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The Status of Food Access in Limpopo Province: A Case of Rural Households in Sekhukhune District South Africa

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ABSTRACT A study was conducted in three municipalities in Sekhukhune District, Limpopo Province of South Africa. The study was made up of 602 household members. The sample comprised of 16.9% males and 83.1% females. The main objective of the study was to determine food access of the rural households vis-a-vis demographic information. The research used the quantitative design, and applied random sampling methods. Data were collected during face to face interviews using a structured questionnaire and analysed using the Software Package for Social Scientists (SPSS version 20). Descriptive analysis and Univariate analysis were done. The results showed that there is a great association among gender, education, monthly grants, working full time and food access. The findings highlighted the importance of social grants, employment opportunities such as small businesses, agricultural production and the promotion of education as factors that can improve food access in Sekhukhune District.

INTRODUCTION

South Africa produces enough food to feed itself and to enable access to food. Nevertheless South Africa is experiencing a rapidly increasing rate of household food insecurity (van der Berg 2006; Abdu-Raheem and Worth 2011). Although employment has risen in the country, it has not attained the level where it can significantly address the issue of income poverty (Abdu-Raheem and Worth 2011), thus, limiting household purchasing power to acquire food. Interventions such as the government social grant have been introduced as means of accessing food, but 40-50% of South Africans still live in poverty (Machethe 2004; Abdu-Raheem and Worth 2011).

To decrease the levels of poverty, the South African government introduced different forms of social grants. The social grant is given to the elderly, war veterans, the disabled and those having to care for the disabled children, foster children and poor children younger than 15 years. According to Maponya and Moja (2012), government support plays an important role in providing income for households.

However, only a third of households that receive old age and child support grants benefit from them. This limitation is exacerbated by three major Food Security challenges, namely unemployment, HIV/ AIDS and poverty (Modi et al. 2006). All the three challenges are interrelated and affect those living in rural areas more than those in urban areas (Ballantine et al. 2008).

Approximately 35% of the total South African population (about 14.3 million people) experience hunger and under-nutrition (Rose and Charlton 2002; Abdu-Raheem and Worth 2011), the majority being vulnerable groups such as children, women and the elderly who are not capable of accessing food. Food access refers to the ability of individuals having adequate incomes or other resources to purchase or batter to obtain levels of appropriate food needed to maintain consumption of an adequate diet or to attain an acceptable level of nutrition (Hoddinott and Yohannes 2002; Sayed 2002). Food access has been defined as a household's ability to acquire enough food of sufficient quality and to have all of its members meet their nutritional requirements and lead productive lives (Labadarios et al. 2011). In South Africa, the cause of food insecurity is not due to a shortage of food, but rather an inadequate access to food by certain categories of individuals and households in the population (Modirwa and Oladele 2012).

Household food security depends on access to food and is distinct from its availability (Lemke 2001). As stated by Lemke (2001), access to food is the ability of the households to acquire available food. Even if there is abundant food available on the market, poor households that cannot afford to access it they end up being food

insecure. Therefore, food accessibility is ensured when households and individuals within those households have sufficient resources such as money to obtain appropriate food for a nutritious diet (Lemke 2001). Establishing food security, particularly household food security, is widely acknowledged as an important milestone in advancing the living standards of the rural poor. Food insecurity can be looked at in terms of inadequate availability, and access and utilization of the levels of food in a household (Swindale and Bilinsky 2006). This study focuses mainly on access to food. The Food and Agricultural Organization (FAO 2003) of the United Nations defines food security as "ensuring that all people at all times have both physical and economic access to basic food that they need". Food insecurity is defined as the state in which "people do not have adequate physical, social or economic access to food (FAO 2003).

According to Ballantine et al. (2008), accessibility of food encompasses both economic and physical accessibility. Economic accessibility refers to the capacity of the household to purchase food for an adequate diet without compromising the satisfaction of other basic needs (Ballantine et al. 2008). Sometimes, basic needs such as food, water, fuel or electricity costs, school fees and uniforms mean that households cannot afford enough food to feed the household, therefore, they end up being food insecure. In instances of high unemployment, such as in Sekhukhune District, economic accessibility may be severely compromised (Maponya and Moja 2012). Physical accessibility of food implies that food must be accessible to everyone, including vulnerable groups such as women, children, the elderly and the sick, physically disabled, mentally ill and victims of natural disasters and armed conflicts (Ballantine et al. 2008). Food insecurity relate to food access because without proper economic and physical access to food the households and or individuals will remain food insecure (Sakyi 2012). A study conducted by Ndhleve et al. (2012) concluded that inadequate access to food and food insecurity are prevalent problems in rural South Africa and poor families are increasingly failing to afford food. This indicates that the two concepts (food access and food insecurity) relate to each other.

The main objective of the study was to determine food access of the rural households visa-vis demographic information. Descriptive analysis and a Univariate model were used. Demographic features such as age, gender, education, government grants and working full time were described and a Univariate model was used to link them with the status of food access of the rural households.

METHODOLOGY

The study was carried out in Sekhukhune District of Limpopo Province between May and September 2012. Permission was sought from the Limpopo Department of Agriculture to conduct research in Sekhukhune District. Data were collected using a structured questionnaire and the respondents were interviewed face to face. A multi-stage random sampling technique was used to select the respondents. The first stage was the random selection of three municipalities, namely Ephraim Mogale, Elias Motswaledi and Makhuduthamaga, from a total of five municipalities in the study area. The second stage involved simple random sampling of 21 villages from the selected municipalities. Further, with the help of the local extension workers, a stratified random sampling technique was used to select 602 household members. Multi-stage random sampling was used because a complete list of households could not be obtained. The method also cut down expenses and time to five months.

Out of the 602 respondents nine were children below 20. These children were included in this study because at the time of the research they were heading their households and were responsible for food accessing and the utilization thereof.

Data were captured and analyzed using the Software Package for Social Science (SPSS version 20). Descriptive analysis was used to describe data and a univariate regression analysis was conducted to demonstrate the following relationships and association of variables: socio-economic characteristics; food access and its association with the respondents' age, gender, education, getting government grants and working full time.

Specification of the Univiriate Analysis Model

The univariate analysis model, which is able to demonstrate the relationship between dependent and independent variables was used as stated in the equation below:

Wi = _ + _Xi + _i..... .....(1)

Wi is the dependent variable value for person i..... .....(2)

Xi is the independent variable value for person i..... .....(3)

_ and _ are parameter values .....(4)

_i is the random error term .....(5)

The parameter _ is called the intercept or the value of W when X = 0..... .....(6)

The parameter _ is called the slope or the change in W when X increases by one ..... (7)

The meaning of 1 in tables only determines the level of association between variables. For example > 1 means greater association among variables and <1 means less association among variables.

RESULTS AND DISCUSSION

Socio-economic Characteristics of Respondents

Table 1 shows that 58.8% of the respondents were mothers, 10.8 % were fathers and 2.7 % were grandparents, 22.9 % children and 4.8 % relatives. The research results indicated that a high percentage of the respondents were mothers. The majority (83.1%) of the respondents were females, while 16.9% were males. The results indicate a lower percentage of men as opposed to women because at the time of the research most men in the sampled household were at work in the local towns while others were migrant workers. Of all the respondents, 61.3% fell between 30 to 59 years. This was the group that was responsible for purchasing and accessing decisions, thus, managed the purchasing powers to acquire food for the household. Similarly, 22.1 % of the respondents had no formal education, 30.7% had only primary education, while 29.6% had secondary education. In terms of qualifications, 15.3% of the participants had a high school grade, 1.5% had diplomas and 0.8% had tertiary education degrees. Out of a total of 602 respondents, 81.2% receive monthly grants. The monthly grants will differ in terms of the purpose for the grant. Only a smaller percentage of the households (18.8%) do not receive any form of grants. The table also shows that 27.1% of the respondents are working full-time, 3.2% are working part-time, while 3.7% are doing casual jobs. At the time of the research, 38.4% of the respondents were unemployed, 11% were housewives, 14.1% were pensioners and 2.7% were students. The research results indicated that only a smaller percentage (34%) of the households is employed, while a larger percentage (63.3%) is unemployed while 2.7% were students. Those who depend on remittances for their livelihoods made up 67.1% of the households.

Table 1: Distribution of the respondents according to their socio-economic characteristics (n=602)

Variable	*Total*	*Percentages*
Household Members Surveyed		
Mother	354	58.8
Father	65	10.8
Grand parent	16	2.7
Child	138	22.9
Any relative	29	4.8
Gender		
Male	102	16.9
Female	500	83.1
Age		
Below 20 years	9	1.5
20 – 29 years	73	12.1
30 – 39 years	117	19.4
40 – 49 years	131	21.8
50 – 59 years	121	20.1
Above 60 years	151	25.1
Educational Level		
Non-formal education	133	22.1
Primary education	185	30.7
Secondary education	270	44.9
Tertiary education diploma	91.5	
Tertiary education degree	6	0.8
Average Monthly Grants in Rand		
R200- R700.00	121	20.1
R701- R1000.00	52	8.6
R1001 and above	316	52.5
Not applicable	113	18.8
Employment Status of Households		
Working full time	163	27.1
Working part time	19	3.2
Casual jobs	22	3.7
Housewives	66	11
Pensioners	85	14.1
Student	16	2.7
Unemployed	231	38.4
Average Remittances in Rand		
Below R200.00	62	10.3
R200-R700.00	117	19.4
R700- R1000.00	103	17.1
Above R1000.00	122	20.3
Not applicable	198	32.9

Sekhukhune District and its Unemployment Rate, Remittances and the Role of Government Grants

Sekhukhune District was declared as one of the districts that is food insecure, and one of the

poorest in the country (Mbeki 2005). At the time of the research, out of the total sample, 27.1% of the respondents were working full time, while 6.9% were working part time or doing odd jobs. Full-time and part-time jobs included agricultural production and non-farm activities. These results are supported by the research conducted by Maponya and Moja (2012), who concluded that only 27% of the households receive income from regular wage employment. The majority (63.5%) of the respondents were unemployed. 2.7% were attending school. At the time of the research, students/learners were interviewed because they were the only ones responsible for food accessing and utilization in their households.

Although the unemployment rate is high (63.5%), remittances play a major role in supporting the households.71.6% of the households depend on remittances although the remittances differ from one household to the other, and they also fluctuate depending on the migrant workers' financial position. According to Maponya and Moja (2012), about 31% of the households in Sekhukhune receive remitted income from migrant labourers. To alleviate poverty, government provides social grants to some of the households to ensure food access. The grants differ according to the need assessment done by the social workers from the Department of Health in line with the government social grant policy. At the time of the research, for example, a household with one poor child below the age of 15 got R280.00. The money doubled depending on the number of children in poor households. In households where there are two elderly couples both getting grants, the amount could reach R2600.00.

The results from Table 1 indicate that 20.1% of the sample received less that R700.00 per month, while 8.6% received below R1000.00 per month. The majority (52.5%) received R1001.00 and above, while 18.8% did not receive any form of government grant. The amount of grants received differs from one household to the other depending on who should access such fund. Even though the amounts differ but the purpose is to ensuring food access it attained. According to Labadarios et al. (2009), social grants have been shown to increase women's purchasing power, as well as their access to food.

Food Accessibility of the Rural Households vis-a-vis Demographic Information Using a Univiriate Analysis Model

Univiriate Analysis of Determinants of Food Access in Terms of Age: According to Table 2, the odds of households accessing food are 1.16 higher for age categories (30-39; 40 – 49; 50 – 59) than other age categories. The results indicate that these age categories are more involved in food accessing issues than the other age categories. These results indicate that 41.8% of the respondents aged 30 to 59 are more involved in food accessing strategies to ensure household food security. Research conducted by Sakyi (2012), in the same area concluded that "food security improves with increasing age of household head thus ensuring food accessibility". Sakyi (2012), furthermore, mentioned that the economically active people (15-64 yrs) in the study area (Limpopo Province) constitute more than half (57%) of the population and this might explain why food security improved with the age of the household head. Contrary to this result from the study area, other studies elsewhere have found different results. A study conducted by Bashir et al. (2012) found an inverse relationship that existed between age of household head and food security. Bashir et al. (2012) reported from their study on household food security that increasing the age of the household head reduces the chances of the household to be food secure by 3%. Bashir et al.'s (2012) results are at a lower percentage as compared to the results of this study. Therefore, in summary it can be concluded that food security improved with increasing age of household head.

Table 2: Univariate analysis of determinants of food access in terms of age

Variable	*Total*	*(%)*	*OR [95%CI]*
Age (30 – 39 years)	117	9.41.	16 [1.00–5.750]
Age (40 – 49 years)	131	21.8	1
Age (50 – 59 years)	121	20.1	

OR= Odds ratio; 95%CI = 95% confidence intervals.

Univariate Analysis of Determinants of Food Access in Terms of Gender: During data collection, the highest percentage (83.1%) of the respondents was that of women simple because most of the men had migrated to urban areas or they were working in the nearby towns. The only

males interviewed were 16.9%, which was not representative of all men in the study area. The men, even though they were in the minority, indicated that they are not involved in food accessing strategies because if they have money they give it to their wives to purchase food.

However, the respondents, mostly women (83.1%), indicated that they are responsible for food accessing strategies. However, according to Table 3 there is a clear association between gender and food access. The odds of gender in determining food access are 2.15 higher. Gender was a relevant factor of food security among households.

Women (83.1%) play an important role in determining food access in households as seen in Table 3. According to Lemke (2001), women allocate a larger share of their budget to food and spend less on, for example, alcoholic beverages than do male headed households. This is also confirmed by other studies (Kennedy and Peters 1992; Schulz 1999). There is substantial evidence that women play an important role in improving household access to food in Africa (Jacobs 2009). Female-headed households constitute a significant number of the economically active population in Sekhukhune District, as most of the males are migrant workers (Maponya and Moja 2012). Migration of men in this district creates a vacuum in terms of gender balances when it comes to food access. The results of this case study and the above references support the argument that food access is determined by gender, and that women play a major role.

Table 3: Univariate analysis of determinants of food access in terms of gender

Variable	*Total*	*(%)*	*OR [95%CI]*
Gender			
Male	102	16.9	2.15 [0.639– 3.864]
Female	500	83.1	1

OR= Odds ratio; 95%CI = 95% confidence intervals.

Univariate Analysis of Determinants of Food Access in Terms of Education: As seen in Table 4, there is a clear association among households with non-formal education, primary education, secondary education and food access. The findings indicated that a high percentage (53%) of the respondents has non-formal education or ended their schooling at primary level. Generally, the level of education of the households in the study area was quite low. Ndhleve et al. (2012) also confirm that the level of education is positively related to food access though its effects will be seen if one is employed. The low education level poses a continuous threat to food access as the purchasing power will be restricted due to income constraints related to low paying jobs, which are a result of low education levels. Lack of education has been found to correlate strongly with hunger and food insecurity in Sekhukhune District (Maponya and Moja 2012).

Furthermore, this study showed that women were less educated. Quandt et al. (2004) argue that educational opportunities for females do translate, in some way, into greater food security for their families. Investing in women's education increases women's capabilities, expand opportunities available to them and empowers them to exercise choices (Green 2004). Therefore, the low education raises the need for women empowerment activities. As stated by Green (2004), empowering women is a key issue in achieving household food security, and increasing women's education is the key ingredient for women's empowerment.

According to FAO (2009), there is a strong correlation between education, empowerment and food security. FAO (2009) emphasized that education in different forms such as formal or non-formal as well as skills training, is very useful as it tends to develop the capacity of people to enhance food security. Sakyi (2012) argues that the level of education enhances food security and reduces poverty since it determines the opportunities one can get in order to improve livelihood strategies. A study by Bashir et al. (cited in Sakyi 2012) of rural households in Pakistan found that households headed by people with education of up to intermediate level (10 to 12 years of schooling) were more likely to be food secure. This confirms the positive impact that the education system has on household food security. The results of this study concluded that a high percentage (53%) of the households were less educated, thus, affecting their levels of food accessibility and resulting in food insecurity.

Univariate Analysis of Determinants of Food Access in Terms of Social Grants: The odds of households with social grants of R200 – R700; R700 – R1000 and above R1000 are 1.22 higher and this indicates a good association with

food accessibility. Sources for the above grants are pension funds, old age pensions, child support grants, foster care grants, disability grants, care dependency grants and the compensation fund (Rule 2005). The grants offered by the government contribute to household food security and improve economic access to food in some instances. Therefore, there is a statistical correlation between the grants and food access of the households. According to Ballantine et al. (2008), food insecurity levels change with income levels. The less earned the more frequently the household will experience conditions associated with food insecurity. Table 5 indicates that there is an association between monthly grants and food access. The results also show that 20.1% of the respondents get less than R700.00 per month, which indicates that these households, with the lower grants, will be more food insecure than those receiving more than R1000.00.

Table 4: Univariate analysis of determinants of food access in terms of education

Variable	*Total*	*(%)*	*OR [95%CI]*
Non formal education	133	22.1	1.00[1.00– 2.96]
Primary education	185	30.7	1
Secondary education	178	29.6	

OR= Odds ratio; 95%CI = 95% confidence intervals.

A research conducted by Labadarios et al. (2009) found that low income (from jobs or the grants) and high food prices will not help much in improving food access. Labadarios et al. (2009) highlight that more recent steep increase in food prices place severe pressure on ordinary South Africans already struggling to meet their basic needs. He also highlights that the poor spend 65% of their income on food.

The reliance on social grants as a major source of income was a significant determinant of household food security. According to Altman et al. (2009), hunger could be reduced dramatically if eligible households are given such grants. Sakyi (2012) indicates that more than 58% of the households in Sekhukhune district depend on grants as their major source of income. The results of this study indicated that a higher percentage (81.2%) of the respondents depend on grants as a means of accessing food. The only difference is that the grants received differ in terms of the purpose they should serve, for instance, at the time of data collection, a grant for child support was R280.00, while that of the elderly was R1300.00.

Table 5: Univariate analysis of determinants of food access in terms of social grants

Variable	*Total*	*(%)*	*OR [95%CI]*
Monthly grant (R200 – R700)	121	20.1	1.22 [0.77–9.82]
Monthly grant (R700 – R1000)	52	8.6	1
Monthly grant (Above R1000)	316	52.5	

OR= Odds ratio; 95%CI = 95% confidence intervals.

Univaraite Analysis of Determinants of Food Access in Terms of Working Full Time: The odds of households with full time work are 1.07 higher and this indicates a good association with food accessibility. The employment status of the parents or a member of the household normally determines whether sufficient economic resources will be available at household level, including cash to purchase food (Matla 2008). The level of income will determine the quantity and quality of food purchased. Out of a total of 602 respondents, only 112 respondents (18.6%) were working full-time. The availability of employment for a member of the household has an association with food access. According to Sakyi (2012), households need stable and constant level of income to ensure food security for themselves and their families. Therefore, 18.6% of the households with members working full-time will reduce the risk of inadequate access to food.

Households with members working full time will be able to accumulate assets which might be used as a buffer in times of food insecurity. While household food security depends substantially on household income and assets (or wealth), a low-income household is more likely to suffer food shortages than a wealthier household. Food expenditure comprises a large share of the spending of poor households, making them relatively more vulnerable to the impact of food price inflation (Jacobs 2009). Therefore, the results of this study indicate that a smaller percentage (18.6%) of the households are in a better position to access food because they are employed as compared to the majority of the respondents who are unemployed (Table 6).

Table 6: Univariate analysis of determinants of food access in terms of working full time

Variable	*Total*	*(%)*	*OR [95%CI]*
Working full time	112	18.6	1.07 [0.639–1.800] 1

OR= Odds ratio; 95%CI = 95% confidence intervals.

CONCLUSION

The study was based on the status of food access in Sekhukhune District, Limpopo Province, Descriptive analysis was used to analyze the rural household's personal socio-economic characteristics. The study also determined food accessibility of the rural households vis-a-vis demographic information (age, gender, education, government grants and working full-time). A univiriate analysis model was used. The univiriate model indicated that there is a great association between age, gender, education, government grants and working full time. Households in Sekhukhune district lack both economic and physical access to food. A large percent of the households depend on government grants as a strategy for accessing food. A minority of the households have members who are working full-time, while a higher percentage is unemployed. The educational levels of the households are also poor, resulting in lack of skills to secure skilled jobs. The study revealed that the households reside in an environment with few economic opportunities as a large percentage of the household members are unemployed. They lack both economic and physical access to food. The males resorted to migrant work so as to send remittances back home.

RECOMMENDATIONS

It is very clear from the results that the majority of the households lack economic and physical access to food. This is evident in the high levels of dependency on government grants. Therefore, there is a need to create awareness on different strategies and different interventions to ensure that households are in a better position to access food. Interventions required could range from emergency food relief and other forms of social protection to measures aimed at ensuring more effective participation of people in the formal and informal economies.

The findings highlight and reinforce the importance of social grants, employment opportunities such as small businesses, remittances, agricultural production and the promotion of education as factors that can improve food access and household food security in Sekhukhune District. Programmes that increase access to food need to be promoted. Such programmes include land and agricultural production, extension and training, marketing and sustainable use of natural resources, education and female empowerment, and the encouragement of backyard gardens in villages where water is available.

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