in poor urban neighbourhoods. Informal food markets, corner shops, street food traders, spaza shops are all highly visible in the poor urban areas

of Southern African cities (Wrigley, 2002; Zenk *et al*., 2005; Larsen and Gilliland, 2008; Crush and Frayne, 2011b). Battersby (2012) argues that this is a crucial limitation on applying the Western concept of the 'food desert' to the African city. The work on food deserts in developed countries is limited to retail sources of food and fails to recognize other non-formal market sources of food which are crucial sources in African cities (Short *et al*., 2007; Battersby, 2012).

Does this mean that the concept of the food desert is inapplicable in Namibia? First, it needs to be established that supermarkets are inaccessible to the urban poor in Windhoek's informal settlements. Second, if so, it would need to be established that access to supermarkets improves the dietary quality and diversity of poor urban consumers. And third, we would need to examine the nature and role of the informal food economy in the informal settlements and whether or not it mitigates the features of the food desert "where prices are high, products are processed and fresh fruit and vegetables are poor or non-existent" (Cummins and Macintyre, 2002). This thesis argues that the key feature of food deserts in Namibia is not the lack of supermarket access and a "non-existent" supply of produce that would make diets more nutritious and varied. Instead, the main characteristic of the food desert in cities like Windhoek is inaccessibility. Because of the informal food economy, the food is often there; it is just not accessible. Understanding the reasons for the access dimension of food insecurity is therefore crucial to comprehending the African food desert. A gendered conceptualization of food deserts is also necessary since there is growing evidence that households headed by women face unique food security challenges.

The major dietary characteristics of food deserts in Europe and North America may therefore exist in Namibia but for different reasons.

2.5. Conclusion

This chapter has reviewed shifts over time in approaches to food security in Africa and Namibia, demonstrating that food security research on the broader African context has been characterized by a pendulum swing from rural development and food security in the 1970s and 1980s, to urban food security in the 1990s and back again to rural food security in the last decade. At the present time, research and policy-making around food security is dominated by a focus on rural food supply and smallholder production. In Namibia, in contrast, there have really only been two phases of food security research: the first, following independence in 1990 focused on rural poverty and food insecurity as well as various urban problems (but excluding food insecurity). It is only in the last decade that urban food insecurity has been seen as an important area of research. This thesis builds on this body of work by providing new insights into the nature of food insecurity in the informal settlements of Windhoek and the experience of female-centered households in particular. The chapter also raises the question of whether Windhoek's informal settlements classify as food deserts. This hypothesis is addressed again in the conclusion in the light of the empirical data presented in the chapters that follow.

CHAPTER THREE

NAMIBIA'S URBAN TRANSITION

"Money is what brought us to Windhoek and there is nothing that you do in urban areas which does not cost money"[3]

3.1. Introduction

Namibia's historical and ongoing transition from a predominantly rural to an increasingly urban society is the background to the story told in this thesis. This transition is still in progress but it is important to understand its historical origins and future trajectory. The chapter first traces the history of the country's urbanization process from the colonial period to independence. The history of colonial occupation and economic exploitation largely shaped Namibia's current population distribution, controlling urbanization and creating severe regional inequalities. This historical overview provides a context for understanding the reasons for rapid urbanization in post-independence Namibia and the explosive growth of the capital city, Windhoek.

The emergence, growth and characteristics of the post-independence urban transition are discussed in the second part of this overview chapter. In Windhoek, and other urban areas in the country, various challenges accompanying rapid urbanization are producing a major socio-economic crisis. This crisis impacts negatively on the livelihoods of poor urban households who find it increasingly difficult to access basic services and to feed

[3] FGD No 5, 7de and 8de Laan, Khomasdal North 27 February 2010,

themselves. The city's growth has also been accompanied by the rapid expansion of informal settlements, in which the majority of the urban poor and food insecure live and try to survive.

3.2. A Short History of Namibian Urbanization

The roots of urbanization in Namibia can be traced back to the late nineteenth century and the colonial conquest and occupation by European powers. In 1878 the United Kingdom annexed Walvis Bay harbour on the Namibian coast. In 1883, Adolf Luderitz, a German trader, claimed the rest of the coastal region for Germany and in 1884 the whole country was declared a German protectorate. Between 1804 and 1907, the Herero and Nama people engaged in armed resistance against the German colonial state. The response was swift and brutal: 10 000 Nama (nearly half the population) and over 60 000 Hereros (about 80% of the population) were annihilated in an early example of genocide (Katjavivi, 1988; Marsom, 1995; Adhikaria, 2008). Those that survived suffered severe reprisals including land dispossession and forced labour. The best land in the country was expropriated for German settlers and most local people were confined to "native reserves" (Figure 3.1).

With respect to land dispossession for white settlement (Werner, 1993; Harring and Odendaal, 2002) and the creation of reserves and the establishment of a contract migrant labour system (Moorsom, 1977; Cooper, 1999), the people of Namibia were treated no differently from many other colonized peoples in Southern Africa. Where Namibia differed

was that its colonial German overlords were defeated in the First World War and *Deutsch-Südwestafrika* became a mandate territory. The League of Nations allowed South Africa to remain in control of the territory it had first occupied in 1915 at the outbreak of WW1 (Katjavivi, 1988; Adhikari, 2008). South Africa ruled the renamed South-West Africa for the next 70 years in defiance of UN resolutions and a ruling by the International Court of Justice in 1971 that its occupation of the country was illegal.

Prior to WW1, German control in Namibia was mainly concentrated in the areas south of the Police Zone which is where its administrative structures were established. The Police Zone was created by a decision of the German colonial office (*Reichskolonialamt*) and excluded the Kalahari and the northern parts of contemporary Namibia including Kavango and Caprivi. The areas north and north-east of the Police Zone were left in the hands of traditional authorities (Cooper, 1999:6). The Owamboland area was transferred from Portuguese military control to South African rule in 1915 (Hayes, 1996). Starting in 1919, the South African government put in place new "Native Affairs" administrative structures and took control of Owamboland.

During the 1920s, the South African administration focused on forcing black Namibians into reserves to free land for white settlers. Under the Land Settlement Act of 1920, the South African administration resettled a number of poor whites from South Africa. In 1925-6, over 2,500 Afrikaners were resettled in Namibia. Meanwhile Afrikaner leaders in South Africa founded the National Party of South West Africa in 1924 which gave voting rights

and a degree of self-rule to the Afrikaner Nationalists and naturalized Germans (Adhikari, 2008). South Africa also concluded an agreement with Portugal to demarcate the boundaries between Namibia and Angola in 1926. In 1929 the Administrator resettled hundreds of Angola Boers on some of the best land in the country.

Under German and South Africa rule, various coercive measures were introduced to force local people to work on the country's new mines and commercial farms (Kössler, 2000). Migrants, mainly young males, were recruited on contract and had to return to their rural homes on completion of their contracts. Employers still had difficulties meeting their labour needs and instead of competing with one another and driving wages upwards they eventually established a single recruiting organization to enforce contracts and hold down wages. In 1943 the South West Africa Native Labour Organization (SWANLA) was established to accommodate the rising demand for labour in the mines, farms, fish factories, railway, roads and constructions (Cooper, 1999). SWANLA recruited primarily men in Owamboland in northern Namibia. Their families were prohibited from migrating with them (Werner, 1993:136).

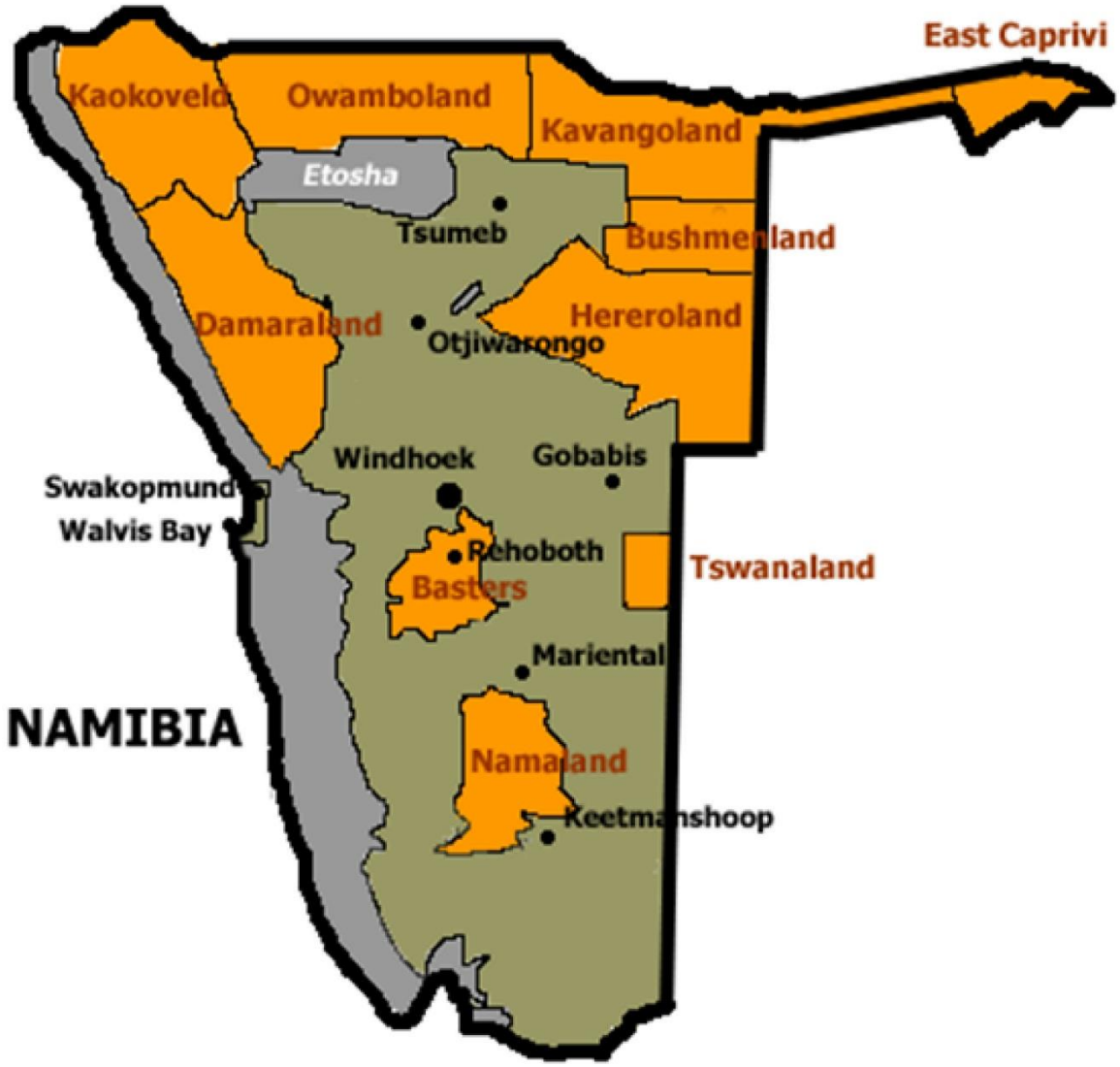
The contract labour system was commonly known as *odalate*, derived from *draad*' in Afrikaans. This was a reference to the tags which the contract workers had to wear around their wrists in the single-sex compounds for ease of identification by their employers and the contract that bound a worker to his employer for the duration of the contract, the breaking of which was a criminal offence punishable by imprisonment. The contract labour

system was one of the largest, controlled migration movements in Southern Africa, drawing most of its migrant labourers from Owamboland. From the mid-1930s the contract labour system became the mainstay of the economy (Moorsom, 1977). Between 1935 and 1945 most contract labour migrants were employed in the commercial farming sector. After 1945, they were also employed in the fishing and mining industries and in commerce and services.

After 1948, and the coming to power of the Nationalist Party in South Africa, apartheid policies were implemented as if Namibia was a part of that country. The Group Areas Act of 1950 was implemented by proclamation in Namibia and the infamous Odendaal Commission of 1962 was established to provide guidelines on the administration and strict control of human movement and also to divide Namibia into geographic and administrative regions. Namibia was divided into 11 different regions and "homelands" were proclaimed along racial and ethnic lines. The black population living outside these areas was forced to relocate into these supposed "homelands" (Adams *et al*., 1990). As Figure 3.1 shows, most of the reserves were located in the north of the country, a considerable distance from the colonial capital, Windhoek.

The implementation of apartheid policies had far-reaching consequences for migration and urbanization Namibia. The confinement of ethnic groups into homelands with limited grazing land undermined livelihoods and forced young male wage earners off the land to the urban areas, a process facilitated by the contract labour system (Hayes, 1996). The

Figure 3.1: Pre-independence Homelands of Namibia



Source: Odendaal Commission 1964
Note: the areas marked in orange on the map are homelands.

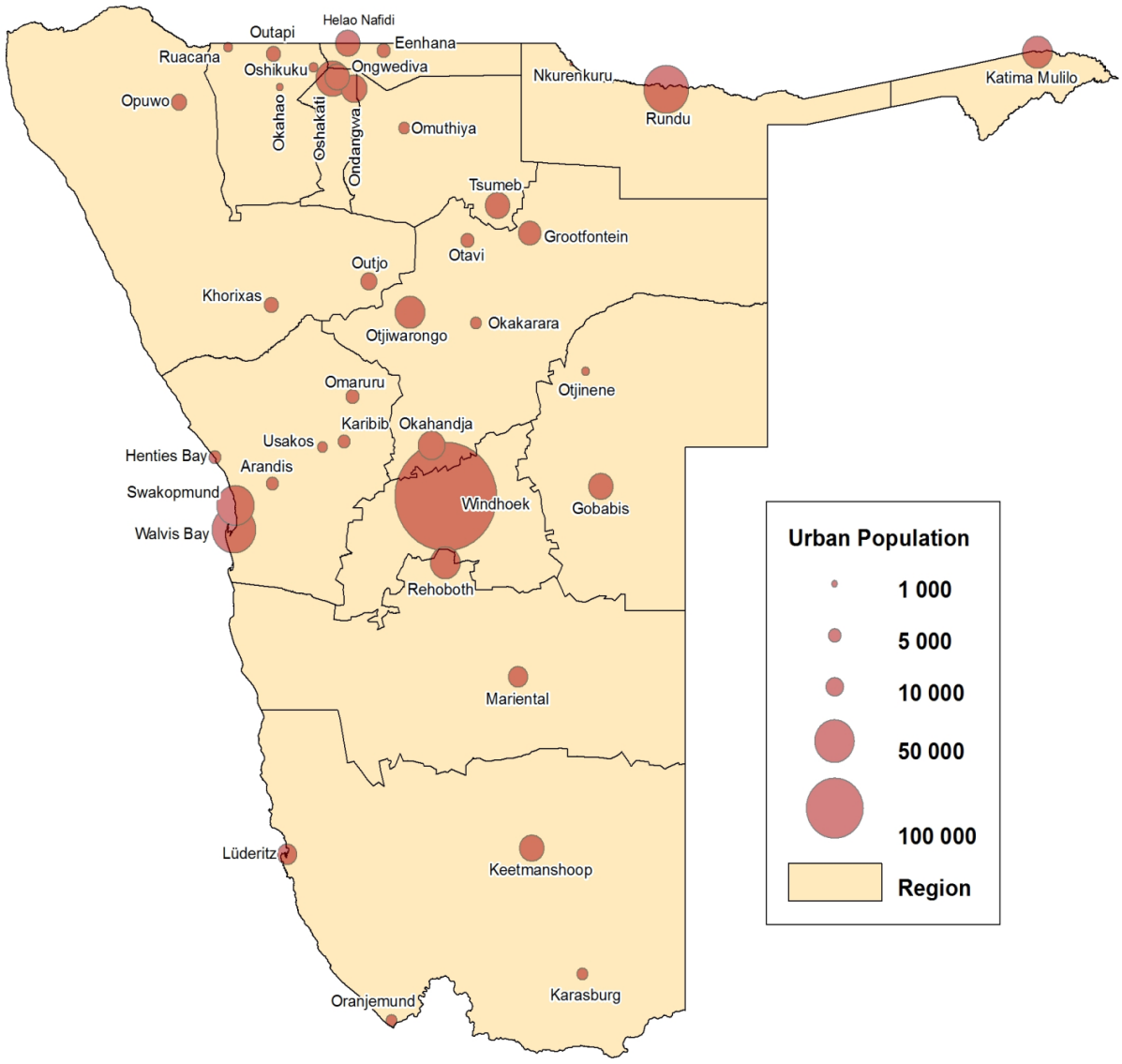
contract labour system was the major driving force of the economy but at the same time it created poverty and severe inequalities, both between blacks and whites and between black men and women. Women, in particular, were trapped in the homelands by this policy

and found it difficult to move out, even if their livelihoods were affected. As Moorsom (1977) points out, South African policy "hinged upon the denial to blacks of any rights outside barren, remote reserves, a denial policed by pass and contract laws which put absolute control over job allocation, residence and mobility in the hands of colonial officials".

In the early colonial period, a number of urban settlements had been established for administration, to facilitate the extraction of commodities and to provide a market for produce from white settler farms. These urban areas included the ports of Luderitz, Swakopmund and Walvis Bay on the coast; Oranjemund, Arandis, Tsumeb (for diamond and copper and later uranium exploitation); Grootfontein for the military; and a number of agricultural towns: Outjo, Karibib, Usakos, Otjiwarongo, Gobabis, Mariental, Maltahohe and Aranos) in the central region as agricultural centres (Figure 3.2).

Despite the desire of the South African administration to control the number of Namibians in the towns, their labour was still needed by employers and the government itself. As in South Africa, influx controls and pass laws were enforced to try and control the numbers and permanence of migrants in urban areas (Moorsom, 1977). By 1971, the number of contract workers living in compounds ranged between 18,500 and 22,000 (including 5,500 in Katutura, 7,400 in Walvis Bay, 3,500 in other coastal compounds for off-season fishing, 5,000 in Tsumeb, and 4,000 in Consolidated Diamond Mines (CDM) in Oranjemund).

Figure 3.2: Towns and Municipalities in Namibia



Source: 2011 Census Preliminary Results

These workers constituted about 60-75% of the total work force (excluding those who worked on farms and as live-in domestic workers) (Moorsom, 1979). The increased tightening of labour laws and anti-urbanization pass laws after 1945, culminated in the 1971-1972 country wide strike by workers pleading for better working and living conditions in most areas where contract labour migrants were employed (Green, 1987).

With regard to women's migration, O'Donnell (2003) has shown that under German rule despite the intensification of control of movement some women migrated to the urban areas to work as domestic servants and maids in the German or other European settlers' homes. After the Herero genocide there was fear among the German settlers that their Herero and Damara female domestic servants were 'poisoning' them (O'Donnell, 2003). Migration of women was seen as a challenge by both the traditional and the colonial rulers who wanted to ensure that their patriarchal powers were not undermined (Cockerton, 1995; Crush, 2000). The contract labour migration system on the mines required men so women's labour was confined to subsistence farming (Hayes, 1996). This policy persisted during South African rule when women were to remain in the homelands (O'Donnell, 2003). Despite these controls, women did still migrate to the urban areas although the exact numbers are unknown.

In 1970, at the height of South Africa's anti-urbanization controls, less than a quarter of the total population of Namibia (22.7%) was urbanized. At independence twenty years later,

the figure was still only 28%. However, it increased significantly in the two decades after independence, reaching 42% in 2011 (National Planning Commission, 2012). All urban centres have been growing (though at varying rates) and some new ones have been proclaimed since independence. Table 3.1 clearly shows that growth has occurred in almost all urban localities throughout the country with the most significant growth observed in Katima Mulilo, Swakopmund, Walvis Bay, Rundu, Gobabis, Ondangwa, Okahandja, Otjiwarongo and Outjo whose populations have more than doubled since 1991. Other centres, such as Outapi, Ondangwa, Swakopmund, Eenhana, Ongwediva, Okahandja and Opuwo, all recorded an increase of more than 50% between 1991 and 2011. Only in Oranjemund (minus 12.4%) and Luderitz (minus 6%) has the urban population declined possibly due to their peripheral location and decline in mining activities in Oranjemund and fishing in Luderitz (National Planning Commission, 2012).

The main driver of Namibia's post-independence urban transition is rural to urban migration (Niikondo, 2010; Mufune *et al*., 2008; Pendleton, 2005; Frayne and Pendleton, 2002). Although rapid urbanization is an Africa-wide phenomenon, a number of local factors within the country have accelerated the growth of almost all major urban centres. Firstly, Namibia was one of the last African countries to achieve independence. The post–independence relaxation of all formal and informal constraints on movement was thus relatively recent in Namibia (Pendleton and Frayne, 2000). Secondly, a combination of "push factors" in the rural areas (environmental degradation, population pressure, declining agricultural production, rural poverty, food insecurity and HIV/AIDS) have made

rural livelihoods less viable and prompted more and more people to move to the urban centres of the country (Pendleton and Frayne, 2000). Thirdly, although people leave the rural areas for a variety of reasons, the primary factor determining rural–urban migration in Namibia is the "pull" of better economic conditions and potential income-generating opportunities in the towns and cities (Pendleton and Frayne, 2000; Mufune *et al.*, 2008; Niikondo, 2010).

Table: 3.1 Population Growth in Major Urban Centres of Namibia 1981 – 2011

Region	**Urban Locality**	**1981**	**1991**	**2001**	**2011**	**% Growth 1981 - 1991**	**% Growth 1991 - 2001**	**% Growth 2001 - 2011**
Khomas	Windhoek	96057	147056	233529	322500	53.1	58.8	38.1
Hardap	Rehoboth	12378	21439	21308	28800	73.2	-0.6	35.2
Erongo	Swakopmund	12219	17681	23808	44700	44.7	34.7	87.8
Karas	Keetmanshoop	11502	15032	15778	18900	30.7	5	19.8
Oshikoto	Tsumeb	11296	14929	16211	19200	32.2	8.6	18.4
Otjozondjupa	Otjiwarongo	9087	15921	19614	28000	75.2	23.2	42.8
Otjozondjupa	Grootfontein	7536	12829	14249	16400	70.2	11.1	15.1
Otjozondjupa	Okahandja	6721	11040	14039	22500	64.3	27.2	60.3
Omaheke	Gobabis	5528	8340	13856	19000	50.9	66.1	37.1
Hardap	Mariental	5367	7581	9836	12300	41.3	29.7	25.1
Kunene	Khorixas	5349	7358	5890	6900	37.6	-20	17.1
Karas	Luderitz	4748	7700	13295	12500	62.2	72.7	-6
Kunene	Opuwo	4186	4234	5101	7900	1.1	20.5	54.9
Karas	Oranjemund	4112	7801	4451	3900	89.7	-42.9	-12.4
Otjozondjupa	Okakarara	3941	3725	3296	3700	-5.5	-11.5	12.3
Oshana	Oshakati	3684	21603	28255	35600	486.4	30.8	26
Karas	Karasburg	3484	4602	4075	4300	32.1	-11.5	5.5
Erongo	Omaruru	2982	4851	4761	6000	62.7	-1.9	26
Erongo	Usakos	2852	3548	2926	3600	24.4	-17.5	23
Otjozondjupa	Outjo	2504	4535	6103	8400	81.1	34.6	37.6

Otjozondjupa	Otavi	2137	3506	3813	5200	64.1	8.8	36.4
Erongo	Karibib	1608	3067	3726	5100	90.7	21.5	36.9
Oshana	Ondangwa	1 000	7926	10900	21100	..	37.5	93.6
Kavango	Rundu	989	19366	44413	61900	1858.1	129.3	39.4
Caprivi	Katima Mulilo	575	13377	22694	28200	2226.4	69.6	24.3
Erongo	Walvis Bay	..	22999	43611	61300	..	89.6	40.6
Oshana	Ongwediva	..	6197	10742	19300	..	73.3	79.7
Erongo	Arandis	..	4303	3974	5100	..	-7.6	28.3
Erongo	Henties Bay	..	1612	3285	4800	..	103.8	46.1
Ohangwena	Eenhana	..	..	3196	5600	..	..	75.2
Omusati	Outapi	..	..	2640	6600	..	..	150
Ohangwena	Helao Nafidi	..	..	..	19200	..	..	..
Oshikoto	Omuthiya	..	..	..	3800	..	..	..
Omusati	Ruacana	..	..	..	2900	..	..	..
Omusati	Oshikuku	..	..	..	2600	..	..	..
Omaheke	Otjinene	..	..	..	2100	..	..	..
Omusati	Okahao	..	..	..	1600	..	..	..
Kavango	Nkurenkuru	..	..	..	600	..	..	..
		220842	424158	613375	882100	92.1	44.6	43.8

Source: National Planning Commission – 1991, 2001, 2011 Namibia Population and Housing censuses. Note.. represent areas which were proclaimed as towns towards 2011.

3.3. The History and Geography of Windhoek

Windhoek is situated east of the Khomas Hochland Plateau at an altitude of 1 700 metres, The first people to live in the area were the Nama and Herero under the leadership of Jan Jonker Afrikaner who settled there in 1840 and named it Ai-//gams (hot springs) and Otjomuise (steaming place), because of the permanent supply of water. He later named the settlement Windhoek (literally 'windy-corner' in Afrikaans) (Kotze, 1990; Simon, 1995) Conflict between the Nama and the Herero led to the abandonment of the settlement in the late nineteenth century. It was re-established in 1890 when the German Curt von Francios

arrived in Windhoek and set up a military station there. Windhoek became the capital of the new German colony and an influx of white settlers from Germany began.

In 1912, the Windhoek Town Council enforced a policy of racial segregation, establishing the Main Location west of the town centre and resettling the black residents of the town there. The area was later called the Old Location (now Hochland Park, a middle income to high income residential area). Klein Windhoek, situated east of the town centre, was reserved for the white residents (Pendleton, 1993). In 1946, just before the advent of apartheid in South Africa, the South Africans controlled a town that had more white than black residents. The 1946 Census found that the total population of Windhoek was 14,929 of whom 6,985 (47%) were white and 6,591 (44%) black (Table 3.2). The number of coloured residents fell from 1,448 in 1936 to 1,353 in 1946 and once again to 1,208 in 1951.

After 1948, the National Party government in South Africa immediately began to implement its urban apartheid policies in Windhoek. White immigration was encouraged and between 1946 and 1960, the white population of the city tripled from 6,985 to 19,378. At the same time, pass laws and influx controls slowed the growth of the black population which only doubled in the same period (from 6,591 to 13,935). The proportion of black residents of the city fell from 44% in 1946 to 39% in 1960. In 1959 the black residents of Windhoek were forcibly moved to Katutura. Its very name ("a place where we will not settle") conveyed the idea that permanent settlement of the black population was

undesirable. Katutura comprised about 4,000 houses, for rent only, located 5 km from the main town. Consistent with its approach to urban segregation in South Africa (Crankshaw and Parnell, 2004), the apartheid government divided Katutura into separate ethnic locations for Aawambo, Nama, Herero and Damara people. Resistance to forced relocation culminated in the death of 11 people on December 10, 1959. To avoid further confrontations with the Administration, about 3,000 people moved to Katutura. Those who owned livestock were moved further away because farming was illegal in town. Katutura remained under constant surveillance by the authorities (Pendleton, 1993:28). By 1981, the population of Katutura had grown to 44,000 through in-migration and natural increase (Table 3.2).

From the mid-1980s, the black population of Windhoek began to grow rapidly (Figure 3.3). At the time of the first post-independence census in 1991 the Windhoek population represented 31% of the total urban population. The black population of Windhoek almost doubled between 1981 and 1991 from 44,003 to 86,640 and continued to increase to 200,000 in 2011 (Figure 3.3). This unprecedented urban growth also meant that Windhoek's population grew as a proportion of the total Namibian population from 10.4% in 1991 to 12.4% in 2001 and to 16% in 2011 (see Figure 3.2). The 2011 Census estimated Windhoek's population at 322,500 an increase from 230,000 in 2001 or an annual growth rate of 4%, making it one of the fastest growing cities in Southern Africa (National Planning Commission, 2012; Crush and Frayne, 2010). The city is now home to 36% of the total

urban population. Windhoek is about the same size as the cumulative total of the next eight urban centres (Table 3.1), making it the focal point of Namibia's urban transition.

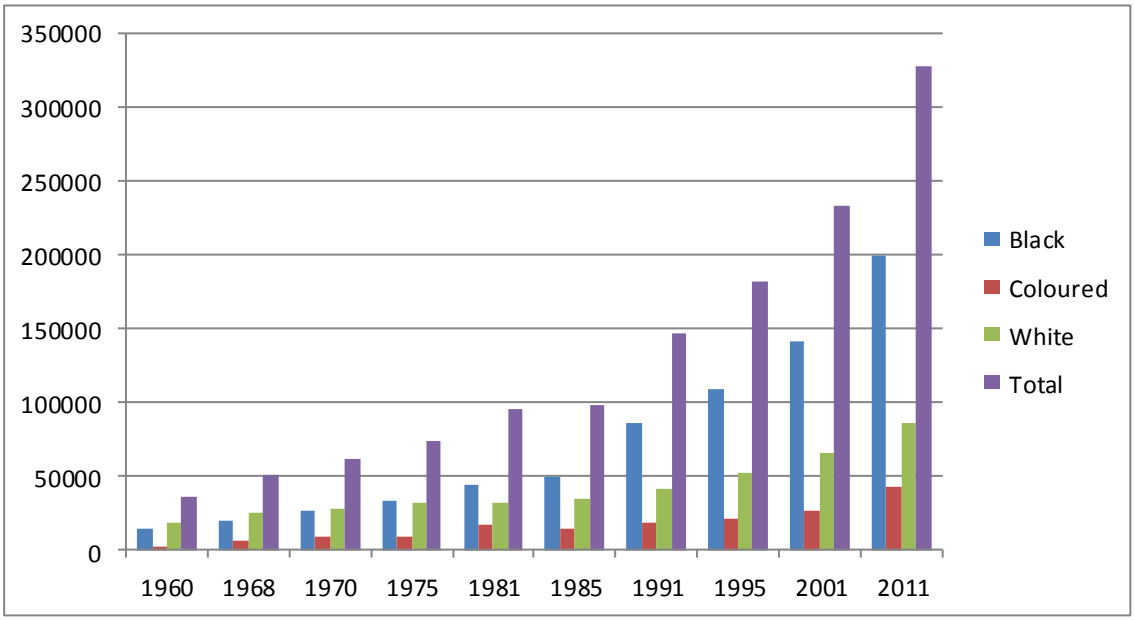
Table: 3.2 Windhoek's Population Growth 1936 - 1991

	1936		**1946**		**1951**		**1960**		**1968**		**1970**		**1975**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Coloured	1448	13.7	1353	9.1	1208	5.9	2738	7.6	5929	11.7	8411	13.6	9057	12.2
Black	4385	41.1	6591	44.1	9080	44.1	13935	38.7	19369	38.2	25945	42.1	33180	44.6
White	4812	45.2	6985	46.8	10310	50	19378	53.7	25417	50.1	27351	44.3	32112	43.2
Total	**10651**	**100**	**14929**	**100**	**20598**	**100**	**36051**	**100**	**50711**	**100**	**61707**	**100**	**74349**	**100**
	1981	**%**	**1991**	**%**										
Khomasdal	17380	18.1	18900	12.8										
Katutura	44003	45.8	86640	59.0										
Windhoek	31305	32.6	41515	28.2										
Total	**96057**	**100**	**147057**	**100**										

Source: : City of Windhoek reports; Population Censuses,1981, 1991.

Note: Beginning in 1981 'racial' group designations were no longer used in the Census. Numbers therefore have to be inferred from the size of residential areas.

Figure 3.3: Windhoek Population Growth, 1960-2011



Source: City of Windhoek reports; Population Censuses 1991, 2001 and 2011.

The legacy of apartheid-era racial segregation in Windhoek is still evident although black middle-class Namibians have been able to buy property and take up residence in the areas formerly reserved for whites (such as Klein Windhoek, Olympia, Eros, Windhoek West, Pioneerspark and Hochland Park). The majority of the black population was living in Katutura at independence while Khomasdal was reserved for the coloured population (Pendleton, 1993). Khomasdal North (with a population of 27,950 in 2011) is still predominantly occupied by coloureds; Windhoek West (home to 42,201 people) is where most black middle income residents live; and Windhoek East (where 17,674 people reside) is where those with higher incomes, irrespective of race, now live (Table 3.3). Lower income blacks continue to reside in Katutura Central and East but most of the rural-urban migration to Windhoek over the last two decades has been to the city's rapidly growing informal settlements (Moses Garoëb, Samora Machel, Soweto, Tobias Hainyeko and more recently Khomasdal North). The contrast in housing types between these different areas is clearly seen in Figure 3.4.

3.4. Informal Settlements in Windhoek

Modern-day Katutura is divided into six constituencies (Tobias Hainyeko, Katutura Central, Katutura East, Soweto, Samora Machel and Moses Garoëb) (Figure 3.5). The older parts of Katutura (Central, East and Soweto) accommodate better-off middle income households in formal housing with modern facilities and services and basic infrastructure. The vast

peripheral areas of Tobias Hainyeko, Moses Garoëb and Samora Machel are dominated by low income groups most of whom are recent migrants to Windhoek and live in informal housing. During the period 1991-1994, the City of Windhoek had established three "reception areas" to temporarily accommodate the new influx of poor migrants until they could be resettled: Kilimanjaro, Babylon (in Tobias Hainyeko) and Gorengab (in Moses Garoëb) (City of Windhoek, 2004). People were allowed to settle in shacks of corrugated metal sheeting of not less than 6 square meters on plots of 300 square meters and water and communal toilet facilities were provided. Despite these efforts to contain and direct new settlement, the number of informal households within and outside the reception areas continued to grow rapidly. As the World Bank (2002:11) noted "every single piece of open land in Okuryangava and Gorengab Extensions was progressively filled up by illegal settlement".

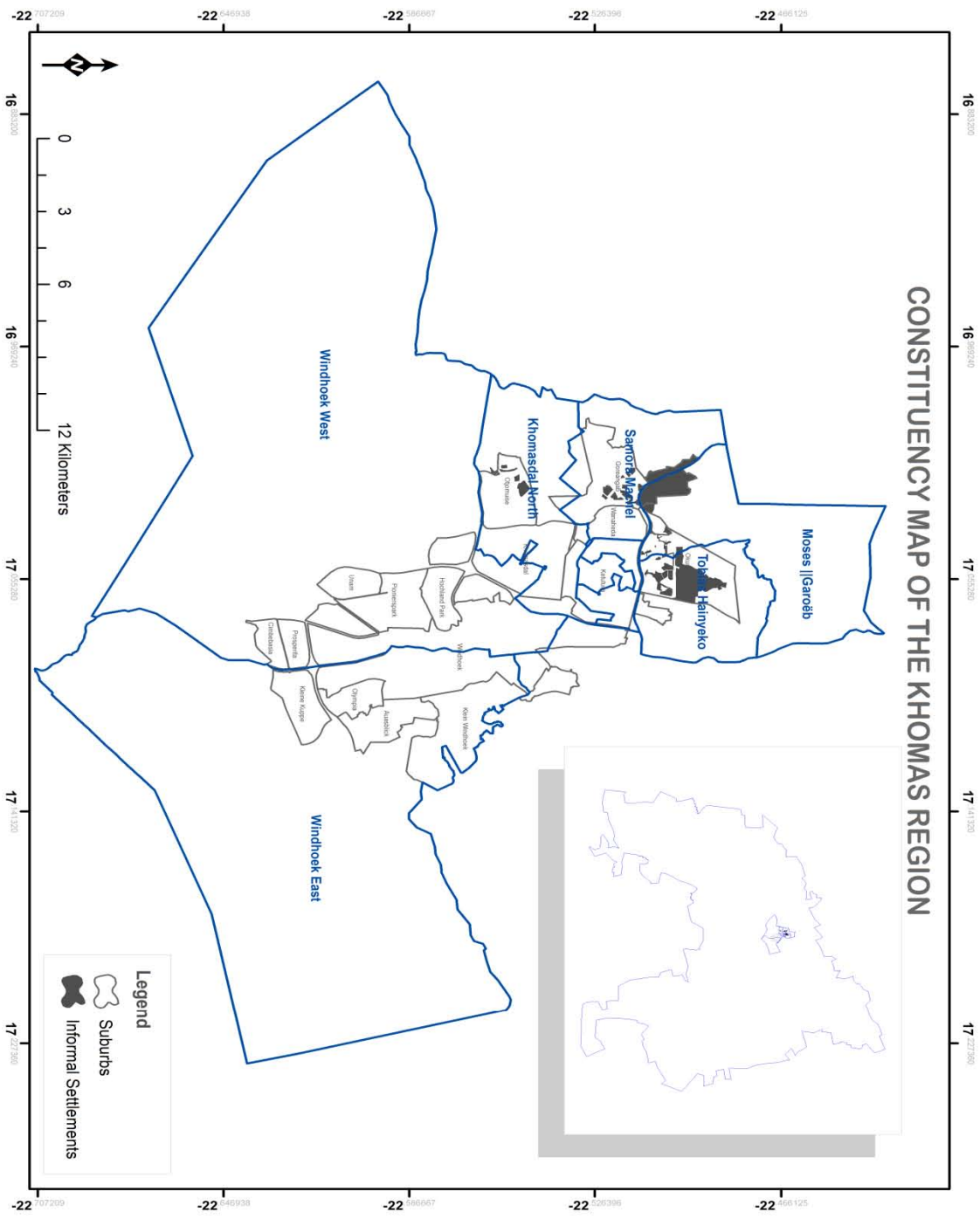
The City found it very difficult to keep people out of the designated reception areas and major land invasions occurred prior to site layout and rudimentary construction. Such was the demand that the City was also unable to confine growth to within the planned boundaries. Although the reception areas were originally seen as a temporary fix, they have become permanent features of the urban landscape. The financial improvement which would enable people to purchase land elsewhere did not occur and people remained unemployed and too poor to purchase fully-serviced land. People started to allow others to settle on their little plots and overcrowding intensified. The uncontrolled, unauthorized

and unplanned occupation of urban land by unemployed rural-urban migrants continues to take place on the fringe of this hilly city. The City of Windhoek is the largest land owner

Figure 3.4: Low, Middle and High-Income Housing in Windhoek

Photos: By author

Figure 3.5: Khomas Region and Constituencies



(City of Windhoek, 2003; Mitlin and Muller, 2004), but simply because of the existing housing backlog, prescribed minimum requirement of plot size and its hilliness, the urban poor in informal settlements are unlikely to benefit from a formal and affordable housing solution. In Windhoek there is a small distinction between informal settlements and informal housing as the majority of the informal settlements are characterized by informal housing.

Today, Windhoek's informal settlements are located around Katutura and Khomasdal North. In Katutura they are in the three north-western constituencies of Tobias Hainyeko (Oshitenda, Okahandja Park, Kilimanjaro and Babylon), Moses Garoëb (Hakahana and Havana Extension No.2, No.5) and Samora Machel (Greenwell Matongo, Gorengab and Havana Extension No.7.). In Khomasdal North, informal structures are found in the areas of 7de, 8ste and 9de Laan. In 2001, 13,500 households with more than 48,000 people were estimated to be living in shacks (National Planning Commission, 2001). By 2011, this population is estimated to have risen to nearly 114,000, with informal settlements growing at a rate of 9% per annum (City of Windhoek, 2012).

The 2001 census indicated that more than a third (38%) of the total population of Windhoek lived in the constituencies with informal settlements. The total population of these three areas (excluding Khomasdal North) was 141,000 in 2011, and the total number of households was 39,600 with an average size of 3.7 persons per household. The proportion of the population living in shacks varies from 37% in Samora Machel to 71% in

the case of Tobias Hainyeko. As Table 3.3 shows, the rate of growth of Windhoek's informal settlements has been extraordinary over the last decade. The overall population size of the city increased by 36% between 2001 and 2011. However, the population increase was as high as 77% in Moses Garoëb and 69% in Samora Machel.

Table 3.3 Windhoek Population Growth, 2001-2011

	2001	2011	%Growth population
Katutura Central	21,243	24,600	15.8
Katutura East	17,745	18,600	4.8
Khomasdal North	27,950	43,400	55.3
Moses Garoëb	25,642	45,500	77.4
Samora Machel	29,382	49,700	69.2
Soweto	13,865	15,100	8.9
Tobias Hainyeko	34,348	45,800	33.3
Windhoek East	17,674	22,600	27.9
Windhoek Rural	20,212	22,200	9.8
Windhoek West	42,201	53,400	26.5
Total	**250,262**	**340,900**	**36.2**

Source: Namibia Population and Housing Census 2011.

Most of the households in the informal settlements have access to safe drinking water from communal taps. The National Housing Policy (2000) guidelines require access to safe water from communal taps within a walking distance of 200 metres and communal toilets within 30 meters of each dwelling. In 2005 only 52% of Windhoek residents had access to private flush toilets and 26% had shared flush toilets while 19% relieved themselves in the bushes (City of Windhoek, 2005). During my qualitative fieldwork in Windhoek in 2010, a great number of shared toilets in Hakahana, Okahandja Park, Babilon, Kilimanjaro, Greenwell Matongo, Havana Extensions 2, 5, 7 and Otjomuise's 8ste and 9de Laan were locked

because they were not functioning, and there seemed to be no sign that they would be repaired soon. Tall grass was growing around them and footpaths were not even visible. The great majority of households in both Moses Garoëb and Tobias Hainyeko are not connected to the city's waterborne sewerage network (Table 3.4).

Apart from the lack of formal housing, these informal settlements have a degraded living environment with poor infrastructure and lack of social amenities such as electricity, refuse removal, storm water drains, and drainage systems. Service provision and maintenance of infrastructure in towns and cities in Namibia is the sole responsibility of the respective municipalities. The City of Windhoek does not receive regular grants for land acquisition, bulk service supply and specific infrastructure and operates on a cost recovery basis (City of Windhoek, 2001). As a result, it simply does not offer the services that the poor are able to afford.

Official unemployment in the informal settlements is high (at around 40%). During my fieldwork, I saw many men sitting around aimlessly playing dominoes under trees and sleeping at 10:00 or 11:00 am while women were balancing 20-25 litre drums of water on their heads, carrying bundles of wood on their heads, making fire or washing clothes with babies on their backs. Females make up just under half of the population and between 25-30% of the population are children (under the age of 14). Around a third of the households are headed by women. In each of the informal settlements, the rate of female population growth over the last decade (between 2001 and 2011) is higher than for males (Table 3.5).

Table 3.4 Overall Living Conditions in the Informal Settlements 2011

	Moses Garoëb	**Samora Machel**	**Tobias Hainyeko**
Population size*	45 500	49 700	45 800
Male Population	24 800	24 400	24 700
Female Population*	20 700	25 300	21 100
% Female	45	51	46
Number of households*	13 800	13 200	12 600
Ave. HH size**	3.3	3.8	4.2
Age composition:			
Under 5 years	12	11	13
5 – 14 years	13	18	14
15 – 59 years	72	68	70
60+ years	1	1	1
% HH headed by women	33	35	31
Literacy rate 15+ years	97	97	96
% In Labour force	85	81	81
Employed	62	63	62
Unemployed	38	37	38
Housing Conditions:			
Safe water			
Public piped water	99	98	98
No toilet facility	56	23	67
Electricity for cooking	22	65	17
Electricity for lighting	28	69	20
Refuse removal- regularly	28	69	20
Housing types:			
Formal	33	47	23
Shack	64	37	71

Source: 2001 Namibia Population and Housing Census, Source*: 2011 Preliminary Population and Housing Census results.
Source **: Estimated using 2011 Census data

Table 3.5 Windhoek Population Growth by Sex, 2001-2011

	Male	Female	% Female	% Growth Total Population	% Growth Female Population
Katutura Central	11100	13500	55	15.8	16.7
Katutura East	8500	10100	54	4.8	5.4
Khomasdal North	21200	23200	53	55.3	57.8
Moses Garoëb	24800	20700	45	77.4	83.1
Samora Machel	24400	25300	51	69.2	80.4
Soweto	6900	8200	54	8.9	11.4
Tobias Hainyeko	24700	21100	46	33.3	38.4
Windhoek East	11300	11300	50	27.9	26.4
Windhoek Rural	12100	10100	45	9.8	9.9
Windhoek West	25800	27600	52	26.5	27.2
Total	**169800**	**171100**	**50**	**36.2**	**38.4**

3.5. Conclusion

The speed of the post-independence urban transition in Namibia can only be properly understood against the background of decades of controls over the movement of the country's black population, first by Germany and then South Africa. Because the urban areas were seen as the domain of the white settler population and the African population as the sojourners, Windhoek was ill-prepared for the massive influx of migrants after independence. This is evident from the rapid growth of informal settlements in and around the city. Although basic infrastructure existed in the city it was insufficient for a large and rapidly-growing population. Inadequate infrastructure, adequate housing, health services and employment opportunities all led to the growth of largely uncontrolled informal settlement.

The informal settlements serve as an entry point for new migrants from rural areas into the city because accommodation is cheap, there is no payment for electricity, setting up temporary housing in the form of a shack is easy and financial outlays are low. These are also the areas of the city where most of the low-income earners reside. Yet they have to purchase basically all of their goods and services. High unemployment levels mean that most people lack or earn very little formal sector income. How the urban poor and women in particular, manage to provide food for their households and even to remain resilient to food insecurity in these informal settlements is the central question addressed in the chapters that follow.

CHAPTER FOUR

RESEARCH METHODOLOGY

"In my tradition we do not talk about our households' food status with strangers, but here in the city I have nothing to hide"[4]

4.1. Introduction

This study combined both quantitative and qualitative research methods and is an example of what is generally known in the social sciences as 'mixed methods' (Johnstonne, 2004; Terrell, 2012). Qualitative and quantitative methodologies are often seen as belonging to different paradigms, i.e. qualitative research is often associated with inductive logic of enquiry while quantitative is associated with hypothetical-deductive enquiry. Taken together, however, these methods add a new depth of understanding to the study of urban food security in Africa. The use of a mixed research methods approach for the collection and interpretation of data adds new and complementary insights into the phenomenon of urban food insecurity in Namibia. In this respect, the research goes beyond the existing AFSUN approach which has focused almost exclusively on survey methods and interpretation of statistical data.

Quantitative survey methods were used in this research for four main reasons. First, the survey results reveal a representative demographic and socio-economic profile of poor

[4] Interview No 1, Greenwell Matongo, 16 February 2010.

urban households. Second, although the survey methodology used here is cross-sectional in nature, it allows urbanization histories of individual household members to be built. Third, the survey helps identify the "how and what" of what women do in order for their households to be more food secure. Fourth, the survey raises questions about food insecurity which can be explored in greater depth in qualitative research.

Although generalization is one of the major advantages of such quantitative research, the survey format cannot elicit detailed information on more sensitive issues (for example, in the case of food security, why people adopt certain livelihood strategies and their eating habits and conflicts over food consumption). This shortcoming can be overcome by the use of qualitative research, in which informants reveal more personal information and the reasons for behaviours recorded in the survey. Qualitative research is generally seen as important for obtaining information about ways of living (and surviving). In this study, qualitative research methods were used to understand the activities and strategies of female household heads and to clarify the deeper reasons and meanings of the food insecurity problem.

4.2. Survey Methodology in Windhoek

The primary source of quantitative data used in this thesis is the African Food Security Urban Network (AFSUN) Baseline Household Survey implemented in 2008–2009 in the poor areas of 11 cities of Southern Africa including Windhoek. The household survey

questionnaire was collaboratively planned and implemented by AFSUN partners in all eleven cities. The partners met for a planning workshop in Gaborone in May 2008 and agreed on a set of research questions, the content of a common survey instrument (including a methodology for measuring food insecurity) and a sampling strategy. The household survey in each city used probability methods of random sampling and provided representative data at the scale of the urban community, household and individual. The AFSUN strategy focused on data gathering in the poor areas of each city. One or more poor urban neighbourhoods were therefore selected for the study. The survey was designed to collect data on the following issues:

- Individual information for all persons in a household (age, sex, marital status, relationship to household head, level of education, occupation, work status, place of birth, current residence, health status, migration history).
- Household data (types of housing, household tenure, household structure, household access to water, household income and expenditure, households reliance on other livelihood strategies, and household poverty as measured by the lived poverty index (LPI).
- Household food insecurity as measured by several different cross-cultural scales.
- Experience of food price changes
- Sources of food
- Rural- urban links and food transfers
- Contribution of urban agriculture, social protection, food transfers and urban food aid (Frayne *et al.* 2010).

To minimize data entry errors and to standardize data cleaning, all questionnaires from 11 cities were sent to the University of Namibia in Windhoek for entry, reliability checking and preparation for final datasets and tabulation plan (Frayne *et al.,* 2010: 12-13). The complete AFSUN regional database contains data on 6,453 households and 28,771 individuals (Frayne *et al*., 2010:13). The regional data base is used in this thesis to contextualize the Windhoek findings and compare the food security situation in Windhoek with other SADC cities. The bulk of the thesis is based on an analysis of the sub-set of data collected in Windhoek.

The survey was implemented in Windhoek by the University Central Consultancy Bureau (UCCB) of the University of Namibia from August 21 to September 8, 2008. The author of this thesis supervised and directed the field research team. The sampling frame was the list of enumeration areas (EAs) created by the Central Bureau of Statistics (CBS), now Namibia Statistics Agency (NSA), for the 2001 Census. However, this list is being updated continuously due to the ongoing influx of people into Windhoek, and especially to accommodate new migrants from rural areas who primarily move to the informal settlements. New enumeration areas are added as the areas expand. The size of an EA is determined by the number of households. For the 2001 Census, the standard EA contained 200 households, but this varies considerably. In the survey, 14 primary sampling units (PSUs) representing 14 EAs were randomly selected from the master frame using the simple random sampling method. In each EA, 32 households were randomly selected by

employing the systematic random sampling method, i.e every k^{th} household was located and interviewed (Table 4.1). To locate the selected household on the ground, maps generated by the CBS were used. The design yielded a representative probability sample of 448 interviews with low income households, and information on 1,848 household members.

One of the basic distinguishing features of households within poor urban areas in Southern Africa is variable housing structure. In Namibia, urban houses are of two basic kinds: (a) formal, permanent structures whose construction adheres to municipal regulations, and are primarily built with concrete bricks and metal roofs; and (b) *eembashu* (informal housing structures) which are temporary, self–constructed shelters usually with corrugated iron sheets for walls and a roof which can be removed easily. As Table 4.1 shows, the proportion of formal and informal dwellings in each EA varied considerably. At one end of the spectrum were the three EAs in Khomasdal North and 1 of the EAs in Katutura Central which were 100% formal. At the other end, were the 3 of the 4 EAs in Moses Garoëb which were 100% informal. The other EAs contained a mix of both types, but with one or the other generally dominant. In the Windhoek sample as a whole, there were 214 households in formal dwellings and 228 households in informal dwellings. This distinction provides an opportunity to isolate out households in informal areas and structures for separate analysis. A systematic comparison of the characteristics and food security dimensions of formal and informal households was undertaken by the author and colleagues in a separate publication (Pendleton, Nickanor and Pomuti, 2012:3). That study

showed that food insecurity was a more significant problem in the informal parts of the city. This thesis builds on that analysis and takes it several steps further by disaggregating households within the informal settlements and mining the database for information on the most marginal and food insecure types of household.

Table 4.1 Windhoek Household Sample by EA

Constituency	**PSU**	**No. of Households Surveyed**	**Type of Housing**			
			Formal		**Informal**	
			%	**No. FCH**	**%**	**No. FCH**
Tobias Hainyeko	6011501072	32	0	0	100	9
Tobias Hainyeko	6011501073	32	3	0	97	8
Katutura Central	6021001001	32	97	8	3	1
Katutura Central	6021001007	32	91	14	9	2
Katutura Central	6031001011	32	100	15	0	0
Khomasdal North	6041101025	32	100	10	0	0
Khomasdal North	6041101026	32	100	10	0	0
Khomasdal North	6041701039	32	100	12	0	0
Samora Machel	6060601008	32	25	6	75	12
Samora Machel	6060601025	32	6	1	94	6
Moses Garoëb	61001123	32	56	5	44	3
Moses Garoëb	6100801156	32	0	0	100	8
Moses Garoëb	6100801163	32	0	0	100	15
Moses Garoëb	6100801172	32	0	0	100	5
		N=448	**N=214**	**N=81**	**N=228**	**N=69**

FCH= female-centred households; Note: Tobias Hainyeko, Moses Garoëb and Samora Machel have greatest percentages of informal settlements with informal housing, Table 3.4.

The survey data allows a household classification based on headship and structure into four types:

(a) Female-centred households consist of single women, widows and separated/divorced/abandoned women without a spouse or partner. Male members (adult or child) may be present but they are not the household head;

(b) Male-centred households are those in which the male head does not have a spouse or partner;

(c) A nuclear household is usually a male headed-household but the spouse or partner is present along with immediate family members (such as children and grandparents);

(d) Extended households are also usually male-headed with a spouse or partner present but with immediate and distant relatives and even non-relatives present.

Across the eleven cities, there were more (34%) female-centred households than any other type of household (Table 4.2). This is therefore an extremely significant sub-group in the poor areas of Southern African cities. In the Windhoek sample, the number of female-centred households was 150 (or 30% of the total). As Table 4.1 shows, 81 of these households occupied formal housing and 69 were in informal housing. The informal households were located mainly in Moses Garoëb (31), Samora Machel (18) and Tobias Hainyeko (17). The general conclusion of Pendleton, Nickanor and Pomuti (2012) is that households in the informal settlements are significantly more food insecure. This thesis

examines whether female-centred households are especially food insecure by isolating and analysing a sub-set of data for the 69 female-centred informal households.

Table 4.2 Types of Households Surveyed

	Female-Centred		**Male-Centred**		**Nuclear**		**Extended**		**Totals**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
SADC Region	2194	34	774	12	2065	32	1419	22	6453	100
Windhoek Sample	150	33	91	21	101	23	106	24	448	100
Informal settlements*	69	30	73	32	33	14	48	21	223	100

*Windhoek Informal settlements included in the survey: Tobias Hainyeko, Samora Machel and Moses Garoëb.

4.3. Measuring Food Insecurity

The search for appropriate measures of food insecurity has pre-occupied researchers for many years.[5] In the 1970s, the emphasis was on developing early warning systems and food information that would monitor food availability or food supply (Maxwell and Frankenberger, 1992). Even the 1974 World Food Conference put much emphasis on establishing systems that would monitor world food production and provide early warning indicators for interventions (Eele, 1994). Measures of food insecurity at national level emerged and referred to a nation's ability to meet the nutritional needs of its population. This was often measured by agricultural output or dietary energy requirements. In Southern Africa food monitoring systems and early warning systems are still in place to

[5] Maxwell and Frankenberger (1992) list 25 broad indicators from literature reviewed of the 1980s; Riely and Moock (1995) list 73 disaggregated indicators; Chung et al. (1997) list 450 indicators based on simple indicators such as dependency ratio, age etc.; and Maxwell *et al*. (1999) propose a measure based on coping strategies to cope with food stress.

provide information on forecasts of national maize and other staple food grains in order to identify potentials for food imports and managing national food strategies (Devereux and Naeraa, 1993).

Once food security was conceptualized in the 1990s as having several different dimensions (availability, accessibility and utilization), the task of measurement became even more challenging (Radimer *et al*., 1992). The focus of the literature changed to monitoring the process whereby people gained access to food, and information systems were further developed to collect indicators (Haddad *et al*., 1994; Eele, 1994). Much attention was given to trying to quantify how people coped (the 'coping mechanisms' or strategies for dealing with insufficiency at household level). A number of indicators were utilized including short-term dietary changes, reduction or rationing consumption, altered household composition, altered intra-household food distribution, depletion of food reserves, increased reliance on wild foods, short-term labour migration, short-term alterations in crop and livestock production, sales of assets and distress migration (Watts, 1983; Corbett, 1988; Devereux and Naeraa, 1993; Watta and Bohler, 1993). The coping strategies approach was rich in case studies at the local level but did not provide general indicators for cross-community or country comparison. Thus there is a need to develop food security indicators that provide rigorous comparative data at the household level.

Hamilton *et al*., (1997) note that food insecurity is a complex, multidimensional phenomenon which varies along a continuum of successive stages as the condition

becomes more severe. Food insecurity measures such as caloric adequacy and income can be very informative but are technically difficult and costly to collect data on (Coates *et al*., 2007). Such food security indicators also present problems of interpretation. Household incomes and food expenditure, for example, are useful proxy measures of food insecurity but the strength of their association with food insecurity is context-dependent i.e. income levels relate differently to food insecurity in a situation where most food consumed is home grown and not purchased. These indicators also do not take into consideration the social and psychological stress related to not having enough food.

The World Bank (2001) observes that the poor describe their experience of poverty in terms of hunger, lack of food and anxiety about meeting food needs. However, this anxiety and uncertainty is not easy to measure. Food insecurity needs to be described from the perspective of those who are experiencing it; that is, those who are finding it difficult to feed themselves. A number of researchers have validated the use of household experience of food needs and coping strategies as an alternative indicator in measuring food insecurity (Kendall *et al*., 1995; Leyna *et al*., 2008; Knuepel *et al*., 2009). This study used the FANTA Food Security Methodology since it is based on subjective experience but provides rigorous quantitative indicators that have been tried and tested in a wide variety of contexts.

4.3.1. FANTA Methodology

The Food and Nutrition Technical Assistance Project (or FANTA) methodology focuses on the problem of access in terms of both food quality and quantity (Coates *et al*., 2007). The methodology is simple to administer and the data easy to analyse and interpret, allowing monitoring of food access across populations and geographical regions. It remains the only rigorous tool that is able to measure directly the household food insecurity experience rather than using proxy measures such as food availability or anthropometric measures (such as wasting and stunting). The main drawback of the methodology is that it cannot tell if individual members of the household are more vulnerable than others. This is because the scale of reporting food insecurity is at the household level. In addition, while the methodology captures the dimensions of food insecurity it cannot always say why households are food insecure. This study uses all four of FANTA's scales and indicators of food insecurity, described in greater detail below.

Household Food Insecurity Access Scale (HFIAS):

The HFIAS is based on the idea that the experience of food insecurity causes predictable reactions and responses that can be captured and quantified through a survey and summarized in a scale (Swindale and Bilinsky, 2006a; Coates et al., 2007). The indicator combines questions about perceptions of food vulnerability or stress with questions about the respondents' behavioural responses to insecurity. Nine separate questions are asked. These questions can be grouped into three domains:

(a) Anxiety and uncertainty about the household food supply

- In the past four weeks, did you worry that your household would not have enough food?

(b) Insufficient quality (includes variety and preferences of the type of food)

- In the past four weeks, were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?
- In the past four weeks, did you or any household member have to eat a limited variety of foods due to a lack of resources?
- In the past four weeks, did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain the other types of food?

(c) Insufficient food intake and its physical consequences

- In the past four weeks, did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?

- In the past four weeks, did you or any household member have to eat fewer meals in a day because there was not enough food?
- In the past four weeks, was there ever no food to eat of any kind in your household because of lack of resources to get food?
- In the past four weeks, did you or any member go to sleep at night hungry because there was not enough food?
- In the past four weeks, did you or any household member go a whole day and night without eating anything because there was not enough food? (Swindale and Bilinsky, 2006; Coates *et al*., 2007:5).

In each case, the respondent is given a yes/no response option. Those who answer in the affirmative to any question are then given three frequency-of-occurrence choices: Rarely (once or twice in the past four weeks); (ii) Sometimes (three to ten times in the past four weeks) and (iii) Often (more than ten times in the past four weeks). These scores can then be tabulated for each question to show which conditions and domains of food insecurity are experienced most severely.

For purposes of more advanced statistical analysis, Coates *et al*. (2007) recommend calculating a single score for each household (the HFIAS score) (Coates *et al*., 2007). This score is a summation of the household's answers to the nine questions where No = 0; Rarely = 1; Sometimes = 2, and Often = 3. The HFIAS score varies between 0 (where all households answer 'no' to every question i.e. most secure) and 27 (where all households

answer 'often' to every question i.e. most insecure). The higher the score the more food insecurity the household experienced.

Household Food Insecurity Access Prevalence (HFIAP) Scale

The HFIAP is derived directly from the HFIAS. While the HFIAS is a continuous measure with scores ranging from 0-27. The HFIAP is a categorical measure and provides a way of classifying each household into one of four food in/security groups based on the responses to individual questions: food secure, mildly food insecure, moderately food insecure and severely food insecure (Coates *et al*., 2007:18-19). These categories are described as follows (see Figure 4.1 for a graphical representation):

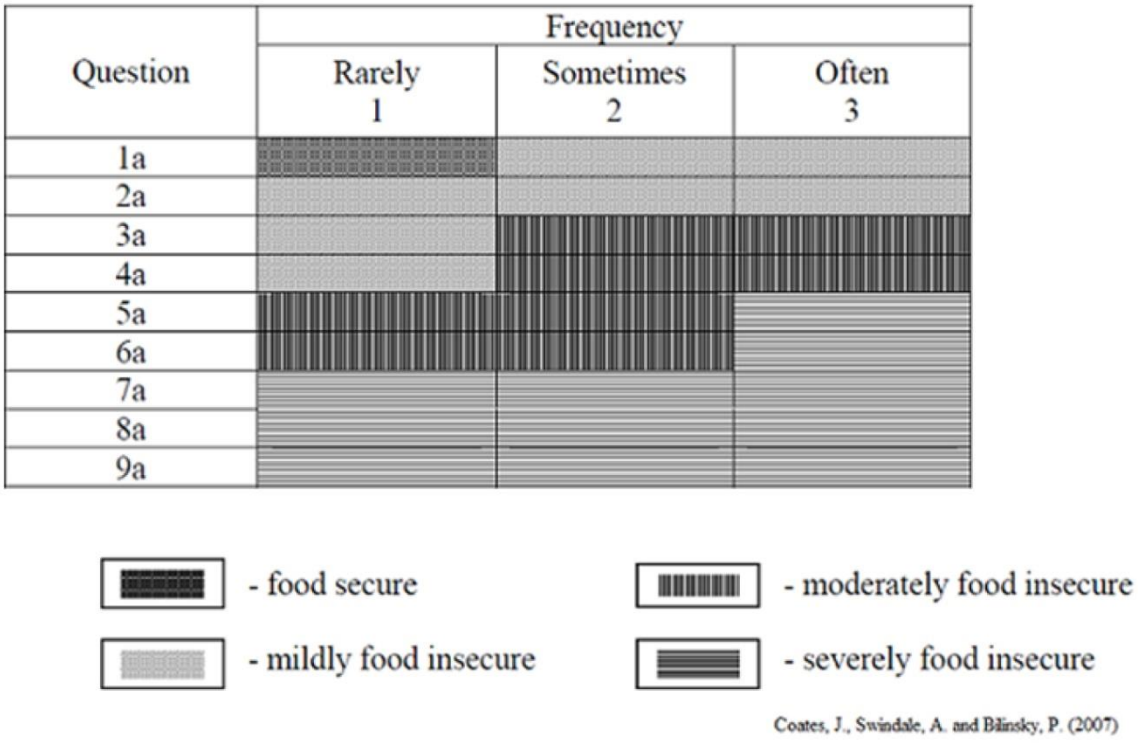
(a) *Food Secure Households* rarely worry about food and have not experienced any of the food insecurity conditions.

(b) *Mildly Food Insecure Households* worry about not having enough food (sometimes and often); are unable to eat the kind of food they prefer (rarely, sometimes and often); but rarely eat a limited variety of food and rarely eat food they did not prefer. These households do not cut back on the quantity of food.

(c) *Moderately Food Insecure Households* eat a limited variety of foods (sometimes and often); eat foods they do not prefer (sometimes and often); eat smaller meals (rarely and sometimes); and eat fewer meals (rarely and sometimes). These households do cut back on quantity in terms of size and the number of meals consumed.

(d) *Severely Food Insecure Households* eat fewer meals often; never have enough food to eat; go to sleep at night hungry and go a whole day and night without food .

Figure 4.1: HFIAP Categories of Food Insecurity



Household Dietary Diversity Score (HDDS)

The quality and variety of food consumed is an important aspect of food security. Lack of dietary diversity often accompanies food insecurity. Food insecure households tend to consume food from very few food groups or very few food items. Measures of dietary diversity tend to be of two types: those based on whether an individual food is consumed or not and those that are based on whether any food from a particular food group is consumed. When comparing dietary diversity based on food groups and individual foods, regression analysis shows that dietary diversity based on food groups is a stronger determinant of nutritional adequacy (Ruel, 2002; 2003). An increase in the number of food groups has a greater impact on dietary quality than increasing the number of individual

foods in the diet, largely because the number of food groups provides greater diversity in macro and micro nutrients.

The HDDS adopts the food group approach and asks how many of 12 different groups were consumed in the household over a specific recall period (usually 24 hours) (Hoddinott and Yohannes, 2002; Swindale and Ohri-Vachaspati, 2005; Swindale and Bilinsky, 2006b). Because of cultural differences in food consumption patterns and preferences, it is important to use a food group classification methodology that is relevant to the African context. The classification recommended for Africa by the by FAO is shown in Table 4.3, which groups food types primarily based on their nutrient content. The number of food groups consumed in a household provides a measure of the quality of the diet by reflecting the dietary diversity.

Table 4.3 Food Types in Groups Used to Construct HDDS

	Food groups
1.	Any (local food) bread, rice, noodles, biscuits or any other foods made from millet, sorghum, maize, rice, wheat, or (any other local grain)
2.	Potatoes, yams, manioc, cassava, or any other foods made from roots and tubers
3.	Vegetables
4.	Fruits
5.	Beef, pork, lamb, goat, rabbit, wild game, chicken, duck, other birds, liver, kidney, heart or other organ meat
6.	Eggs
7.	Fresh or dried fish or shellfish
8.	Foods made from beans, peas, lentils, or nuts
9.	Cheese, yoghurt, milk or other milk products
10.	Foods made with oil, fat or butter
11.	Sugar/honey
12.	Any other foods such as condiments/tea/coffee

The respondent is asked a yes/no 24 hour recall question for each of the twelve food groups with regard to food consumed by household members in the home or prepared in the home for consumption by household members outside the home e.g. at lunchtime when at work. The sum of the 'yes' responses provides a score out of 12 for each household. The individual household scores are then averaged to construct a HDDS for a given population. The closer the score is to twelve the greater the dietary diversity.

Months of Adequate Household Food Provisioning (MAHFP)

Food access depends on the resources available to the household and the management and availability of these resources (such as a cash income) may vary during the calendar year. At the same time, the price of food (particularly staples) may also vary throughout the year. The MAHFP tries to establish whether the food security status of a household varies throughout the year. Respondents were asked to reflect on the situation over the previous 12 months and answer the following questions:

- In the past 12 months, were there months in which you did not have enough food to meet your family's food needs?
- If yes, which were the months (in the past 12 months) in which you did not have enough food to meet your family's needs?

The higher the number of months that a household did not have had adequate food, the greater the likelihood that it is food insecure and therefore vulnerable to food insecurity (Bilinsky and Swindale, 2007). The overall MAHFP for a population is calculated on a monthly basis by determining the proportion of households with an inadequate food supply for that month.

4.3.2. Quantitative Data Analysis

The four indicators discussed above were all calculated for the overall Windhoek sample as well as for sub-groups within the population including the female-centred households in the informal areas. Basic frequency tables were first compiled to examine the distribution of variables of interest (for all tables data are from the 2008-2009 survey unless otherwise stated). To assess the potential determinants of food insecurity among female-centred households, cross tabulations were then performed between these variables and the food security indicators Three of the four indicators (the HFIAS score (0-27), the HDDS (1-12) and the MAHFP (1-12)) are continuous dependent variables and amenable to ANOVA testing to determine associations of identified categorical independent variables with food security status and to identify which relationships were statistically significant. Because the number of female-centred households is relatively small, HFIAS, HDDS and MAHFP means testing was chosen. The objective was to determine if there are any statistically significant differences in the means at a 5% significance level. This type of analysis has not been performed before on any of the data from AFSUN's eleven city survey and is therefore an important innovation which could be used with other parts of the overall data set.

4.4. Qualitative Methodology

Although qualitative methods such as key informant interviews (KII) and focus group discussions (FGDs) cannot be used to statistically quantify group norms and characteristics, they do help to explain underlying motivations and to shed explanatory

light on issues raised by the quantitative data. They also provided finer-grained information on the strategies that female-centred households employed when food starts to dwindle.

4.4.1. Key Informant Interviews

The qualitative research was primarily conducted in February 2010. Fifty (50) key-informant interviews (KII) were conducted in the four (4) north-western constituencies of Windhoek where informal settlements are found. Five additional interviews were conducted in June 2012 to explore additional issues that emerged from the analysis of the quantitative data. The participants were drawn from both male and female-headed households in the selected enumeration areas, 34 were from female-centred households and another 21 from the various types of male-headed households. Sixteen of the respondents were male and 39 were female.

The 14 EAs in which the household survey was conducted were targeted for qualitative interviews. EAs found to be in the formal areas and not in the informal settlements were not sampled. Instead, these EAs were replaced by four others in the informal settlements. A mapping of all households in the 14 EAs was undertaken. Together with the help of seven research assistants, the author went from house-to-house in the selected EAs in the informal settlements and listed all the households. Apart from listing, additional information on each households (such as the number of household members and the sex of the head of household was recorded). Information on whether households were

interviewed in 2008 was also collected. Those who indicated that they were interviewed were asked if they would participate as key informants or in FGDs if they were called upon. In this way, some key informants and FGDs participants were identified during the listing process, while others were identified by community activists.

From that list, 180 households that had been interviewed in August 2008 for the food security survey were identified. Fifty households were then purposefully sampled from the 180. Women and men for the key-informant interviews were drawn from the selected households. Criteria used for the selection of respondents for KII were that they had to be the head of a household, and if they were not a head they had to be at least 18 years or older, have lived in the areas for six months or more and have a fair knowledge on major decisions about household resource and production allocation.

The differences in timing between the qualitative and quantitative surveys may have affected some of the narratives; for example, the 2008 survey took place at a time of rapid food price hikes while food prices were more stable (though no lower) in early 2010. Although attitudes and behaviour do change with time, it was felt that any change would probably have been slow and minimal in the 18 months between the two surveys. The fact that the qualitative research was conducted in the same areas as the quantitative survey meant that the two sets of data and information could reliably be used to inform one another.

4.4.2. Focus Group Discussions

In addition to the interviews, focus group discussions (FGDs) were used as a form of collective testimony. Madriz (2000) and Kamberelis and Dimitriadis (2005: 893) explain that FGDs provide women with safe spaces to talk about their own lives and struggle and also allow them to connect with each other and share their experiences in a supportive context. The FGDs were also conducted in the EAs selected for the household survey. Groups of men and women from both male and female-centred households were identified and selected with the help of local community leaders. In total, eight focus group discussions were conducted. In Samora Machel and Moses Garoeb the groups were mixed male and female whereas those in Tobias Hainyeko and Khomasdal North were male or female only. Of the eight focus group discussions, 4 were with mixed groups, 2 were with females only and 2 were with males only. Each group consisted of at least 6 participants. The FGDs captured men and women's responses in real space and time in the context of face-to-face interactions. The discussion used prompt questions based on the themes of urban food security and served as a general confirmatory tool as to the level, status, determinants and strategies of urban food insecurity in female-centred households.

4.4.3. Focus of KIIs and FDGs

The qualitative research focused mainly on drawing out women's and men's attitudes, beliefs, experiences and reactions to food insecurity in their everyday lives in the informal settlements. Both the KIIs and the FGDs were semi-structured; the intention was to

encourage individuals and groups to discuss food security issues in a more or less systematic way including how food is obtained, distributed and utilized and generally how female-centred households cope with food insecurity. Posing questions on sensitive issues, such as how many times people ate in their households and what type of food was consumed, in a group setting provided a powerful context for encouraging respondents to talk about issues that they would otherwise have been reluctant to discuss.

Taping was the primary means of data capture although notes were also taken. Only two respondents for KII declined to be taped because they regarded their households' food insecurity and talking about their hunger as personal issues. I kept a diary throughout the entire data collection process to record additional details and observations made. Individual interviews were conducted at a time convenient to the informant but also practical to the safety of the researcher. For individual interviews, I met the informants at their homes in order to eliminate anticipated transport problems and also to create a good rapport with the participants. I am able to communicate well in four of the languages spoken in Namibia (Oshiwambo, Otjiherero, English and Afrikaans), which made the process of approaching and interviewing participants relatively easy and also ensured that diverse ethnic groups were represented in the sample.

FGDs were conducted in local community meeting venues which provided comfort and familiarity to the participants. I would introduced myself and my assistant, review the purpose of the visit/s, the instruments used during the discussions and interviews before

starting with the actual discussion/interview. The questions followed a guide containing important questions to be addressed. Discussions were structured, in order to maintain focus.

4.4.4. Methods of Qualitative Analysis

The key informant interviews and focus group discussions exist in the form of transcriptions of audio recordings and field notes. KIIs and FGDs were conducted primarily in Oshiwambo, Otjiherero and Afrikaans. Only one interview was conducted in English. Tilley (2003:752) emphasizes that the transcription process is not simply about writing down words verbatim but analysing and understanding what can be derived. Furthermore, she indicates that close attention and interpretive thinking, when listening and re-listening, is needed to make sense of the information conveyed. I spent time getting to know the data through reading and re-reading the transcribed materials and also returning to the tape recordings to check and clarify inconsistencies. For my analysis, the information from each transcript was organized by themes, concepts and patterns that help to explain why and how households manage and maintain household food security and/or what makes them vulnerable to food security. Analysis of each conversation was conducted with a view to trying to explain and exemplify specific trends and features established by the quantitative survey data (this was done by giving codes to the themes and ideas found either in pre-set categories (e.g. poverty, reactions when there is no food; etc.) or emerging categories; then the data was sorted and organized by category to identify patterns). The search for

recurrent distinct practices, rules, patterns and categories helped to identify and explain the fundamental aspects of how poor female-headed households cope with food insecurity.

4.4.5. Challenges and Limitations of the Qualitative Research

A number of challenges were confronted during the research. The first challenge related to the identification of households previously enumerated during the household survey. Although the enumeration area maps obtained from the National Planning Commission's CBS section were up-to-date with clear streets and street names, and main features in the areas (e.g. school, clinic, shops) and boundaries marked, some of the housing structures marked on the maps were no longer physically there whereas others had multiplied due to rapid movement and settling of people in the informal settlements. This made the process of locating previously enumerated households difficult and I overcame this challenge through the option of listing described above. Since the listing of all households in fourteen (14) enumeration areas required seven (7) enumerators.

The second challenge related to the actual focus of the study on urban food security. Households members initially thought I was from government and that they could channel their plight directly to the authorities. This expectation was high among residents in the informal settlements despite them acknowledging that they had heard about the study as announced on the radio by the councilors and through some community leaders. In Havana Extension 7, people thought I was from the Municipality and had come to discuss issues of permanent relocation and provision of electricity in the area. I emphasized that this was

academic research and that I could not dictate what government should or should not do. All I could promise was that I could present government with the end product of the research and draw clear policy conclusions for them.

The third challenge related to group dynamics in the focus group discussions. Despite the appeal to all participants to feel free to express themselves, certain individuals dominated some discussions and I had to constantly remind the group of the interactive nature of the discussion. Some individuals got very emotional about their individual and community situation of lack of food and actually thought I was mocking them with my questions. I had to reassure them that that was far from being the case.

4.5. Conclusion

This chapter has discussed the mixed methodology used to obtain the data for examining urban food security dynamics in female-centred households in the informal settlements. Combining quantitative and qualitative research methods in this way allows one to make generalizations about the state of food insecurity and to explore the underlying dynamics, responses and experience of food insecurity in greater depth. The quantitative household survey data was used to determine the general characteristics, levels, patterns and responses of female-centred households to food insecurity, while the qualitative interviews and focus group discussions helped me to understand in detail the behaviours adopted and strategies used in the challenging urban environment of the informal settlements. The research results are discussed in detail in the chapters that follow.

CHAPTER FIVE

POVERTY IN WINDHOEK'S INFORMAL SETTLEMENTS

"There is poverty here – whatever it is that we do is just to keep us alive from day to day."[6]

5.1. Introduction

During my fieldwork, the signs of poverty were very visible in the informal settlements of Windhoek. Not only is housing a major problem, but there is also a lack of basic services such as water, ablution facilities, electricity, roads, street lights, clinics and other infrastructure. There is no access to flush toilets, clinics, schools and shops are far away, and there is no electricity. Public piped water is available through pre-paid meters, consumption of which depends on what the households can afford. Most of the land on which the poor have set-up their houses are owned by 'slumlords'; in some cases, these owners erect four to five shacks on a piece of land for rental by the poor. When the Municipality eventually identifies an area for development these poor occupants are simply evicted. Due to the lack of formal legal title deeds, this creates severe housing poverty and a sense of extreme vulnerability. Many households live in a one or two roomed shelter made of corrugated iron sheets which are not good conductors of heat; they become very hot in summer and extremely cold during winter. During winter, as many households try to heat their houses, fires occur frequently in the informal settlements. Because of lack of

[6] Interview No 46, Okahandja Park, February 24, 2010.

electricity many households use candles, paraffin and kerosene for cooking and lighting. Many people have lost their homes and belongings due to fires.

There are two ways to go beyond this personal impressionistic overview of poverty in the informal settlements to provide a more in-depth analysis of the scale of poverty and the way that it differs from household to household. The first is to use quantitative data collected during the household survey and various poverty indicators and then to disaggregate the data by household type to identify if female-centred households are significantly poorer than other types of households. This chapter examines both the official poverty indicators used in Namibia and the data from three indicators built into the survey. The second method is to use the qualitative interview information to construct a picture of everyday poverty, as seen and experienced by the residents of the informal settlements. The second part of this chapter therefore draws on my qualitative interviews to provide a sense of the experience of poverty by the residents of the informal settlements.

5.2. Profile of Female-Centred Households

5.2.1. Demographic and Social Characteristics

In the eleven cities surveyed by AFSUN, female-centred households are the most common household type (at 34% of the total) (Table 5.1). In some cities, the figure was much higher than a third: for example, Msunduzi (53%), Gaborone (47%), Cape Town (43%), Manzini and Maseru (both 38%). Of the eleven cities, only Johannesburg and Windhoek are similar to the regional average (at 33% each). The big difference between those two cities is in the

relative proportion of male-centred and nuclear households. Windhoek has more of the former (21% versus 16%) and less of the latter (23% versus 36%). This is probably because Johannesburg has a longer history of urbanization and internal migration in South Africa tends to involve a greater number of family units (Beall *et al*., 2000).

Table 5.1 Typology of Households Surveyed in Southern African cities

	Windhoek	**Gaborone**	**Maseru**	**Manzini**	**Maputo**	**Blantyre**	**Lusaka**	**Harare**	**Cape Town**	**Msunduzi**	**Johannesburg**	**Total Regional**
Female-centred	33	47	38	38	27	19	20	23	42	53	33	34
Male-centred	21	23	10	17	8	6	3	7	11	12	16	12
Nuclear	23	20	35	32	21	41	48	37	34	22	36	32
Extended	24	8	17	12	45	34	28	33	14	13	15	22
Total	100	100	100	100	100	100	100	100	100	100	100	100
N	448	399	802	500	397	432	400	462	1060	556	996	6452

In Windhoek, 30% of the households in the informal settlements are female-centred which is actually significantly lower than poor but formal areas of the city (38% female-centred) (Table 5.2). On the other hand, there are more male-centred households in the informal areas than in other poor parts of the city (32% versus 25%). This finding is related to the nature of post-independence migration and household formation in Windhoek. As Frayne (2001:189) points out, single male migrants coming to Windhoek often cluster together with their friends and relatives in makeshift all-male households. The presence of these

groupings is reflected in the greater numbers of male-centred households in Windhoek's informal settlements.

Table 5.2 Types of Households Surveyed in the Informal Settlements of Windhoek

	Informal settlements	Other Areas	Total
	%	%	%
Female-centred	30.4	37.9	34.0
Male-centred	32.2	25.2	28.8
Nuclear	15.0	15.9	15.4
Extended	22.5	21.0	21.8
N	228	220	448

The sixty-nine female-centred households that form the main subject of this thesis comprise 190 individuals in addition to the household heads. Of these, 48% are sons and daughters and 21% are grandchildren of the head of household. Only a very small proportion are older than the household head (around 1%). The proportion of children and grandchildren in these households is thus extremely high and the proportion of older relatives extremely low. This is confirmed by the age profile of the sample.

Fifty-four percent of the household members are under the age of 20 and 34% are children under the age of 15 (Table 5.3). Only 0.5% are older than 50. This is only partly consistent with Frayne's depiction of household structure in Windhoek. As he argues, it appears as if older relatives do remain behind in the rural areas. He also argues that urban households tend to send their children back to the rural areas and have them raised and schooled there, because of lack of money (Frayne, 2001: 212). However, the women interviewed for this study clearly prefer to keep their offspring with them in Windhoek. This pattern can be

explained by the benefits of better education for children in urban schools compared to the rural areas. In addition, the families of children who are eligible for social grants may not receive the grants if the children live with extended family members in the rural areas, as they are not eligible to claim the grants on behalf of the children.

Table 5.3 Age Distribution of Female Heads and Household Members

	Female Household Heads		**Other Household Members**	
Age Group	No.	%	No.	%
0-4	0	0	36	19.0
5- 9	0	0	29	15.3
10-14	0	0	15	7.9
15-19	1	1.5	22	11.6
20-24	6	8.8	26	13.8
25-29	9	13.2	34	18.0
30-34	9	13.2	15	7.9
35-39	12	17.6	9	4.8
40-44	11	16.2	2	1.1
45-49	6	8.8	0	0
50-54	4	5.9	0	0
55-59	4	5.9	0	0
60-64	3	4.4	0	0
65+	4	5.9	1	0.5
Total	69		189	

The female heads of household span a considerable age range but only one could be considered a child-headed household (i.e. with a teenage head). In other words, this survey does not provide insights into the phenomenon of the child-headed household in Namibia, most of which are in the rural areas (Ruiz-Casares, 2007; 2009). The majority of the female heads are of child-bearing age (54% are under the age of 40). The number of older women is relatively small (only 10% are over the age of 60). Most of the women are in their peak

economic and reproductive years and yet they are desperately poor and food insecure for reasons explored below. While most of the women are of marriageable age and many have children, rates of marriage were relatively low amongst the sample with 23% married or cohabiting and 75% unmarried (Table 5.4). In other words, the majority of the women in charge of these female-centred households are single and have to provide for their households on their own.

Table 5.4 Household Size, Marital and Educational Status of Female Heads

	No.	%
Household Size		
1 to 5	54	78.3
6 to 10	14	20.3
>10	1	1.4
Marital status of female heads		
Unmarried	52	75.4
Married/Cohabiting	16	23.2
Divorced/separated/widowed	1	1.4
Education of female heads		
No formal schooling	9	13.4
Primary	27	40.3
High school	31	46.3
Tertiary	0	0

Note: only valid responses are shown, thus total might not add up to 69.

The inter-related phenomena of extra-marital fertility, decreasing rates of marriage and increasing age of first marriage are common to Namibia as a whole. Women traditionally entered into marital unions at an early age because of the bride price attached and because married women were viewed as more "respectable" in rural society (Edwards, 2007). Social, economic and political changes (including freedom of movement, personal

independence, the value attached to education, and the cost of raising children) have also produced a shift in women's aspirations and a desire to make a life without being subordinate to or attached to men (Pauli, 2007). Although the fertility rate in Namibia has declined from 5.4 children in 1992 to 3.6 in 2006, 13% of women aged 15-19 had already started childbearing (Ministry of Health and Social Services and Macro International Inc., 2008). High levels of premarital fertility have been observed for several decades, especially in urban areas (Gage, 1998; Garenne and Zwang, 2006). This has necessitated women looking after the children (with or without the assistance of the father) and even setting-up their own households (Ruiz-Casares, 2007).

Consistent with the general Namibian decline in fertility rates, the female-centred households in this study were relatively small with 78% having only 1-5 members. This is almost the same as the regional figure of 76% for the 11 cities. However, the AFSUN survey shows high levels of geographical diversity between cities with regard to female-centred household size (Dodson *et al.,* 2012). The female heads of household in Windhoek were not particularly well-educated with just over 50% having no or only primary education. While 46% had secondary schooling, none had any tertiary qualification.

5.2.2. Moving to Windhoek

Migration is the single most important factor contributing to the high level of urbanisation experienced in Windhoek since independence (Frayne and Pendleton, 2001; Pendleton, 2005). Whatever the type of household, over 80% of the surveyed heads in the informal

settlements were born in the rural areas (Table 5.5). With regard to female-centred households, 84% were born in the rural areas and only 15% in an urban area. The place-of-birth profile for other household members was quite different and varied considerably with type of household. For example, amongst male-centered households, 77% of household members were born in the rural areas and 22% in the urban areas, suggesting that the majority of household members are migrants. This is consistent with the observation made above about some male-centred households consist of groups of young, single men from the rural areas. In contrast, only 43% of members of female-centred households were born in the rural areas and 56% were born in an urban area. What this means is that a significant number of women came to the city as single and without children and their children were born in Windhoek. This is further confirmed by the fact that over 40% of children under the age of 14 live in female-centred households.

Table 5.5 Migration Status of Surveyed Households in the Informal Settlements

Place of birth of household heads	**Female-centred %**	**Male-centred %**	**Nuclear %**	**Extended %**
Rural area	83.6	91.7	84.3	83.7
Urban area	14.9	8.3	15.7	16.3
Foreign country rural	1.5	0.0	0.0	0.0
Foreign country urban	0.0	0.0	0.0	0.0
Place of birth of other household members				
Rural area	42.6	77.5	55.2	61.9
Urban area	56.3	22.5	43.8	38.1
Foreign country rural	1.1	0.0	0.0	0.0
Foreign country urban	0.0	0.0	1.0	0.0

5.3. Informal Household Employment and Income

Alan Gilbert (1994) has noted that during the 1960s and 1970s there were few people without work in the cities of developing countries, and unemployment was extremely low. Structural adjustment and rapid urbanization led to growing unemployment in the 1990s. In Sub-Saharan Africa, the informal sector grew and accommodated a growing majority of the urban working poor, as households struggled for survival (Rakodi, 1991). Having a job and wage income is a critical asset for the urban poor because it reduces their vulnerability to risk and enables them to provide food for their households (Moser, 1998). In Namibia, recent arrivals in Windhoek from the rural areas in Namibia find that with no education and skills it is extremely hard to find a job in the city:

> There are not many opportunities for us to find work here in the urban areas. You can observe the many young people that are moving to the urban areas with the hope of finding employment but either because they are not educated or lack skills are just roaming the streets. The situation is dire here, some also do not want to work and others have given up looking for a job completely.[7]

> Life here is difficult, we are very poor. The income that we get from selling on the street is so little that at the end you don't get a profit that enables you to acquire additional services, you continue living in that poverty but you cannot stop doing what you have been doing with the hope that one day life will improve.[8]

> One has to put in a lot of effort to make sure there is bread on the table. Funny enough is that even those that are educated they cannot find jobs – there are simply no jobs one has to think of something that one can do with your bare hands.[9]

Formal sector unemployment in the informal settlements of Windhoek is very high (Ministry of Labour, 2010). Labour market discrimination and barriers to formal

[7] Interview No 1, Greenwell Matongo, 16 February 2010.
[8] Interview No 29, Havanna Extension 7, 21 February 2010
[9] Interview No 46, Okahandja Park, 24 February 2010.

employment have led to higher unemployment levels for women than men (Iipinge and Le Beau, 2005):

> People came to Windhoek with the intention of finding a job. Job opportunities in the city are generally better than in the rural areas. The problem is just that there are many people who are not employed and it is hard to get a job. Men find jobs as security guards, gardeners, watchmen, but the income from those jobs is very little. Women mainly do get domestic or unskilled work, for which wages are low.[10]

The survey confirmed this gender discrepancy. Table 5.6 compares the proportion of female heads who are in full-time employment with other household heads in the informal areas of Windhoek. Only 40% of female heads are employed on a full-time basis, compared to 63% of heads of extended households, 67% of heads of nuclear households and 70% of heads of male-centred households. Thirty nine percent of female heads have neither formal nor casual work, compared to 23% of male household heads, 21% of nuclear household heads and only 16% of extended household heads. With regard to the employment status of other household members, the picture is more even. Three quarters of household members in female-centred households are not working and not looking for employment which is similar to those in nuclear households and extended households.

[10] FGD No 4, 25 February 2010, Samora Machel and Moses Garoeb.

Table 5.6 Work Status of Households in Informal Settlements

Work status of household head	**Female-centred**	**Male-centred**	**Nuclear**	**Extended**
Working full time	40.3	70.0	66.7	63.3
Working part-time/casual	20.9	8.3	11.8	20.4
Not working-looking	26.9	16.7	17.6	10.2
Not working-not looking	11.9	5.0	3.9	6.1
Work status of other adult household members				
Working full time	19.5	27.6	17.4	17.2
Working part-time/casual	7.1	6.1	9.3	9.9
Not working-looking	33.8	43.9	32.6	39.1
Not working-not looking	39.6	22.4	40.7	33.9

Given high levels of unemployment, some households have more than one income stream to try and make ends meet (Table 5.7). In the case of female-centred households, 16% derive income from informal businesses, 12% from casual work, 12% from remittances and 3.5% from social grants. The pattern of other income sources varies with type of household. Female-centred households are most likely to run informal businesses while extended households are most likely to derive income from casual work (possibly because there are more adults of working age in these households). Nuclear households are most likely to derive income from social grants, although the proportion is small (less than 5%).

Table 5.7 Sources of Household Income and Mean Monthly Income in Informal Settlements

	Female-centred		**Male-centred**		**Nuclear**		**Extended**	
	%	**N$**	**%**	**N$**	**%**	**N$**	**%**	**N$**
Wage work	39.5	1200	57.1	2150	63.6	1900	48.1	1650
Casual work	12.3	551	13.3	1038	9.1	1025	18.2	676
Remittances money	12.3	386	7.1	329	4.5	150	5.2	500
From rural farm products	0.9	300	0.0	0.0	2.3	300	1.3	200
From formal business	1.8	450	2.0	775	0.0	0	0.0	0.0
From informal business	15.8	600	13.3	374	11.4	105	10.4	1093
From rent	0.0	0	1.0	800	0.0	0	0.0	0
Pension/disability	3.5	382	2.0	415	4.5	450	3.9	433
Gifts	0.9	0.0	1.0	300	0.0	0	2.6	175
Urban farm products	0.0	0.0	0.0	0.0	0.0	0	0.0	0

When female-centred households have members in wage employment, their earning power is significantly lower than other types of households. For example, average monthly income from wage work in female-centred households is N$1 200, slightly less than half of that in male-centred households (N$2 150) which themselves have higher wage income than either nuclear or extended households. Average income from casual work and social grants is also lowest among female-centred households. These figures show that even when women can access the labour market, they occupy the lowest-paying forms of employment. It is only in the informal sector that female-centred households derive more income than male-centred and nuclear households. High unemployment generally means high levels of poverty in the urban setting. Does women's lack of access to formal employment opportunities lead to greater poverty amongst female-headed households?

5.4. Poverty in the Informal Settlements

There is a large international literature on how best to measure poverty using quantitative indicators (Hughton and Khandker, 2009). The Namibia Household Income and Expenditure Survey (NHIES 2003/2004) used a cost of basic needs (CBN) approach. Two cost lines were calculated: (i) the cost of a food basket enabling a household to meet a minimum nutritional requirement of 2,100 Kcal or about N$127 per person per month; and (ii) the cost of the food basket plus basic non-food items. Households are considered 'severely poor' if their consumption expenditure is equal to or less than N$185 per person per month and 'poor' if their consumption expenditure is N$262, but not less than N$186 (Central Bureau of Statistics, 2008).

On this basis, the 2009/2010 NHIES suggested that there had been a significant and rapid national decline in the proportion of 'poor' households from 37.7% in 1993/1994 to 27.8% in 2003/2004 to 19.5% (a value of N$377.96) in 2009/10 (Namibia Statistics Agency, 2012, Central Bureau of Statistics, 2008). Similarly, the share of 'severely poor' households recorded a downward trend from 14% in 2003/2004 to 10% in 2009/2010. The NHIES further suggests that poverty has declined amongst female-centred households from 30% in 2003/2004 to 22% in 2009/2010 and the proportion of 'poor' and 'severely poor' households in 2009/10 was only 9% and 4% respectively.

Levine and Roberts (2008) have raised concerns about these results because of the severity of observed poverty and the impact of other factors such as relative prices, tastes and availability which are unrelated to poverty. Their critique is particularly relevant in the urban areas where food and all other services have to be purchased. As noted by Levine (2012), prices of food in Namibia increased fourfold from 4.9% in April 2006 to 18.8% in July 2008. Similarly, energy prices increased causing a rise in transport prices from 7.5% to 18.1%.

The AFSUN survey did not collect basic data on the cost of food or other baskets, so it is not possible to cross-check the results of the NHIES here (Pendleton, Nickanor and Pomuti, 2012). Instead, the survey and this thesis rely on three measures designed to capture different elements of poverty: income poverty; the Lived Poverty Index and the food expenditure ratio.

5.4.1. Income Poverty

In terms of income poverty lines, the most common international measures of household poverty are US$1 per person per day and US$2 per person per day. Two thirds (67%) of the female-centred households interviewed in Windhoek's informal settlements had monthly incomes of less than N$1,900 (which translates to about US$7.50 a day or US$1.80 per person per day on average). Female-centred households have lower incomes than all other types of household in the informal settlements. For example, only 54% of extended households, 51% of nuclear households and 41% of male-centred households have monthly incomes of less than N$1,900 (Table 5.8).

Another 25% of female-centred households have monthly incomes of between N$1,900 and N$4,999 (about US$1.80 and US$4.7 per person per day respectively). However, this does not mean that they are not poor. Pendleton, Nickanor and Pomuti (2012:11) note that even a household with a monthly income of N$5,000 has barely sufficient to meet its basic needs. Over 90% of female-centred households therefore fall into this category.

Table 5.8 Household Structure and Income in Informal Settlements

	Female-centred		**Male-centred**		**Nuclear**		**Extended**		**TOTAL**	
	No.	%	No.	%	No.	%	No.	%	No.	%
Poor (<N$1900	42	66.7	29	40.8	16	51.6	26	54.4	113	53.3
Less Poor (N$1900-4999)	16	25.4	36	50.7	15	48.4	18	39.1	85	40.1
Least Poor (N$5000+)	5	7.9	6	8.5	0	0	3	6.5	14	6.6
TOTAL	63	100	71	100	31	100	47	100	212	100

Note: Totals may not add up to 96, only valid responses are reported

5.4.2. Lived Poverty Index (LPI)

The Lived Poverty Index (LPI) is a more subjective quantitative poverty indicator developed by Afrobarometer (Mattes *et al*., 2003). The index measures people's self-assessment of the frequency of going without the basic necessities of life. The six basic needs are food, water, medical treatment, electricity, fuel and a cash income. An LPI score is calculated for each household on a scale ranging from 0.00 to 4.00 where a score of 0.00–1.00 means a household never or seldom goes without; 1.01–2.00 that it sometimes goes without, 2.01-3.00 that it often goes without and 3.01-4.00 that it always goes without the basic need in question (Table 5.9).

Table 5.9 Lived Poverty and Household Type in Informal Settlements

	Female-centred	**Male-centred**	**Nuclear**	**Extended**
0.00-1.00 (never-seldom without)	33.3	40.8	54.5	57.1
1.01-2.00 (seldom-sometimes without)	37.9	46.5	39.4	24.5
2.01-3.00 (sometimes-often without)	22.7	12.7	6.1	14.3
3.01-4.00 (often-always without)	6.1	0.0	0.0	4.1
N	66	71	33	49

Note: Totals may not add up to 96, only valid responses are reported

Overall the LPI shows that the most impoverished households in the informal settlements are the female-centred households, with 29% often or always going without the basic needs in question. The equivalent figures for other types of household are 18% for extended family households, 13% for male-centred households and only 6% for nuclear households. Only a third of the female-centred households have never gone without the basic needs, compared with 41% of male-centred households, 54% of nuclear households and 57% of extended households.

Table 5.10 disaggregates the LPI to show the proportion of households going without each basic need. On each measure the proportion of those who have often or always gone without is markedly higher for female-centred households. The only measure where there is any uniformity is the absence of electricity, which is over 70% for all types of household and reflects the general lack of supply to informal settlements. The proportion of female-centred households who said they were never without a cash income was only 25% compared with 30% of nuclear households, 35% of male-centred households and 44% of extended households.

Table 5.10 Frequency of Going Without Basic Needs in Informal Settlements

Over the past year, how often has your household gone without:		Female-centred	Male-centred	Nuclear	Extended
Enough food to eat	Never	13.0 (9)	23.3 (17)	26.5 (9)	16.0(8)
	Just once/twice/several times	52.2 (36)	57.5 (42)	61.8 (21)	54.0 (28)
	Many times/always	34.8 (24)	19.2 (14)	11.8 (4)	30.0 (15)
	N	69	73	34	51
Enough Clean water	Never	56.5	54.8	52.9	59.2
	Just once/twice/several times	29.0	39.7	44.1	32.7
	Many times/always	14.5	5.5	4.0	10.2
	N	69	73	34	49
Medicine/Medical treatment	Never	36.4	49.3	50	58.0
	Just once/twice/several times	36.4	31.5	44.1	36.0
	Many times/always	27.3	19.2	5.9	6.0
	N	66	73	34	50
Electricity in your home	Never	15.9	11.1	17.6	14.0
	Just once/twice/several times	10.1	13.9	11.8	14.0
	Many times/always	73.9	75.0	70.6	72.0
	N	69	72	34	50
Enough fuel to cook your food	Never	18.8	13.9	17.6	24.0
	Just once/twice/several times	50.7	56.9	55.9	50.0
	Many times/always	30.4	29.2	26.5	26.0
	N	69	72	34	50
A cash income	Never	24.6	34.7	30.3	44.0
	Just once/twice/several times	36.2	37.5	42.4	24.0
	Many times/always	39.1	27.8	27.3	32.0
	N	69	72	33	50

The LPI also sheds light on perceptions of food availability. Going without food is clearly a significant problem in the informal settlements with 35% of female-centred households often or always going without enough food to eat, compared with 30% of extended households, 19% of male-centred households and only 12% of nuclear households.

5.4.3. Food Expenditure Ratio

The official Namibian definition of poverty based on the food ratio method classifies households as 'poor' if they spend 60% or more of their total expenditure on food and severely poor if they spend 80% or more (Central Bureau of Statistics, 1996). The most recent NHIES found that nationally the 20% of households with the lowest consumption expenditure (quintile I) devoted 56.7% of total expenditure to food purchase compared to 13.2% of the 20% households with the highest consumption expenditure (quintile V) (Central Bureau of Statistics, 2008:4-5). However, this data did not disaggregate for urban households.

Comparing Windhoek with other cities in the AFSUN survey, it appears that poor households in Windhoek spend a lower proportion of their income on food than in any other city. The same pattern has been observed for female-centred households compared to their counterparts elsewhere (Pendleton, Nickanor and Pomuti, 2012; Dodson *et al*., 2012). As Table 5.11 shows the proportion of household income spent on food by female-centred households varies from a low of 37% in Windhoek to a high of 70% in Harare. This suggests that households in Windhoek are the least poor in the region by this measure.

However, Windhoek's LPI is the same as that of Gaborone and Maputo while four cities (the three South African cities plus Blantyre) have better LPIs (Frayne *et al*., 2010:22).

Table 5.11 Food Purchases as Proportion of Household Expenditure

City	Female-centred %	Male-centred %	Nuclear %	Extended %	All %
Windhoek	37	36	35	36	36
Gaborone	48	41	44	50	46
Maseru	46	49	46	45	46
Manzini	42	42	43	43	42
Maputo	55	57	54	51	53
Blantyre	48	37	49	45	47
Lusaka	55	55	54	52	54
Harare	70	53	62	61	62
Cape Town	54	57	55	53	55
Msunduzi	53	56	48	53	52
Johannesburg	53	43	48	47	49
Total	51	46	50	49	50

Source: Dodson et al. 2012:

The picture becomes even more puzzling when the situation of the informal settlements in Windhoek is considered. Rather than households in the informal settlements spending a greater proportion of their income on food, they actually spend less than the city average. On average informal settlement households only spend a fifth of their income on food. In the Windhoek sample as a whole, female-centred households spend 37% of their income on food. Yet, in the informal settlements the proportion was only 21% (Table 5.12). In Windhoek, it therefore appears that the poorer you are the *less* you actually spend on food

as a proportion of total income. This paradox was also observed by Schmidt (2009), when analyzing the NHIES claim that there had been an improvement in poverty in Namibia. The NHIES 2003/2004 showed that 'severely poor' households have a higher per capita consumption than 'poor' households.

These findings call into question the whole idea of using a food expenditure ratio as a measure of poverty in Windhoek. Two explanations can be suggested for the anomaly. First, households in the informal settlements have very heavy expenditures on other basic needs such as shelter, clothing, transport, fuel and so on. This significantly reduces the amount of money available to spend on food. As Table 5.12 shows, most households spend about 20% of their income on food. Other heavy costs include utilities (15-19% depending on type of household), fuel (13-16%), transport (11-13%), education (8-11%) and housing (8-9%). The demands on meagre income were referred to by many informants:

> There are some women who are working, but even if one works, the amount which one receives is so little such that after you have paid for rent, water, transport, etc. there is little left to acquire food for a full month or until you land a job again.[11]

> You earn about N$400 from doing domestic work and being a security guard you get about N$800, considering that you have to pay water, transport, school fees and food, that income is too little. People do it because it's better than nothing but households can hardly live off that.[12]

> Even if one works, the amount which one receives is so little such that after you have paid for rent, water, transport, etc. there is little left to acquire food for a full month or until you land a job again. The school keeps on asking for this and that so one has to strife for your kids.[13]

[11] Interview No 42, 8de and 9de Laan, 23 February 2010.
[12] FGD No 4, Havana, 25 February 2010.
[13] Interview No 46, Babilon, 23 February 2010.

Amongst female-centred households in the informal settlements, the proportion of monthly income spent on utilities, transportation, fuel and education make up nearly 60% of total income. Households had to buy fuel for lighting and cooking, pay for water and use transport to purchase food (which is not figured into the cost of food). They also prioritise spending on children going to school as they spend a greater proportion of their income on education than any other type of household.

Table 5.12 Household Expenditure Categories by Type of Household

	Household Type			
	Female-centred	**Male-centred**	**Nuclear**	**Extended**
Food and groceries	21.3	20	20.3	17.5
Housing	9.2	9.9	9.5	8.2
Utilities	16.9	16.2	19	15.3
Transportation	13.1	12.6	11.4	11.9
Savings	6.4	6.3	6.3	9.7
Fuel	12.1	14.8	15.8	13.1
Medical expenses	3.8	5.2	4.4	6.3
Education	11.5	8.2	7.6	10.1
Insurance	0.6	2.2	3.2	1.1
Funeral costs	1.6	1.1	0.6	2.2
Home based care	0.0	0.5	0.0	0.0
Remittances	1.6	0.5	0.6	0.4
Debt service/repayment	1.0	1.4	0.6	1.9
Goods purchased to sell	0.6	0.5	0	0.7

The second reason for the Windhoek anomaly is that urban households do not rely exclusively on food purchase to obtain household food. As Chapter Eight shows, informal

rural-urban food transfers outside market channels are a significant alternative food source for many households.

5.5. Experiencing Poverty

Statistical indices like income poverty lines, the LPI and the food expenditure index demonstrate that poverty is prevalent in the informal settlements of Windhoek. They also show that female-centred households are worse off than all other types of household. However, statistics do not provide insights into the daily experience of poverty in the informal settlements. For example, they tell us what the residents spend on services but they do not provide the context of poor service provision and the frustrations experienced by residents in accessing services.

The absence of basic services such as electricity has particularly serious ramifications for residents of the informal settlements. As one respondent observed:

> The issue of electricity is a serious challenge. We have pre-paid water, but no electricity…. even if you get sick in the middle of the night no one will take you to hospital – it's dark, far and the road is not tarred. Similarly you cannot buy food which can be stored in a fridge. Our kids have to do reading on candle light. You cannot think of starting a business venture where electricity is required – if you do then you have to go rent a place where there is electricity, electricity is a necessary service. The very government we are voting year in year out is the very government that does not consider us when voted to power.[14]

Water is available but far from accessible and the absence of electricity means heavy expenditure on fuel for lighting and cooking:

[14] Interview No 32, Havanna, 21 February 2010.

> Here at Babilon we fetch water like in the villages. The water points are far. We also don't have electricity. We use paraffin for cooking and lighting or we fetch firewood. Paraffin is very expensive and fetching fire wood from the surrounding farms has become very dangerous, you can be assaulted or thieves grab your firewood from you on your way back or you get fined by the police because they claim that you are cutting down trees.[15]

Rubbish collection is unreliable producing a landscape which is an additional health hazard, especially for children playing:

> Generally the municipality is supposed to collect the rubbish once every week, but in Ongulumbashe (informal settlement section) the rubbish is everywhere and this result in ill health, even if you have enough food you may contract diseases from this untidy environment.[16]

The "untidy environment" is also unsafe for other reasons. Personal and children's safety was a recurrent concern in the interviews. The absence of a sense of safety and security relates to how the households understand and experience not only crime and violence but public health safety. The use of public toilets is seen as a danger for children, partly due to the hygiene and partly because of lack of electricity:

> The public toilets are not safe at night, you are afraid to walk to the toilet at night for the fear that you might get killed or be raped because it's very dark. About 50 households use 2 – 3 toilets. It is not safe for children to use these toilets as they are dirty in most cases and children pick up diseases, because they sit on those toilets and when they are not able to reach they use their hands for support. We therefore prohibit our children to use the toilets and refer them to the river beds.[17]

Many residents blame the limited job opportunities and consequent poverty on the neglect of the informal settlements by government, politicians, slumlords and municipality:

> Our government has neglected us in the informal settlements – we do not have electricity, water is obtained from a communal tap, communal toilets are shared

[15] FGD No 7, Okahandja Park, Tobias Hainyeko Constituency, 1 March 2010.
[16] Ibid.
[17] FGD No. 1, Havanna, Samora Machel and Moses Garoeb Constituencies, 25 February 2010.

> among about 15 to 20 households and are not safe for children more especially at night. We have makeshift showers and water is running everywhere because there are no proper channels provided. We do not receive any assistance in the form of food aid here, unlike in the rural areas through drought and flood relief.[18]
>
> We are trying to make ends meet but we are very poor and this is aggravated by lack of jobs. There is not even a single project earmarked for the poor, not even food for work here in the informal settlements. Politicians only come to the informal settlements when they are campaigning or when its election time for them to be voted. The poverty here is worse, the rural areas are at times better. Young people are roaming the streets, there is no development here, not even food.[19]

Comparisons like this with the situation in the rural areas are common in the qualitative descriptions of life in the informal settlements. Some are romantic about the rural areas while others are aware of the dilemma that they face:

> I came to Windhoek many years ago with the intention to find a job, but days, weeks, months and years have passed now. The situation has worsened and those who were trying to help me in the beginning gave up. It is tough here, we barely get by. At times I think we are better off in the rural areas, but that's where we came from, hoping for a better tomorrow in the city.[20]

The despair and hopelessness from chronic unemployment is reflected in various social problems including alcohol abuse. While a considerable number of people constantly move to and from the CBD in search of jobs, many are also found during working hours patronizing shebeens. In the informal settlements, shebeens are very common, and illicit liquor brewing and selling is widespread. The excessive use of alcohol is associated with crime, assault, domestic violence and the spread of HIV. As one young woman noted:

> Life generally is tough and women especially have to work harder to put bread on the table. There is much poverty here in the informal settlements and women struggle hard to overcome that. The problem here in our location is that alcohol

[18] Interview No. 7, Kilimanjaro, Tobias Hainyeko, 17 February 2010.
[19] FGD No. 1. Samora Machel and Moses Garoeb Constituencies, 25 February 2010.
[20] Interview No. 46. Okahandja Park, 24 February 2010.

> selling should be minimized. Women are not doing any work in their homes any longer they are just sitting at the bars from morning – How do they expect to earn bread? There is also a lot of noise coming from those shebeens and it is difficult for school children to concentrate. There are, however, a number of women who are genuinely working hard but most of them here have become slaves to alcohol.[21]

5.6. Conclusion

This chapter has explored the nature and severity of poverty in the informal settlements of Windhoek using quantitative indicators and qualitative responses from my research. Through measures such as the Lived Poverty Index and the food expenditure ratio, and the narratives of residents of the informal settlements, it also suggests that poverty and food security are closely related. The LPI, for example, found that 25% of all households (and 35% of female-centred households) had gone without enough food many times or always in the previous year. Only 20% of households (and 13% of female-centred households) had never gone without in the previous year. The food expenditure ratio provides a very direct indicator of the proportion of household income that is spent on food. As noted, the survey found that, contrary to expectations, informal households in Windhoek's informal settlements only spend around 20% of their income on food. The question that this raises, and which is addressed in the next chapter, is whether this means that despite the poverty in the informal settlements, households in these areas are actually not food insecure.

[21] Interview No. 44, 9de Laan, Otjomuise, Khomasdal North, 23 February 2010.

CHAPTER SIX

FOOD INSECURITY IN THE INFORMAL SETTLEMENTS

"I have been unemployed since 2004, so I hide when people are eating because I feel guilty".[22]

6.1. Introduction

The profile of female-centred households in the previous chapter shows that there are important differences with other types of household in Windhoek's informal areas, including their employment and income disadvantages and higher levels of poverty. This chapter examines the depth and severity of food insecurity, the quality of the diet in poor households and the variability in household food insecurity over time using the FANTA methodology discussed in Chapter 4. Three main questions are addressed in this chapter: Do female-centred households in the informal settlements of Windhoek experience greater food insecurity than other types of household? What is it about female-centred households that make them more vulnerable to food insecurity? And what is the relationship between food insecurity and the demographic, social and economic characteristics of these households?

[22] Interview No. 7, Kilimanjaro, 17 February 2010.

6.2. Food Insecurity and the Female-Centred Household

6.2.1. Levels of Food Insecurity

The most striking finding in the household survey is the depth of food insecurity amongst poor female-centred households in the informal settlements. For example, these households had a mean HFIAS score of 14.1 and a median of 15.0 (Table 6.1) on the scale between 0 and 27. These scores are significantly higher than those for the Windhoek sample as a whole (mean 9.3 and median 9.0). The lowest HFIAS scores, and therefore the most food secure households, were in the formal housing areas of Windhoek (mean 5.9 and mode 5.0). Amongst all households in the informal settlements, the HFIAS scores were twice as high as the average scores in the formal housing areas (mean 12.4 and mode 11.0) (Pendleton and Nickanor, 2012). However, these scores are still significantly lower than those for female-centred households. Female-centred households in informal settlements are therefore the most food insecure group in the whole of Windhoek.

This is confirmed by the distribution of households within the four HFIAP categories (Table 6.1). The survey found that 63% of all households were severely food insecure. There was a clear difference between poor formal and informal areas of the city with the informal areas experiencing much higher levels of severe food insecurity (76% versus 50%). As many as 85% of the female-centred households in the informal setllements were severely food insecure. The reverse pattern is found with food secure households: 29% of households in the formal areas were completely food secure compared with 8% in the informal

settlements. Only 4.5% of female-centred households in the informal settlements were food secure.

When female-centred households in the informal settlements are compared with other types of household, additional differences emerge (Table 6.2). While 85% are severely food insecure, the figure is around 70% for all other household types. Similarly, less than 5% of female-centred households are food secure, compared to 10% of extended households, 12% of male-centred households and 18% of nuclear households. The HFIAS and HFIAP values therefore indicate that food insecurity is a major problem for all poor households in the informal settlements, but the situation of female-centred households is particularly bad. The Windhoek pattern of greater food insecurity for female-centred households is the same across the region (Dodson *et al*., 2012).

Table 6.1 Levels of Food Insecurity in Windhoek

	No.	**Household Food Insecurity Access Scale (HFIAS)**		**Household Food Insecurity Access Prevalence (HFIAP)**			
		Mean	**Median**	**Food Secure**	**Mild Food Insecurity**	**Moderate Food Insecurity**	**Severe Food Insecurity**
Windhoek, Namibia	442	9.3	9.0	18.0	5.0	14.0	63.0
Formal Areas*	213	5.9	5.0	29.0	7.0	14.0	50.0
Informal Areas*	223	12.4	11.0	8.0	4.0	13.0	76.0
Female-Centred**	69	14.1	15.0	4.5	3.0	7.5	85.1

*Formal and informal total households surveyed in AFSUN; **Subset from informal areas

Table 6.2 Food Insecurity and Household Type in Informal Settlements

HFIAP Categories:	Female-centred	Male-centred	Nuclear	Extended
Food Secure	4.5	9.7	8.8	8.2
Mild Food Insecurity	3.0	2.8	8.8	2.0
Moderate Food Insecurity	7.5	15.3	11.8	18.4
Severe Food Insecurity	85.1	72.2	70.6	71.4
N	66	71	33	49

These extremely high levels of food insecurity translate into great anxiety and uncertainty about household food supply. Asked how often over the previous month they had worried about whether the household would have enough food, 56% of female household heads said they were often or sometimes worried. In the previous month, the majority of the households had adjusted their food intake in some way: 62% had sometimes or often eaten smaller meals because of a lack of resources; 55% had reduced their number of meals due to a lack of food; 55% had sometimes or often had no food in the house; 47% had gone to sleep hungry due to lack of food and 45% had gone a whole day and night without eating.

Table 6.3 Responses to Food Insecurity in Female-Centred Households

	Never %	Rarely %	Sometimes %	Often %
In the past four weeks did you or household :				
Eat a smaller meal than needed due lack of resources	11.6	26.1	42.0	20.3
Eat fewer meals in a day due to lack of food	14.5	30.4	36.2	18.8
Ever no food to eat due to lack of resources	17.4	27.5	34.8	20.3
Go to sleep hungry due to lack of food	32.4	20.6	30.9	16.2
Go a whole day and night without eating	30.4	24.6	30.4	14.5

The interviews and focus group discussions provided added insights into the lived experience of such high food insecurity. Women worry about where their next meal will come from and what will happen to the children should there be no food. One woman noted that the situation was better for men than women as women are precluded from a range of employment opportunities open to men and they are responsible for feeding their children:

> One constantly worries about food. It is tough here, we barely get by…. The food situation is relatively better for men they can tighten their belts, but for us women it is worse. When your child looks at you and ask for food and you cannot offer it to him or her as a mother you feel bad, you feel compelled to try anything even to engage in prostitution to give your child something to eat. I'm not educated and most casual jobs which are available are for men – to dig trenches for water pipes or cables for street lighting. Acquiring food is our daily challenge, as tough as it seems, this is our lives, but we survive.[23]

Others noted how food insecurity stripped them of their dignity. Adult providers feel worthless and despair at their inability to provide food for their children:

> One is even robbed of your dignity. Even a dog that feeds from the dustbins, the birds that grabs from what is hanged on the line are better. You worry about getting a job, which enables one to get money and buy food, you worry every day, every week, months and years. Like in this household we are so many, such that even when there is something to eat, which in most cases is *mahangu* you are not satisfied. All what is important is that one has taken in that little bit of food and this is how we live.[24]

One focus group participant observed how food insecurity also took away people's hope:

> Here in Havana food is a problem, not only to female headed households, even in my house. You see hungry children, people begging food from each other, children crying because they are hungry, men abandoning their households because they

[23] Interview No 10, Babilon, Tobias Hainyeko, 17 February 2010.
[24] Interview No 1, Greenwell Matongo, 16 February 2010.

> cannot feed them, alcohol abuse because people have lost hope. There is much poverty and food insecurity here.[25]

Food insecurity in the informal settlements is manifested in anxiety, stress and domestic violence towards women:

> When food starts to dwindle in the households, men start to abuse women physically, hurting children and staying away from homes for most of the time. In most cases men end up at the local bars drinking alcohol. Here in the informal settlements food is a source and cause of arguments in households and these arguments in most cases end in fists fights.[26]

6.2.2. Lack of Dietary Diversity

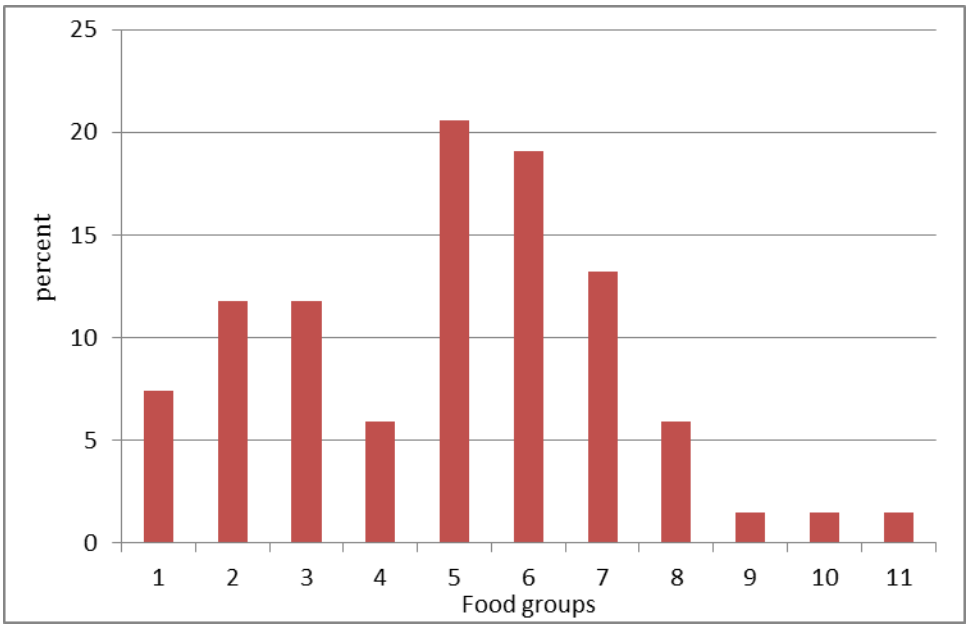
The severity of household food insecurity in Windhoek's informal settlements is not only reflected in the high prevalence of food shortages, but also in the type of diet which they can afford to eat. The household survey collected HDDS data on how many food groups had been consumed by the household in the previous 24 hours. The mean score for the Windhoek sample as a whole was 5 out of a possible 12. The female-centred household in the informal settlements of Namibia had a mean score of only 4.9 reflecting an even less varied diet. Over a third of the female-centred households had a score of 4 or less (Figure 6.1). Fewer than 10% ate from 8 or more food groups.

Based on the types of food actually consumed, female-centred households have very poor diets (Figure 6.2). In the 24 hours prior to the survey, over 90% had consumed food rich in carbohydrates (bread, rice, sorghum, maize, millet, food made from grain); 71% foods

[25] FGD No 1, Havanna. 25 February 2010.
[26]FGD No 7. Tobias Hainyeko, 1 March 2010.

made with oil or fat; 68% condiments, tea and coffee; 68% foods rich in sugar or honey and 59% with protein (mainly meat). The proportion consuming vegetables was very low at 23% and fruit consumption was even lower (at 19%).

Figure 6.1: Female-Centred Household Dietary Diversity Scores



The interviews and FGDs confirmed that maize and millet, supplemented by meat, are the main foods consumed in most households in the informal settlements. Fresh food (including meat, fish and vegetables) are bought and consumed immediately or dried due to the lack of electricity which limits storage of fresh food. Fish is preferred to meat due to its lower cost and because it can be more easily dried and stored. The diet of the poor female-centred household is mainly based on starchy staples and dried food and therefore does not differ much from that in rural Namibia. For most, the lack of dietary diversity is a necessity and not a choice. For example, 63% of female-centred households said they were

often or sometimes unable to eat their preferred food and 62% that they ate food that they did not want to eat due to lack of resources. As many as 55% directly attributed their limited diet to a lack of resources.

Figure 6.2: Food Groups Consumed in Female Centred Households

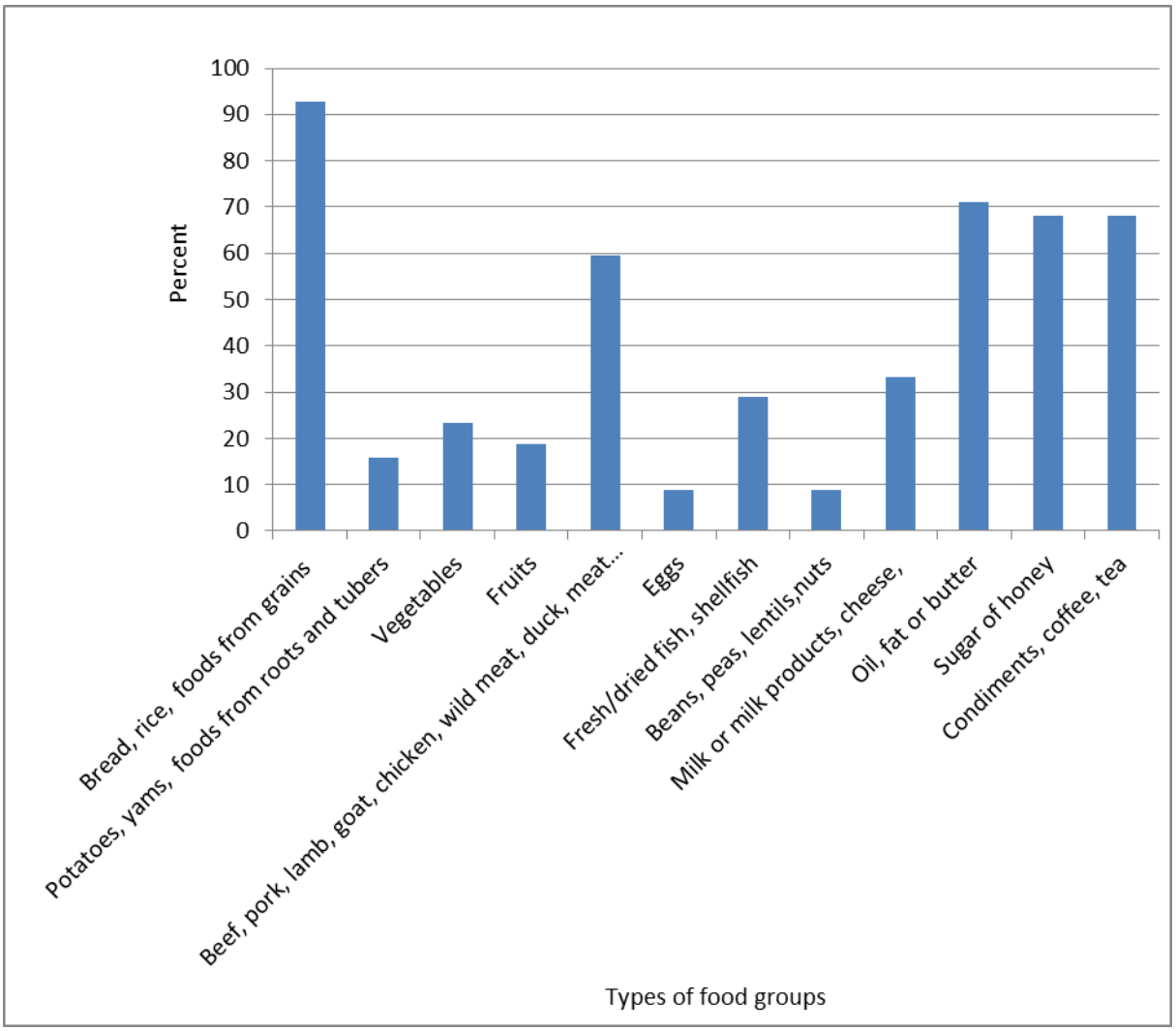


Table 6.4 Responses to Food Shortages by Female-Centred Households

	Never %	Rarely %	Sometimes %	Often %
In the past four weeks did you or household :				
Not eat preferred food due of lack of resources	14.7	22.1	39.7	23.5
Eat limited variety due to lack of resources	15.9	29.0	29.0	26.1
Not want to eat due to lack of resources	14.5	23.2	36.2	26.1
Eat a smaller meal than needed due to lack of resources	11.6	26.1	42.0	20.3
Eat fewer meals in a day due to lack of food	14.5	30.4	36.2	18.8

The interviews and FGDs also highlighted a pattern of monotonous diets and poor dietary diversity in female-centred households:

> Everyday we eat the same meal, pap, pap [porridge], we do not have a choice of what we want to eat, it is what we can afford. One has to live and pap takes away your hunger.[27]

> Every decent meal consists usually of maize meal or *mahangu* pap eaten with dried fish or meat when there is money to purchase the meat or fish. That is what we eat here every day. Even if you find chicken or vegetables on sale in the formal shops you will not buy it - where are you going to store it? There is no electricity here and no refrigerators.[28]

> You see how full this house is, each of my girls has two children each and they are not working. We do not eat to satisfy our hunger but as long as there is something in the stomach. I use about N$600 per month to buy a 50 kg bag of maize flour and other necessities but even that does not last a whole month I have to find some supplements.[29]

These, and other interviews, show that female-centred households in the informal settlements consume a narrow range of foodstuffs leaving them food insecure and

[27] Interview No 1 Greenwell Matongo, 16 February 2010.
[28] Interview No 26, Havana, 19 February 2010.
[29] Interview No 37, 8de and 9de Laan, Khomasdal, 22 February 2010.

nutritionally deprived. Respondents said they primarily eat maize or *mahangu* pap, macaroni, rice, and sometimes fish and meat. Fish and meat when bought are consumed immediately because they cannot be stored.

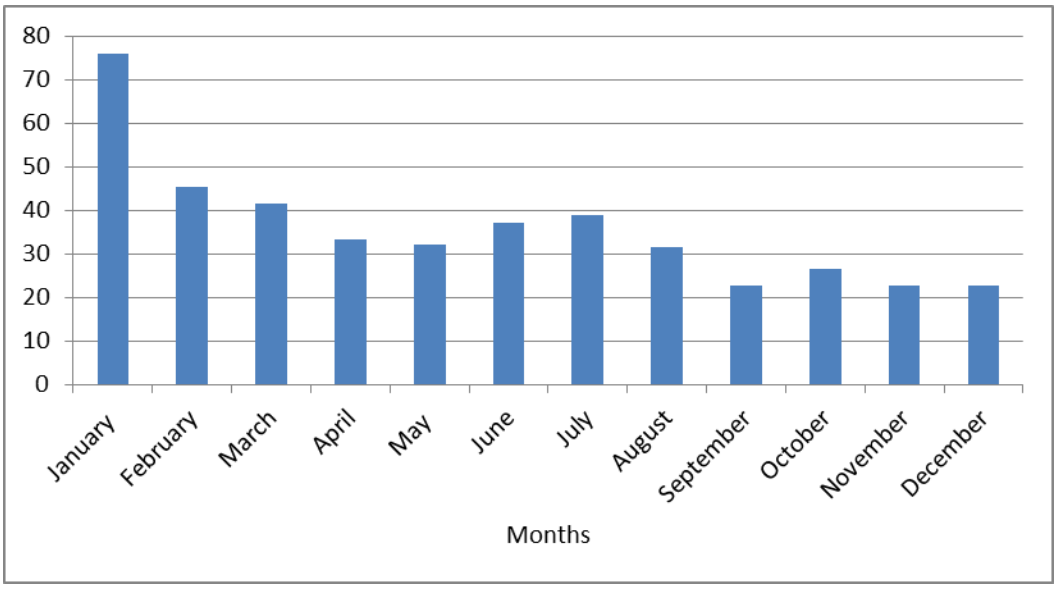
6.2.3. Food Humps

Apart from high levels of household food insecurity and lack of dietary diversity, there is also the issue of whether the intensity of food security varies over time. Although this phenomenon is generally associated with the agricultural cycle in rural areas, urban areas may also experience more intense food insecurity at certain times of the year. Based on a recall period of 12 months preceding the survey, the female-headed households in this study had a mean HFIAP score of 7.66, meaning that they experienced inadequate food provisioning for just over four months per year. However, there was some variation within the sample with 13% reporting inadequate food provisioning throughout the year and 21% reporting adequate provisioning all year round.

The interesting question is whether there are seasonal variations in the number of months of adequate food provisioning. Overall, Windhoek's food provisioning coincides with the agricultural seasons of the country. The pattern observed in Figure 6.3 is that there are two 'humps' when female-centred households experience very severe food insecurity. The first hump occurs in the months of January, February and March. The second hump is observed over the months of June, July and August. For many Namibians, savings and bonuses are used up in December when people take holidays to spend time with their families and in

other social activities (such as weddings) which help to strengthen kinship ties. Much of the expenditure is on food. The high spending during December and the end of the year festivities leaves households unable to recuperate financially in January as schools re-opens. With expenditures on education on the increase, a period of serious food insecurity from January to March occurs. The second hump is explained by changes in rainfall patterns and the agricultural cycle in the recent past. Namibia has been experiencing late rains, floods and above normal rains causing water logging. This leads to a loss in the planted area. As farmers attempt to re-plant there is a delay in harvest or a complete loss leading to food insecurity among the rural communities and urban households that rely on food transfers from the rural areas. Also, the months of May, June, July are the coldest month in Namibia and in the informal settlements households spend much more on fuel to heat their houses.

Figure 6.3: Months in Which Female-Centred Households Had Insufficient Food



6.3. Determinants of Urban Food Insecurity

Having established that food insecurity is a chronic problem in Windhoek's informal settlements, especially for female-centred households, this section examines some of the demographic, social and economic variables that appear to be most closely correlated with food insecurity in these households.

6.3.1. Food Insecurity and Household Size

Previous studies have reported that larger household size tends to have a negative impact on individual caloric availability (Kennedy and Haddad, 1994; Garret and Ruel, 1999). The size of a household therefore has the potential to directly affect its food security status through its influence on consumption patterns. We might expect this relationship to be even more pronounced in female-centred households where a number of people depend on meager and unreliable income for food. However, the relationship between household size and food insecurity in this sample is not statistically significant, $p>.05$ (Table 6.5) for all three indicators (the HFIAS, the DDS and the HFIAP). Although this finding suggests that household size is not a good predictor of female-centred households' food security status, larger households (6-10) do have a higher HFIAS, a lower DDS and a lower MAHFP.

Table 6.5 Food Security Indicators and Household Size

Household size categories	Mean	N	Std. Deviation	Sig.	Eta
HFIAS					
1 to 5	13.5	52	7.845	0.293	0.194
6 to 10	16.6	14	7.743		
> 10	7.0	1	.		
Total	14.1	67	7.855		
HDDS					
1 to 5	5.0	53	2.24	0.519	0.141
6 to 10	4.5	14	2.504		
> 10	7.0	1	.		
Total	4.9	68	2.284		
MAHFP					
1 to 5	9.0	52	3.697	0.175	0.23
6 to 10	6.9	14	4.786		
> 10	11.0	1	.		
Total	8.6	67	3.989		

6.3.2. Food Insecurity and Education

Maternal education is known to have profoundly beneficial effects on a range of issues including access to food, nutritional adequacy and care given to household members especially children and the elderly (Garret and Ruel, 1999; Smith *et al*., 2005; Ajieroh, 2009). Maternal education also influences food security more directly in two ways: first, through improving skills and income generating potential and, second, through greater employability and increased incomes from better employment. The question is whether

there is any relationship between the educational levels of household heads and members and the degree of food insecurity in female-centred households.

The data shows that the education of female heads is significantly related ($p<0.05$) to food insecurity (Table 6.6). Female heads with no formal schooling and some primary education have mean HFIAS scores of nearly 20. Those who had completed primary school and some high school have scores of around 14. Amongst those with secondary schooling, the HFIAS mean score is only 9. However, there is no significant relationship between female heads' education and either the MAHFP and HDDS. One possible explanation to this is that having a certain level of education affects how much food a household can afford but cannot guarantee a varied diet or consistent food provisioning.

The finding that the level of food insecurity is related to the educational attainment of the household head is important because an academic education does provide greater opportunity to obtain wage employment in a situation of extremely high unemployment, especially for women (41% of those in the survey who were working full- time had a high school education). People themselves feel that an education by itself will not guarantee food security:

> Here in the informal settlements it is not a matter of being educated, it is how you apply your skills to survive. In some households where there are members who are educated they go hungry because apparently those women do not want to do dirty jobs, make their hands dirty or do domestic work. How do you choose when you have nothing to choose from? They do not understand reality. There are no jobs – they need to create jobs with their skills and not wait for someone else to do it.[30]

[30] FGD No 5, Khomasdal North 27 February 2010.

Table 6.6 Food Security Indicators and Level of Education

	Mean	N	Std. Deviation	Sig.	Eta
HFIAS					
No formal schooling	19.4	5	8.385	0.038	0.153
Some Primary	18.3	13	5.648		
Primary completed	14.2	14	6.739		
Some high school	14.2	22	8.491		
High school completed	9	11	8.866		
Total	14.5	65	8.099		
DDS					
No formal schooling	5.2	5	4.764	0.44	0.06
Some Primary	8.5	14	3.878		
Primary completed	8.6	14	4.717		
Some high school	8.5	23	3.93		
High school completed	9.9	11	3.448		
Total	8.5	67	4.102		
MAHFP					
No formal schooling	5.0	5	1.871	0.343	0.069
Some Primary	5.1	13	1.553		
Primary completed	4.4	14	2.307		
Some high school	4.7	22	2.694		
High school completed	6.1	11	2.427		
Total	5.0	65	2.318		

This respondent makes two important points: first, that it is skills rather than formal education per se that are a better resource in the struggle for survival. Second, education itself can be counter-productive if it leads to people spurning jobs that are seen as beneath

their dignity. Comparing level of education and income with food status in Windhoek as a whole, households in which the head has no formal schooling are actually more food secure than those in which they have a primary education. This is attributable to the fact that "the uneducated could be more likely to accept the most menial employment shunned by those with some education" (Pendleton, Nickanor and Pomuti, 2012:22). Households with secondary education also tend to be more food secure than those with tertiary education. This could be "because it is more difficult for those with a university degree or diploma to find employment commensurate with their training and skills."

6.3.3. Food Insecurity, Work Status and Occupation

In order for poor urban dwellers to earn a regular income they need to be working. Employment income provides households with money to purchase basic needs including food. Work status is also crucial because a formal sector job guarantees a regular income whereas casual employment does not. However, even casual employment is better than no employment at all. On the other hand, someone who is formally unemployed may have to resort to other income-generating activities which could mean a more reliable income flow (Quisumbing *et al*., 1995; Levin *et al*., 1999).

The survey analysis found that there is a statistically significant relationship between the work status of the female head and the food security of the female-centred household, for all three indicators (Table 6.7). The association between work status and HFIAS is significant ($p<0.05$) and highest in households where the head was not working or looking

for work (21.4 out of a possible 27). Households where the head was actively seeking work have a lower score of 13.9. This was actually lower than the score for households where the head was in casual employment (16.6). This means that households that depend on casual labour for income are more food insecure than those where the household head is unemployed but looking for work. The unpredictability of casual work was summed up by one respondent as follows:

> You only get food when you are working, in this house there is no one working for government or some good paying company. The one person that is employed works for the Chinese and this job is not stable at all, you will hear that after three days they are told to stay at home just for them to be called back after two days.[31]

The only realistic explanation for the greater food security of households in which the head is unemployed but looking for work, is that these women are also engaged in other income-generating activity. The least food insecure households are those with a head working fulltime (11.8). This pattern repeats itself with regard to dietary diversity with one difference i.e. households that depend on casual employment are the most food insecure. HDDS scores are highest (more diverse diet) for households with a head working fulltime, followed by those where the head is unemployed but looking for work. The MAHFP rankings are similar to the HFIAS rankings. When the head is working full-time, households have 10.1 months of adequate food supply a year, followed by those looking for work (8.6), those in casual labour (7.6) and finally those who are unemployed and not looking for work (3.9). These households are clearly in a very precarious situation.

[31] Interview No 26, Havana 19 February 2010.

In female-centred households where there are other adults, the female household head is not the only actual or potential income generator. It is therefore also necessary to see if this relationship between work status and food security holds when all adults are taken into account. Overall there is no statistical association between the means of HFIAS, MAHFP and HDDS indicators and the work status of household members (Table 6.8). A possible explanation is that even if there are household members working, they may not necessarily contribute to the food in the household, that being the responsibility of the head.

The association between occupation of household heads and household food insecurity was not significant for any of the three indicators (Table 6.9). For example, the HFIAS score was the same for households with heads in both higher and lower skilled jobs (at 12.6). When the head worked in the informal economy, the HFIAS (level of food insecurity) was much higher (19.6). These households also had lower dietary diversity and a greater number of months of inadequate food supply. The same lack of a statistical relationship was true for the association between occupation of household members and food insecurity (Table 6.11). What this means is that work status is a better predictor of household food security than the actual occupation that is pursued.

Table 6.7 Food Security Indicators and Work Status of Household Heads

Work status of heads of households	Mean	N	Std. Deviation	Sig.	Eta
HFIAS					
Working fulltime	11.8	26	7.528	0.017	0.153
Working part time/casual	16.6	14	8.186		
Not working – looking	13.9	17	6.754		
Not working- not looking	21.4	8	8.766		
Total	14.5	65	8.099		
HDDS					
Working fulltime	6.0	26	2.209	0.012	0.164
Working part time/casual	3.8	13	1.833		
Not working – looking	4.8	18	2.282		
Not working- not looking	3.9	8	2.295		
Total	5.0	65	2.318		
MAHFP					
Working fulltime	10.1	27	2.501	0.003	0.195
Working part time/casual	7.6	14	3.915		
Not working – looking	8.6	18	4.189		
Not working- not looking	4.4	8	5.78		
Total	8.5	67	4.102		

Table 6.8 Food Security Indicators and the Work Status of Other Household Members

Work status of heads of households	Mean	N	Std. Deviation	Sig.	Eta
HFIAS					
Working fulltime	13.5	24	6.989	.306	.141
Working part time/casual	12.6	10	8.592		
Not working – looking	14.7	50	7.439		
Not working- not looking	16.0	96	7.728		
Total	15.1	184	7.603		
HDDS					
Working fulltime	5.9	28	2.107	.174	.165
Working part time/casual	5.2	10	1.814		
Not working – looking	4.9	51	2.145		
Not working- not looking	5.0	95	2.108		
Total	5.1	184	2.116		
MAHFP					
Working fulltime	8.9	30	3.523	.251	.148
Working part time/casual	9.4	11	3.325		
Not working – looking	8.9	52	3.785		
Not working- not looking	7.8	96	4.367		
Total	8.4	189	4.048		

Table 6.9 Food Insecurity Indicators and Occupation of Household Heads

Occupation of female household heads	Mean	N	Std. Deviation	Sig.	Eta
HFIAS					
Professional/Skilled/office worker	12.6	15	7.395	.191	.293
Unskilled worker	12.6	20	8.494		
Informal business/trader	19.6	5	6.189		
Total	13.5	40	8.013		
HDDS					
Professional/Skilled/office worker	5.9	15	2.492	.074	.358
Unskilled worker	5.2	19	2.016		
Informal business/trader	3.4	5	2.302		
Total	5.3	39	2.325		
MAHFP					
Professional/Skilled/office Worker	9.7	15	2.968	.105	.343
Unskilled worker	9.7	21	2.986		
Informal business/trader	6.2	5	3.962		
Total	9.3	41	3.233		

Table 6.10 Food Insecurity Indicators and Occupation of Household Members

Occupation of household members	Mean	N	Std. Deviation	Sig.	Eta
HFIAS					
Professional/Skilled/office worker	14.9	16	7.378	.578	.243
Military	10.7	3	6.429		
Unskilled worker	13.9	11	6.107		
Informal business/trader	9.8	6	9.517		
Total	13.1	36	7.236		
HDDS					
Professional/Skilled/office worker	6.1	16	2.620	.867	.142
Military	6.0	3	1.000		
Unskilled worker	6.0	12	1.279		
Informal business trader	3.8	5	1.304		
Total	5.7	36	2.079		
MAHFP					
Professional/Skilled/office worker	9.3	17	3.098	.173	.377
Military	10.0	3	1.000		
Unskilled worker	8.7	13	4.191		
Informal business/trader	9.8	6	1.472		
Total	9.2	39	3.183		

6.3.4. Food Insecurity and Household Income

The urban economy thrives on cash, so having an income in urban areas determines one's ability to acquire most services and basic needs including food. Even if food is widely available, households require the ability to access it. A strong relationship might therefore be expected between household income and food security status. Using the HFIAS mean scores, this relationship is statistically significant amongst female-centred households in Windhoek's informal settlements. The HFIAS mean is 14.6 for households in the lowest

income tercile and only 5.6 for those in the upper tercile (Table 6.11). The association between income levels and dietary diversity is statistically very significant, with the low earning households having an HDDS mean of 4.2 compared to 8.2 for the higher income households. This means that female-centred households who earn less are also more likely to consume a less varied diet. There was no statistically significant relationship between income categories and food variability over the previous twelve months, although there is clearly some difference between the poorest and the least poor households. The strong statistical relationship between food insecurity and household income suggests that poverty (as measured by income poverty lines) is closely related to food insecurity. This hypothesis can be further tested with reference to the Lived Poverty Index.

Table 6.11 Food Insecurity Indicators and Household Income

Household Income Terciles	Mean	N	Std. Deviation	Sig.	Eta
HFIAS					
Poorest (<N$1900)	14.6	40	7.781	0.034	0.331
Less poor (N$1900-4999)	12.7	16	5.961		
Least poor (N$5000+)	5.6	5	5.727		
Total	13.4	61	7.526		
HDDS					
Poorest (<N$1900)	4.2	42	2.139	0.000	0.563
Less poor (N$1900-4999)	6.3	15	0.816		
Least poor (N$5000+)	8.2	5	2.387		
Total	5.1	62	2.297		
MAHFP					
Poorest (N$<1900)	8.86	41	3.727	0.222	0.225
Less poor (N$1900-4999)	8.9	15	2.997		
Least poor (N$5000+)	11.6	5	0.894		
Total	9.0	61	3.466		

6.3.5. Food Insecurity and Lived Poverty

The relationship between the Lived Poverty Index (LPI) and household food insecurity is statistically very significant for all three indicators of food security (Table 6.12). The mean HFIAS score increases dramatically as the LPI index increases. Household food insecurity therefore increases as levels of lived poverty increase. The four households that are poorest on the LPI scale (3.01-4.00) have a mean HFIAS of 22.5 (out of a maximum of 27) and are therefore experiencing acute food insecurity. The HDDS mean scores decrease as levels of poverty increase. This means that dietary diversity decreases as poverty increases.

A similar pattern emerges with the MAHFP means. In other words, as poverty increases, the number of months of inadequate household food provisioning increases.

Table 6.12 Food Security Indicators and Lived Poverty

Lived Poverty Index	Mean	N	Std. Deviation	Sig.	Eta
HFIAS					
0.00-1.00 (Never -seldom without)	7.6	21	6.361	0.000	0.622
1.01-2.00 (Seldom-sometimes without)	15.6	25	6.325		
2.01-3.00 (Sometimes - often without)	18.9	14	6.837		
3.01-4.00 (Often-always without)	22.5	4	5.196		
Total	14.9	64	7.974		
HDDS					
0.00-1.00 (Never -seldom without)	6.5	22	1.921	0.000	0.630
1.01-2.00 (Seldom-sometimes without)	5.0	24	1.681		
2.01- .00 (Sometimes - often without)	3.5	15	2.066		
3.01-4.00 (Often-always without)	1.5	4	0.577		
Total	4.9	65	2.293		
MAHFP					
0.00 - 1.00 (Never -seldom without)	10.0	21	3.556	0.000	0.550
1.01 - 2.00 (Seldom-sometimes without)	9.1	25	2.472		
2.01 - 3.00 (Sometimes - often without)	7.1	14	4.938		
3.01 - 4.00 (Often-always without)	1	4	1.414		
Total	8.5	64	4.055		

The qualitative research provided important corroborating evidence on the actual experience of poverty and food insecurity. The residents of the informal settlements are very clear that poverty is a direct cause of food insecurity:

> We are so poor that even when you take a child to the hospital the nurses ask whether you are from Okahandja Park (informal settlement) and if so they say we can see (the woman demonstrates this by pulling on the skin of her upper arm)

because your child is malnourished. How do I feed my child nutritious food when I'm unemployed?[32]

In my case I am the head of the household and there are no men in my house. This does not mean that as a woman I have to sit back and do nothing, who will provide for us. We are suffering, we don't have enough food, my household is poor, but I have to struggle.[33]

Life here in town is merciless especially in the informal settlements. You are stripped of your dignity. Poverty is high that we usually beg food from each other. Some women even engage in prostitution because when you are hungry you don't think straight.[34]

6.3.6. Food Insecurity and Food Price Increases

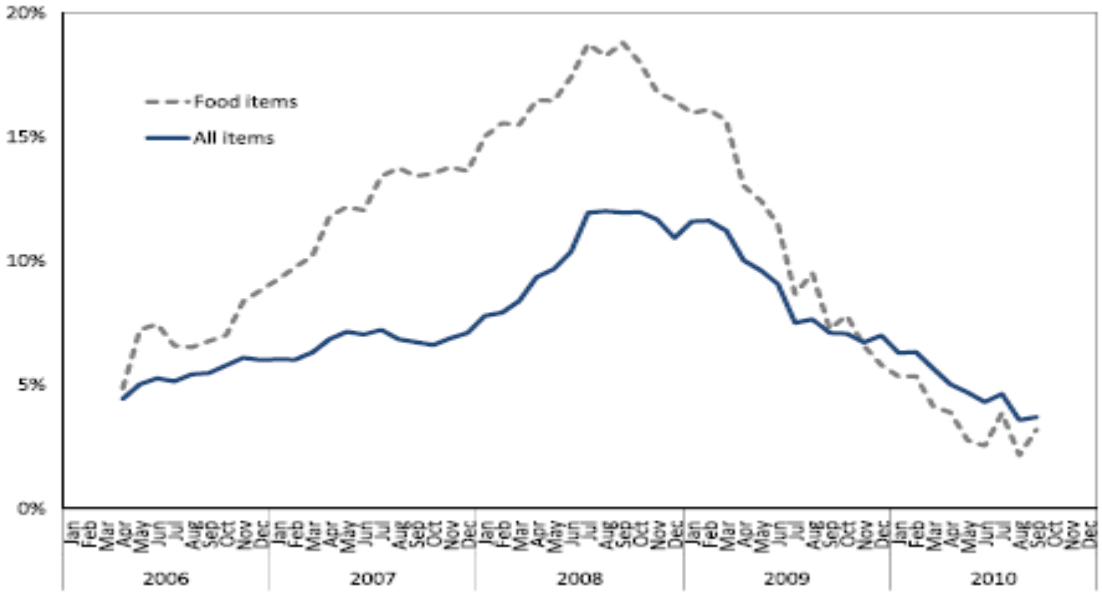
In the recent past, a number of structural forces such as rising energy prices, increased subsidies for biofuel production, weather disruption and restrictive trade policies have driven up global and regional food prices (Von Braun *et al*., 2008). Although the increase in food prices in 2007-8 (just prior to this survey) led to intensive international global concern, most policy prescriptions have tended to address food security concerns in the rural areas at the expense of the urban poor (Cohen and Garrett, 2009). Yet, the impact of price increases is more devastating for urban dwellers who have to purchase most of their food.

In countries like Namibia, where much of the food consumed in urban areas is imported, sufficient food is available but it may not be affordable. Figure 6.4 shows the increase in food prices in Namibia which peaked in 2008. During the period 2006–2008 food prices

[32] FGD No 7, Okahandja Park, Tobias Hainyeko, 1 March 2010.
[33] Interview No 43, 8de and 9de Laan, Khomasdal North, 23 February 2010.
[34] FGD No 6, Otjomuise, Khomasdal North, 27 February 2010.

increased more than threefold from 4.9% in April 2006 to 18.8% in July 2008 from a baseline earlier in 2006. Items such as oil and fats, milk, cheese, eggs, bread and cereals prices increased by more than 20% (Levine 2012:61). The price of other non-food commodities and services including transportation also increased (though not at the same rate) putting additional strain on household budgets.

Figure 6.4: Price Changes of Food and Non-Food items



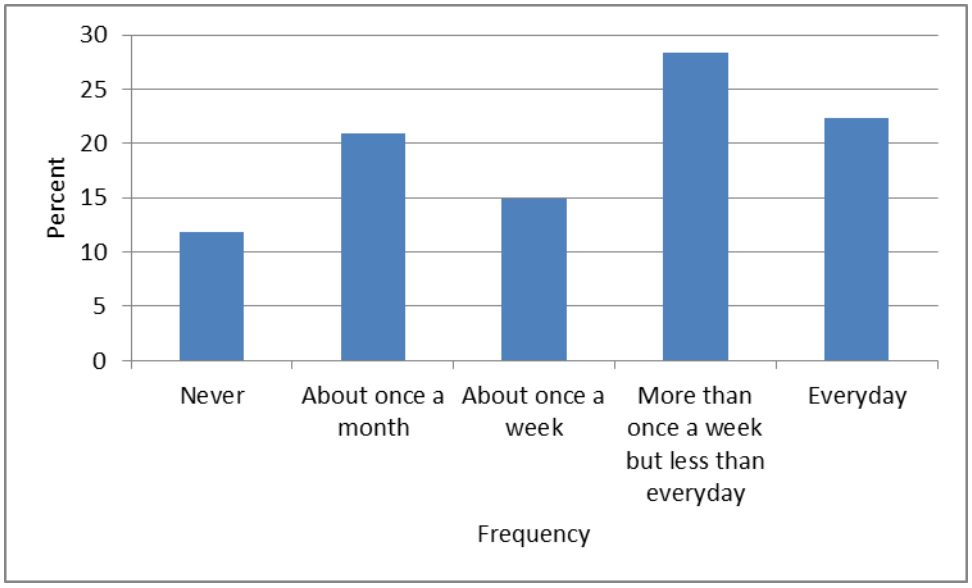
Source: Levine (2012:62)

In response to the food prices increase in 2007-8, the Government of Namibia introduced various measures to cushion their impact (Levine, 2012). 'Zero–rating' of Value Added Tax (VAT) was introduced on top of flood and drought relief, coverage of cash transfer to orphans and vulnerable children was expanded as was the expansion of school feeding programmes. Old age and disability pensions were also increased (Levine, 2012). With zero-rating VAT, the producer claims a rebate on taxes on intermediate inputs including

maize meal and *mahangu*, utilities (water, electricity, sewerage) and fuel. Levine (2012) notes that the results of the introduction of 'zero–rating' in Namibia were not substantial. Only wealthier households benefited and the impact on the poorer majority was very small. This system was not implemented efficiently and very few retailers participated, so that high food prices continued to make food inaccessible for poor urban residents.

The household survey found strong evidence that the food price increases of 2007-8 had an extremely negative impact on food security in the informal settlements. Overall 88% of female-centred households reported that they had gone without food due to food price changes in the previous six months. More than 20% had been affected on a daily basis and another 28% more than once a week (Figure 6.5).

Figure 6.5: Frequency of Going without Food Due to Unaffordability



The association between food insecurity and the frequency of going without food due to unaffordability is statistically very significant for all three indicators of food insecurity (Table 6.13). Female-centred households that went without certain food types every day because of unaffordability had a mean HFIAS score of 22.2, which is close to the absolute food insecurity score of 27. Similarly, dietary diversity for these households was only 3.3 and months of adequate food provisioning was as low as 4.

Table 6.13 Food Insecurity and Frequency of Going Without Certain Food due to Food Price Increases

	Mean	N	Std. Deviation	Sig.	Eta
HFIAS					
Never	5.8	8	7.005	0.000	0.694
About once a month	12.5	14	5.019		
About once a week	10.5	10	4.767		
More than once a week but less than every day of the week	14.3	17	7.254		
Every day	22.2	15	4.617		
Total	14.3	65	7.794		
HDDS					
Never	5.7	8	3.196	0.004	0.498
About once a month	6.0	13	1.155		
About once a week	6.0	10	1.247		
More than once a week but less than every day of the week	4.8	19	2.478		
Every day	3.3	15	1.839		
Total	4.95	66	2.303		
MAHFP					
Never	11.9	7	0.378	0.000	0.653
About once a month	8.8	14	2.914		
About once a week	10.0	10	1.430		
More than once a week but less than every day of the week	9.0	19	2.855		
Every day	4.0	15	4.721		
Total	8.5	65	4.004		

Food price increases therefore had a major impact on access and dietary diversity. The most inaccessible food types were foods made from grain staples (maize, rice, wheat, *mahangu*) and meat, affecting 78% and 62% of households respectively (Table 6.14). Since many households depend heavily on cereals in their diet, an increase in staple prices is particularly serious and likely to lead to widespread hunger. Despite the fact that Namibia is a net exporter of beef, female-centred households also go without meat when food prices increase. As many as 60% of households had also gone without foods made with oil, fat or butter and milk and milk products.

Table 6.14 Foods Gone Without due to Increases in Food Prices

Types of food group	**%**
Bread, rice, noodles or foods from grains maize, *mahangu*, sorghum, wheat	77.6
Potatoes, yams, cassava, manioc or foods from roots and tubers	45.6
Vegetables	41.4
Fruits	45.6
Beef, pork, lamb, goat, chicken, wild meat, duck, other birds, organ meat	62.1
Eggs	50.0
Fresh or dried fish, shellfish	43.9
Beans, peas, lentils, nuts	39.7
Cheese, yoghurt, milk or milk products	59.6
Foods made with oil, fat or butter	59.6
Sugar or honey	57.9
Condiments, coffee, tea	57.1

The implications of food price increases were described by a number of respondents as follows:

> The prices of food are increasing every month. Every time you go to the shop the prices have increased, so much that if you go with the exact amount for which you purchased an item three weeks ago, you are lucky if you can get it out of the shop.[35]

> It is sad how the prices for food are increasing, and they affect all other services too, fuel, transport, etc. But it is worse when you cannot buy food.[36]

> It all started some two years ago, first with bread, but now everything has increased but we buy food often we are really affected in that way. The government I hear was or did remove the tax on some food, but we did not see it here in the informal settlements or maybe not from the shops we purchase our food.[37]

6.4. Conclusion

This chapter has assessed the levels of food insecurity in female-centred households in the informal settlements of Windhoek and identified the factors that are responsible for deepening vulnerability to food insecurity. Both the quantitative and qualitative findings demonstrate the severity of food insecurity among these households manifested through food inaccessibility, the narrow range of food consumed and inadequate food provisioning in many months of the year. Vulnerability to food insecurity is exacerbated by a number of factors. The findings suggest that food insecurity in female-centred households is primarily related to low household income, increasing poverty, rising food prices, working status and high unemployment levels. Given this situation of chronic food insecurity, it is necessary to

[35] Interview No. 28. Havana, 21 February 2010.

[36] FGD No. 5. Khomasdal North, 27 February 2010.

[37] FGD No. 7. Tobias Hainyeko, 1 March 2010.

ask how poor female-centred households cope at all in Windhoek? Chapter Seven therefore examines their food procurement strategies and Chapter Eight their more general attempts to cope with food shortages and insecurity.

CHAPTER SEVEN

FOOD DESERTS, SUPERMARKETS AND INFORMAL FOOD

"Shoprite, Woermann Brock and Pick 'n Pay are really our preferred shops, but they are far from us"38

7.1. Introduction

Modern urban food supply and distribution systems are an important determinant of vulnerability to food insecurity amongst poor urban households in cities such as Windhoek. Households cannot be food secure unless adequate food is available on the market, affordable to those with low incomes and accessible in terms of the location of food outlets. Even when urban food distribution systems in Africa make sufficient food available, they often do not deliver it in an affordable and accessible manner to all residents of the city. This creates major spatial disparities in food access across the city. The sources from which households in informal settlements obtain their food determine the choice of food items, the availability of such food items, their quality and the cost of food. All are critical for ensuring food security at household level, but are given low priority in the servicing of informal settlements.

The first part of this chapter examines the urban food system in Windhoek and the utility of the spatial concept of "food deserts" to depict the situation in the informal settlements of the city. The previous chapter has shown that many of the dietary features of food deserts

[38] FGD No 2, Havana, Samora Machel and Moses Garoeb, 25 February 2010.

are present in the informal settlements including poor and monotonous diets and a lack of dietary diversity. As Chapter Two argued, the food desert concept is closely tied to the location and accessibility of large retail outlets such as supermarkets. The first question, therefore, is whether there are supermarkets in or close to the informal settlements and, if not, whether they are still accessible to the residents. The comment quoted above by one resident suggests that they are not. The second question, raised by Battersby (2012), is whether food from supermarkets and other inaccessible outlets finds its way into the informal settlements through other channels such as informal markets, tuck shops, hawking and street trading.

7.2. Supermarkets in Windhoek

Studies of supermarkets in developing countries show that the rapid expansion of supermarket chains from Europe and North America is driven by the need for foreign direct investment, and competition and saturation in the markets of home countries (Reardon *et al*., 2003). The development of supermarkets in Africa is a recent phenomenon which started in the 1980s in Eastern and Southern African countries but has grown rapidly (Reardon *et al*., 2003). In the South African case local supermarket chains began to expand rapidly in the 1980s once those chains had decided to pursue the North American model of controlling the food chain from 'field to fork'. Expansion of supermarkets is driven by rapid urbanization, increasing numbers of middle income earners, and advances in technology (Weatherspoon and Reardon, 2003). While supermarkets initially targeted

middle and high income urban populations only, they have expanded well beyond the middle class and are now trying to tap all urban consumers (Crush and Frayne, 2011b:782). They have even altered their procurement systems in order to meet the demand, to improve product quality, maintain diversity, a consistent supply and assure safety as they reach into the pockets of the poor (Reardon *et al*., 2003:1144).

In 1994 there were a total number of 1,700 supermarkets in South Africa and this doubled to 3,500 in 2009 (Parduhn, 2011). In South Africa, the supermarket sector is dominated by the "big four" of Pick 'n Pay, Shoprite, Spar and Woolworths who have also expanded to eleven other countries in Southern Africa (Table 7.1). These supermarkets have a variety of formats and many do not just market food. They also own other chains that include furniture stores, house and home stores, financial services, fast food outlets, convenience stores, and mini markets. In 2007, the "big four" had over 2,000 outlets in South Africa, followed by Zimbabwe (129) and then Namibia (103). Given that Namibia's population is so small and relatively dispersed the degree of supermarket penetration is very significant. Namibia has also roughly the same population as Botswana and Lesotho who combined only have 75 supermarkets.

Table 7.1 South African Supermarket Chains in SADC, 2007

Company and Number of outlets					
Country	**Shoprite**	**Pick 'n Pay**	**Spar**	**Woolworths**	**Total**
South Africa	718	552	675	320	2265
Angola	8	0	0	0	8
Botswana	10	19	26	11	66
Lesotho	7	0	0	2	9
Malawi	5	0	0	0	5
Mauritius	1	0	11	1	13
Mozambique	5	0	0	1	6
Namibia	65	15	19	4	103
Swaziland	7	6	7	3	23
Tanzania	5	0	0	1	6
Zambia	18	0	2	1	21
Zimbabwe	1	56	70	2	129
Total	850	648	740	346	

Source: Emongor and Kirsten (2009:63)

In Namibia, South African retailers dominate the formal urban food system. Shoprite (with its brands Shoprite, Checkers, OK Foods, U- Save) is most important in Namibia, with over 65 stores and estimated sales of over US$121 million in 2007. Spar takes second place with 26 outlets and estimated sales of over US$29 million in 2007. Pick ‘n Pay and Woermann Brock (originally with a mother company in Hamburg but now Namibian owned) have 15 outlets each in the country (Crush and Frayne, 2011b:788). Windhoek is served predominantly by the following food supermarkets: 15 Shoprite, 11 Woermann Brock, 5 Spar, 4 Pick ‘n Pay, 2 Fruit and Veg and 1 Woolworths outlets (Crush and Frayne, 2011b:788).

These supermarkets and hypermarkets source most of their food from South Africa. In Namibia, 95% of the food is imported mainly from South Africa (National Programme on Food Security, 2007), and is distributed through these supermarket outlets. In a study on supermarkets in Namibia, Botswana and Zambia, Emongor (2009) found that 80% of all processed food, 100% of temperate fruit, and 70-100% of tropical fruit were sourced from South Africa, although 80% of fresh vegetables were sourced from local commercial farmers (Emongor, 2009).

Intra-urban formal food distribution networks are generally biased in favour of high-income residential areas where road infrastructure, retail, marketing as well as storage systems are well established and functional (Swift and Hamilton, 2001). This has led researchers to argue that food is not equally available for purchase across the city. In particular, it has been argued by the food deserts literature that the rise of supermarkets disadvantages the urban poor because they tend to be located in or near to high-income residential areas. The economies of scale, cheaper prices and healthier produce of supermarkets are enjoyed by the already privileged, not by those who spend a high proportion of their income on food just to survive. Is this true of Windhoek's informal settlements? Can they be classified as food deserts as traditionally defined?

7.3. Informal Settlements as Food Deserts

Poor households in Windhoek depend heavily on food purchase to meet their needs. As Table 7.2 shows, 97% of households in the Windhoek AFSUN survey said that they "normally" obtain food from supermarkets. Over 80% buy food from smaller outlets (such as stores, grocers, butchers, and fast food outlets). Three quarters normally buy food from the informal economy. How different are households in Windhoek from other poor households across the region?

The reliance on food purchase from the formal and informal sectors in Windhoek is similar to that for all eleven cities surveyed by AFSUN (Table 7.1). In the sample of over 6,400 households, 79% purchase food from supermarkets, 70% from the informal food economy and 68% from small retail outlets (Frayne *et al*., 2010:24). There is also considerable inter-city variation with supermarket patronage varying from a low of 23% in Maputo to a high of over 95% in a group of cities that includes Windhoek, Cape Town, Johannesburg, Msunduzi, Manzini, Maseru and Gaborone. These are all cities in which South African supermarket chains have a major share of the retail food market. Why Windhoek should be most like South African cities is easy to understand given that South Africa completely controlled the country until 1990, that the commercial agricultural sector is organized on similar lines in both countries and that South African supermarket investment in the Namibian food economy is strong.

The importance of the informal food economy also varies between cities from a low of 29% of households sourcing food in Gaborone to a high of almost every poor household in cities such as Harare, Blantyre, Lusaka and Maputo. Windhoek is quite distinctive from the general pattern, being the only city in which three quarters of households buy food from the informal food economy which is lower than cities with large informal economies such as Harare, Blantyre, Lusaka, Maputo and Johannesburg and higher than cities with small informal economies such as Gaborone and Msunduzi. This raises a question, which is addressed below, about the size of Windhoek's informal food economy and the degree of accessibility for different kinds of households. Small retail outlets are patronized by over 80% of households in several cities, including Windhoek. Only households in Maseru have higher usage of these small food outlets. If supermarkets were inaccessible, patronage of small outlets might be expected to be high. However, in Windhoek, both are patronized by a large majority of poor households.

Table 7.2 Sources Normally Used by Households to Purchase Food (% of Households)

	Windhoek	**Gaborone**	**Maseru**	**Manzini**	**Maputo**	**Blantyre**	**Lusaka**	**Harare**	**Cape Town**	**Msunduzi**	**Johannesburg**	**Total**
Supermarket	97	97	84	90	23	53	16	30	94	97	96	79
Small shop/restaurant/take away	84	56	89	49	78	69	80	17	75	40	80	68
Informal market/street food	76	29	49	48	98	99	100	98	66	42	85	70

Where do poor, female-centred households in Windhoek's informal settlements obtain their food? Are they the same or different from other types of household in the informal

settlements and the poor areas as a whole? The survey results show that food buying patterns do vary by type of household (Table 7.2). For example, 94% of nuclear households normally purchase food at supermarkets, compared with only 65% of male-centred households. Female-centred and extended households were similar in that three-quarters of households buy food from supermarkets. Buying from the informal economy also varied with extended and male-centred households most likely to buy informal food. The proportion of female-centred households buying food from supermarkets and the informal economy is exactly the same (76%). Since three-quarters of female-centred and extended households and over 90% of nuclear households are buying food at supermarkets, this suggests that supermarkets may not be as inaccessible to residents of the informal settlements as the quotation at the beginning of this chapter suggests.

Table 7.3 Food Sources Normally Used by Households in Informal Settlements

Food Source	**Female-centred**	**Male-centred**	**Nuclear**	**Extended**
Supermarket	76	65	94	76
Small shop/restaurant/take away	66	68	58	67
Informal Market/street food	76	80	71	96

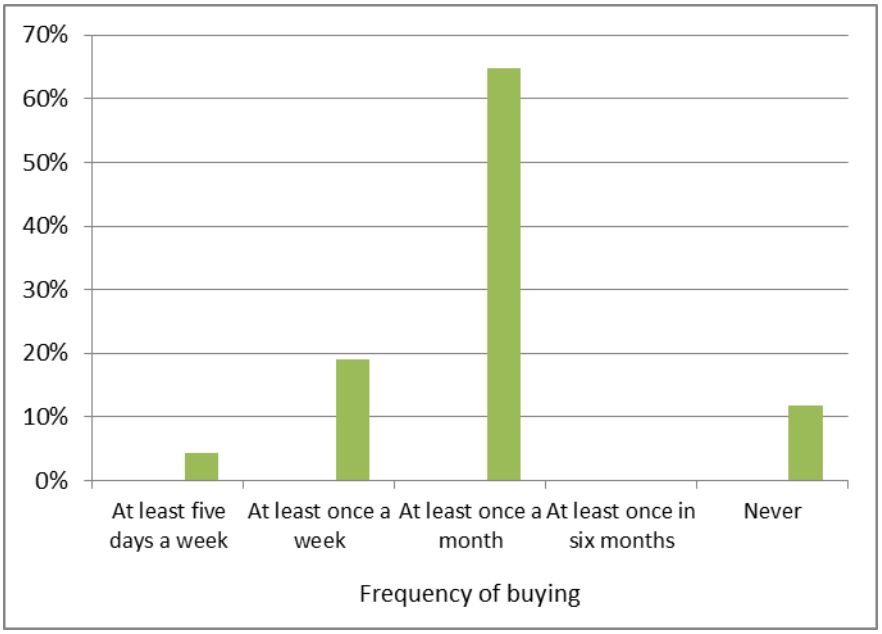
Simply in terms of supermarket access, the informal settlements of Windhoek do not appear to be 'food deserts' for around three-quarters of female-centred households. However, this is a misleading conclusion because it does not take into account why these households patronise supermarkets. Further analysis of the data shows that less than 5% of the households buy food from supermarkets on a daily basis and less than 20% on a weekly basis. As many as 60% of the households only shop at supermarkets once a month

(Figure 7.1). This suggests that female-centred households do not patronize supermarkets on a regular basis and only engage in monthly "target shopping" for products such as staple cereals which they can buy in bulk.

In Windhoek, supermarkets are not physically located in the informal settlements (Figure 7.2) but are far from where the majority of the urban poor actually live. Supermarkets such as Woolworths and Fruit and Veg are found in the central CBD and are only within easy reach by those with cars. Shoprite and Woermann Brock have expanded but have not gone into the unserviced areas of the city where the majority of the poor are found. Monthly shopping at supermarkets for the residents of informal settlements means having to use precious income on transport and means that they are not able to access fresh produce on a daily basis. Their buying is confined to non-perishables. And these products are not available at the more accessible local stores either. As one woman said: "There are also no vegetables and fresh products such as fish, braai pack (frozen chicken) and fruits in the local shops."[39]

[39] FGD No 2, Samora Machel and Moses Garoeb, 25 February 2010.

Figure 7.1: Frequency of Buying Food at Supermarkets



The qualitative interviews provided further insights into the ways in which female-centred households interact with supermarkets and the challenges of inaccessibility. The tendency to patronize supermarkets on a monthly basis was confirmed by many:

> My sister buys food mainly from shops such as Katutura Shoprite on a monthly basis.[40]

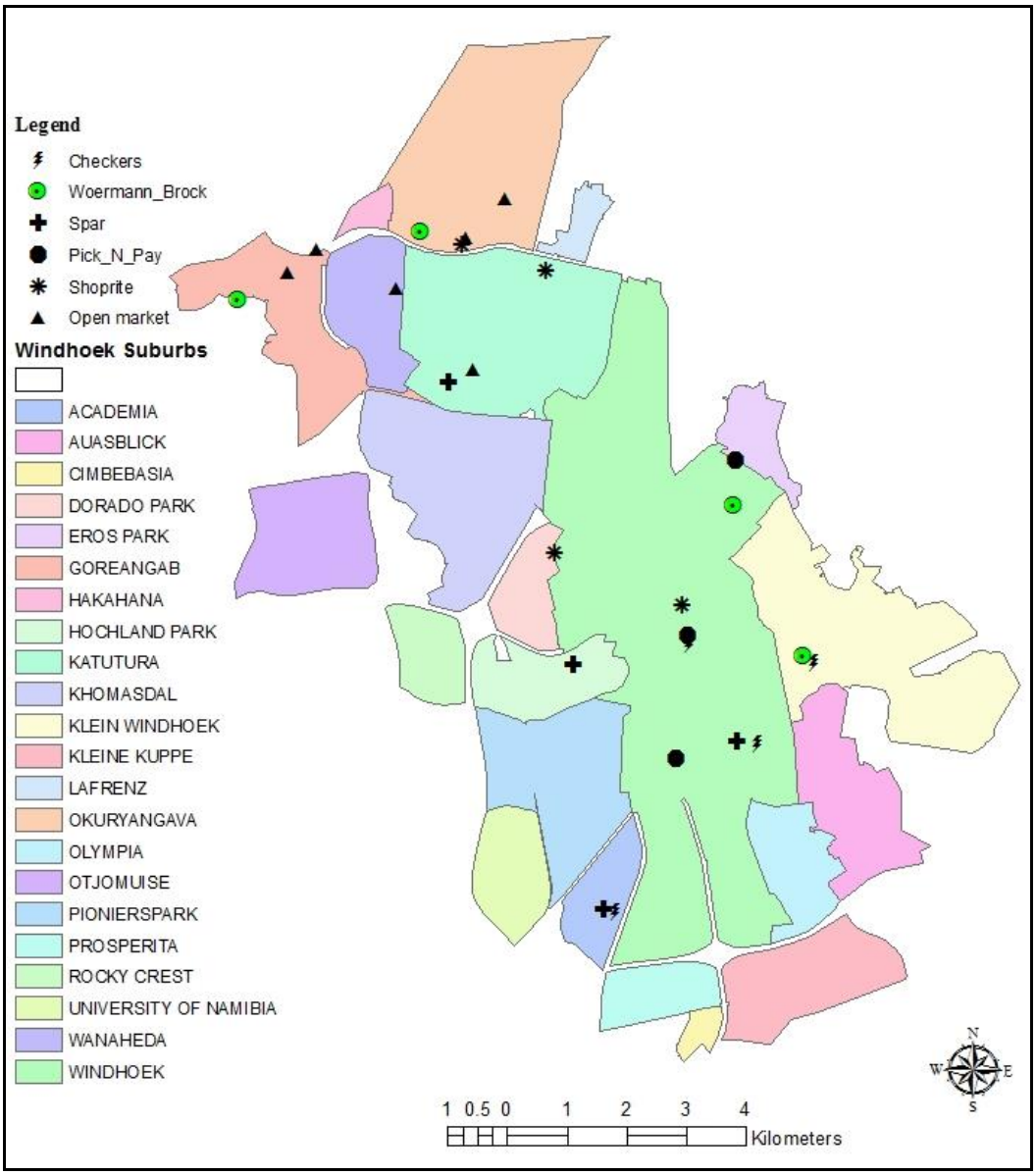
> I buy mainly rice, macaroni, maize flour from Shoprite and Woermann Brock for the month until my brother gives us money at the end of the month.[41]

> I buy at Shoprite and Woermann Brock, at those places you can buy in slightly larger quantities.[42]

Others confirmed that the monthly visit to the supermarket was worthwhile, but that to go more often was impossible because of the cost of transport:

[40] Interview No 2, Greenwell Matongo, Samora Machel Constituency, 16 February 2010.
[41] Interview No 4, Greenwell Matongo, Samora Machel Constituency, 16 February 2010.
[42] Interview No 32, Havanna Extension 7. Samora Machel Constituency, 21 February 2010.

Figure 7.2: Location of Supermarkets in Windhoek



For us in Babilon and Kilimanjaro we seem to be living in a world of our own. We are poor and far from every service. We usually buy from Stop 'n Shop, Woermann Brock and Shoprite, but you have to fork out on transport back and forth. In most

> cases we end up buying from the local shops although they are expensive and do not always have all the required items.[43]
>
> For now we use a lot of money on transport to go to those shops especially when you hear that there is a sale, but money is hard to get here where everyone is struggling. A 50 kg bag of maize is cheaper in those shops as compared to our local shops here. But you have to pay the taxi driver double to bring you up to the house with your goods.[44]

Not all agreed that supermarkets were necessarily cheaper but that the cost of transportation made comparison shopping difficult. As one woman noted:

> People around here (Kilimanjaro) buy food from Shoprite, Woermann Brock and Stop 'n Shop, but those shops are expensive you have to compare prices, but one does not always have the money to visit all the shops.[45]

The other major constraint on purchase from supermarkets, in addition to the cost of transportation, is the absence of electricity and storage facilities in the informal settlements. This emerged in relation to fish which households tend to buy from mobile sellers and local shops rather than supermarkets despite the fact that fish may be cheaper there:

> We buy fish from local guys who are selling from door to door and one fish costs about N$3.00, this is unlike Shoprite or Checkers where fish is neatly packed in a box although it is expensive. We often do not buy fish in large quantities because we have nowhere to store it. Shops like Shoprite offer regular discounts as compared to the local shops here so you can compare prices before you buy. At times even if you go buy where there is discounts one has to transport goods and this is costly at the end you have not saved anything – so it's best we buy from the local shops here.[46]
>
> Due to lack of electricity we are not able to buy food in bulk and store it. Fresh food especially meat and vegetables when bought have to be consumed immediately. In most cases we eat fresh fish which is sold by mobile street vendors. It is cheap but at

[43] FGD No 7, Tobias Hainyeko 1 March 2010.
[44] FGD No. 2. Havana. Samora Machel and Moses Garoeb Constituencies, 25 February 2010.
[45] Interview No 6, Kilimanjaro. Tobias Hainyeko, 17 February 2010.
[46] FGD No 3, Havana, Moses Garoeb and Samora Machel, 25 February 2010.

> times not healthy because those boys walk distances with the fish in the containers with ice. When day temperature raises the ice melts and the fish is no more frozen, this is a serious health risk, but considering the cost this is cheap because you can get about three fish from a N$10.00 which is enough for a meal for one household.[47]

Based on the conventional definition of food deserts discussed in Chapter Two, the informal settlements in Windhoek do fit the profile of food deserts as far as regular access to supermarkets is concerned. Although there is a rapid expansion in reach of supermarkets in Windhoek, for about 25% of female-centred households supermarkets are completely inaccessible. The rest of the poor female-centred households are too far away from the supermarkets, making it costly to shop at supermarkets on a regular basis. These households tend to access supermarkets on a monthly basis but this does not improve their dietary diversity and the quality of their diet. They buy dry staple cereals there in bulk but because of the lack of electricity and storage facilities for fresh food the supermarkets are not sources for fresh produce.

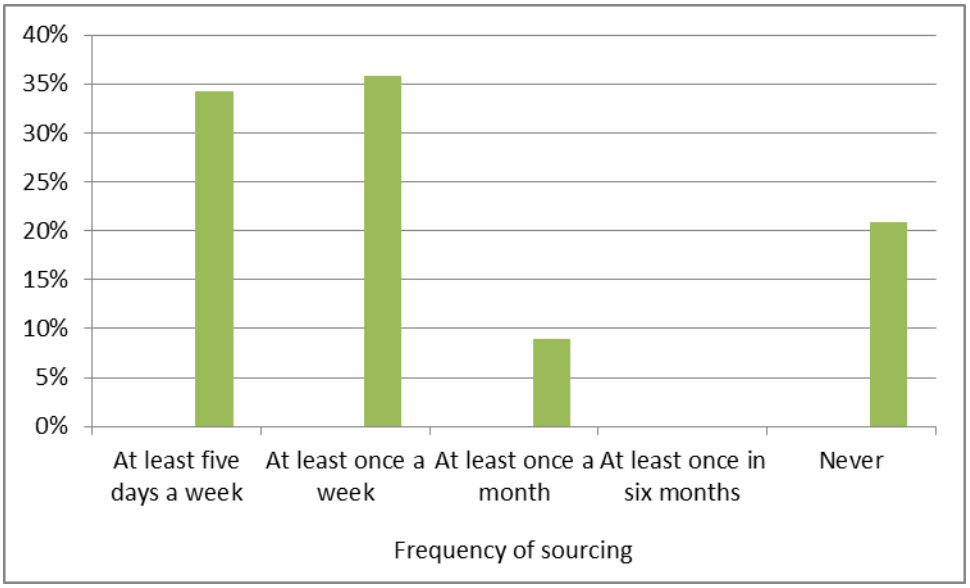
7.4. The Informal Food Economy

In the informal settlements, the informal food economy plays a vital role. Without it, the food insecurity situation of these households would be even worse. Daily food needs are mainly met the informal economy. While equal numbers of households said that they normally obtain food from supermarkets and informal suppliers, the frequency of patronage is very different. Most households shop at supermarkets once a month while

[47] FGD No 2, Havana, Samora Machel and Moses Garoeb, 25 February 2010.

informal food sources are used on a daily basis by 34% of the households and by another 36% on a weekly basis (Figure 7.3).

Figure 7.3: Frequency of Obtaining Food from Informal Sources



Informal food supply systems in African cities differ considerably in scale of operation, variety, marketing techniques, environments and ownership (Drakakis-Smith, 1991; Maxwell, 1999). The proliferation of such outlets in Windhoek is no surprise, given rapid urbanization to the city which has led to rapidly-growing consumer markets, high unemployment and the search for cheap and accessible food. Most of the people, mainly women, operating in the informal food economy concentrate on the wholesale and retail sector and operate in open spaces. Windhoek has four main types of informal food vending with different spatial characteristics: (a) spaces where the municipality has erected structures and people can sell their products at an allocated, demarcated spot for a minimal fee e.g. Okuryangava Open Market, Wanahenda Open Market, Soweto Open Market,

Khomasdal Open Market and Single Quarters–Oshetu Community Open Market. In these structures water and ablution facilities are provided; (b) less formal spaces where people set up makeshift stalls and shade with plastic, carton boxes and umbrellas in open spaces along streets and at major intersections; (c) food-selling from their own homes; and (d) mobile sellers who move from door to door. They include young men selling fresh fish and "women (who) roam around the streets selling raw and cooked food, dry food, fire wood etc."[48]

The informal food economy presents important livelihood opportunities for poor urban female-centred households in order to cope with the challenges of urban living. Previous studies in other contexts have shown that the informal food economy offers women and female-centred households opportunities to sustain and support their livelihoods and improve their quality of life in general (Drakakis-Smith, 1997; Tinker 1997, Levin *et al*., 1999). The qualitative interviews included several women who were operating in the informal food economy and provide insights into the obstacles which they face. Most women market a wide variety of food and non-food products as these respondents noted:

> Women are engaged in all kinds of work, they bake cakes for selling, buy fresh fruits for re-selling, they fetch firewood from the mountains for cooking food for the household or for selling on the markets or at the main road junctions.[49]

> Women sell quick meals from stalls or houses, as well as dry foods and fresh produce repackaged into smaller plastics, *okapana*, cooked tripes, hooves, traditional drinks as well as the ingredients used to make these drinks (sorghum, *mahangu* (millet) flour, *mahangu* husks, wild spinach *(ombivi* and/or *omutete)*, vegetables, dried ingredients, *mahangu* and sorghum sold by the scoopful, grilled

[48] Interview No 26, Havana, Moses Garoeb, 19 February 2010.
[49] Interview No 17, Havana, Moses Garoeb, 18 February 2010.

> tripe – *matangara*, traditional bread, *mauni*, marula fruits, poultry, fish and many other wild fruits and nuts.[50]

Diversification is the key to survival. One woman noted that she sold *okapana,* sweets, dry chips, and baked fat cakes.[51] Another said that she sold *okapana*, vitamin supplements, sweets and snacks in order to "buy bread for my children."[52] Many women sell food they have purchased together with firewood that they have collected:

> The Owambo women are strong, they go to the mountain to fetch fire wood, prepare meat for selling and also sell part of the wood. Others go to Meatco to buy lower quality meat and tripes, heads and hooves prepare them and cook for selling.[53]

Others combine the sale of food products with the sale of other household items and alcohol:

> I do sewing and also sell alcoholic drinks and other basics in my stall which I constructed at home as you can see behind you, I sell soup, soaps, tinned fish, cooking oil, paraffin, sugar, etc. The community buys because when they run out of basics big shops are too far.[54]

> I own a shebeen, but when I hear that a construction site is starting somewhere I prepare food at home to go and sell meals and also I prepare traditional drink which

---

[50] FGD No 7, Tobias Hainyeko, 1 March 2010. The term Oka-pan-a is derived from the Afrikaans word "Pan" an instrument used to fry food especially meat. The term has developed in meaning and today *Okapana* is the practice of selling cooked or fried/grilled/braai meat from home, in the street or at construction sites with the intention of selling i.e. for business. Usually a variety of other things such sweets, apples, small cakes etc. may be sold with meat although the main item is the meat. Ombivi and omutete are wild spinach of different types, cooked at eaten fresh or dried for future use. Matangara is cow, goat, or sheep tripes, usually cooked or grilled. Mauni is a wild fruit as big as a Grenade fruit.

[51] Interview No 3, Greenwell Matongo. Samora Machel, 16 February 2010.

[52] Interview No 7, Kilimanjaro, Tobias Hainyeko 17 February 2010.

[53] Interview No 9, Kilimanjaro, Tobias Hainyeko, 17 February 2010. Meatco (Meat Corporation of Namibia) is Namibia's biggest exporter of prime beef. It has abattoirs throughout the country which have both South African and European export status. At the abattoirs, organs such as heads, hooves, internal organs are sold at very low prices, and poor women from the informal settlements line up every morning to buy these and cook and sell them for a living.

[54] Interview No 13, Havana Extension 2. Moses Garoeb, 18 February 2010.

> men prefer. Most of our youth who have no qualifications are employed as security guards or as bar ladies but this kind of work expose them to abuse.[55] Interview #30

Many female-headed households enter the informal food economy as a last resort when they are unable to secure employment:

> I was born in the rural north and because we are many I decided to move to Windhoek with the hope of finding employment, but I did not find employment to date, all I'm doing now is sell *okapana*. What I'm getting from selling is very little and is not much different from those who are not doing anything. But you cannot sit back and do nothing.[56]

> Because jobs are hard to come by and I'm not educated, I decided to follow the example of other women. We go to Meatco to buy tripes, lungs, intestines, hooves and heads of animals; we cook them and sell on the market or from home.[57]

Women also switch in and out of the informal food economy when faced with adversity, such as a loss of income, increases in food price, and so on. This creates a very competitive environment for vendors:

> Apart from casual work the informal settlement is full of food street vendors, selling all types of food: fresh, dried, raw, cooked, grilled etc. Everywhere you turn is a woman selling *okapana*, in clean and sometimes not so clean environment.[58]

> I sell meat, but there are so many of us who are selling *okapana* in the informal settlements. At times you don't get customers and the meat overnight or we consume it in the house, but that's not good for business, but I don't get discouraged tomorrow business maybe good.[59]

[55] Interview No 30, Havana Extension 7. Samora Machel, 21 February 2010.
[56] FGD No 7, Tobias Hainyeko, 1 March 2010.
[57] Interview No 6, Kilimanjaro, Tobias Hainyeko, 17 February 2010.
[58] FGD No 1, Samora Machel and Moses Garoeb, 25 February 2010.
[59] Interview No 10, Babilon, Tobias Hainyeko, 17 February 2010.

7.5. Conclusion

Crush and Frayne (2011) have argued that food sourcing from both formal and informal marketing systems is vital for ensuring food security among the urban poor in Southern Africa. Co-existence between formal and informal food marketing systems is critical in Windhoek. Poor urban dwellers obtain their food primarily through purchasing from both formal and informal sources. Supermarkets may be the preferred source of food but their physical location is not within reach, especially given high transportation costs. As a result, the way in which poor urban households access food from these two sources varies considerably. The frequency of access is much higher for informal food sources than it is for supermarkets. The informal food economy is accessed on an almost daily basis while supermarkets are accessed on a monthly basis, primarily for staple cereals. Sourcing food from both formal and informal sources requires that households have money, but given high unemployment and food, price increases, the majority of households still remain poor and vulnerable to food insecurity. Although food may appear to be everywhere for purchase, it is not accessible to all households and especially female-centred households. Given these access problems and the associated high levels of food insecurity in the informal settlements, it is important to ask whether households are able to access any food through non-market channels. This question is addressed in the final chapter.

CHAPTER EIGHT

SOURCING FOOD OUTSIDE THE MARKET

"If we do not even have land to put up a house who will allow you to do gardening?"[60]

8.1. Introduction

Urban agriculture is often seen as a major livelihood or coping strategy for poor urban households in Africa (Atkinson, 1995; Drakakis-Smith *et al*., 1995; Crush *et al*., 2011a). Urban agriculture has also been advocated as a solution to widespread food insecurity (Mougeot, 2005). While a number of studies have argued for the positive impact of urban agriculture, Ellis and Sumberg (1998) have warned about over-emphasis on urban agriculture as a strategy to overcome food insecurity and as a coping strategy for the urban poor. Tevera (1999) has also argued that there is limited evidence to suggest that the poor and new arrivals in the city derive livelihood benefits from urban agriculture. Crush *et al.* (2011:287) criticise the policy over-emphasis on peri-urban and urban agriculture on the grounds that the real benefits derived by the urban poor are grossly exaggerated, that there are limits to the utilization of urban agriculture by the poor and that there are serious policy constraints which prohibit the poor from deriving benefits from urban agriculture. This debate between advocates and critics of urban agriculture is the background for any study of urban agriculture in African cities. This chapter therefore first examines the extent and potential for urban agriculture in Windhoek's informal settlements.

[60] Interview No 52, Samora Machel, 22 June 2012.

8.2. Urban Agriculture and Food Insecurity

There is limited information regarding contemporary urban agriculture in Namibia and Windhoek. Studies that have examined the practice of urban agriculture and the contribution of urban agriculture in Windhoek to urban household food security were undertaken ten years ago (Dima *et al*., 2002; Frayne, 2004). These two studies were carried out more or less at the same time with contradictory findings. Frayne (2004) found that only 5% out of 305 households were involved in urban agriculture in Windhoek, growing mainly crops such as tomatoes and chillies for household consumption and less than 1% were involved in urban livestock agriculture. Dima *et al.* (2002), on the other hand, claimed that 79% of the urban poor in the informal settlements practiced urban agriculture. A few households were involved with livestock urban agriculture but 88% grew maize, 41% tomatoes, few sweet potatoes, chilies, pumpkins and omutete (*Hibiscus vitiofila*).

The survey of Windhoek on which this thesis is based found that only 3% of poor urban households in Windhoek grow any of their own food, a figure even lower than that of Frayne (2004), which suggests that Dima *et al*'s (2002) figures are incorrect. Rates of participation in urban agriculture were even lower in the informal settlements. The survey found that only 1% of male-centred and extended households grew any of their own food (Table 8.1). None of the nuclear and female-centred households engage in urban agriculture Both Frayne (2004) and Dima *et al.* (2002) concluded that urban agriculture

might increase in importance in the poorer areas of the city in the future. This study suggests it has declined even further and is disappearing from the city.

Table 8.1 Non-Market Sources of Food in Informal Settlements

	Female-centred	**Male-centred**	**Nuclear**	**Extended**
Urban agriculture	0	1	0	1
Rural-urban food transfers	20	21	11	21

One of the main limitations on urban agriculture in Windhoek is water availability. Namibia being the driest country in Sub-Saharan Africa, water is a major constraint on agriculture in general. Rainwater is very limited as rainfall in the country is unreliable and sporadic (the country receives between 30- 500mm of rain in a short period from late November to early March). Tap water in Windhoek costs about N$9.36 per cubic metre (The Namibian, August 10, 2011). Such high tariffs would seriously limit any household attempting urban agriculture.

Urban agriculture in Windhoek is also opposed by institutions such as the Ministry of Agriculture, Ministry of Health and Social Services, Local Council and Municipal Authorities (Dima *et al*., 2002). Town planning legislation does not recognize urban agriculture as a legitimate land use. Apart from policies on urban agriculture, land availability and suitability are also a major constraint. Urban crop farming on open spaces is illegal, although the municipal authorities do not bother to enforce the restriction. Livestock is completely prohibited in Windhoek.

The environmental and policy constraints on urban agriculture were identified by a number of respondents when asked about the absence of cultivation in the informal settlements:

> I try to make a small garden but the soil is very rocky and we only harvest small amounts for household consumption. Most of the times I do the garden during the rain season – it is expensive to use the pre-paid water.[61]

> The municipality does not allow people to keep livestock, and it is nearly impossible to do gardening because of the soil – it's very rocky, there is limited water and the plots are just too small. Women here try to plant maize, spinach and beans on very small space during the rain season, but as you can see now there is hardly any house with a garden, the water is too expensive.[62]

> There is no way you make a garden here, I have tried that but look at what is there, at times people even steal the spinach at night. There is no land here to do agriculture and livestock is not allowed in town. It will be good if the municipality can allocate land which is suitable for agriculture and people can have pieces to grow some crops.[63]

There is therefore little evidence to suggest that poor female-centred households in the informal settlements of Windhoek derive any benefits from urban agriculture or are likely to do so in the future.

8.3. Rural – Urban Food Transfers and Food Insecurity

A number of studies have documented the existence of informal food chains between rural and urban areas and their relationship to the migration system in different parts of Africa

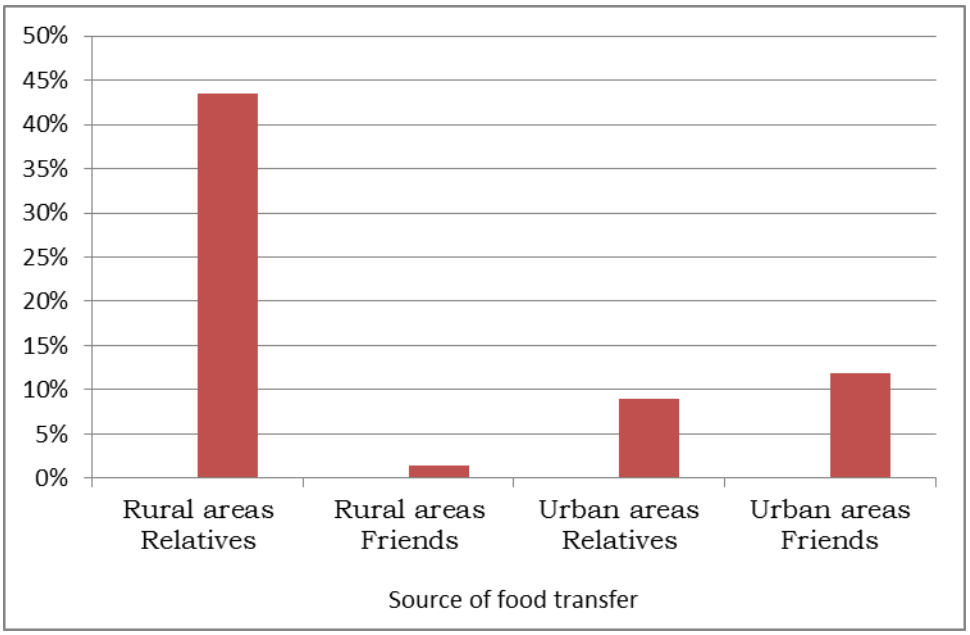
[61] Interview No 33, 8de and 9de Laan, Otjomuise, Khomasdal, 22 February 2010.
[62] Interview No 52, Samora Machel, 2 June 2012.
[63] Interview No 53, Samora Machel, 2 June 2012.

(Drakakis–Smith, 1992; Baker, 1995; Tacoli, 2002; Frayne, 2004; Owuor, 2006). Informal transfers between rural and urban areas can be a significant source of food for mitigating food insecurity in urban households. With increasing food and fuel prices and growing urban poverty, poor urban households may be falling back on their rural households for survival especially with regard to food transfers. The complex reciprocal reliance for survival by households in both rural and urban areas is termed by Frayne (2005) 'cyclic or reciprocal migration' and 'reciprocal urbanization.' This involves the constant back and forth movement of people and goods between urban and rural areas. A study in Kenya, for example, found that goods from urban areas such as clothes, building materials farm inputs or items for funerals were brought to the rural areas and the reverse occurred where urban members visited their rural homes and returned with green maize, local vegetables, sweet potatoes, cassava, maize or millet flour, groundnuts, fruit and chickens (Owuor, 2010).

Previous work by Frayne has demonstrated the importance of informal rural-urban food transfers to Windhoek's urban poor. Frayne (2004) observed that 62% of poor urban households in Windhoek received food from their rural relatives and 4% from friends. He noted that 42% had received millet (*mahangu*) and that 41% had received wild foods (fruit and vegetables). Smaller numbers (less than 105) had received meat, fish, other cereals and processed food. The overall AFSUN survey of Windhoek found that 44% of poor urban households receive food transfers from relatives and 3% from friends. These are very significant numbers but a decline from ten years earlier. Rural-urban food transfer is still more important in Windhoek than any other city surveyed (Frayne, 2010).

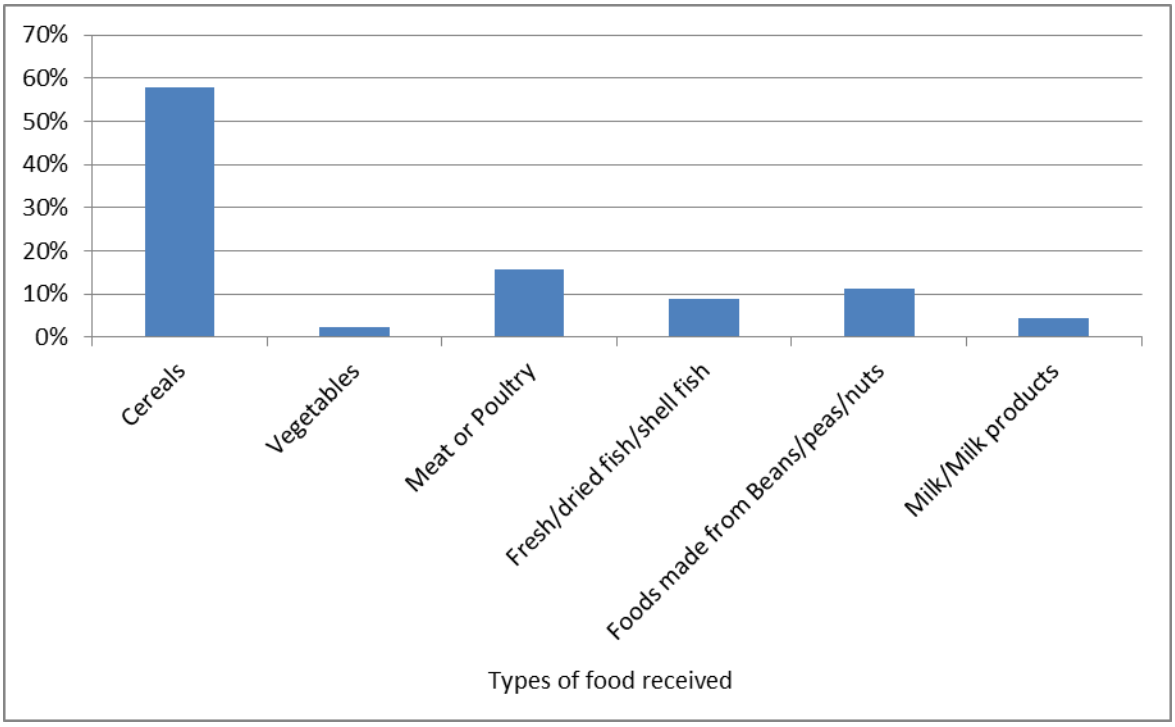
The proportion of households in the informal settlements receiving food transfers is much lower and does not vary significantly by type of household, except nuclear households. As Table 8.1 shows, 21% of male-centred and extended households, 20% of female-centred households and only 11% of nuclear households receive transfers. Most of the food received is from rural relatives although a number of female-centred households receive food from relatives and friends in other urban areas (Figure 8.1).

Figure 8.1: Female-Centred Households and Informal Food Transfers



The foods received by urban female-centred households in the informal settlements are predominantly cereals, meat and meat products, milk and milk products, and fresh or dried fish (Figure 8.2).

Figure 8.2: Types of Food Received from Rural Areas



The personal interviews provide insights into the nature and impact of rural-urban food transfers, as well as suggesting why they might be declining in importance:

> We also receive food such as beans, maize/corn, *mahangu* from our grandmother in the rural north during the rainy season and she sends these items twice a month and in return we send her money. We also receive boxes of fish and rice from our uncle who lives in another town.[64]

> It is our tradition to grow *mahangu* because this is where you feed your household. In those days power and wealth was measured by the amount of granaries you have, also these granaries were kept for use during drought. The stock can go bad if not used in a long time, because some members have migrated to the urban areas and some households have few people, with time production in such households also decline. The food is then sent to the members in the urban areas, because some may not have jobs yet, there are other basics to pay for, some are staying with children from the rural households, so we need to help each other. We do get food from our

[64] Interview No 2, Greenwell Matongo, Samora Machel, 16 February 16, 2010.

> household in the rural north because in the rural north food is grown and not bought every day like here in the urban areas.[65]

> When I go to visit in the north I also receive some *mahangu*, beans and dried spinach from family members, but not always and not in huge quantities, as they are affected by the lack of rain and the yield is no longer sufficient.[66]

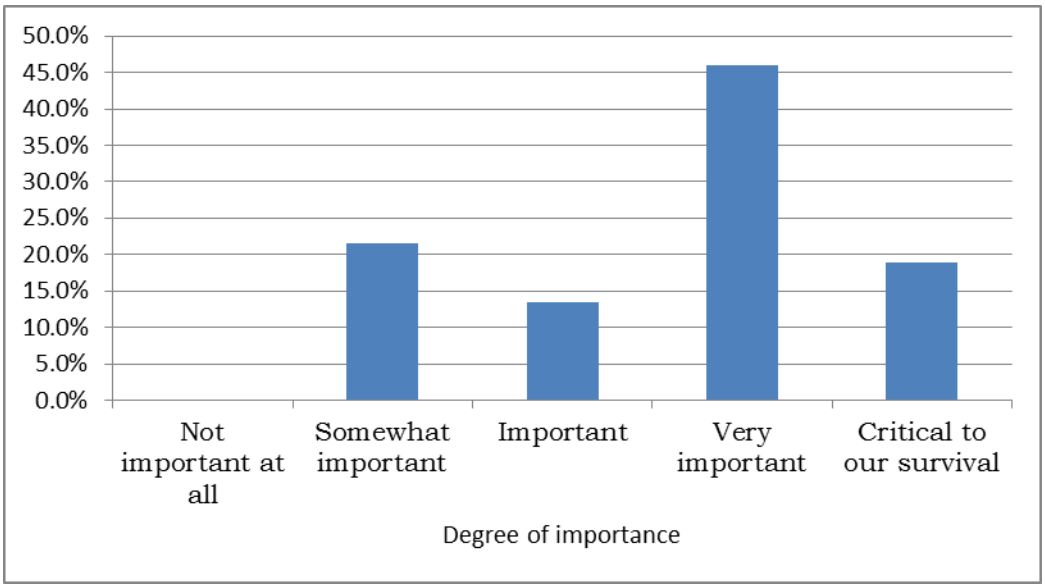
The respondents suggest that their links with the rural areas remain strong but it is out-migration and environmental change that is making rural agriculture less productive and causing a decline in the flow of food to Windhoek. The view that reliance on food transfers was declining was echoed by some participants:

> In today's life you cannot rely on your own family elsewhere to support you because when you are working you are regarded as family but when you are not working then you are on your own.[67]

Despite the evidence that transfers from the rural areas may be declining, almost all female-centred households in the informal settlements who received food indicated that the food was important to the household (Figure 8.3). Nearly one fifth (19%) said that the food received was critical to their survival in Windhoek.

[65] FGD No 4, Samora Machel and Moses Garoeb, 25 February 2010.
[66] Interview No 52.
[67] Interview No 1, Greenwell Matongo, Samora Machel, 16 February 2010.

Figure 8.3: Importance of Food Received from Rural Areas



8.4. Social Protection and Food Insecurity

In 2012, the High Level Panel of Experts on Food Security and Nutrition (HLPE), established by the Committee on World Food Security (CFS), noted that social protection measures based on the right to food which target women achieve the greatest impact on household food security because of women's dominant role in food production, supply and distribution. Social protection or social safety net programmes are aimed at responding to risks and vulnerabilities and any livelihood shock which exposes households or individuals to deep vulnerabilities (Lund, 1994; Devereux, 2002). Thus social protection is partly aimed at protecting consumption. Evidence shows that social protection measures can reduce poverty and food insecurity when livelihood and income enhancement are targeted (Devereux, 2002; Levine *et al*., 2009). International organizations such as the FAO and

World Bank suggest that the main policy response available to governments confronting food insecurity is to establish social protection policies and programmes. The question addressed here is what kinds of social protection programmes exist in Namibia and whether they play any role in alleviating the high levels of food insecurity in the informal settlements of Windhoek.

The two main types of formal social protection in Namibia are the contributory Government Institutions Pension Fund (GIPF) for civil servants and the Social Security Commission (SSC) for those employed in the private sector (Subbarao, 1998). The benefits under the SSC include maternity and sick leave, compensation for injuries and accidents, medical aid funds and pension and special funds such as development and training (Subbarao, 1998). Hardly any households in the informal settlements have access to these programmes.

The four main social grant programmes include (a) the old age pension, a non- contributory pension, given to every Namibian citizen or permanent resident upon reaching the age of 60 years, (b) the disability grant, which is equivalent to the old age pension in value; (c) the Veterans grant which is given to those who participated in the struggle for independence as is means tested; and (d) Child grants including (i) the child maintenance grant (which is paid to a biological parent whose spouse is receiving an old age pension, has passed away or is serving a prison sentence and is means tested and given only when the applicant's monthly income is <N$ 1000); (ii) the foster parents grant of N$200; (iii)

special maintenance grants of N$200 to caregivers with children diagnosed as temporarily or permanently disabled; and (iv) a place of safety allowance of N$10 per child per day to the person or institution to whom the child is entrusted by the Commissioner of Child Welfare (Levine *et al*., 2009; Morgan, 1991; Ministry of Gender Equality and Child Welfare and World Food Programme, 2006-2008).

Levine *et al* (2009) argue that while all these social safety nets do not reduce inequality, they have an impact on poverty, because they target the poor and vulnerable who have limited resources. Of all the social welfare programmes in Namibia, the old age pension has the greatest impact on the poorest of the poor. However, as shown above, the demographic structure of households in Windhoek's informal settlements means that there are very few individuals eligible for this pension. Very few female-centred households (only 4%) received income from pension or disability grants.

Generally both the quantitative data and the interviews indicate that households do not receive child grants. Despite the large number of children found in these areas, those included in the survey do not meet the requirements for the foster grant, special maintenance grant or child maintenance grant. Even if they were eligible, the question to ask is given that the amount is about N$200 per month whether would it make any difference in their households' food security.

In the informal settlements there are a number of NGOs present and are involved in activities such as offering meals, soups and blankets to children during winter but even these are done on an ad hoc basis.

8.5. Social Networks and Food Insecurity

Finally, it is important to note that households in poor communities are not self-contained in terms of food consumption. Social and kin networks mean that there is often sharing of scarce resources between households. While formal social protection has a very limited role in improving the food insecurity of households in the informal settlements, informal social protection is more important. Three measures of the strength of social networks were included in the survey: (a) sharing meals with neighbours and other households, (b) food being provided by neighbours and (c) borrowing food from other households. The survey found that only a minority of households in the informal settlements engage in any of the three practices typical of active social networks. This is probably because food is in such short supply that households have little to spare. However, there are differences between the different types of households with extended households least likely to share food and female-centred households most likely to do so (Table 8.2).

Table 8.2 Food Sharing Between Households in Informal Settlements

	Female-centred	**Male-centred**	**Nuclear**	**Extended**
Shared meals with neighbours/other households	21	16	10	2
Food provided by neighbours/other households	13	9	7	9
Borrowed from food from others	15	4	10	9

The importance of sharing and borrowing to some households were confirmed by the respondents:

> Some people send the kids to their neighbours to go and have a meal with them simply because they don't have food. Even if your neighbour is not telling you, you just know and you cannot chase away the children. When you have you give them because tomorrow it will be you.[68]
>
> Some women borrow food from neighbours, but constant borrowing without return creates bad relationships with neighbours. But they also share food with neighbours.[69]
>
> When I have nothing to eat I go ask from the neighbours, with no intention to return it because when I find something I also give them, that's how we help each other here but you cannot make it a habit because everyone struggles. At times we even send the kids to the neighbours to share a meal with others.[70]

These narratives show that food borrowing is a strategy of desperation and is primarily used when a household has nothing to feed children with.

[68] FGD No 2, Samora Machel and Moses Garoeb, 25 February 2010.
[69] FGD No 3, Samora Machel and Moses Garoeb, 25 February 2010.
[70] Interview No 7, Kilimanjaro, Tobias Hainyeko, 17 February 2010.

8.6. Conclusion

This chapter has explored the food sources from which female-centred households obtain food outside the market. Despite its current global policy attention, urban agriculture is not an important source of food for poor female-centred households. Food transfers primarily from the rural areas; food borrowed from the neighbours; food shared with neighbours and food provided by other households are more important for a significant minority of households. These informal sources represent important coping strategies that temporarily increase resilience to food insecurity when access to food is threatened. Both the quantitative and qualitative findings demonstrate the extent to which female-centred households and women go to withstand chronic food insecurity.

CHAPTER NINE

CONCLUSION

"The food is not a problem, there are a lot of supermarkets, stalls, kiosks, street vendors where one can buy food, the money is the problem"[71]

The literature on poverty and food insecurity in the Southern Africa region is beginning to reflect the reality that food security is not just a rural issue. Despite this, most of the international, regional and national responses to food insecurity continue to be oriented towards rural households and small-scale agricultural production. Similarly, there is a growing body of literature on the changing nature of the urban environment under conditions of rapid urbanization and increasing urban poverty, but limited attention has been paid until very recently to the food security of urban households, many of whom reside in informal settlements. As a result the knowledge base on the causes and responses to urban food security in Southern African cities is very limited. Even less is known about the situation and strategies of marginalised urban households, especially those headed by women, in the region's rapidly-growing informal settlements. This thesis aimed to contribute to filling this knowledge gap in the case of Namibia and the City of Windhoek, using data from a quantitative household survey and qualitative interviews that provide important real life experiences of individual and households' food security situation.

[71] FGD No.1, Havana, 25 February 2010.

What can be concluded about the food security situation and strategies of poor, female-centred households struggling to survive on the geographical, economic and social margins of Windhoek? First, the movement of women from rural to urban is on the increase as they search for personal freedom and better livelihoods than they could ever hope for in the rural areas. However, this study has shown that the attractions of the city are easily overestimated. The struggle to survive in the city's informal settlements is very challenging but it is still better than returning to the countryside for anything other than short visits to see family members still there. The informal settlements have extremely high rates of poverty and unemployment. Whatever measures and indicators are used, female-centred households are the worst off. With all three indicators of poverty used in this study - income, lived poverty and food ratio – female-centred households are consistently the poorest on average.

Second, this thesis demonstrates that the levels of food insecurity are extremely high in the informal settlements of Windhoek with 76% of all households surveyed classifying as severely food insecure. Not all households are equally affected. Of the four major household types (female-centred, male-centred, nuclear and extended), female-centred households have the highest levels of food insecurity with 85% severely food insecure and 93% moderately or severely food insecure. Households respond to hunger and food inaccessibility by regulating their food consumption patterns through eating fewer meals and smaller meals, going to sleep hungry, going without food or relying on borrowing and food sharing. These strategies translate into low levels of dietary diversity, heavy reliance

on staple cereals for caloric energy, and an irregular supply of food. They strategies are also symptoms of the epidemic of food insecurity and are not viable or sustainable responses to food insecurity.

Third, livelihoods in the informal settlements are primarily determined by the ability to earn cash because urban living is highly monetized. Thus, the role of cash earned through employment is critical to improving livelihoods and food security. Obtaining employment is a major challenge for most households in the informal settlements and few poor urban residents have a regular or reliable income on which they can rely, heightening their vulnerability to food insecurity. The situation is particularly serious for female-centred households where the primary income earner (the female household head) is less educated and faces systematic gender discrimination in an overcrowded labour market. Female-centred households in Windhoek's informal settlements are the sub-group with the lowest mean incomes in the entire survey. Many household heads make a living through activities such as buying cheap scrap meat from abattoirs, and cooking and selling it outside or close to their homes. But this income is not sufficient to pay for rent, water, electricity and transport bills, so they also engage in supplementary activities which are operated in conjunction with selling meat, such as selling alcohol at shebeens, running cuca shops, acquiring jackpot machines for gambling, and collecting and selling of firewood. Female-centred households diversify their income by constantly switching in and out of the informal food economy. These multiple livelihood activities are pursued with the overall

aim of earning an income and surviving. However, this is mere survival and does not lead to any significant improvement in their lives.

Fourth, amongst female-centred households in the informal settlements there is a clear and statistically significant relationship between food security and household income, as well as unemployment, educational levels, poverty, and food prices. With regard to unemployment, the most food insecure households are those that relied on casual work as their main source of income.

With regard to poverty, although there is a significant relationship between the Lived Poverty Index and food insecurity, there was not a strong positive relationship between food insecurity and the proportion of household income spent on food. This finding contradicts conventional wisdom that suggests that increased poverty is associated with increased proportional expenditure on food. In the case of female-centred households in Windhoek's informal settlements, only a fifth of income is spent on food. In absolute terms, this is a very small amount and helps explain why levels of food insecurity are so high. There are two reasons for this anomaly: firstly, there are so many other basic necessities that also need to be paid for that household heads have to balance out expenditure on food with expenditure on shelter, water, fuel, transport and children's education. Secondly, households do not only rely on food purchase in the formal and informal food economy of Windhoek.

Fifth, the transfer of goods and money (remittances) from urban to rural areas in Africa is well-documented. Before independence In Namibia, the German and South African colonial rulers prevented migrants from settling permanently in urban areas and forced them to return to their rural villages at the end of their working contracts or periods of employment. Thus, a good proportion of whatever they earned and accumulated was sent to and used in the rural areas. In the rural villages, women's work was to till the land for subsistence and they would send food from rural areas to support their household members in the urban areas. This "arrested urbanization" changed at independence as many more rural household members as well as whole families could now migrate and settle in urban centres. However, urban households maintain strong links with their rural homes. Exchanges of food and money between the two are common. For food insecure households in the urban areas, food received from family and friends in rural areas is important for survival. The evidence presented in this thesis suggests that declining rural productivity and changed in climatic conditions may lead to a decline in this type of sourcing food in the future. This would make households even more dependent on food purchase and vulnerable to food insecurity.

Chapter Two of the thesis discussed the concept of the 'food desert' which was developed to describe inner-city areas of the European and North American city characterised by low incomes, household poverty and by poor dietary and nutritional quality. The main reason for this is said to be that supermarkets are located too far away from consumers who rely instead on processed and unhealthy foods from small retail outlets. The chapter argued

that the concept of the 'food desert' needs to be redefined if it is to be useful in describing and understanding the African reality of urban food insecurity. In conclusion, I return to this issue here.

The informal settlements of Windhoek fit some aspects of the standard definition of food deserts. As in the food deserts of Europe and North America, the quality of household diets is very poor. There is heavy dependence on cereals and dietary diversity is low. The mean dietary diversity score of female-centred households was only 4.9 out of the 12 food groups. In addition to cereals (which had been consumed by over 90% of households in the 24 hours prior to the survey, 71% had consumed foods made with oil or fat and 68% had consumed sugar. Far fewer had eaten fresh fruit and vegetables, meat or poultry and dairy products. There is far less reliance on processed foods because these do not tend to be available in the informal settlements although fast foods (such as crisps and sweets) are becoming more visible.

In Europe and North American food deserts, the poor and innutritious diets of the inner city are seen as a result of the absence of supermarkets which offer a wide variety of more nutritious food. Supermarkets are too far away or costly to get to for most residents of food deserts. Although Windhoek is not a large African city it has a colonial and apartheid history and geography (see Chapter Three) which means that many of the urban poor are now forced to live in informal settlements on the growing periphery of the city. The city centre and higher-income suburbs and new shopping malls are not easily accessible. Many

of the respondents interviewed for this study noted that the supermarkets were too far to get to easily. This does not mean that residents of the informal settlements do not ever go to supermarkets. This study shows that they do but only monthly and usually to buy staples in bulk. So it could be argued that food deserts in the North and the South are quite similar. Even if supermarkets were more accessible to the informal settlements, it does not follow that poor nutrition would automatically be overcome which is one implication of the food deserts literature.

As Battersby (2012) argues the food deserts concept in Africa needs to take into account the central role of the informal food economy. When Frayne (2004) conducted his research in Namibia ten years ago, the informal economy was found to be quite small in Windhoek. That is no longer true in the informal settlements. Informal food sellers are everywhere and it is a vital source of income for many female-centred households. Food is readily available in markets, from street vendors and from people who sell from their houses. As one FDG participant noted "the informal settlement is full of food street vendors, selling all types of food: fresh, dried, raw, cooked, grilled etc. Everywhere you turn is a woman selling *okapana*".[72] They sell vegetables and fruits and fish and meat as well as re-packaging and selling staple food items in smaller quantities, which has helped many households to overcome storage problems and transport costs.

[72] Ibid.

Around two thirds of the female-centred households interviewed for this study buy food from the informal economy at least once a week (one third almost every day). The informal sector fills the food gap by supplying food to the informal settlements and creating easier access for the poor. The informal economy also plays a major role in creating a market for local products with which the majority poor who are from rural areas can identify with. These products, such as indigenous vegetables, would not be marketable in the rural areas but because the consumers are in the urban areas, there is a market demand, contributing to the variety of food products offered by the informal food economy. As one woman noted: "you can buy so many products here in the informal shops and they are cheap".[73] Despite the abundance of food available through the informal food economy, this thesis has demonstrated that most households are food insecure and have very poor dietary diversity. The informal food economy provides residents of the informal settlements with a potentially more diverse and affordable diet. Despite this, dietary diversity remains very low. One reason could be dietary preference but this is unlikely. Many of the respondents complained about the monotonous diet and that they cannot afford the foods they would prefer on a regular basis. This cannot be attributed to the absence and inaccessibility of supermarkets.

We need a conceptualization of African food deserts that takes into account that although a variety of food may be available (through the informal economy) it does not mean

[73] Interview No. 26. 48 years old female selling hooves and owns a shebeen. February 19, 2010. Havanna, Moses Garoeb Constituency.

households can access it. Poor urban households in the informal settlements spend a high proportion of their income on food but that income is not enough to allow them to include a variety of nutrients in their diets. Even when the informal economy makes fresh food available, most households are unable to purchase these fresh produce due to lack of refrigeration in their households (and no electricity in the informal settlements) and irregular and insufficient income to make these foods a regular part of their diet. This thesis therefore demonstrates that dietary choices are shaped much more by financial access than an absence of nutritious food, as poor households may not be able to afford available, nutrient-rich food. The majority of households' daily consumption is largely made up of non-nutritive foods. Bringing supermarkets closer to the informal settlements would not resolve this problem but it could impact negatively on women who depend on informal food vending, creating even greater hardship.

The North American food deserts literature also tends to ignore non-market sources of food. Urban agriculture is one of those possible sources but this research shows that it is not significant in Windhoek's informal settlements for various reasons. Instead, informal rural-urban food transfers are important to poor households in Windhoek. Although these transfers may be declining, urban dwellers retain strong links with rural households and the transfers are still an important source of food in the informal settlements. Some of the food also enters the informal economy.

The final reason why the standard food desert concept needs to be refined for Africa is that it often assumes that all households in a food desert are basically the same and all are equally affected by food insecurity and poor diets. This thesis clearly shows that even in Windhoek's impoverished informal settlements, this is not the case. Female-centred households are far more vulnerable than nuclear, male and extended households. Gender discrimination in the labour market forces female heads of households to adopt other livelihood strategies including informal selling of food as well as beer-brewing, wood selling and sex work. A concept of food deserts is needed that takes into account the reality of gender discrimination and inequality. Otherwise the concept should not work in North America and Europe and it certainly will not work in Namibia and Windhoek.

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LIST OF INTERVIEWS

Tuesday 16 February 2010 – Greenwell Matongo – Samora Machel Constituency

Interview No. 1: 58 year old male shoe repairer (Damara/Nama)

Interview No. 2: 24 year old unemployed female (Oshiwambo)

Interview No. 3: 32 year old female informal trader and shebeen owner (Oshiwambo)

Interview No. 4: 29 year old unemployed female (Oshiwambo)

Wednesday 17 February 2010 – Kilimanjaro – Tobias Hainyeko Constituency

Interview No. 5: 43 year old unemployed male (Damara/Nama)

Interview No. 6: 38 year old female selling okapana (Oshiwambo)

Interview No. 7: 25 year old unemployed female (Oshiwambo)

Interview No. 8: 37 year old unemployed male (Kavango)

Interview No. 9: 32 year old unemployed female (Damara/Nama)

Wednesday 17 February 2010 – Babilon – Tobias Hainyeko Constituency

Interview No. 10: 40 year old female selling okapana (Oshiwambo)

Interview No. 11: 42 year old male tuck shop owner (Oshiwambo)

Interview No. 12: 38 year old male security guard (Oshiwambo)

Thursday 18 February 2010 – Havana Ext 2– Moses Garoëb Constituency

Interview No. 13: 38 year old female shebeen and tuck shop owner (Oshiwambo)

Interview No. 14: 28 year old unemployed female (Oshiwambo)

Interview No. 15: Unemployed female (Oshiwambo)

Interview No. 16: Male driver (Oshiwambo)

Interview No. 17: 27 year old unemployed male (Oshiwambo)

Interview No. 18: 38 year old male shebeen owner (Oshiwambo)

Interview No. 19: 40 year old female casual worker (Oshiwambo)

Friday 19 February 2010 – Havana, Moses Garoëb Constituency

Interview No. 20: Male security guard (Oshiwambo)

Interview No. 21: Unemployed female (Oshiwambo)

Interview No. 22: 29 year old unemployed female (Oshiwambo)

Interview No. 23: 37 year old male casual worker (Oshiwambo)

Interview No. 24: 21 year old unemployed female (Damara/Nama)

Interview No. 25: 61 year old male sewing back- carriers and men's shirts (Oshiwambo)

Interview No. 26: 48 year old female selling okapana and shebeen owner (Oshiwambo)

Interview No. 27: Employed couple (Oshiwambo)

Sunday 21 February 2010 – Havana Extension 7 Samora Machel Constituency

Interview No. 28: 24 year old unemployed female (Oshiwambo)

Interview No. 29: 35 year old female selling Tombo (beer) (Oshiwambo)

Interview No. 30: Male shebeen/bar owner (Oshiwambo)

Interview No. 31: Employed male in household of 4 males (Oshiwambo)

Interview No. 32: 38 year old male casual worker (Kwambi)

Monday 22 February 2010 – 8de and 9de Laan Otjomuise Khomasdal North Constituency

Interview No. 33: 45 year old unemployed male (Herero/Tswana)

Interview No. 34: 32 year old female (Herero)

Interview No. 35: 34 year old unemployed couple

Interview No. 36: 37 years old unemployed female (Herero)

Interview No. 37: Couple from 10-person household (Tswana)

Tuesday 23 February 2010 – 8de and 9de Laan Otjomuise Khomasdal North Constituency

Interview No. 38: 35 year old unemployed female (Rukwangali)

Interview No. 39: 45 year old female selling ontaku and bony meat (Oshiwambo)

Interview No. 40: 29 year old female (Oshiwambo)

Interview No. 41: 30 year old unemployed female (Oshiwambo)

Interview No. 42: 25 year old female selling local brew (Oshiwambo)

Interview No. 43: 43 year old female selling meat (Oshiwambo)

Interview No. 44: 21 year old female student (Oshiwambo)

Interview No. 45: 29 year old male doing casual jobs (Oshiwambo)

Wednesday 24 February 2010 – Okahandja Park Tobias Hainyeko Constituency

Interview No. 46: 46 year old female elling okapana (Oshiwambo)

Interview No. 47: 27 year old male security guard (Nyemba(Kavango))

Interview No. 48: 37 year old male security guard (Rukwangali)

Interview No. 49: 23 year old unemployed female (Rukwangali)

Interview No. 50: 35 year old male security guard (Rukwangali)

Interview No. 51: Spoiled.

Additional Interviews June 2-4, 2012

Interview No. 52: 44 year old female activist, Samora Machel

Interview No. 53: 32 year old female, Samora Machel

Interview No. 54: 32 year old female street food vendor, Khomasdal North

Interview No. 55: 35 year old female domestic worker, Khomasdal North.

Interview No. 56: 36 years old female selling alcoholic drinks, Khomasdal North.

FOCUS GROUP DISCUSSIONS

Thursday 25 February 2010 – Havana (Samora Machel and Moses Garoëb Constituencies)

FGD No 1: Mixed group - 3 females and 3 males (Ages: 33, 36, 36, 41, 39 and 32)

FGD No 2: Mixed group - 3 females and 3 males (Ages: 32, 34, 29, 36, 36 and 31)

FGD No 3: Mixed group - 3 females and 3 males (Ages: n/s, 36, 43, 36, 36 and 30)

FGD No 4: Mixed group – 3 females and 3 males (Ages: 43, 44, 27, 24, 41 and not stated)

Saturday 27 February 2010 – 7de and 8de Laan (Khomasdal North Constituency)

FGD No 5: Females only (Ages: 35, 46, 40, 37, 36 and 39)

FGD No 6: Males only (Ages: 41, 37, 40, 49, 39 and 31)

Monday 1 March 2010 – Tobias Hainyeko Constituency

FGD No 7: Females only (Ages: 44, 50, 47, 31, 49, 44 and not stated)

FGD No 8: Males only (Ages: 32, 37, 37, 38, 41 and not stated)

KEY INFORMANTS

Friday 26 February 2010- Ministry of Agriculture, Water and Forestry

Deputy Director and Senior Official, Directorate of Planning, Ministry of Agriculture.

Monday 1 March 2010- City of Windhoek (Municipality)

2 Officials - Department of Planning, Urbanization and Environment, City of Windhoek.

Appendix A

KEY INFORMANT INTERVIEW GUIDE

Section A: Introduction

- Welcoming
- Reason for coming
- Declaration of Group consent
- Open expression of opinions
- Tape recorder

Section B: Socio – Economic and Demographic Information

- What was your age at your last birthday?
- What is your main language that you speak at home?
- Where were you born?
- Are you employed?
- How do you earn a living?
- What is your income?
- How many people are in your household?
- What is your marital Status?
- Do you have children? If so how many?
- What is your level of education?

Section C: Migration

- When did you first come to Windhoek and why did you come?
- Are you likely to return to your birth place?
- Are you likely to move to another town?
- Do your family members in the rural areas visit you?

Section D: Food Acquisition

- How does your household get food?
- If you buy, how much money do you use to buy food? Where do you buy? What type of food do you buy? Whose money is used to buy the food? Who decides on what should be bought?
- If you grow, where do you grow? What do you grow? Who grows the food? If grown elsewhere who assists? What type of assistance is offered? If labour whose labour?
- If you borrow- from whom? What kind of food do you borrow? Do you pay it back?

- If you get food from the rural area, who normally send the food? What kind of food? How often?
- If it's remitted, by who? And from where? How often? What type of food? Why do they remit food?
- What are the most important food for your household?
- Do you ever worry that your households would not have enough food?

Section E: Food Distribution/Utilization

- How many meals do you usually have in a day in your household?
- What does your household usually have for Breakfast? Lunch? Dinner? Where is each meal eaten/taken
- What would you have preferred to eat for breakfast, lunch and dinner?
- Do men, women and children in your household have the same quantity of food?
- Do you all eat at the same time? Do men eat first?
- Do you all eat the same food? Who gets the biggest portion of food men, children, and women?
- Who cooks the food? Who decides on what should be cooked?
- Those who contribute to the food budget, do they get bigger portions of food? Why?
- Those who do not contribute to the food budget, do they get smaller portions? Why?

Section F: Food Security

- Is there normally enough food for everyone? Do you sometimes go hungry?
- What do you do when food is not enough? Who decide on the action to be taken?
- What do your neighbours/community think about the actions you take?
- Do you think women than men in these households do a lot to make sure that their households survive? What do they do?
- How important is availability of water towards food preparation and general hygiene?
- How is lack of electricity, toilets, garbage removal and sewerage system a problem?
- Some female headed households were found to be resistant to food insecurity – what do you think do they do to get by?

Thank you very much for your participation in this study. Do you have any questions that you would like to ask? Is there anything that you would like to us revisit again?

If you have any further questions or information about any aspect of this research, please do not hesitate to ask me now or contact me during the course of the study at the following cell phone number: 0812550585.

Appendix B

FOCUS GROUP DISCUSSION GUIDE

Section A: Introduction

- Welcoming
- Reason for coming
- Declaration of Group consent
- Open expression of opinions
- Tape recorder
- I would like to talk to you about: Urban food security in female headed households in Windhoek's informal settlement

Section B: Socio – Economic and Demographic Information

- Age range, main language that you speak at home?
- Where were you born?
- Are you employed?
- How do you earn a living?
- What is your income?
- How many people are in your household?
- Do you have children? If so how many?
- What is your level of education?

Section C: Migration

- How long do you live in Windhoek? Why did you come here/to Windhoek?
- Are you likely to return to your birth place?
- Are you likely to move to another town?
- Do your family members in the rural areas visit you?

Section D: Food Acquisition

- How do your households get food?
- If you buy, how much money do you use to buy food? Where do you buy? What type of food do you buy? Whose money is used to buy the food? Who decides on what should be bought?
- If you grow, where do you grow? What do you grow? Who grows the food? If grown elsewhere who assists? What type of assistance is offered? If labour whose labour?
- If you borrow- from whom? What kind of food do you borrow? Do you pay it back?

- If you get food from the rural area, who normally send the food? What kind of food? How often?
- If it's remitted, by who? And from where? How often? What type of food? Why do they remit food?
- What are the most important food for your household?

Section E: Food Distribution/Utilization

- How many meals do you usually have in a day in your household?
- What does your household usually have for Breakfast? Lunch? Dinner? Where is each meal eaten/taken
- What would you have preferred to eat for breakfast, lunch and dinner?
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Section F: Food Security

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- Is there normally enough food for everyone? Do you sometimes go hungry?
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- What do your neighbours/community think about the actions you take?
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Thank you very much for your participation in this study. Do you have any questions that you would like to ask? Is there anything that you would like to us revisit again?