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Local food geographies

The nature and extent of food insecurity in
South Africa

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PLAAS Working Paper 37: Local food geographies: The nature and extent of food insecurity in South Africa

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ABSTRACT

Food insecurity is a challenge for most countries in the Global South. South Africa is no exception – a significant proportion of its population still remains in poverty and is therefore vulnerable to food insecurity. This paper argues that although South Africa is food secure at national level, such security is only true of caloric and not nutrient requirements. A section of the country still struggles to access food and survives on the margins – typified by the existence of malnutrition on one hand and on the other hand, the consumption of inappropriate foods leading to obesity. Poverty and unemployment are the major drivers of this insecurity and these should be addressed if the country aims to achieve food security for disparate sections of the South African society. But how are affected households and individuals coping with threats to food security? The paper shows that poor households in the country adopt a range of strategies for survival, such as borrowing from micro-lenders, substituting foods with cheaper ones, and disposing off assets. In conclusion, the paper points out that it is in South Africa's power to prioritise food security through various instruments as laid out in the country's food security strategy.

Keywords: South Africa, food security, food geographies, malnutrition, poverty

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ACRONYMS

AFSUN	African Food Security Urban Network
BMI	body mass index
DDS	dietary diversity score
DEA	Department of Environmental Affairs
DOA	Department of Agriculture
ESTA	Extension of Security of Tenure Act
IES	Income and Expenditure Survey
IFSS	Integrated Food Security Strategy
FANTA	food and nutrition technical assistance
GHS	General Household Survey
HFIAP	household food insecurity access prevalence
HFIAS	household food insecurity access scale
NFCPS	National Food Consumption Pattern Survey
NPFNS	National Policy on Food and Nutrition Security
RISDP	Regional Indicative Strategic Development Plan
RSA	Republic of South Africa
SADC	Southern African Development Community
SANHANES-1	South African National Health and Nutrition Examination Survey
SASAS	South African Social Attitudes Survey
Stats SA	Statistics South Africa

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1. INTRODUCTION

South Africa is generally food secure at the national level. The country produces enough calories to adequately feed every one of its 53 million people (Tsegay 2014). In most years, South Africa is a net exporter of agricultural commodities (Koch 2011). The country is also able to purchase any food shortfalls should the need arise (van der Berg 2006). In a region often beset with acute food shortages, South Africa is one of the few Southern African Development Community (SADC) countries that has made significant strides to meet the regional target to achieve a cereal yield of 2 000kg per hectare (Manyamba et al. 2012; Oot et al. 1996). The above factors indicate the country's ability to feed itself, since cereal production is generally indicative of a country's ability to supply its food needs. Taking all the above factors into consideration, one may be compelled to conclude that South Africa has no food problem. However, that conclusion would not be entirely true, because the situation at national level is not necessarily replicated at sub-national levels: at sub-national scale chronic food insecurity is still pervasive – largely as a result of poverty and structural inequalities in the country as well as skewed income distribution among the country's populace (Altman et al. 2009). Unemployment, high energy tariffs and frequent increases in food and fuel prices also adversely affect large sections of society, putting severe pressure on ordinary South Africans who struggle to meet their basic household needs, including food (Labadarios et al. 2011). In addition, the supposed adequacy of caloric requirements is not matched in terms of micronutrients needed to achieve food security.

Ongoing poverty and food insecurity in the country is an anathema to achieving the right to food that is enshrined in the country's constitution (Section 27; Section 28 (1c); Section 35 (2e)). The National Policy on Food and Nutrition Security (NPFNS) (Government of SA) is a recognition of the food security challenges and the need to do much more to fulfil the constitutional obligation of the right to food. Food insecurity in South Africa is experienced in both rural and urban areas and varies between provinces. This paper seeks to provide a succinct overview of the food geography of South Africa, emphasising the nature and extent of food insecurity, the determinants of food insecurity, the country's hungry seasons, as well as the connections between the formal and informal food systems.

2. THE EXTENT OF FOOD INSECURITY

South Africa is a middle income country and one of the emerging economies in the Global South. The country is a signatory to a SADC framework known as the Regional Indicative Strategic Development Plan (RISDP), which aims to find improved ways to address poverty, food insecurity and hunger, both between and within SADC countries. As a leading economic powerhouse in the region, South Africa has made significant strides towards achieving the objectives embedded in the development plan. Since 1994, the government has also made significant strides towards addressing its poverty and consequent food security challenges by putting in place frameworks within which strategies are implemented. In 2002, for example, the government adopted an Integrated Food Security Strategy (IFSS) whose vision is 'to attain universal physical, social and economic access to sufficient, safe and nutritious food by all South Africans at all times to meet their dietary and food preferences for an active and healthy life' (Department of Agriculture, 2002:13). Such a vision was crafted to align with the core concern of food security, i.e. a condition that exists 'when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life' (FAO 2002). Despite these measures being put in place, however, both chronic poverty and chronic food insecurity are still endemic in South Africa – largely as a result of skewed income distribution patterns and structural inequalities (HSRC 2000). In 2012, for example, the proportion of those living below the \$2.50 a day poverty

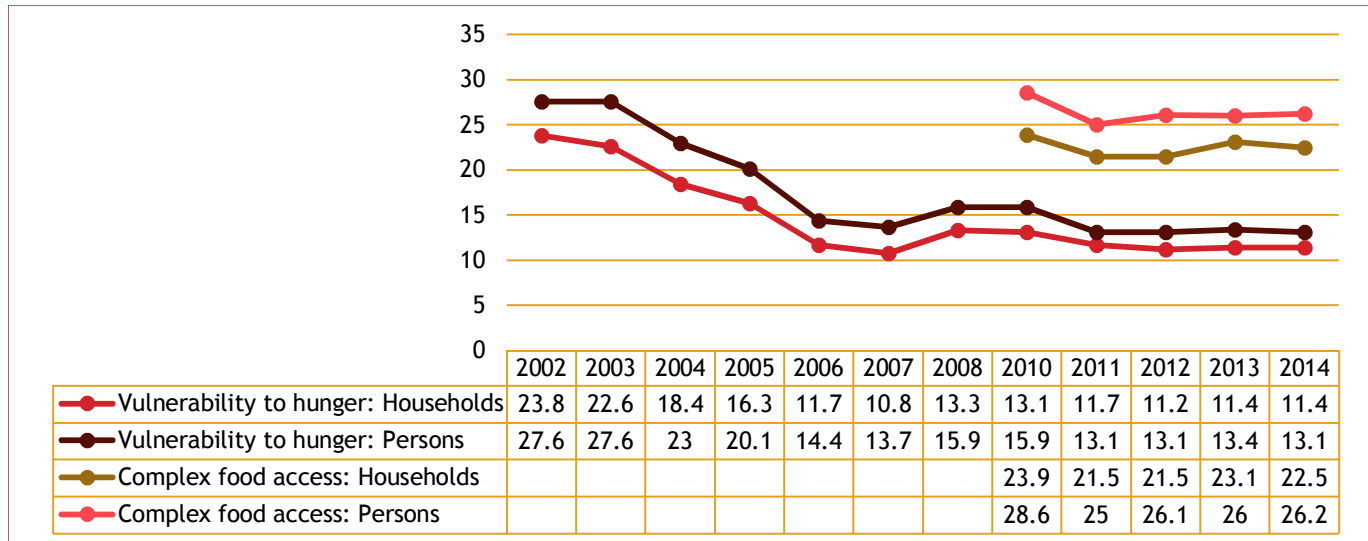
line was estimated at 36.4%, while 52.3% of the total population was living below the upper-bound poverty line of R577 per capita per month in 2009 (Stats SA 2012). While sufficient food, as measured in net calorific value, is available to South Africans, food access is not evenly distributed, reflecting South Africa's unequal society (May 2016). Inequalities in food distribution result in households being unable to access the food they need for nutrition (Koch 2011). The overall food sufficiency that exists at the national level in the country has therefore not necessarily cascaded down to the household and individual level where persistent challenges still exist.

Some national surveys have included specific components of food insecurity such as food utilisation and availability (Labadarios et al. 2011). Various surveys – e.g. the 1995 Income and Expenditure Survey (IES) (StatsSA, 1996), the National Food Consumption Survey (NFCS) of 1999 (Labadarios et al., 2005), the South African Social Attitudes Survey (SASAS) of 2008 (Human Sciences Research Council, 2014) – included different questions to enable the estimation of some aspects of household food security. Although the General Household Survey (GHS) includes questions that allow an overview of household livelihood strategies in conjunction with information on hunger and food access complexities, it does not provide information on micronutrients, quantity or quality of food consumed, or intra-household consumption patterns (StatsSA 2012a). That weakness aside, the GHS contains a battery of questions adapted from the Food and Nutrition Technical Assistance (FANTA) methodology which seek to assess whether households have experienced problems with accessing food in the prior 30 days. Because of the differences in the ways in which food security is calculated in different surveys, it is generally difficult to compare food security statistics between surveys and even between the same surveys done in different years. Thus the food security statistics in this paper are meant to be indicative rather than for comparative purposes.

At the sub-national level, the food security situation in South Africa is tenuous. Information from the 2012 General Household Survey (GHS) (Stats SA 2013), the South African National Health and Nutrition Examination Survey (SANHANES-1) (Shisana et al. 2013) and the Income and Expenditure Survey (IES) indicate that although there have been improvements in the food security situation in the country since 1994, the situation still remains a cause for concern. These surveys show that there has been a decrease in the proportion of those who suffer from food insecurity in the country from 52.3% in 1999 to 25.9% in 2008 (Labadarios D et al. 2011). This represents a quarter of the country's population whose food security cannot be guaranteed. Furthermore, results of the 2012 General Household Survey, unequivocally show that a significant proportion of the country's population is still vulnerable: 12.6% of the households nationally were vulnerable to hunger, while 21.5% and 26.1% of the households also reported having limited access and more limited access to food respectively (StatsSA 2013). Results from the first South African National Health and Nutrition Examination Survey (SANHANES-1) affirm the fact that food insecurity is a concern for many South Africans as only 45.6% of the national population were reportedly food secure. The other 28.3% were categorised as being at risk of hunger, while 26.0% actually experienced hunger and were therefore food insecure (Shisana et al. 2013: 10). The 2014 GHS (Stats SA 2015) also indicates that South Africa is far from being food secure as 22.5% of households reported that they had limited access to food while 11.4% of households indicated that they were vulnerable to hunger (see *Figure 1*).

While food insecurity is a problem in most provinces, challenges are more pronounced in some provinces. The worst affected provinces in terms of food access problems are North West (39.6%), Eastern Cape (29.7%), Northern Cape (29.3%) and Mpumalanga (27.4%).

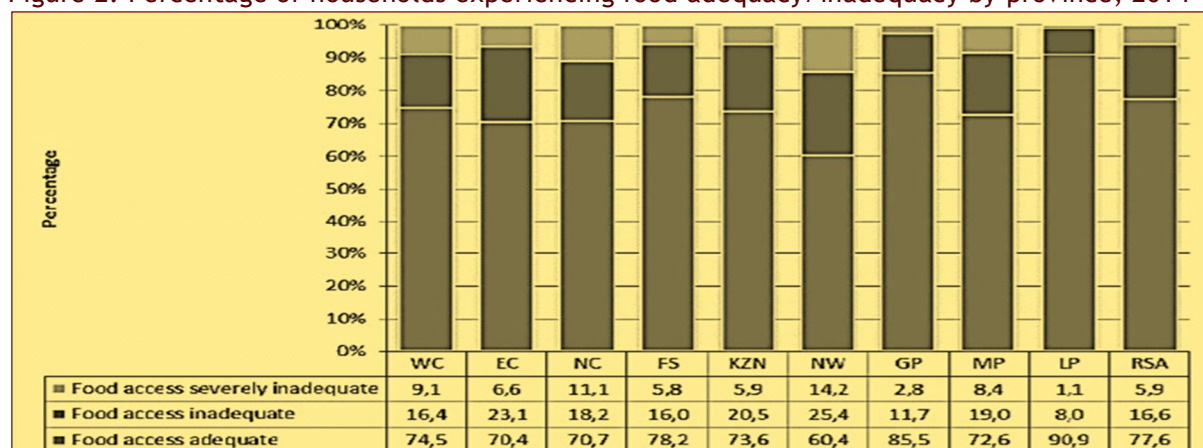
Figure 1: Vulnerability to hunger and access to food 2002-2008 and 2010-2014



Source: StatsSA, 2015: 59.

The least affected provinces, where a high proportion of households reported adequate food access were Limpopo (90.9%), Gauteng (85.5%), and the Free State (78.2%). However, these statistics have to be treated with caution especially in terms of where the epicentre of the food security problem is in the country. This is because using proportions tends to blur the actual extent of food insecurity problems as the most populated provinces (e.g. Gauteng) have lower proportions of food insecure households, but greater numbers, than less populated provinces of the Eastern Cape, for example. The distortion of the actual state of food insecurity through the use of percentages is evident in the IFSS (DOA 2002), which – until the draft National Food and Nutrition Strategy (Department of Agriculture, Forestry and Fisheries, 2013) comes into effect - still effectively guides all food security strategies and programmes in the country. The IFSS states that compared with other provinces ‘Gauteng and the Western Cape are wealthier provinces with the least number of poor households at less than 12% each’ (DOA 2002: 22). While it is true that these provinces may have the lowest proportions of people categorised as poor, their population sizes means that they do not necessarily have the ‘least number of poor households’. The use of proportions rather than absolute figures can generate a misleading picture about the location of poverty and food insecurity in South Africa. This caution aside, the fact that all the provinces in the country reported a proportion of their households as suffering from inadequate food access drives home the point that food insecurity is pervasive in all corners of the country, differing only in its nature and extent (see Figure 2). Food insecurity in South Africa occurs in both rural and urban areas and in the formal as well as the informal sections of the country (Altman et al. 2009).

Figure 2: Percentage of households experiencing food adequacy/inadequacy by province, 2014



Source: StatsSA, 2015: 60.

Food (in)security in rural areas

Rural areas have traditionally been seen as the locus of poverty and food insecurity – a perspective not unique to South Africa, but across the developing world. As Hart (2009) argues, the fact that South Africa seems to be food secure at national level does not necessarily mean that it enjoys the same status when it comes to rural areas. Rural farming households seem to be particularly vulnerable to food insecurity because of their dependence on agriculture (which gives them low incomes), and due to sluggish rural economies and limited access to alternative economic resources (Shields & Fletcher 2013). Furthermore, rural vulnerability is worsened by the fact that rural South Africa is characterised by high human densities, making agricultural activities challenging in an environment already reeling under high levels of poverty and underdeveloped labour markets (DEA 2011). Poverty also plays a major role in increasing household food insecurity. As *Table 1* shows, poverty levels in the traditional rural areas, by whatever measure, are higher than in the other settlement types. As such, households living in traditional rural areas tend to experience deeper poverty than in other areas, such as rural and urban formal settlements. In these rural areas, poverty and vulnerability are strongly linked to food insecurity, as chronic poverty undermines household ability to develop livelihood strategies, adaptive behaviours and coping strategies which help to ensure long-term food security (DEA 2006). In general, rural households in South Africa earn less than urban households (Westaway 2010), so in times of crisis, most rural households are unable to adequately provide for food purchases.

Table 1: Percentage share of poverty by settlement type

Settlement type	Food Poverty Line (R305) %	Lower-bound Poverty Line (R416) %	Upper-bound Poverty Line (R577) %	Republic of South Africa
Urban formal	24.4	28.1	32.7	53.9
Urban informal	10.1	10.9	10.9	8.4
Traditional areas	60.7	55.9	51.4	33.6
Rural formal	4.8	5.1	5.0	4.1
RSA	100.0	100.0	100.0	100.0

Source: StatsSA, 2012b:13.

Multiple studies carried out on food security in rural areas show that food insecurity is prevalent. A 2006 study carried out in Sekhukhune District, Limpopo, reported that about 81% of the surveyed households to be food insecure and that 40% of the children aged from 1–6 years were stunted, while 15% were wasted and 21% underweight for their age (DEA, 2006).¹ In that same study, almost a fifth (19%) of children between the ages of 13 and 215² months were also underweight and over half the respondents (54%) indicated that their household ran out of money to buy food (DEA, 2006).

Similarly, a study by Kataneksza et al. (2012) in KwaZulu-Natal (KZN) looking at the various factors contributing to food insecurity, estimated that over 75% of all community inhabitants were insufficiently fed. The high levels of food insecurity in KwaZulu-Natal are further confirmed by D’Haese et al. (2013) who explored experience-based food insecurity levels of four communities in the province. The study found that only 5.5% of all households in the study area were food secure (see *Table 2*), while 6.9% were mildly food insecure. Most households were experiencing food insecurity, with 30.5% moderately food insecure and 55.4% severely food insecure. The areas worst affected were Umgungundlovu and Mkhanyakude, which reported severe food insecurity for 71.4% and 65.5% of the population respectively.

¹ The 2014 General Household Survey stated that Limpopo Province reported higher levels of food security compared to other regions. This apparent contradiction highlights the measurement challenges discussed earlier and the contextual variations in food security, providing a warning against broad generalisations.

² The measure between 13 and 215 months may read as arbitrary or a misprint but this is the scale used in the 2006 DEA policy brief.

Table 2: Household food security status in rural KwaZulu-Natal

Food security categories	North KwaZulu-Natal		South KwaZulu-Natal	
	Zululand	Mkhanyakude	Ugu	Umgungundlovu
Food secure	7.3	3.4	9.1	2.4
Mildly food insecure	11.9	2.8	6.8	9.5
Moderately food insecure	37.6	28.3	34.1	16.7
Severely food insecure	43.1	65.5	50.0	71.4
Total	100.0	100.0	100.0	100.0

Source: D'Haese et al. 2013: 482.

Studying home gardens and food security in Mpophomeni, KwaZulu-Natal, Baiyegunhi and Makwangudze's (2013) findings are similar to D'Haese et al (2013) – only 6% of households in the survey were food secure, while 15.2% were mildly food insecure, and 39.4% moderately food insecure (see *Table 3*). Of concern, however, is the fact that a significant 39.4% of households reported being severely food insecure.

Table 3: Household food insecurity in Mpophomeni, KwaZulu-Natal

Food security categories	Home garden participants		Non-participants		All households	
	No	%	No	%	No	%
Food secure	1	4.4	1	10	2	6.0
Mildly food insecure	5	21.7	–	–	5	15.2
Moderately food insecure	9	39.1	4	40	13	39.4
Severely food insecure	8	34.8	5	50	13	39.4
Total	23	100	10	100	33	100

Source: Baiyegunhi and Makwangudze, 2013: 4.

In the Eastern Cape, which is one of the poorest provinces in the country, studies have also confirmed the existence of high levels of food insecurity among rural households. In Alice, Nkonkobe District Municipality, for example, a 2014 survey on the relationship between employment and food security found that 21% of the unemployed were severely food insecure (Dodd & Nyabvudzi 2014), which was attributed to high levels of unemployment in the area resulting in low monthly household incomes. In fact, 62% of the surveyed households reported earning less than R1 500 per month. Such a low income tends to negatively influence household food security. Studying the factors which contribute to malnutrition in children (0–60 months) admitted to hospitals the Northern Cape, de Lange (2010) also observed high levels of food insecurity with most of the children consuming very limited amounts of fruit and vegetables, animal or alternative proteins. Most households from which these children came reported consuming mostly maize and white bread. With such a narrow diet, these children ended up suffering from malnutrition as their diet mostly consisted of starchy foods and very little protein or other nutrients that are a prerequisite for proper growth.

Although the 2013 GHS (Stats SA, 2014a) shows low levels of food insecurity in Limpopo, other studies (e.g. De Kock et al. 2013) have indicated severe food problems in this region, driving home the fact that South Africa's national food security level is only a fraction of what is actually occurring at sub-national level. Surveying five Limpopo districts, de Kock et al. (2013) reported that only 14.8% of households were food secure (see *Table 4*); while 5.8% were mildly food insecure, 26.4% were moderately food insecure and 53.1% were severely food insecure. Districts were differently affected: Waterberg was worst affected, while Mopani district was least affected. The differences in food security statistics between the GHS and other studies is likely due to different methodologies, samples and measurement types applied in the separate studies.³

³ Other factors could contribute to the variations in food security status. The general consensus is that this is largely methodological, linked to the nature and type of questions asked to inform assessments of the state of food insecurity. Further analysis is required into such differences as measurement determines outcome, and often, policy trajectories.

Table 4: Household food security levels in Limpopo (%)

District	Municipality	Food secure	Mildly food insecure	Moderately food insecure	Severely food insecure
Capricorn	Blouberg	9.1	1.5	27.3	62.1
	Molemole	13.5	5.8	21.2	59.6
Mopani	Giyani	8.2	6.6	23.0	62.3
	Maruleng	6.7	3.3	25.0	65.0
Sekhukhune	Fetakgomo	29.3	13.8	31.0	25.9
	Tubatse	18.6	11.9	37.3	32.2
Vhembe	Mutale	13.3	5.0	40.0	41.7
	Thulamela	20.7	3.4	25.9	50.0
Waterberg	Mookgopong	10.3	1.7	20.7	67.2
	Mogalakwena	18.6	6.8	10.2	64.4
Overall		14.8	5.8	26.4	53.1

Source: De Kock et al. 2013: 273.

The food security situation in rural South Africa is not only determined by the high proportion of households that are food insecure, but also by the limited diet that most of these households consume. In de Kock et al.'s (2013) study, the average dietary diversity was 4.57, meaning that on the average, households were consuming food from five food groups out of twelve possible groups. Such a diet, where consumption is limited to less than half the possible food groups, is indicative of a poor diet. Thus households in the rural areas of Limpopo, like those in other provinces, experience food insecurity that goes beyond just the quantity of food consumed to the limited variety of food consumed. In such a scenario, households may be getting adequate calories, but consume highly inadequate diets in terms of the required nutrients. The high levels of food insecurity in rural South Africa are a cause for concern, especially in a country that technically produces enough to feed everyone. A concerted effort is required to understand more about the underlying causes of food insecurity in these areas as well as the policy issues in order to hasten the improvement of the food security situation in the rural areas of the country.

Food (in)security in urban South Africa

Much has been written about rural food security in South Africa (e.g. de Kock et al. 2013; D'Haese et al. 2013; Jacobs 2012). By comparison, research on urban food security is limited (e.g. Battersby&MacLachlan 2013; van der Merwe 2011; Frayne et al. 2009). The focus on urban food security in urban South Africa is thus fairly recent. In South Africa, like most of Africa, the neglect of urban food security in research has largely been due the traditional conceptualisation of the urban area as a more developed homogeneous geographic area that has no economic differentiation among its citizens. As Nelson (1999: 3) pointed out about Africa in general, '...those migrating to the cities were often defined as the fortunate, the progressive and the upwardly mobile, no matter how difficult their lives might have been when they arrived there'. The result of such conceptualisations of African cities has been that urban households have been seen as being economically well off, well-fed and more knowledgeable about nutritional issues. Few scholars have viewed urban areas as part of an economy, which, besides offering jobs, also creates unemployment, poverty, destitution, and therefore food insecurity. Thus, South African cities have been romanticised as devoid of poverty and hunger.

South Africa has not been alone in this romanticisation. The romanticisation of cities persists in some quarters, even at an international level (Jones&Corbridge 2010). For example, the Commission for Africa Report (2005) only makes its first specific mention of urban poverty on page 220, although it spells out at the outset that its task is to 'define the challenges facing Africa, and to provide clear recommendations on how to support the changes needed to reduce poverty' (Commission for Africa 2005:1). The lack of an urban focus in African development and anti-poverty initiatives has resulted in a lack of 'a mandate for cities to act on food issues' in the country's food policy (Battersby 2011). Therefore, information on urban food security in the country is generally scant.

Despite the absence of a concerted focus on urban food security in the country, a few South African studies exist on urban food security. These studies show that South African cities, much like most cities of the Global South, are being engulfed by a deepening crisis of food inaccessibility, characterised by growing food poverty, hunger and malnutrition, a lack of dietary diversity, child wasting and stunting, increased vulnerability to infectious and chronic disease, and a growing obesity epidemic (Frayne et al. 2009). For most of South Africa's urban poor, living in the city entails living with multiple and cumulative deprivations, related to lack of community and inter-household mechanisms for social security, environmental hazards stemming from the hazardous location of settlements, inadequate garbage collection, overcrowding, contaminated food, inadequate water, and commoditisation which forces the poor to rely on the cash economy.

The neglect of urban food security in South Africa is no longer tenable because almost 63% of the population now lives in urban areas, up from 53% in 1994. Most of this urban population (42%) lives in four city-regions: Gauteng, Cape Town, eThekweni and Nelson Mandela Bay. Thus the traditional rural construction of food security in the country cannot be justified. Furthermore, SANHANES-1 findings indicate that although 37% of respondents experiencing hunger were in the rural formal sector, 32% were in urban informal areas (Shisana et al. 2013).⁴ In addition, the highest prevalence of risk of hunger was actually in urban informal areas (36%) (see *Figure 3*). An analysis of poverty in the country also shows that urban households are as vulnerable to poverty and food insecurity as rural households. While the poverty gap in 2011 was 31.8% in rural areas and 12.0% in urban areas (Stats SA 2014a), poverty disaggregated data shows that there is more poverty in urban informal settlements (28%) than in rural formal areas (26%). The challenges of food security in urban South Africa are thus very real and deserve to be better understood than is currently the case. The high prevalence of urban food insecurity is not new: in their 2009 report, Altman et al. (2009) analysed the 2007 GHS and found that:

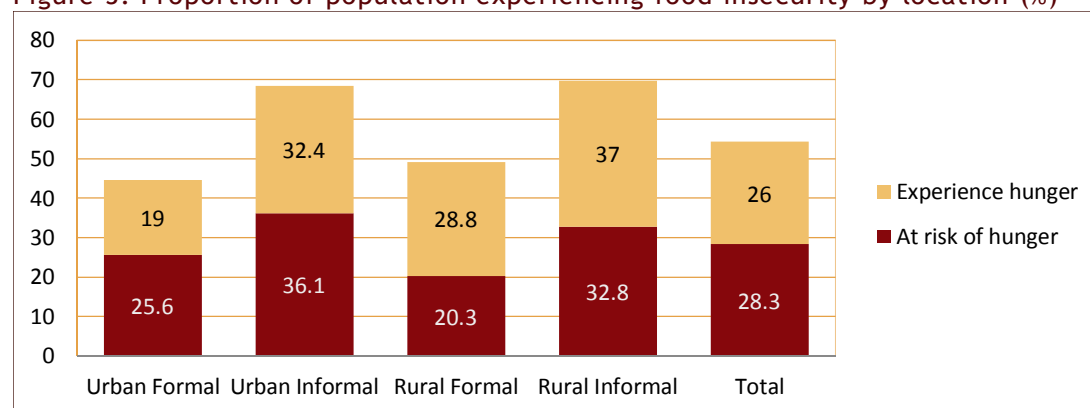
... a very large share of seriously hungry households live in a few urban districts. Counter-intuitively, more than 30% of all seriously hungry households lived in Cape Town, Ekurhuleni and Johannesburg in 2007. Over 50% of the seriously hungry could be reached by focusing intervention in these three densely populated urban areas, plus an additional five district municipalities mostly located in the same vicinities

Altman et al. 2009: 17.

Thus, amid abounding wealth in most of the country's urban areas, and the abundance of food in urban markets, significant sections of the urban community suffer from food deprivation. A city like Cape Town – the second richest city in the country – is paradoxically also home to a large proportion of poor people (37.5% of households lived below the poverty datum line in 2012) (City of Cape Town 2012). Unemployment in the city is at 24.9% and 20.5% of inhabitants live in informal settlements (City of Cape Town 2014). A pro-poor 2009 baseline survey carried out in Cape Town indicated that 80% of poor households were either moderately or severely food insecure (Battersby 2011). Moreover, most households consumed food from only six of the twelve food groups. Although the average household dietary diversity score (HDDS) of six may suggest a relatively more diverse diet, an investigation of the actual foods consumed indicates a limited diversity dominated by largely non-nutritive foods – foods with oil, fat, butter, sugar or honey and other foods (including tea and coffee) (Battersby 2011). A 2012 study carried out to explore the lived experiences of food access in the residential area of Mannenburg also found that 64% of the households were food insecure (Cooke 2012). A similar pattern of high levels of food insecurity among the poor was also found to be true among the immigrant population in the poor residential areas of Masimpumelele, Du Noon and Nyanga. In the survey, 84.4% of households were found to be moderately or severely food insecure and the mean HDDS was only 5.08 out of a possible score of 12, indicating that households were, on average, consuming foods from five different food groups only (Crush & Tawodzera 2012).

⁴ In reference to earlier comments about proportions, further studies are required to ascertain the net number of those experiencing food insecurity in the different areas defined in the SANHANES study.

Figure 3: Proportion of population experiencing food insecurity by location (%)



Source: Shisana et al. 2013.

Studies among school children in different areas and socio-economic groups in Cape Town have also shown poor nutrition in some of the foods consumed. A study covering fourteen Cape Town schools, investigating the diets of students aged 12–16 years showed more students were buying food at school (69%) than those who brought the food from home (41%) (Temple et al. 2006). Most of the purchased foods were unhealthy, comprising mainly of cola drinks, deep-fried pastries with spicy fillings, pies, and sweets. In addition, students attending school in low-income areas were more likely to buy unhealthy foods at school than those attending schools in high-income areas.

A Johannesburg food security study, using the FANTA methodology, found that 56% of households in Orange Farm, Alexandra Park and the inner city were food insecure, with 27% of households being severely food insecure (Rudolph et al. 2012). Although dietary diversity was high, the average dietary diversity of eight indicated that some foods were not being consumed (Rudolph et al. 2012). Using a different methodology, Veary et al. (2009) surveyed three inner city settlements and one informal settlement in Johannesburg and found significantly high levels of food insecurity among the surveyed households, but with differences between people living in the formal and informal sector. More informal settlement residents reported experiencing food shortages in the previous twelve months (68%) than residents of the inner-city (56%). In Msunduzi household food insecurity was also almost ubiquitous among the poor as 87% of the surveyed households were food insecure (Caesar et al. 2013). While some of these studies were admittedly pro-poor in focus, they are nevertheless indicative of the fact that household food insecurity is pervasive amongst the poorer segments of the society in most of South Africa's cities.

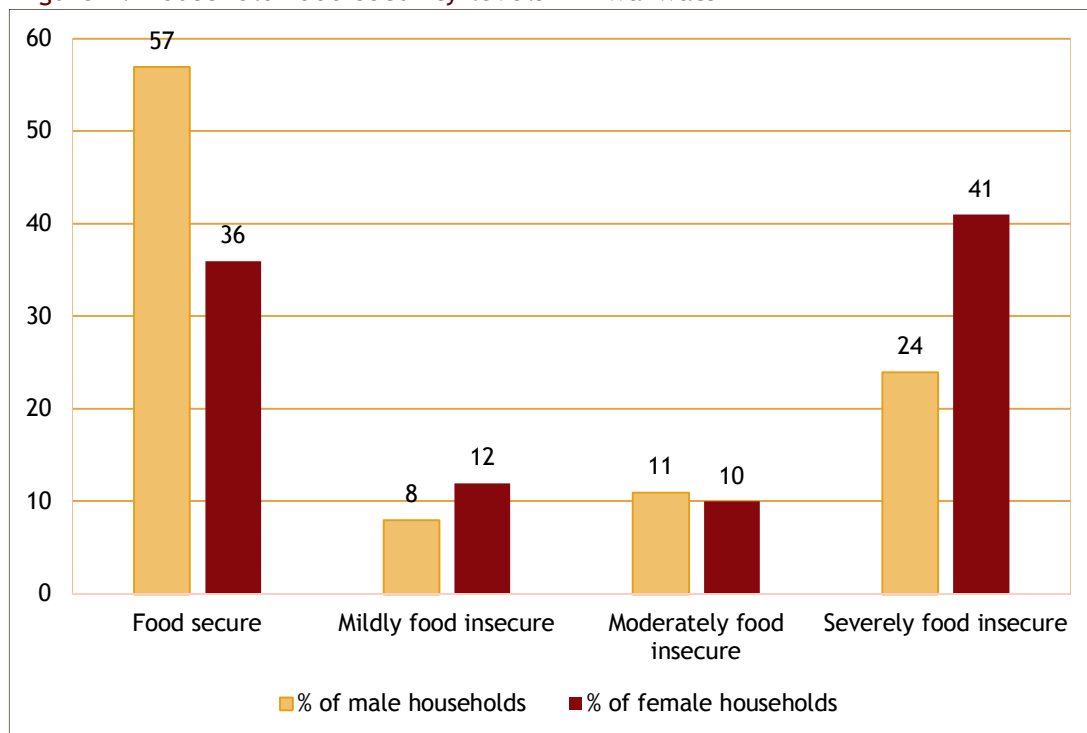
In Bloemfontein, van den Berg and Raubenheimer (2013) carried out a food security study among students at Free State University. Using a sample of 1 416 respondents to recall their food security situation over a twelve month period, the study found only 16% of respondents to be food secure; 24.7% experienced low food security ("without hunger"); and 59.3% experienced very low food security ("with hunger"). Although food security levels of the youth cannot be used to represent the city's general food security situation, the results serve to illustrate how issues of food insecurity cut across socio-economic classes, even among university students that are considered to be privileged and therefore more food secure than the general population.

Household food security and coping strategies in Durban, particularly that of is precarious (Bikombo 2014). Using the household food insecurity access scale (HFIAS), of 120 households surveyed 57.5% were severely food insecure and 90% of the households indicated having experienced various levels of food insecurity at different times. Furthermore, street trader households were found to eat food from six groups. However, 47.5% of households in the survey had a diversity score equal to or below five, and if starchy foods (cereals and tubers) are removed, the average score drops below five meaning that the average dietary score is heavily influenced by the amount of cereals and tubers consumed (Bikombo 2014).

Even South Africa's smaller towns are not immune to food insecurity. A survey by Ndobu and Sekhampu (2013) in the small town of Kwakwatsi in the North-West province, using the household food insecurity access prevalence (HFIAP) scale, found that 49% of the sampled households in the town were vulnerable to food insecurity (see *Figure 4*). More female-headed households were found to be severely food insecure (41%) compared to male-headed households (24%). Conversely, fewer female-headed households (36%) were food secure compared to male-headed households (57%), driving home the point that household structure plays a role in determining household food insecurity vulnerability.

South Africa urban townships seem to bear the brunt of the country's declining economic conditions. Grobler's (2013) study in the small town of Bophelong, in the south of Gauteng, assessed food security and vulnerability levels of household heads using HFIAS and found that only 7.46% of households were food secure, while 92.54% experienced mild, moderate or severe food insecurity. Of the 92.54%, 23.73% moderately food insecure, while 57.63% were severely food insecure. In Doornkop, Soweto, Patel et al. (2012) assessed the food security levels of 343 households. The study indicated that most respondents (53.3%) had experienced severe food insecurity and a further 25.1% were moderately food insecure. In total therefore only 5.9% and 2.9% were either food secure or mildly food insecure (see *Figure 5*). The authors further indicate that female-headed households in the area were less food secure than their male counterparts as they had 80.4% and 74.0% levels of moderately or severe food insecurity.

Figure 4: Household food security levels in Kwakwatsi

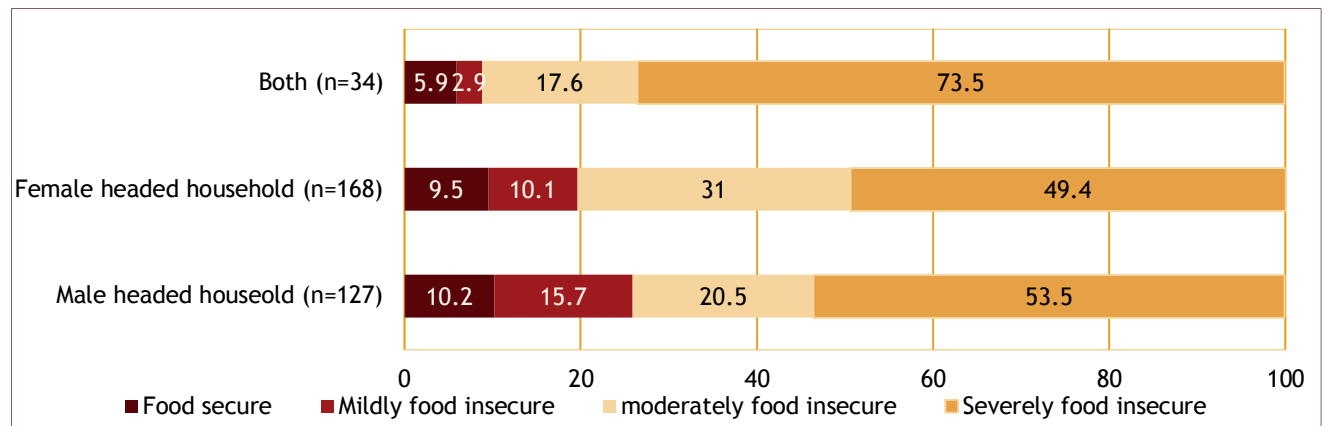


Source: Ndobu and Sekhampu, 2013:315.

As the above discussion has clearly indicated, food security in South Africa is neither an exclusively rural or urban problem. Both areas are prone to food security challenges as poor households and individuals are generally unable to adequately provision themselves. In urban areas, the challenges are compounded by the fact that households live in a purchasing environment where they are expected to buy almost everything that they consume.⁵ In addition, coping strategies are very limited and households and individuals struggle to make ends meet.

⁵ However, despite a dominant discourse to the contrary, in urban areas a strategy of self-provisioning through urban agriculture is not necessarily the most appropriate response, with the urban poor even less likely to choose this response (Haysom&Battersby 2016).

Figure 5: Household food security by gender in Doornkop, Soweto



Source: Patel et al. 2012: 20.

3. OBESITY AND MALNUTRITION IN SOUTH AFRICA

A discussion on food security in South Africa is partial without looking at obesity and malnutrition. A paradox of South African food insecurity is that malnutrition exists alongside obesity. The double burden is due to many factors, including that: (1) slow progress in improving water and sanitation systems, and public health facilities, so many children are under-weight and malnourished; (2) rapid urbanisation triggering huge changes in individual dietary patterns and lifestyles; (3) declining levels of physical activity spurred by technological changes and coupled with consumers' increased access to affordable cars. So obesity has increased, mainly among black women (Puoane et al. 2005).

Among 2–14 year olds, for example, overweight⁶ was more common among girls (16.5%) than boys (11.5%). Obesity rates for girls were 7.1% and 4.7% for boys. Overweight and obesity was highest among 2–5 year old, with respective rates of 18.9% and 4.9% for girls and 17.5% and 4.4% for boys (Shisana et al. 2013). In the decade since the previous survey, the prevalence of overweight for boys and girls seems to have risen from 10.6% to 18.2% (although the data is informed by slightly different methodological approaches which could skew the reported findings).

Studying the nutritional status of 187 Grade 1 pupils in Bloemfontein, Brits et al. (2013) found an 18% malnutrition rate, based on a combination of underweight, wasting and stunting. The study also showed that 27% had a BMI of less than the fifth percentile, indicating a high degree of malnutrition and underweight. Critical factors positively associated with malnutrition included the absence of a fridge and/or running water in the house, low education, and/or unemployment of parents. Illness in the previous month was also reported by 41% of the malnourished children.

A Stellenbosch study of obesity (Kirsten et al. 2013) also supports the argument that the double burden of malnutrition and obesity occur in the same urban areas. The study of 6–13 year olds aimed to understand obesity and the socio-demographic factors associated with childhood overweight and obesity. Noting overweight and obesity levels among students of 9% and 4% respectively, key findings from the study were that: (1) children whose mothers spent more than 36 hours/week at work were more likely to be overweight and obese; (2) smaller family size, namely the number of children in the family, was positively associated with an overweight or obese child; and (3) most children who spent less than an hour per day participating in sporting activities were more likely to be overweight and obese. South Africa's obesity problem needs to be addressed, because obesity is linked to non-communicable diseases, such as diabetes mellitus, coronary heart disease and hypertension – among the top ten causes of death in South Africa (Gboyega 2013).

⁶ In respect of body mass index (BMI), SANHANES reported two levels: (1) overweight and (2) obesity; the same phrasing is used in this paper.

4. DETERMINANTS OF HOUSEHOLD FOOD SECURITY IN SOUTH AFRICA

The above discussion provided evidence of urban and rural food insecurity in South Africa: a significant section of the country's poor are unable to adequately provide for themselves. But, why do so many households battle to provide for themselves and struggle to meet daily food needs? To adequately address this question we need to look at the factors that make some households more vulnerable than others. Vulnerability is a cross-cutting issue in food security, referring to 'insecurity in the well-being of individuals, households or communities in the face of a changing environment' (Moser 1998: 3). Capturing not only the risk of households moving from food security to insecurity, vulnerability also points to the situation experienced by most food insecure households. Because household failure to feed themselves results from exposure to and inability to cope with environmental stressors, food insecurity is an outcome of vulnerability (du Toit & Ziervogel 2005). Vulnerability draws attention to the specific contextual factors which determine exposure to food insecurity and influence the capacity of households to provide for themselves.

In rural areas, household vulnerability to food insecurity is partly a function of poverty, droughts, forest fires, winds, pest outbreaks, lack of an inclusive food system, no basic agricultural extension inputs, changes in access to off-farm income, climate change, no safety nets, and other factors (Kataneksza et al. 2012). In urban areas, however, the risks are slightly different and more diverse, particularly for the poor, who are usually unable to participate fully in the urban economy and have limited access to information and resources that could mitigate their situation in times of need. Factors that influence household food security may be economic, social or political, and can take the form of sudden shocks, long-term trends, or seasonal cycles. In both rural and urban areas, such changes do not occur in isolation, but rather appear as multiple stressors that negatively affect household ability to cope.

Researching food security in rural KwaZulu-Natal, D'Haese et al. (2013) indicate that household food security is a function of factors – such as the cost of food on the open market – that determine household resources and household ability to procure enough food (see *Table 5*). Because even rural households increasingly rely on buying food, rising food costs negatively affect households with stagnant or declining resources. The death of livestock on which households depend for draught power, milk and meat, can also limit household ability to cope.

Table 5: Shocks and stressors to household food security in KwaZulu-Natal

Factors limiting household ability to cope	Food secure	Mildly food insecure	Moderately food insecure	Severely food insecure	X ² stat
Food cost or rising food prices	77.3	70.4	79.0	76.9	0.941
Rising food production costs	31.8	51.9	52.7	52.3	3.454
Serious injury or chronic illness	36.4	25.9	43.7	50.0	6.830
Drought	31.8	33.3	32.8	49.1	10.369
Increase in household size	31.8	33.3	31.9	34.7	0.302
Death of livestock	18.2	22.3	36.1	27.3	5.070

Source: D'Haese et al. 2013:484.

Food insecurity and employment

The role of employment in food security cannot be over-emphasised. In rural areas, employment is usually on-farm, and individuals can usually work their own land. However, when and if agricultural production does not generate enough for the household, household members usually seek off-farm employment to augment their resources. In the urban areas, jobs are fundamental to achieving and maintaining food security, because working to generate an income enables food purchase in the urban environment. Because few urban residents have recourse to food production resources (be

this land, water, or even networks), their food security situation is underpinned by their being able to generate enough money to buy food. Without a continuous income flow, households are bound to experience food shortages and so become food insecure. In a Cape Town 2009 African Food Security Urban Network (AFSUN) food security baseline survey, only 52.4% of the working-age population were employed (Battersby, 2011). The unemployed were more vulnerable to food insecurity than those in employment. Drimie et al. (2013), investigating household food security in Johannesburg, found that informal settlement residents were more unlikely to be employed and as a result were also more likely to experience food insecurity. Thus, households in low-income areas are more at risk of food insecurity because of they lack employment and therefore a stable source of income that can militate against household food insecurity. In South Africa's urban areas, the only sure way to improve food security, especially among the poor, is to provide decent employment.

Food security and income

A key determinant of household food security is income. In rural areas, a stable income is required to buy agricultural inputs and to buy other goods required for sustaining rural life. In urban areas, households live and survive in a purchasing environment where most, if not all, the foodstuffs are bought. Without an income, access to food in urban areas is problematic. A higher income therefore empowers households to make choices about what to buy, how much, where and other food choices that may not be available to those with a lower income. Thus income – more than other factors – plays an integral and indispensable role in determining household food security in urban areas. Any decline in household income or increases in food prices can have catastrophic consequences. Studying food security in the small town of Kwakwatsi, Ndobu and Sekhampu (2013) concluded that income was the most decisive factor in determining household food security. They point out that rising household income in the area decreased the chances of a household being food insecure in both male- and female-headed households. Jacobs's (2009) findings are consistent with Ndobu and Sekhampu (2013), concluding that low income households are more likely to suffer from food insecurity compared to middle income and wealthier households. An entry point for safeguarding households from food insecurity is therefore improving household access to a stable and sufficient source of income.

In larger cities, the relationship between income and household food security is even more pronounced. Battersby (2011), in a Cape Town survey, shows the importance of having an adequate income for adequate household food security provisioning: 80% of households in the lowest income tercile in Khayelitsha, Philippi and Ocean View were food insecure, compared to only 46% in the upper tercile. Grobler's (2013) study in Bophelong, South of Gauteng, also emphasises the importance of income for food security, as most household heads indicated that a sudden decrease in their personal income had negative impacts on their food security.

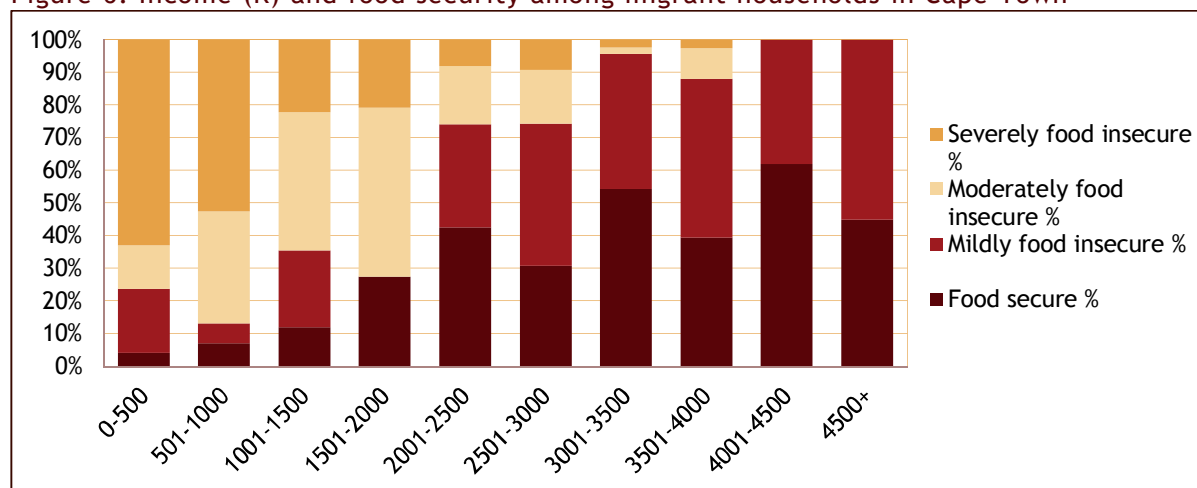
Van den Berg and Raubenheimers' (2013) study of students at a University in the Free State identify income as the greatest determinant of food insecurity: students that pay their own tuition and accommodation fees are the most vulnerable as their income is stretched. The second most vulnerable group of students was those who used money from their bursaries to cater for their food needs (27% of the students). The amount of money that the students received after fee-deductions was insufficient to take them through the year in terms of their food requirements. A sufficient and reliable income is therefore, in most circumstances, necessary for attaining food security. Without a reliable income guarantee, most people resort to buying poor or sub-standard food that compromises their food security and health status. As Temple and Steyn (2011) point out, most South Africans cannot afford a healthy diet because it costs about 69% more than the unhealthy food choices they are forced to make.

For the poor, the relevance of income for food security is plainly highlighted in the context of social grants – about 30.2% of South Africans receive some form of social grant (15.8 million beneficiaries in 2014 (Stats SA, 2015). Grants are a critical income source for most of the poor

who depend on grants to feed themselves. A study in the poor urban community of Doornkop, Soweto gives insight into importance of grants in the food security equation: after surveying 343 households in the area, Patel et al. (2012) reported that social grant monies were mainly used for food purchases, followed by basic non-food items such as school fees and uniforms, health and transport, and building up savings as protection against risk. Patel et al. (2012) further point out that although the grant amount was small, it nevertheless played a key role in reducing income poverty among the very poor, and especially woman-headed households.

Results from a migrant food security survey in Cape Town and Johannesburg also bear testimony to the importance of income for food security; using four scales to grade the extent of food security: (1) food secure, (2) mildly food insecure, (3) moderately food insecure and (4) severely food insecure, Tawodzera and Crush (2012) found that migrant households with greater incomes were more likely to be food secure than those whose incomes were low (see *Figure 6*). Only 1.8% of households with an income below R500 per month were food secure, compared to 22.8% of those with incomes between R3001 and R3500, and 62% for those in the R4001–R4500 income category (Crush & Tawodzera, 2012).

Figure 6: Income (R) and food security among migrant households in Cape Town



Source: Crush and Tawodzera 2012.

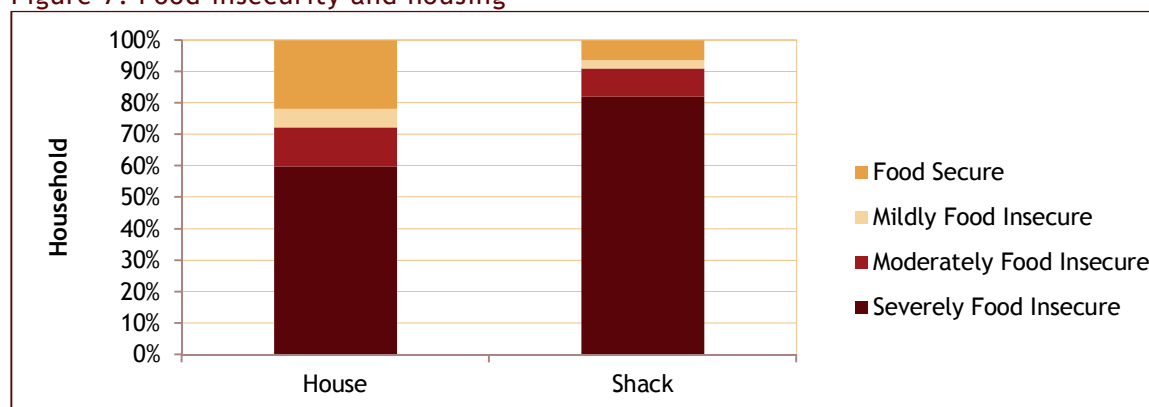
Food insecurity and food prices

Urbanites are hardest hit by food price increases, since they buy most of their food. Significant price increases tend to erode household purchasing power because wages do not increase at similar rates. The 2007-2008 global price hikes, for example, negatively impacted on food markets in most countries, including South Africa, where the food inflation rate rose 16.7% between October 2007 and 2008 – 4.6% higher than inflation. Rising food prices usually impact most on low-income urban residents who mostly rely on informal sector activities for food and employment that provides low and irregular earnings. Since the informal sector accounts for 50%–75% of all non-agricultural employment in low-income countries (Chen & Ravallion 2008), rising prices can be devastating for household food security. Food prices are probably the single most important cause of vulnerability among the urban poor. Ruel et al. (1998) argue that food prices depend on (1) the efficiency of food marketing systems, (2) buying patterns of households, (3) household access to public transfers such as food aid or subsidies, and (4) government's macroeconomic policies, including food policies. Notably due to South Africa's "agricultural triple transition" – deregulation, liberalisation and land tenure consequences of the Extension of Security of Tenure Act (ESTA) – rural food access is increasingly similar to the urban food access environment.

Food security and shelter

Shelter has often been postulated to reduce vulnerability to food security, particularly in urban areas (Grant 2007). Owning a house, for example, reduces the risk of eviction following impoverishment and creates opportunities to rent rooms or operate home-based enterprises. People who rent shelter are forced to make payments even if they cannot afford to, and in the process, make some trade-offs against food purchases. Households with inadequate water and sanitation, particularly in informal settlements, may be forced to eat improperly cooked food or food containing contaminants (Battersby 2011), further compromising their food security. The Cape Town AFSUN survey found that shack dwellers were about 20% more likely to be severely food insecure than formal house dwellers (see *Figure 7*). The increased risk was likely because most of these households were located further from formal markets so they had a more limited geographical access to cheaper food (Battersby 2011).

Figure 7: Food insecurity and housing



Source: Battersby 2011.

Most poor people have limited storage capacity and are therefore more likely to purchase food in smaller units, which tend to be more expensive per unit volume. Expensive food is likely to result in people consuming narrower diets that are detrimental to growth and health. A Johannesburg study indicated that the mean dietary diversity score (DDS) for respondents living in informal settlements was significantly lower than that for respondents living in formal settlements (Drimie et al. 2013). Respondents living in informal settlements ate mostly cereals while those in the formal settlements ate a more varied diet that was more nutritional. With more than 174 000 households living in Cape Town's informal settlements (Housing Development Agency 2012), the impact of a lack of housing on household food insecurity cannot be over-emphasised. In some residential areas more households live in informal dwellings/shacks than formal housing. The *Philippi Community Profile* report, for example, showed that 54.97% of residents lived in shacks/informal dwellings in 2009 (Anderson et al. 2009). When addressing the food needs of South Africa's poor, it is also necessary to look at the location of the poor in relation to markets and to home ownership. Rent tends to eat into income that could otherwise be spent on food.

Food insecurity and social protection

Poor people are vulnerable to hunger and food insecurity because they lack adequate resources to meet their basic needs on a daily basis. They are also highly vulnerable to even small shocks that push them closer to destitution, starvation, and even premature mortality. Thus, to survive, most of the poor need help from the state and other players through social protection measures. In South Africa a well-developed and inclusive set of social grants, target the poor to aid them in fighting poverty and other societal ills. The grants include cash transfers (e.g. old age grant, care dependency grant, disability grant, child support grant), free basic services (e.g. water and electricity), health (free primary health), and education (no fee schooling). To what extent are these protections able to ameliorate the food security problems of South Africa's poor? Van der Berg (2006), reviewing the role of public spending on the poor in South Africa, argues that social

grants seem to have been one of the most important contributors to reducing poverty and food insecurity in the poorest households. It has, however, been argued that small grants like the child grant are unlikely to make an impact, grants should be raised to levels that will cover the immediate needs of the households and make it likely that they invest for future production.

One social transfer mechanism that seems to be working relates to school feeding schemes that target children at various schools in order to alleviate short-term hunger, enhance learning capacity, improve school attendance, and address micro-nutrient deficiencies among school children. The school-going age group has been shown to be particularly at risk of food insecurity and other associated deficiencies. SANHANES-1, for example, showed that 15.4% of South African children (0–14 years) were stunted, and 5.4% were underweight (Shisana et al. 2013). The report also found high rates of overweight (16.5% for girls and 11.5% for boys) and obesity (7.1% for girls and 4.7% for boys) among the children, highlighting the food security problems where shortage of proper nutritious food occurs (ibid.). Although school feeding schemes sometimes have inadequate funding and most of the needy high school students are excluded from the system, the programme is helping to alleviate food insecurity among school children in the country. The government needs to monitor the programme, identify other areas that are excluded and provide additional funding to cater for most of the needy students, particularly those in informal settlements and rural areas. When food is given to students, however, meal programs should emphasise healthy food choices.

5. COPING WITH FOOD INSECURITY

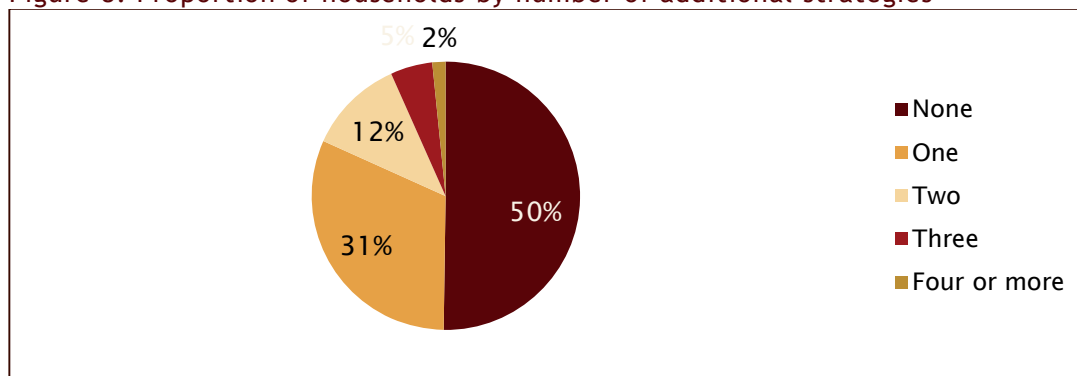
Food insecurity is a challenge for both urban and rural South Africans. As has been discussed, a significant proportion of poor people in rural and urban areas struggle to adequately and consistently provide for themselves. Such struggles result in households and individuals cutting other expenses to buy food. However sometimes households just make do with what they have, adjusting to consumption levels that allow them to survive. When households make do, they are said to be coping. Coping is where households resort to strategies that enable them to obtain food, income and/or services when their normal means of livelihood is lost or reduced (Rakodi 2002). Coping strategies are usually ‘an array of short-term strategies adopted in response to a crisis’ (Davies 1993: 60). Most coping strategies are based on household endowments and constraints as well as available opportunities (Bird & Prowse 2008). The ultimate aim of coping is to maintain food and livelihood security as well as health status and overall well-being.

Households adopt various strategies to cope with food insecurity. In rural areas, coping is dependent on the available local natural capital such as wild foods (e.g. edible insects, wild fruits and vegetables), fuelwood, and craft materials, which are often freely available in rural sub-Saharan Africa. Local natural capital plays a key role in buffering households from food or income shortages. A study by Twine et al. (2003) found that rural Limpopo households use about R3 959 of local natural resources a year, with poverty stricken villages extracting the highest value. By resorting to natural resources, villagers buffered themselves against food shortages.

Mjonono et al. (2009) in a study in the Umbumbulu district of KwaZulu-Natal, identified a number of coping strategies adopted by rural households to cope with threats of food insecurity, including relying on less preferred foods, borrowing money or food from friends and relatives, purchasing food on credit, limiting portion sizes, leaving food for the children, reducing the number of meals, and skipping meals. A Limpopo study revealed that household members often skipped meals because of a lack of food (53%), children ate less than they needed because of food shortages (51%), and sometimes went to bed hungry because of having no money to buy food (36%) (DEA 2006). By implementing these strategies, households hoped to stretch their meagre food resources to last longer. Similarly, a study in KwaZulu-Natal reported that households were sharing food with other community members. In one community high levels of food insecurity resulted in community

members eating clay. However, eating clay allegedly caused pervasive sickness, with community members declaring symptoms of heart palpitations, gallstones, piles and dizziness, among others (Kataneksza et al. 2012). D'Haese et al. (2013) also found households employing negative coping strategies to deal with food insecurity, including (1) lending and selling productive assets (much to their detriment as this impacted on ability to generate income), and (2) borrowing from friends and relatives. In urban areas, coping strategies can be limited. In a Cape Town food security study, Battersby (2011) found that only 19% of surveyed households had two or more coping strategies on which they could rely to raise income to meet food needs (see *Figure 8*).

Figure 8: Proportion of households by number of additional strategies



Source: Battersby, 2011:8.

In the Cape Town study, half of the households (50.3%) reported that they had no additional strategies. The absence of additional livelihood strategies among poor households in urban areas is most likely indicates the limited opportunities available to the poor in their environment. Without opportunities to engage in a variety of other activities to supplement their main income, most of the poor households are most likely to have inadequate income and hence compromise their food security.⁷

The lack of alternative livelihood strategies in South African urban areas is driving the poor to survive on credit. A growing number of poor households are borrowing to finance current expenditure and defray other expenditures (Paile 2013). Such households anticipate that they will be able to repay their loans when their financial situation improves, but this rarely happens. Most households in urban areas are mired in debt and continue to incur debts regardless of their employment status (Paile 2013). A large part of this debt goes towards food expenditure. Some households borrow from loan sharks (Mashigo 2012) and the impact of doing so can be devastating because of the sizeable interest rates involved.

6. CONCLUSION

This paper has highlighted that South Africa is food secure at the national level, and that the country produces enough calories to adequately feed every one of its citizens. Where necessary, as is the case with the 2015/16 drought, the country is also able to import any food shortfalls if the need arises. However, caloric adequacy should not be equated with nutrient adequacy, which the country is far from achieving. At sub-national levels, even the caloric requirements are not met largely as a result of poverty, structural inequalities, and the skewed income distribution among the population. South Africa's high unemployment rates increase the vulnerability of poor households to food insecurity, as such households have less income and cannot afford to buy adequate food. Ongoing poverty is thus undermining the goal of achieving

⁷ There is a likelihood that certain urban households adopted coping strategies that they chose not to disclose. Such strategies may either be illegal or for various reasons were deemed inappropriate to disclose. This likelihood needs to be considered when reading the 50% figure reflecting an absence of urban coping strategies in *Figure 8*.

food security for all households as envisaged in the Constitution. By adopting the National Policy on Food and Nutrition Security (NPFNS) (Government of SA 2014) in August 2014 the South African government acknowledges the existence of food insecurity in South Africa. The NPFNS raises the question as to whether the extent and nature of the food security problem is correctly identified and if the emerging policy interventions from the NPFNS will be appropriate. Therefore, we must ask: is the NPFNS laying the groundwork to eradicate food and nutrition insecurity? Whether that goal is achievable depends on the political commitment to address the existing huge inequalities.

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