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## **Agricultural production in Greater Sekhukhune: the future for food security in a poverty node of South Africa?**

S Drimie<sup>1</sup>, T Germishuise<sup>2</sup>, L Rademeyer<sup>2</sup> and C Schwabe<sup>3</sup>

### **Abstract**

*This paper argues that within the range of complementary activities necessary to secure the food security of marginalised groups in South Africa in places such as Greater Sekhukhune, the aspect of agricultural production is often neglected. A comprehensive approach to food security should focus on exploiting opportunities around increasing local food availability through production, as well as stimulating food accessibility by, for example, supporting small enterprises through micro-credit, and supporting food utilisation through education. In this way a range of options is created that vulnerable people can adopt to promote their livelihoods beyond survivalist strategies. This paper explores the issue of agricultural production within Greater Sekhukhune to provide insights into the challenges facing a comprehensive food security strategy that would guarantee food supply through a range of interventions. The study in the Greater Sekhukhune District in Limpopo Province was conducted through two sets of household surveys (2004 and 2006) and the responses to the agricultural production part of these surveys are discussed. Marked changes from 2004 to 2006 were observed. For "agrarian reform" to be a success, the necessary institutional framework needs to be in place to enable a broad range of services from government and non-governmental actors. The facilitation of such "joined up government", although in existence in theory, requires concerted political will to become a reality.*

**Keywords:** Food security; agricultural production; household surveys; Greater Sekhukhune

### **1. Introduction**

This paper argues that within the range of complementary activities necessary to secure the food security of marginalised groups in South Africa in places such as Greater Sekhukhune, the aspect of agricultural production is often neglected. A comprehensive approach to food security should focus on exploiting opportunities around increasing local food availability through

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<sup>1</sup> International Policy Research Institute (IFPRI), Johannesburg, South Africa; E-mail: Scottdrimie@mweb.co.za.

<sup>2</sup> Agricultural Research Council, Institute for Soil, Climate and Water (ARC-ISWC), Pretoria, South Africa

<sup>3</sup> AfricaScope, Pretoria, South Africa; E-mail: craig.schwabe@africascope.net

production, as well as stimulating food accessibility by, for example, supporting small enterprises through micro-credit, and supporting food utilisation through education. In this way a range of options is created that vulnerable people can adopt to promote their livelihoods beyond survivalist strategies. This paper explores the issue of agricultural production within Greater Sekhukhune to provide insights into the challenges facing a comprehensive food security strategy that would guarantee food supply through a range of interventions.

According to the South African government, food security “is achieved when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food, to meet their dietary needs and food preferences for an active and healthy life” (Republic of South Africa, 2002). Achieving this involves:

- Food availability: ensuring that a wide variety of food is available both nationally and within local markets and fields;
- Food accessibility: people are able to produce or purchase sufficient quantities of foods that are nutritionally adequate and culturally acceptable, at all times;
- Food utilisation: food is stored, prepared, distributed and eaten in ways that are nutritionally adequate for all members of the household, including men and women, girls and boys; and
- Food stability: maintaining the availability, accessibility and utilisation of food over time in the face of a variety of natural, economic, social and policy shocks and stresses.

The growth of the South African economy has contributed significantly to improving food security across the country, particularly as most citizens access food via purchase. According to Polzer and Schuring (2003), it is clear that the cause of hunger and malnutrition in South Africa is not overall shortage of food but access to food by certain parts of the population. Even in rural areas, most households are net deficit food producers, as their access to food is partially or wholly reliant on household income (Dankwa *et al.*, 1992; Monde-Gweleta *et al.*, 1997; Ngqangweni *et al.*, 1999; 2001). As a result, food security is largely about direct or indirect access to cash to purchase food. The majority of income of rural households is accrued in the form of employment, remittances from migrant workers and from welfare payments (Ngqangweni *et al.*, 2001; Seekings, 2000).

Among the poor, who by definition suffer the brunt of the lack of jobs in the South African economy, the main sources of cash are insecure piece jobs, the

government social welfare safety net of old age pensions and child support grants, and private transfers from working relatives and neighbours. Economic growth has been complemented by an effective social protection policy that provides grants to a range of vulnerable groups. There was a significant increase in social grants between 2002 and 2004, a trend which is likely to continue to substantially increase the incomes of the poor. The robust performance of the economy since 1994 has contributed to strong growth in government revenue and arguably enabled the government to provide an expanded welfare safety net.

However, despite a strong government commitment to addressing development issues in South Africa, tremendous disparities in food security exist between communities and households across the country, reflecting continuing social and economic inequalities. Estimates suggest that approximately 14 million people are food insecure and 1.5 million children suffer from malnutrition (HSRC, 2004). Despite interventions, there are signs that there is increasing food insecurity in specific places, largely poverty nodes in both rural and urban contexts, related to increasing unemployment, food price increases, HIV and AIDS, and adverse environmental conditions and poverty in general. As a result, it can be argued that food insecurity is not an exceptional, short-term event in the lives of many South Africans, but a continuous threat for more than a third of the population.

Part of the explanation for this is that agricultural production at the local level has been marginalised and that the rural poor are decreasingly engaging in agricultural production. Reasons for this include poor access to agricultural land and inputs, including labour, and biophysical factors. In addition a decrease in agricultural knowledge, inappropriate extension services, poor credit facilities, HIV and AIDS, climate change and increasing water pressures have exacerbated the situation. This process has a long history in South Africa as argued by Vink (2001) when reflecting on conditions for farming in ex-homeland areas which included a lack of access to support services including infrastructure, research and extension, rural finance and farm inputs. Perceptions about the value of engaging in agriculture have also shifted with the changes in culture and livelihoods that are partly synchronous with these constraints.

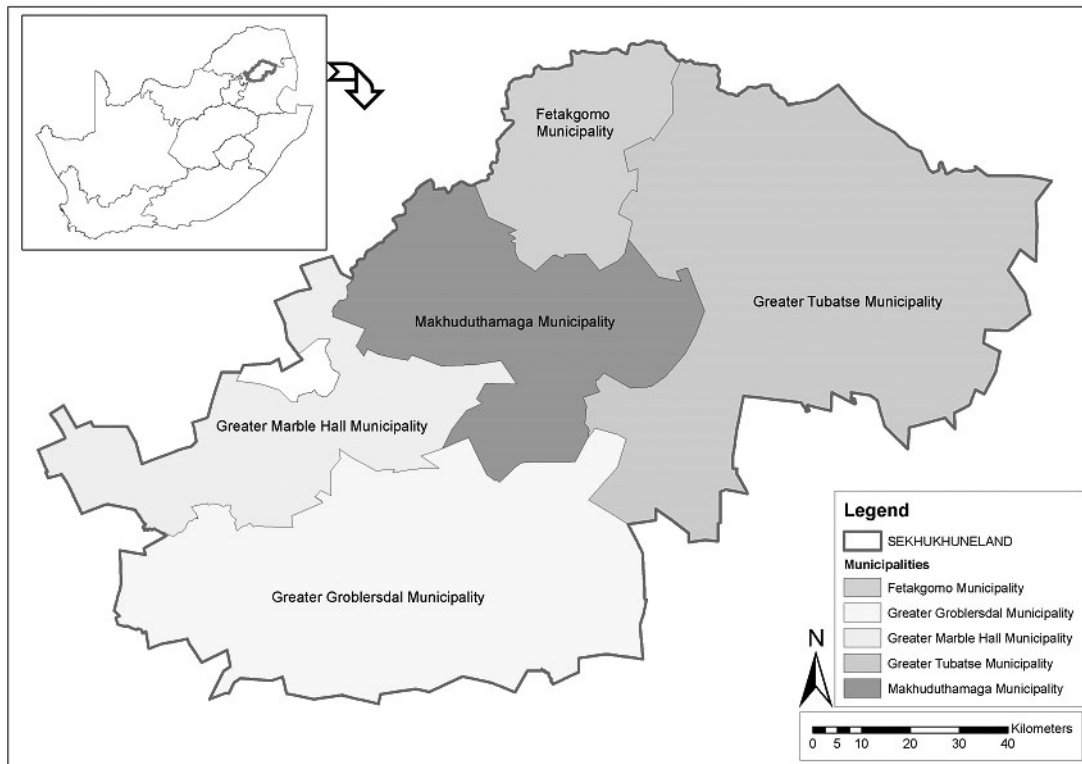
This paper sets out to critically examine these issues in Greater Sekhukhune where a major research initiative to pilot the development of a Food Insecurity and Vulnerability Information Management System (FIVIMS) was initiated. This involved a number of large-scale surveys and in-depth qualitative research, which allowed for a nuanced understanding of food insecurity in

this area to emerge. As such the paper explores the role of agricultural production at household level, as a key component of a livelihood strategy to secure food. Agricultural production at household level influences food availability and accessibility, as well as having ramifications for food utilisation and in particular nutrition status. In many ways, household production of agricultural produce offers an immediate policy option for decision makers grappling with food insecurity.

## **2. Agricultural production in Greater Sekhukhune: a quick overview**

The population under consideration in this paper reside in Greater Sekhukhune in Limpopo province, South Africa. Greater Sekhukhune (Figure 1) is one of the district municipalities in South Africa, which forms part of one of an Integrated Sustainable Rural Development (ISRD) node comprising district and local municipalities prioritised by the South African government for development. ISRD nodes constitute some of the poorest areas in the country and are characterised by poor infrastructure, limited resources and economic depression.

The Greater Sekhukhune District comprises an area of approximately 13 264 square kilometres, the majority of which is rural. The Greater Sekhukhune District consists of five local municipalities including Fetakgomo, Greater Marble Hall, Greater Tubatse, Makhuduthamaga and Greater Groblersdal. The district area lies within previous Bantustan areas of the apartheid era. Limpopo Province is regarded as the second poorest in the country with 89% of its population living in rural areas like Sekhukhune as compared to the national average of 46% (Nghatsane, 2005).



**Figure 1: Location of the Greater Sekhukhune District Municipality**

In the livelihood survey conducted as part of the FIVIMS pilot in 2006, it was revealed that although over 40 % of households in Sekhukhune indicated they grew their own crops, this was largely for supplementary purposes and by means of a vegetable garden or maize plot. This reinforced the importance of purchasing food for household requirements and the related necessity of having income sources for food security.

This reflected a general picture in South Africa where many households are not in a position to address their food needs through household-level food production, as production levels are not sufficient. Generally across the country, food availability at household level has been limited largely as a consequence of inadequate production and inadequate farm inputs. Rainfall variation, in some cases rainfall failure, has led to food shortages in households whilst many farmers have under-invested to minimise risk, which has further exacerbated stagnation in the sector. This has been compounded by increases in the prices of farm inputs following the liberalisation of the sector since the late 1980s. Food accessibility has been undermined in some areas in South Africa by declining formal and informal wage opportunities, a commensurate decline in remittances and increasing poverty. As a result, where there is an inability to find work, there is difficulty in accessing cash to buy food. Food utilisation has increasingly become a critical concern in South Africa because of a lack of dietary diversity. This is largely a result of the

preference for eating maize, and the encouragement of mono-cropping through agricultural policy that favours large-scale commercial production.

A large number of the households did not respond to the survey section on agricultural production because the questions were not applicable. This was because they did not plant crops and thus the questions related to planted crops were not answered. Therefore responses can be analysed as a percentage of the full survey or as a percentage of those who answered the relevant question. It is clear that these two analysis options will give very different results and the reader should be aware of these differences at all times. To make the analysis explicit around this difference, all tables contain the words “% of all households” or “% of respondents”. Depending on the question, the more relevant analysis option will be given. Where both cases apply, text references to the values in the tables will always be to the “% of respondents” option.

### 3. Comparing results of the two surveys

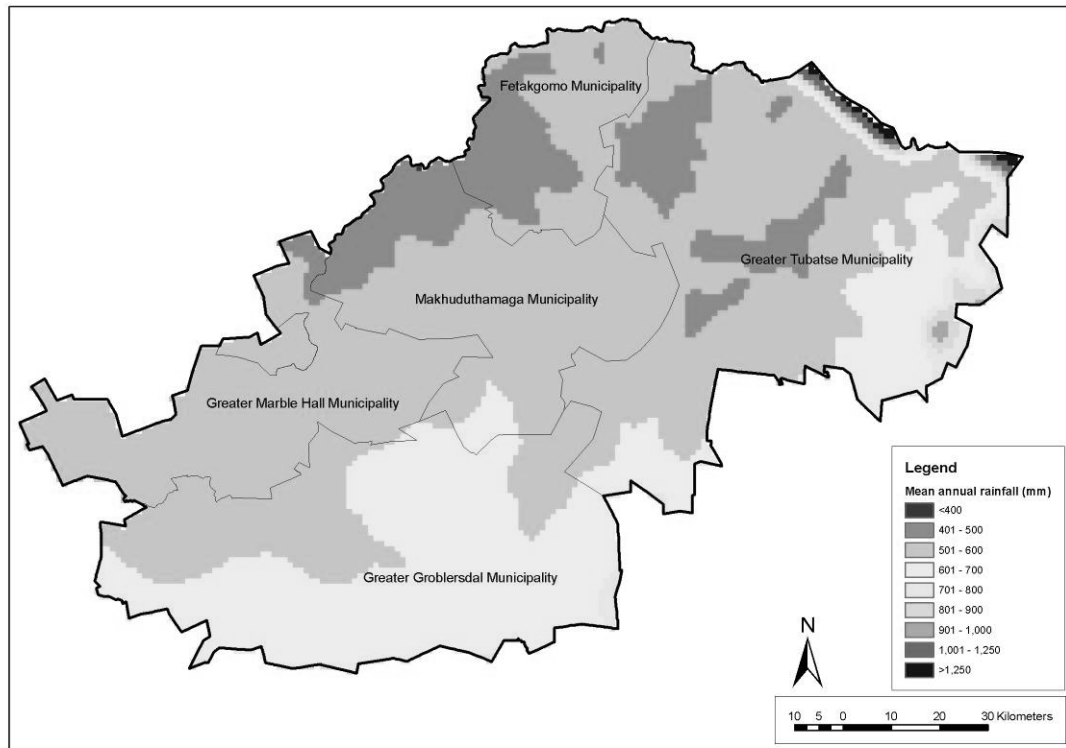
Before providing a more detailed description of the results from the two surveys conducted in 2004 and 2006, it is important to have an understanding of the different rainfall scenarios that preceded them.

Table 1 describes the previous years in terms of rainfall as good, average or poor seasons. The reason why seasons are given over two years is because the major crops (maize and sorghum) are planted towards the end of the year and are harvested in the middle of the following year (summer crops).

**Table 1: Description of the past five rainfall seasons**

Season	Description
2001/02	Poor rainfall season, although early season had good rains.
2002/03	Poor rainfall season.
2003/04	Normal to good rainfall season, but onset of rain was later than usual.
2004/05	Poor rainfall season, the region did have an early onset of rain.
2005/06	Good rainfall season, although the onset of rain was later than usual.

The rainfall was compared to the long-term annual rainfall for the area as indicated in Figure 2. The long term annual rainfall dataset was generated from rainfall stations with more than 20 years of data. Surface parameters like elevation, distance from the sea, rain-shadow effects of mountains and large-scale roughness of the surface were also used in the process. All the rainfall surfaces for the period July to June were added together to create the annual rainfall map.



**Figure 2: The long-term annual rainfall for the Greater Sekhukhune**

If we infer the mindset of a farmer from these conditions, we can deduce that although the 2003/04 season was a normal to good rainfall season, people were despondent after two years of low rainfall and possible crop failures. The late onset of rainfall in the 2003/04 season together with the history of two dry seasons fresh in people's minds may have caused many farmers not to plant a crop.

The 2005/06 season was a good rainfall season and therefore drought was not in people's thoughts. With this in mind the comparison of results from this 2006 survey with the previous (2004) survey is summarised in Table 2 with a discussion provided below. However, before proceeding with the discussion it must be emphasised that statistical tests of significance on the results from the two surveys should ideally have been done but were not undertaken. This is because a complex sample design was used that would require specialised statistical software and methods to do the significance testing.

The increase in access to river water (+8.7%) and the decline of those giving a lack of water as the reason for not planting crops (-37.7%) probably has a direct relationship to improved rainfall between the two surveys. Even with better access to water via rivers, people were still disinclined towards farming with an increasing number of respondents indicating that no money was the



reason for not planting crops (+13.2%) and a lack of interest in farming (+42.9%).

From this, it can be argued that a general level of poverty means that people cannot afford to invest in agriculture. Agricultural production thus remains a low priority; a subsidiary activity that forms a relatively small part of the diverse livelihood strategies evident in Sekhukhune, of which the reliance on cash remittances, state grants and wage employment remain the most important.

Thus, although one could raise serious concerns about the fact that agricultural extension officers have little presence in Sekhukhune (agricultural training received was -30.3% in Sekhukhune, -65.4% in Fetakgomo and -58.6% in Makhuduthamaga), in the face of these challenges it is not clear how exactly they could help people become involved in agriculture. This may be a reason why there is a perception that these officers are pre-occupied with large-scale irrigation schemes rather than a more universal approach to supporting small-scale farmers. Similarly, many people in Sekhukhune District have an expectation of government that derives its form from the services provided by the Bantustan government such as the provision of these schemes.

**Table 2: Comparison of results from the 2006 survey with results from the 2004 survey**

Short description of question	2004 results	2006 results	Difference
Access to land	34.7%	25.9%	-8.8%
Percentage of households that have access to land and use the land for cultivation	22.4 %	20.2%	-2.2%
Access to river water	4.2%	12.9%	+8.7%
Access to dam water	8.9%	7.3%	-1.6%
Access to a place to buy materials for farming	5.6%	17.8%	+12.2%
Access to a place to sell produce	2.4%	17.3%	+14.9%
Lack of water as the reason for not planting crops	48.8%	11.1%	-37.7%
No money as the reason for not planting crops	31.4%	44.6%	+13.2%
Not interested as the reason for not planting crops	1.7%	44.6%	+42.95
Use land that was allocated by a tribal authority	42.7%	83.5%	+40.8%
Access to commonage	17.6%	0.0%	-17.6%
Households that plant crops (including trees)	44.8%	20.2%	-24.6%
Households that plant maize	38.4%	64.4%	+26.0%
Households that plant fruit trees	69.5%	4.0%	-65.5%
Households that plant vegetables (Fetakgomo)	100.0%	16.7%	-83.3%
Consumption of planted maize	24.9%	94.2%	+69.3%
Consumption of planted sorghum	0.0%	96.8%	+96.8%
Consumption of planted vegetables	24.3%	94.0%	+69.7%
Consumption of planted fruit	51.4%	100.0%	+48.6%
% of households that own livestock	54.4%	16.0%	-38.4%
Households that own cattle as % of those who own livestock	100.0%	31.3%	-68.7%

Agricultural training received	36.0%	5.7%	-30.3%
Agricultural training received (Fetakgomo)	65.4%	0.0%	-65.4%
Agricultural training received (Makhuduthamaga)	66.1%	2.5%	-58.6%
Training received from the Department of Agriculture	38.5%	0.0%	-38.5%

However, a lack of interest generally in agriculture and the range of disincentives towards producing may have compounded the decline in services offered by agricultural officials, as described by the provision of agricultural training. In terms of a focus for policy makers, there were improvements between the two surveys in the consumption of planted maize (+69.3%), planted sorghum (+98.8%), planted vegetables (69.7%) and the consumption of planted fruit (+48.6%). Although this is for a relative minority of people surveyed, it does provide examples of where production and consumption have contributed to household food security.

There are no credible, long-term data on a national scale that establishes trends in the subsistence / small-scale sector (Aliber *et al.*, 2006) although there are case studies of land under-utilisation in former Bantustans, as well as anecdotal information that agriculture in these areas is undergoing a decline. The Labour Force Surveys of 2002 and 2003 provide some insights into transitions into and out of agriculture (Aliber *et al.*, 2006). Half of respondents to these surveys did engage in agriculture in one or other period (February 2002 or March 2003). Only 18% engaged in farming in both periods indicating a remarkable fluidity in and out of farming. This is marginally more than those who farmed in the first period and not in the second (16%), and those who did not farm in the first period but did farm in the second period (14%). The implication is either that farming is very much a residual activity, which is reinforced by the Sekhukhune analysis, or that people experience fluctuations from year-to-year in having the means to engage in agriculture.

The largest changes from the previous to the present survey are:

- Fetakgomo households that plant vegetables as percentage of those who plant crops decreased by 83.3%.
- Consumption of the planted crops increased from 48.6% for fruit to 96.8% for sorghum.
- Households that own cattle as a percentage of those who own livestock decreased by 78.7%.
- Households that plant fruit trees decreased by 65.5%.
- Agricultural training received in Fetakgomo decreased by 65.4%.

There seems to be a correlation between training and planting of trees and vegetables. This phenomenon should be investigated further. The household

member food consumption questions showed that at least half of the households consumed a large number of the food groups.

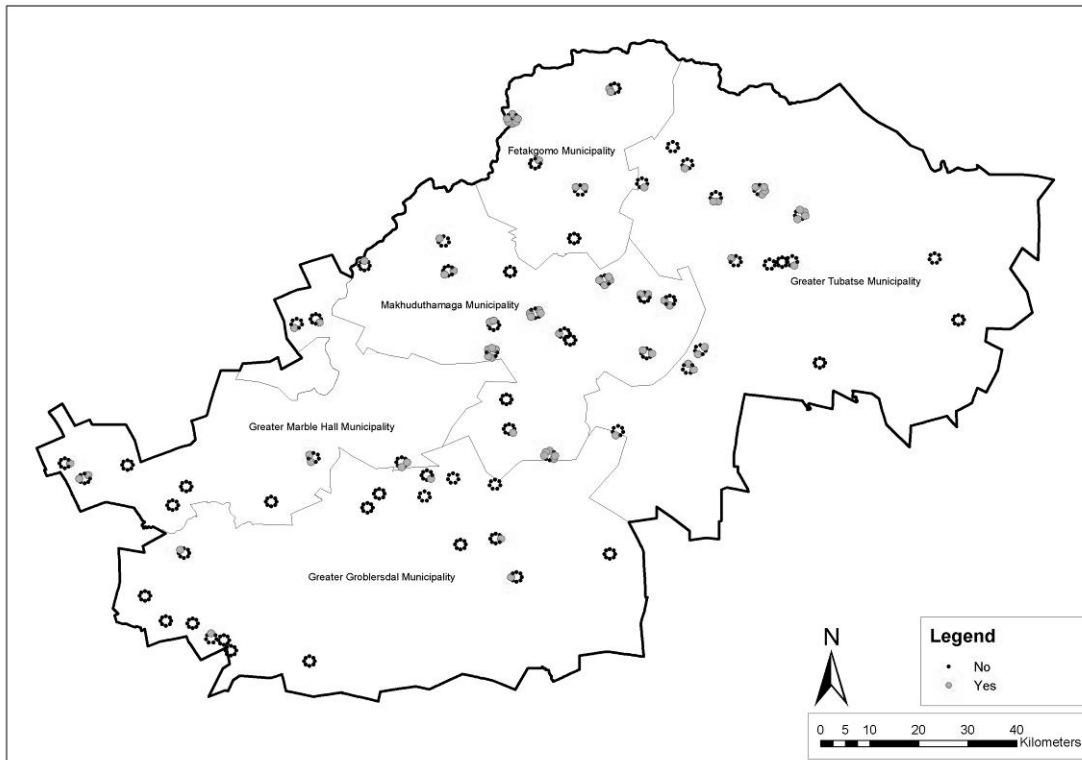
#### 4. Land ownership, access to land and non-use of land

Access to land in this section means access to a garden, small plot, field for cultivation or grazing land. Of the five municipalities that constitute Greater Sekhukhune, Fetakgomo has the highest percentage of households that have access to land, with 35.7% of all households that have such access (Table 3). The Greater Groblersdal Local Municipality has the lowest percentage, with only 12.6% of households having access to land.

**Table 3: Percentage of households with access to gardens, small plots, fields or grazing land**

<i>% of all households</i>	<b>Garden or small plot</b>	<b>Field</b>	<b>Grazing land</b>	<b>Access to land</b>	<b>Some or all of land not utilised</b>
Fetakgomo	5.0	28.2	10.0	35.7	97.4
Greater Groblersdal	9.3	4.1	1.7	12.6	77.1
Greater Marble Hall	6.5	14.3	17.8	26.6	78.2
Greater Tubatse	7.9	18.8	13.9	27.8	84.3
Makhuduthamaga	8.6	25.1	10.2	33.7	78.7
<b>District</b>	<b>8.1</b>	<b>16.9</b>	<b>9.7</b>	<b>25.9</b>	<b>81.0</b>
Number of respondents	499	499	499	499	499

This pattern is most likely related to historical land tenure patterns in Greater Groblersdal Local Municipality, which was largely held under private ownership by large-scale commercial farmers. Historically, this area fell within “white” South Africa, to use the racial classification of apartheid, with the northern municipalities of Fetakgomo and Makhuduthamaga forming part of the Lebowa Bantustan. Figure 3 shows in which areas respondents indicated that they did have access to land for cultivation and the pattern confirms that it is mainly within the Bantustan areas of Sekhukhune. The percentage of households that have access to land for the Greater Sekhukhune District is 25.9% This is markedly lower than results from the 2004 study when 34.7% of households had access to land.



**Figure 3: Households with fields for cultivation in Greater Sekhukhune**

In the previous study, 22.4 % of households who had access to land, used the land for cultivation, while 20.2% of households in the current study indicated that they have planted crops. Although 25.9% households indicated that they have access to land, 81% households gave reasons for not cultivating their land. This apparent contradiction is most probably related to misinterpretation of the question, with respondents focusing on the non-cultivation of land around the homestead, which is viewed differently to agricultural plots beyond the homestead. However, it might also be linked to the respondents concern about agricultural land not being used or households not having access to land compared to the previous year.

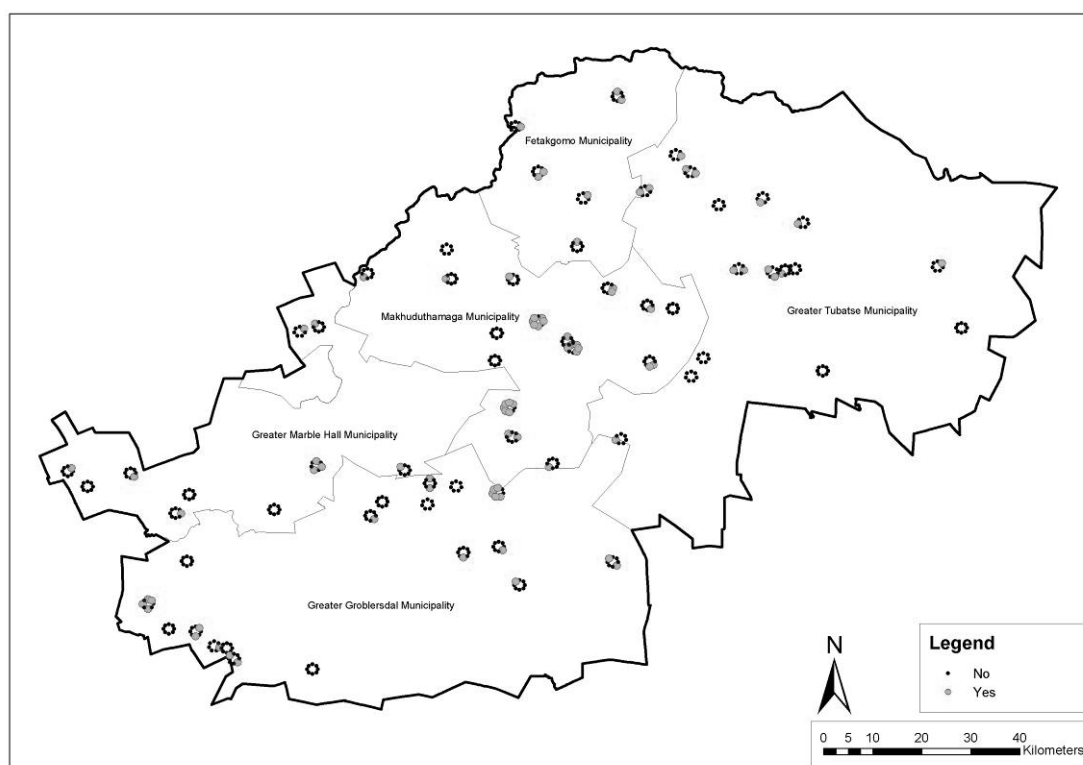
## 5. Access to water and markets

Relatively few households have access to dam or river water (7.3% and 12.9% respectively, see Table 4). Access to river water has increased by 8.7% from the 4.2% in the previous survey, while access to dam water decreased from 8.9% in the previous survey to 7.3% currently. The previous survey was conducted during 2004, when respondents said it had been dry for the last three years. This information may imply that small rivers could have been dry, but are currently flowing and hence the increase in access to river water. An explanation of the different climatic conditions between the previous and the current survey is explained above (Table 1).

**Table 4: The percentage of households that have access to water from a dam or river as well as those who have access to a place to buy or sell their products**

<i>% of all households</i>	<b>Dam</b>	<b>River</b>	<b>Place to sell</b>	<b>Place to buy</b>
Fetakgomo	2.5	23.2	17.9	20.7
Greater Groblersdal	7.6	2.6	16.4	13.6
Greater Marble Hall	12.7	17.2	16.0	18.1
Greater Tubatse	2.9	13.8	13.8	14.8
Makhuduthamaga	10.2	17.3	23.4	21.9
<b>District</b>	<b>7.3</b>	<b>12.9</b>	<b>17.8</b>	<b>17.3</b>

Access to a place to sell produce or to buy products is also very limited (17.8% and 17.3% respectively, Table 4). Although access is limited it has increased from the previous study when access was limited to 5.6% and 2.4% respectively. In the Makhuduthamaga Local Municipality more households have access to a place for selling and buying products (23.4% and 21.9% respectively) than in other municipalities. Figure 4 indicates that access to markets for buying and selling tends to better when communities are located near major road infrastructure.



**Figure 4: Households with access to a marketplace to sell produce in Greater Sekhukhune**

Table 5 shows the percentage of households that are solely dependent on rainwater for their crops and livestock. The same household may have both a field and grazing land and therefore the answers were combined per

household. A large percentage (92.2%) of the respondents was solely dependent on rainwater for their crops and/or livestock. Many of the development issues in the district - the supply of basic services, irrigation for subsistence or small-scale market-oriented agriculture and commercial agriculture, and the expansion of the commercial mining sector - are highly dependent on water availability (Ziervogel *et al.*, 2006). The management of water resources is linked to livelihood security through direct impacts on agriculture and livestock at the individual and communal levels, and indirect impacts on employment opportunities and food prices.

**Table 5: The percentage of households that solely depend on rainwater**

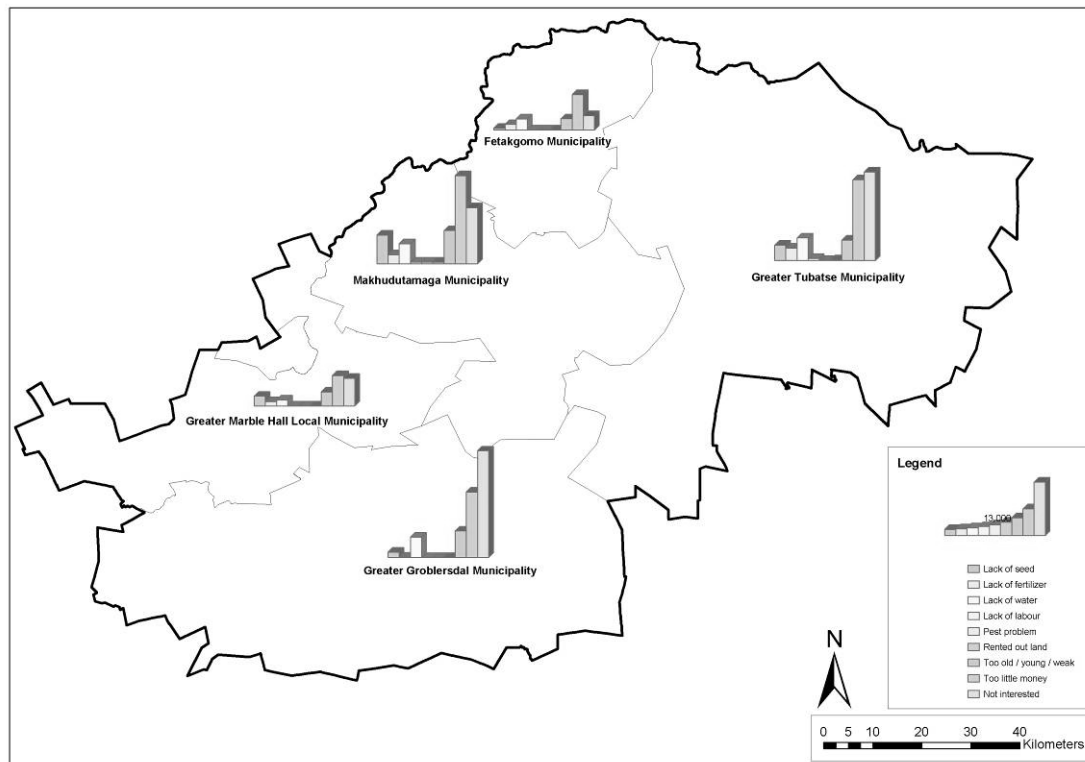
	<i>% of all households</i>	<i>% of respondents who answered the question</i>	<b>Number of respondents</b>
Fetakgomo	28.2	100.0	11
Greater Groblersdal	6.4	75.0	12
Greater Marble Hall	16.7	92.9	14
Greater Tubatse	19.1	95.5	22
Makhuduthamaga	31.5	93.0	43
<b>District</b>	<b>19.04</b>	<b>92.2</b>	<b>102</b>

This raises the issue of market failure as a disincentive for producing crops and as a source of food insecurity. This opens an opportunity for policy makers to target interventions on building market access for small-scale producers. However, before market access is secured, other reasons for people not producing crops should be explored.

## 6. Reasons for not planting crops

The main reasons reported for not planting crops are lack of money (44.6%) and lack of interest (44.6%, Table 6). In the previous survey only 1.7% of households used lack of interest as a reason for not planting crops. The issue of lack of money is centrally important in that potential farmers do not have the ability to invest in agriculture. This resonates with a picture of general poverty in the area and raises the point that what money is available at household level is usually allocated to a range of other livelihood options, such as buying food or paying for education and health needs.

The lack of water was reported as the reason for not planting crops by 11.1% of the households that answered this question. This is significantly different from the previous study when water was the main constraint (48.8%). [Refer to Table 1 and its description for an explanation on the different climatic conditions between the previous and the current survey.] Figure 5 shows that a lack of interest is the main reason for not cultivating land in Greater Groblersdal and Greater Tubatse, while it is mainly a lack of money in Makhuduthamaga, Fetakgomo and Greater Marble Hall municipalities.



**Figure 5: Reasons for not cultivating land in Greater Sekhukhune**

It seems that there is a general lack of interest in planting crops. This could well be because of a lack of land and the main forms of employment being outside of the agricultural sector. Another interpretation of this may stem from a history of crop failure or high input (effort) for a low return that could produce a mindset of despondency related to planting crops. What was alluded to in field visits to Sekhukhune was the lack of agricultural support that made investing in agriculture risky. Water shortages and a lack of money may therefore be a secondary reason for not planting crops. Grants in the form of money or food could also discourage households to produce their own food.

## 7. Relationships between households and their land

Eight questions in the questionnaire investigate the relationships between households and the land that they utilise (Table 7). Most of the households (83.5%) use land that was allocated by a tribal authority, keeping in mind that it reflects only 19.9% of all the households that were surveyed. Another 23.9% of households have free access to land. During the previous study, 42.7% of the households reported that the land they use for cultivation or grazing was allocated by a tribal authority. The percentage of households who responded that they had access to commonage changed from 17.6% in the previous survey to none in the present survey.

**Table 6: Reason given for not planting crops as percentage of all households**

<i>% of all households</i>	<b>No seed</b>	<b>No fertiliser</b>	<b>No water</b>	<b>No labour</b>	<b>Pest</b>	<b>Rented out</b>	<b>Too old/young/weak</b>	<b>No money</b>	<b>Not interested</b>	
Fetakgomo	2.5	7.9	15.4	0.0	0.0	0.0	15.7	49.6	20.0	
Greater Groblersdal	2.4	0.2	9.1	0.0	0.0	0.0	11.9	29.3	47.7	
Greater Marble Hall	10.1	4.4	6.3	0.0	0.0	0.0	14.4	31.1	28.4	
Greater Tubatse	7.5	6.0	10.9	1.0	0.0	0.4	9.9	39.2	42.9	
Makhuduthamaga	12.5	3.9	8.7	0.8	0.8	0.8	14.5	38.4	24.4	
<b>District</b>	<b>7.4</b>	<b>3.8</b>	<b>9.6</b>	<b>0.5</b>	<b>0.2</b>	<b>0.3</b>	<b>12.8</b>	<b>36.2</b>	<b>35.4</b>	
<i>% of respondents</i>	<b>No seed</b>	<b>No fertiliser</b>	<b>No water</b>	<b>No labour</b>	<b>Pest</b>	<b>Rented out</b>	<b>Too old/young/weak</b>	<b>No money</b>	<b>Not interested</b>	<b>Number of respondents</b>
Fetakgomo	2.6	7.9	15.8	0.0	0.0	0.0	15.8	50.0	21.1	38
Greater Groblersdal	2.8	0.9	11.1	0.0	0.0	0.0	14.8	38.9	65.7	108
Greater Marble Hall	11.5	6.6	8.2	0.0	0.0	0.0	16.4	42.6	42.6	61
Greater Tubatse	10.3	6.2	11.3	1.0	0.0	2.1	10.3	45.4	45.4	97
Makhuduthamaga	16.0	5.0	11.0	1.0	1.0	1.0	18.0	49.0	31.0	100
<b>District</b>	<b>9.2</b>	<b>4.7</b>	<b>11.1</b>	<b>0.5</b>	<b>0.2</b>	<b>0.7</b>	<b>14.9</b>	<b>44.6</b>	<b>44.6</b>	<b>404</b>
No of respondents	37	19	45	2	1	3	60	180	180	



**Table 7: The relationship between the household and the land that they use for cultivation or grazing**

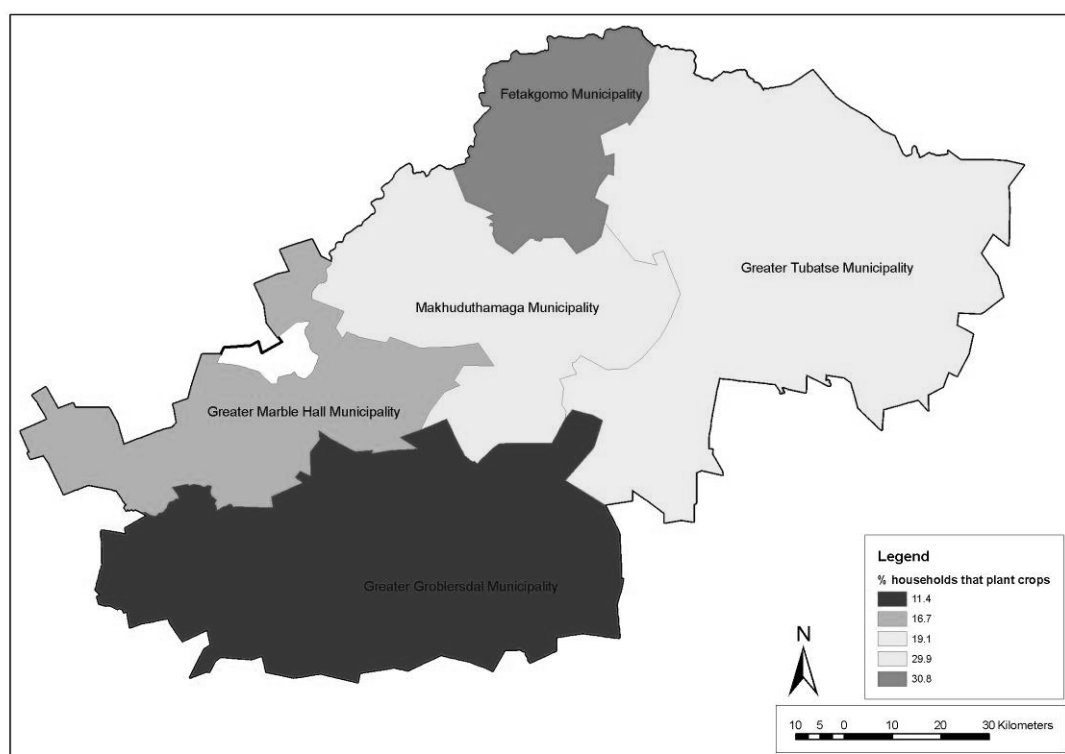
<i>% of all households</i>	<b>Allocated by tribal authority</b>	<b>HH has bought the land</b>	<b>HH member may use land</b>	<b>HH must provide a worker for owner</b>	<b>Share cropping</b>	<b>HH member(s) work for owner</b>	<b>Free access</b>	<b>Access to commonage</b>
Fetakgomo	28.2	0.0	0.0	0.0	0.0	0.0	5.0	0.0
Greater Groblersdal	11.9	0.0	0.0	0.0	0.0	0.0	1.6	0.0
Greater Marble Hall	16.5	0.0	0.4	0.0	0.0	0.0	3.9	0.0
Greater Tubatse	18.8	0.0	0.0	0.0	0.0	0.0	7.9	0.0
Makhuduthamaga	27.5	0.8	1.6	0.0	0.0	0.0	9.4	0.0
<b>District</b>	<b>19.9</b>	<b>0.2</b>	<b>0.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>5.9</b>	<b>0.0</b>
<i>% of respondents</i>	<b>Allocated by tribal authority</b>	<b>HH has bought the land</b>	<b>HH member may use land</b>	<b>HH must provide a worker for owner</b>	<b>Share cropping</b>	<b>HH member(s) work for owner</b>	<b>Free access</b>	<b>Access to commonage</b>
Fetakgomo	91.7	0.0	0.0	0.0	0.0	0.0	16.7	0.0
Greater Groblersdal	88.2	0.0	0.0	0.0	0.0	0.0	11.8	0.0
Greater Marble Hall	84.6	0.0	7.7	0.0	0.0	0.0	15.4	0.0
Greater Tubatse	76.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0
Makhuduthamaga	83.3	2.4	4.8	0.0	0.0	0.0	28.6	0.0
<b>District</b>	<b>83.5</b>	<b>0.9</b>	<b>2.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>23.9</b>	<b>0.0</b>
Number of respondents	109	109	109	109	109	109	109	109

### 8. Types of crops

Only 20.2% of all households entered information regarding the type of crop they planted (Table 8 and Figure 6). During the previous survey 44.8% of households indicated that they plant crops. The percentage of households that plant crops is highest in Fetakgomo (30.8%) and Makhuduthamaga (29.9%).

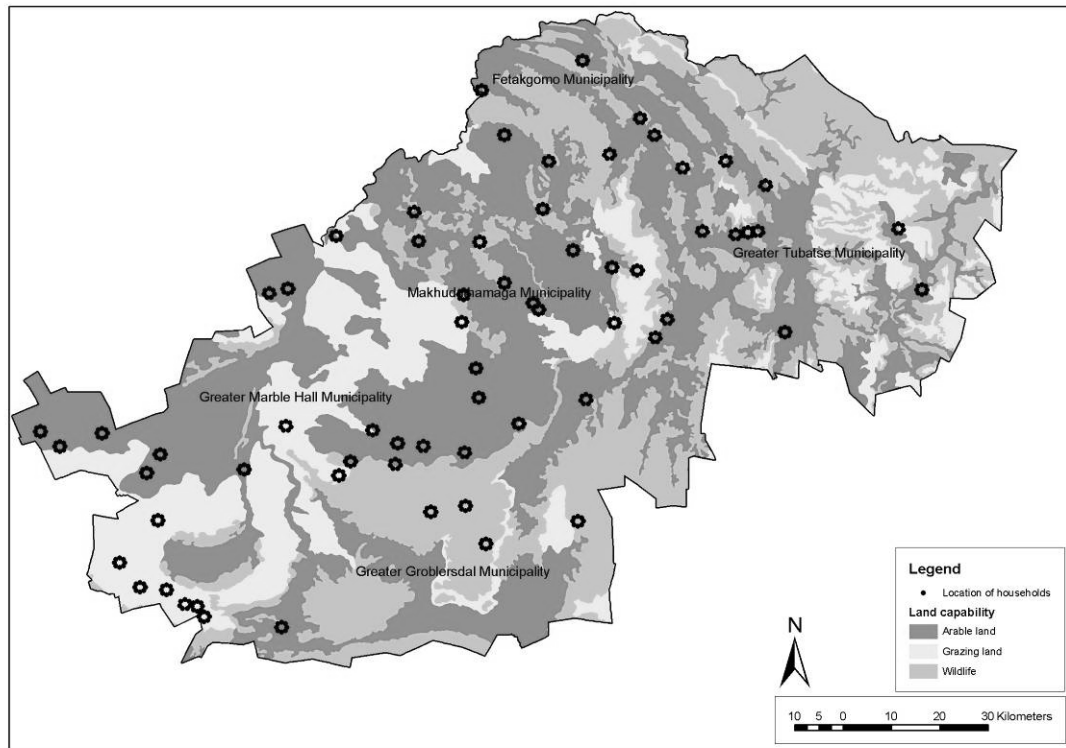
**Table 8: The percentage of households that plant crops**

<i>% of all households</i>	<b>Percentage respondents</b>
Fetakgomo	30.8
Greater Groblersdal	11.4
Greater Marble Hall	16.7
Greater Tubatse	19.1
Makhuduthamaga	29.9
<b>District</b>	<b>20.2</b>



**Figure 6: The percentage of households that plant crops (plotted per municipality) in Greater Sekhukhune**

Figure 7 shows that most of the households are located on arable land. The arable land map was created from the land capability map as published by the ARC-ISCW (2004). The implication of this is that agricultural production is possible across much of Sekhukhune in terms of soil quality although other constraints, most importantly poverty, would deter people from production. Water and weather variability would be further constraints.



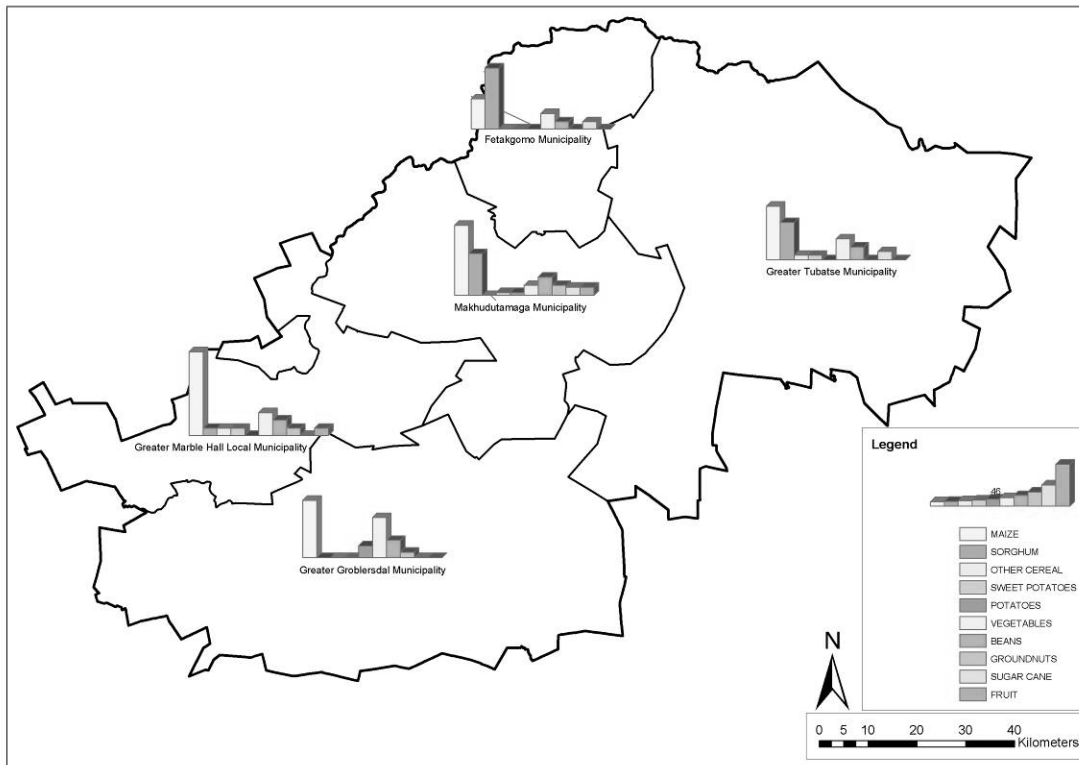
**Figure 7: Location of the surveyed households in Greater Sekhukhune in relation to arable land**

Table 9 shows that the largest number of respondents (66.4%) plant maize, followed by sorghum (33.7%) and vegetables (20.8%). This is significantly different from the previous survey where 38.4% of households planted maize. Only 4% of the households that answered this question planted fruit trees, which is also significantly different from the 69.4% who indicated that they planted fruit trees during the previous survey. The increase in maize production can be attributed to better rainfall conditions. However, the reason for the reduction in fruit trees is unclear.

During the previous survey 100% of the Fetakgomo households who planted any crop also said that they planted vegetables. The percentage of Fetakgomo households that planted vegetables in the current survey is only 16.7% of those who planted crops (Table 9).

It is interesting to see which crop is the major crop planted by households (Table 10 and Figure 8). In Fetakgomo sorghum is the major crop for 66.7% of the respondents. As Fetakgomo is the municipality that receives the least rain in the area and sorghum is more drought tolerant than maize and other similar crops, this resonates with practicality. This information shows that people who plant crops are informed enough to know which crops are the best for their unique conditions. Maize is the major crop in all the other

municipalities with the highest percentage of households (84.6%) planting maize as the major crop in the Greater Marble Hall Local Municipality.



**Figure 8: Type of crops planted in Greater Sekhukhune**

Very small percentages of products are produced for selling (Table 11). This implies that subsistence cropping is the main motivation to cultivate. Most crops are consumed (83.3% to 100%) with the exception of “other cereals” of which 50% are sold (Table 12). Consumption of crops is much higher than in the previous survey.

**Table 9: Distribution of the different crops that are planted by the respondents**

<i>% of respondents</i>	<b>Maize</b>	<b>Sorghum</b>	<b>Other cereals</b>	<b>Sweet potatoes</b>	<b>Potatoes</b>	<b>Vegetables</b>	<b>Beans</b>	<b>Groundnuts</b>	<b>Sugar cane</b>	<b>Fruit</b>
Fetakgomo	33.3	66.7	0.0	0.0	0.0	16.7	8.3	0.0	8.3	0.0
Greater Groblersdal	62.5	0.0	0.0	0.0	12.5	43.8	18.8	6.3	0.0	0.0
Greater Marble Hall	91.7	8.3	8.3	8.3	0.0	25.0	16.7	8.3	0.0	8.3
Greater Tubatse	59.1	40.9	4.5	4.5	0.0	22.7	13.6	0.0	9.1	0.0
Makhuduthamaga	77.1	45.7	0.0	2.9	2.9	11.4	20.0	11.4	8.6	8.6
<b>District</b>	<b>64.4</b>	<b>33.7</b>	<b>2.0</b>	<b>3.0</b>	<b>3.0</b>	<b>20.8</b>	<b>15.8</b>	<b>5.9</b>	<b>5.9</b>	<b>4.0</b>

**Table 10: Most important crops planted by households**

<i>% of respondents</i>	<b>Maize</b>	<b>Sorghum</b>	<b>Sweet potatoes</b>	<b>Potatoes</b>	<b>Vegetables</b>	<b>Beans</b>
Fetakgomo	16.7	66.7	0.0	0.0	16.7	0.0
Greater Groblersdal	62.5	0.0	0.0	6.3	25.0	6.3
Greater Marble Hall	84.6	7.7	0.0	0.0	7.7	0.0
Greater Tubatse	50.0	31.8	0.0	0.0	18.2	0.0
Makhuduthamaga	60.5	31.6	2.6	0.0	5.3	0.0
<b>District</b>	<b>56.4</b>	<b>27.7</b>	<b>1.0</b>	<b>1.0</b>	<b>12.9</b>	<b>1.0</b>

**Table 11: Selling of products as a percentage of those who plant crops**

<i>% of respondents</i>	<b>Maize</b>	<b>Sorghum</b>	<b>Other cereals</b>	<b>Sweet potatoes</b>	<b>Potatoes</b>	<b>Vegetables</b>	<b>Beans</b>	<b>Groundnuts</b>	<b>Sugar cane</b>	<b>Fruit</b>
Fetakgomo	0.0	12.5				0.0	0.0		0.0	
Greater Groblersdal	15.0				0.0	0.0	16.7	0.0		
Greater Marble Hall	7.3	0.0	100.0	0.0		0.0	0.0	60.0		0.0
Greater Tubatse	3.8	1.0	0.0	0.0		30.0	3.3		0.0	
Makhuduthamaga	3.7	0.0		0.0	0.0	18.8	14.3	0.0	33.3	0.0
<b>District</b>	<b>5.8</b>	<b>3.2</b>	<b>50.0</b>	<b>0.0</b>	<b>0.0</b>	<b>10.7</b>	<b>10.0</b>	<b>10.0</b>	<b>16.7</b>	<b>0.0</b>

**Table 12: Consumption as a percentage of those who plant crops. Empty cells indicate that the crop was not planted and zero values indicate that the household does not consume any of the planted crop**

<i>% of respondents</i>	<b>Maize</b>	<b>Sorghum</b>	<b>Other cereals</b>	<b>Sweet potatoes</b>	<b>Potatoes</b>	<b>Vegetables</b>	<b>Beans</b>	<b>Groundnuts</b>	<b>Sugar cane</b>	<b>Fruit</b>
Fetakgomo	100.0	87.5				100.0	100.0		100.0	
Greater Groblersdal	85.1				100.0	100.0	83.3	100.0		
Greater Marble Hall	92.7	100.0	0.0	100.0		100.0	100.0	40.0		100.0
Greater Tubatse	96.2	98.9	100.0	100.0		90.0	96.7		100.0	
Makhuduthamaga	96.3	100.0		100.0	100.0	81.3	85.7	100.0	66.7	100.0
<b>District</b>	<b>94.2</b>	<b>96.8</b>	<b>50.0</b>	<b>100.0</b>	<b>100.0</b>	<b>94.0</b>	<b>90.0</b>	<b>90.0</b>	<b>83.3</b>	<b>100.0</b>

Seed or planting material was mainly reserved from the previous harvest (61.3%, Table 13). The percentage of seed reservation was highest in Fetakgomo (87.5%) and lowest in Greater Marble Hall (38.1%). In contrast, the percentage of households that purchased seeds was highest in the Greater Marble Hall (61.9%) and lowest in Fetakgomo (12.5%). It should be noted that the number of respondents (160 in total) is more than the 101 households who indicated that they planted crops. This is because a household was counted for every crop they planted and it is necessary to use the larger number, because a household may reserve seed of one crop and buy seed for another crop.

**Table 13: How seed or planting material was acquired. Numbers indicate the percentage of households that acquired the seed in a specific way**

<i>% of respondents</i>	<b>Purchase</b>	<b>Gift</b>	<b>Reserved from previous harvest</b>
Fetakgomo	12.5	0.0	87.5
Greater Groblersdal	56.5	0.0	43.5
Greater Marble Hall	61.9	0.0	38.1
Greater Tubatse	20.6	8.8	67.6
Makhuduthamaga	30.3	4.5	65.2
<b>District</b>	<b>34.4</b>	<b>3.8</b>	<b>61.3</b>
Number of respondents	55	6	99

Of the 101 households who indicated that they planted a crop only 96 households responded to the use of fertiliser and/or pesticides (Table 14). Most households do not use fertiliser or pesticides (72.9% and 92.8% respectively). Natural compost is used by 21.9% of the households that plant crops.

**Table 14: Percentage of households that used fertiliser and pesticides during the 2005/06 agricultural season**

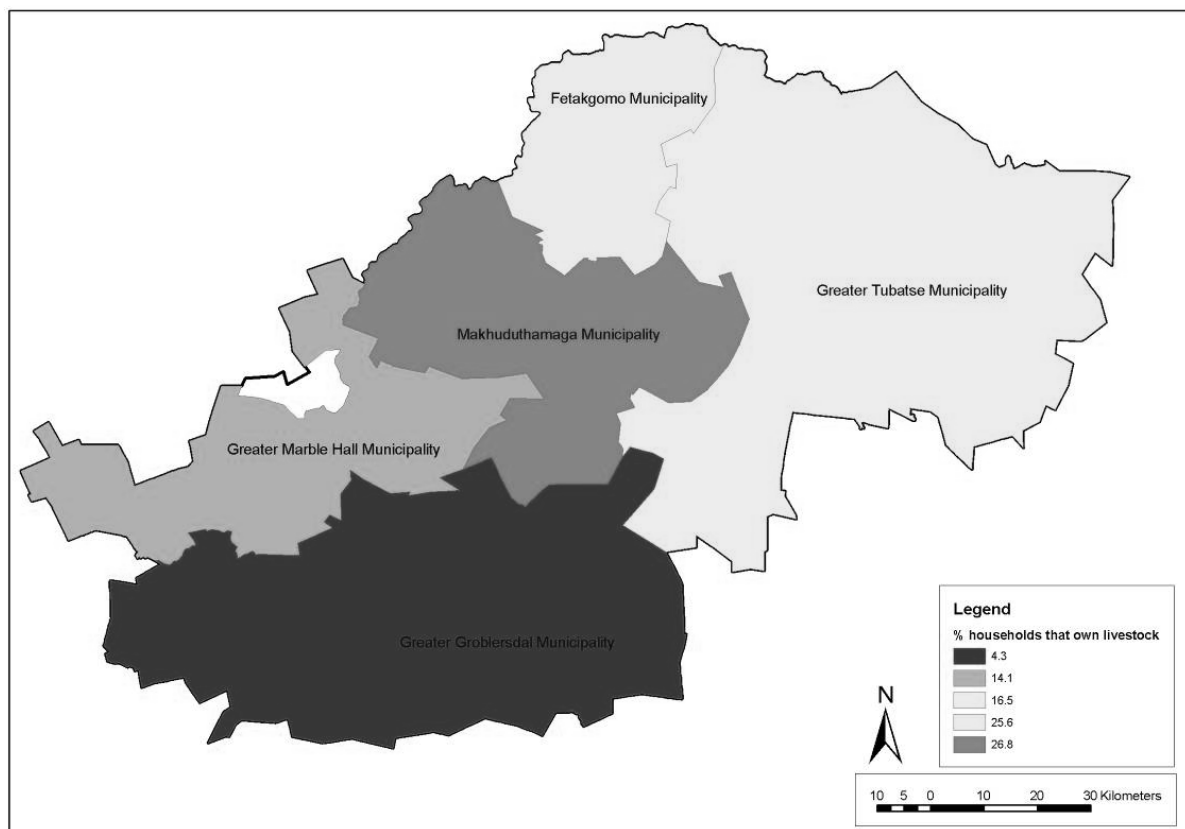
<i>% of respondents</i>	<b>Fertilisers</b>				<b>Pesticides</b>	
	<b>No fertiliser</b>	<b>Chemical purchased</b>	<b>Chemical programme/gift</b>	<b>Natural compost</b>	<b>Yes</b>	<b>No</b>
Fetakgomo	100.0	0.0	0.0	0.0	0.0	100.0
Greater Groblersdal	43.8	0.0	0.0	56.3	12.5	87.5
Greater Marble Hall	72.7	0.0	0.0	27.3	9.1	90.9
Greater Tubatse	81.0	4.8	4.8	9.5	9.5	90.5
Makhuduthamaga	72.2	5.6	2.8	19.4	5.4	94.6
<b>District</b>	<b>72.9</b>	<b>3.1</b>	<b>2.1</b>	<b>21.9</b>	<b>7.2</b>	<b>92.8</b>

### 9. Livestock

Only 80 of the 499 households (16.0%) own livestock. In the previous survey 272 of the 500 respondents indicated that they (54.4%) owned livestock. The reason for this huge reduction is unclear. Drought could have caused households to lose livestock, but given that rainfall conditions improved in the last three years, this does not seem a viable reason. Livestock ownership varies from 4.3% (Greater Groblersdal) to 26.6% (Makhuduthamaga, see Table 15 and Figure 9) of all households that were surveyed. None of the households owned horses, ducks or geese.

**Table 15: Percentage of households that own livestock**

<i>% of all households</i>	
Fetakgomo	25.6
Greater Groblersdal	4.3
Greater Marble Hall	14.1
Greater Tubatse	16.5
Makhuduthamaga	26.8
<b>District</b>	<b>16.0</b>



**Figure 9: Percentage of households in Greater Sekhukhune that own livestock (plotted per municipality)**



Table 16 shows households that own specific animals, as a percentage of all households and a percentage of just those who own livestock respectively. Of those who own livestock, the largest portion owned chickens (60%) and goats (50%), while 25% own both chickens and goats. Cattle are owned by 31.3% of the households that own livestock. In the previous study all households that owned livestock, owned cattle. There are several possible reasons for this change:

- Households who previously owned cattle have slaughtered them for food. This may include food for funerals and/or initiations.
- Households who previously owned cattle could have lost them to other causes including selling for cash, disease or lobola payment.

**Table 16: Type of livestock that is owned as a percentage of households. Horses, ducks and geese are omitted because no household owned them**

<i>% of all households</i>	<b>Cattle</b>	<b>Sheep</b>	<b>Goats</b>	<b>Donkeys</b>	<b>Pigs</b>	<b>Chickens</b>	
Fetakgomo	2.5	0.0	8.8	0.0	0.0	5.0	
Greater Groblersdal	2.5	0.0	3.8	0.0	0.0	5.0	
Greater Marble Hall	7.5	1.3	5.0	1.3	0.0	3.8	
Greater Tubatse	7.5	0.0	12.5	0.0	1.3	16.3	
Makhuduthamaga	11.3	5.0	20.0	1.3	0.0	30.0	
<b>District</b>	<b>5.0</b>	<b>1.0</b>	<b>8.0</b>	<b>0.4</b>	<b>0.2</b>	<b>9.6</b>	
<i>% of respondents</i>	<b>Cattle</b>	<b>Sheep</b>	<b>Goats</b>	<b>Donkeys</b>	<b>Pigs</b>	<b>Chickens</b>	<b>Goats and chickens</b>
Fetakgomo	20.0	0.0	70.0	0.0	0.0	40.0	20.0
Greater Groblersdal	33.3	0.0	50.0	0.0	0.0	66.7	33.3
Greater Marble Hall	54.5	9.1	36.4	9.1	0.0	27.3	0.0
Greater Tubatse	31.6	0.0	52.6	0.0	5.3	68.4	36.8
Makhuduthamaga	26.5	11.8	47.1	2.9	0.0	70.6	26.5
<b>District</b>	<b>31.3</b>	<b>6.3</b>	<b>50.0</b>	<b>2.5</b>	<b>1.3</b>	<b>60.0</b>	<b>25.0</b>

## 10. Trees

Only 110 of the households responded to the question whether they have trees on their properties or in the neighbourhood. Of these respondents, 81 (73.6%) indicated that they have trees, while 29 (26.4%) indicated that they do not (Table 17). The percentage of households that have trees on their properties or in the neighbourhood is markedly lower in Greater Marble Hall (56.3%) than in the other municipalities (75 to 79%).

**Table 17: Percentage of households that have trees at home or in the neighbourhood**

	% of all households		% of respondents	
	Yes	No	Yes	No
Fetakgomo	23.2	7.5	75.0	25.0
Greater Groblersdal	10.3	3.4	77.8	22.2
Greater Marble Hall	11.5	13.3	56.3	43.8
Greater Tubatse	17.9	5.0	78.3	21.7
Makhuduthamaga	24.2	7.9	75.6	24.4
<b>District</b>	<b>17.3</b>	<b>6.6</b>	<b>73.6</b>	<b>26.4</b>

Table 18 shows the usage of trees as a percentage of those who responded to the question. Most households use trees for shade (40%) and for fruit (32.5%) while 23.8% use trees for wood and 3.8% replied that they do not use the trees at all. The latter could represent households that have a tree in the neighbourhood but not at home. None of the households use trees for crafts or to collect worms. The Greater Groblersdal and the Greater Marble Hall municipalities are where most households use their trees for fruit. These areas also have large-scale citrus production, which implies that the area might be favourable for fruit trees or that the proximity to these farms encourages people to grow their own.

**Table 18: Usage of trees as percentage of those who responded**

% of respondents	Don't use	Fuel/firewood	Shade	Fruit
Fetakgomo	0.0	33.33	44.4	22.2
Greater Groblersdal	0.0	0.0	28.6	71.4
Greater Marble Hall	22.2	11.1	22.2	44.4
Greater Tubatse	0.0	22.2	55.6	22.2
Makhuduthamaga	3.3	36.7	40.0	20.2
<b>District</b>	<b>3.8</b>	<b>23.8</b>	<b>40.0</b>	<b>32.5</b>

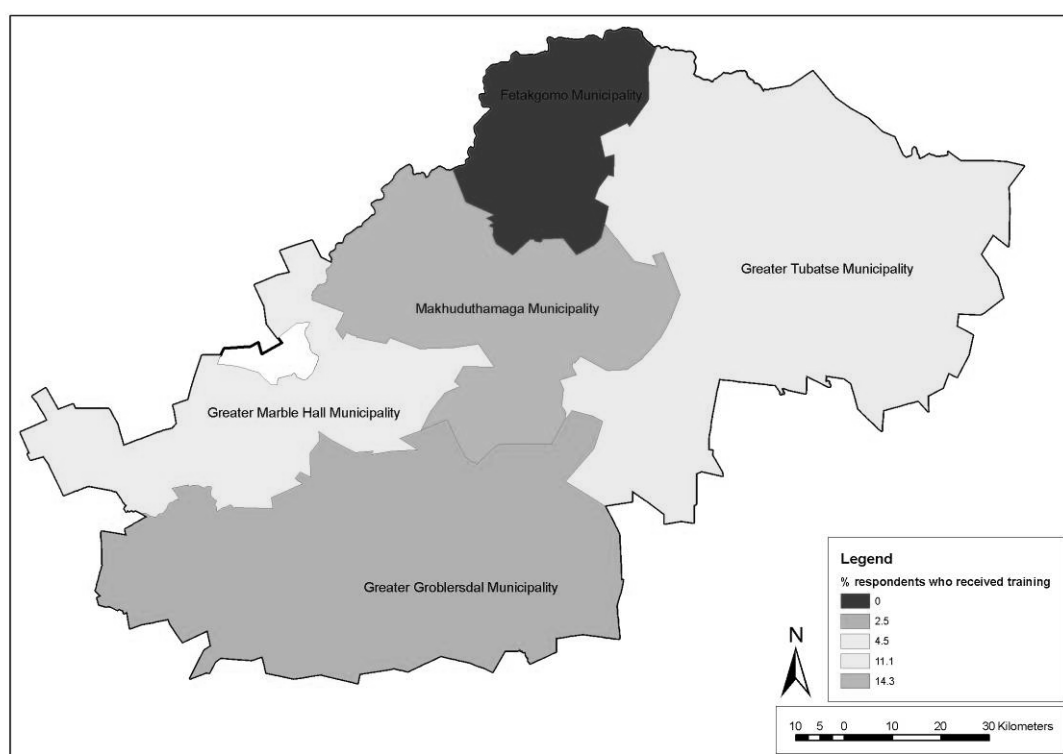
Please note that the usage of trees should not be compared to those who planted trees. Of all the households who indicated that they use trees for fruit, only one household also planted a tree.

## 11. Training

Agricultural training was received by a member of the household in 6 out of 106 households that responded to this question. Agricultural training was more common in Greater Marble Hall (14.3%), while no training was received in Fetakgomo (Table 19 and Figure 10). This is contrary to the previous survey when 65% of the households claimed that they had received training in Fetakgomo. A possible explanation for this contradiction may be that the previous survey included informal training in the survey question.

**Table 19: Percentage of households where some form of formal training in gardening or farming practices was received by someone in the household**

	<i>% of all households</i>	<i>% of respondents</i>
Fetakgomo	0.0	0.0
Greater Groblersdal	1.0	11.1
Greater Marble Hall	4.2	14.3
Greater Tubatse	1.0	4.5
Makhuduthamaga	0.8	2.5
<b>District</b>	<b>1.2</b>	<b>5.7</b>



**Figure 10: Percentage of households in Greater Sekhukhune where some form of formal training in gardening or farming practices was received by someone in the household (plotted per municipality)**

The sources that people use to keep themselves informed are given in Table 20. Most households rely on information obtained in their neighbourhoods (59.2%) and from friends (26.2%). Where 38.5% of the households in Fetakgomo received information from the Department of Agriculture (DoA) during the previous survey, none of the households in Fetakgomo received information from the DoA in this survey. Not one of the households has received information from the Land Bank, which corresponds to the previous survey.

**Table 20: The sources that people use to keep themselves informed (all households).**

<i>% of all households</i>	<b>Commercial farmers</b>	<b>DoA</b>	<b>Friends</b>	<b>Neighbourhood</b>	<b>Land Bank</b>	<b>Radio</b>	<b>Magazines</b>	<b>Other</b>	
Fetakgomo	0.0	0.0	7.9	20.4	0.0	0.0	0.0	0.0	
Greater Groblersdal	0.2	0.8	4.9	6.9	0.0	0.0	0.0	0.9	
Greater Marble Hall	2.1	0.0	4.4	9.8	0.0	3.9	2.5	0.0	
Greater Tubatse	0.0	1.0	4.0	15.9	0.0	0.0	0.0	1.0	
Makhuduthamaga	1.6	0.0	7.8	17.3	0.0	3.9	0.0	2.3	
<b>District</b>	<b>0.7</b>	<b>0.5</b>	<b>5.7</b>	<b>13.5</b>	<b>0.0</b>	<b>1.5</b>	<b>0.3</b>	<b>1.1</b>	
<i>% of respondents</i>	<b>Commercial farmers</b>	<b>DoA</b>	<b>Friends</b>	<b>Neighbourhood</b>	<b>Land Bank</b>	<b>Radio</b>	<b>Magazines</b>	<b>Other</b>	<b>Indigenous culture</b>
Fetakgomo	0.0	0.0	27.3	72.7	0.0	0.0	0.0	0.0	0.0
Greater Groblersdal	5.6	5.6	33.3	50.0	0.0	0.0	0.0	5.6	0.0
Greater Marble Hall	7.7	0.0	30.8	46.2	0.0	15.4	15.4	0.0	0.0
Greater Tubatse	0.0	4.5	18.2	72.7	0.0	0.0	0.0	4.5	0.0
Makhuduthamaga	5.1	0.0	25.6	56.4	0.0	12.8	0.0	7.7	5.1
<b>District</b>	<b>3.9</b>	<b>1.9</b>	<b>26.2</b>	<b>59.2</b>	<b>0.0</b>	<b>6.8</b>	<b>1.9</b>	<b>4.9</b>	<b>1.9</b>

## **12. Conclusions**

A large number of the households in Greater Sekhukhune did not respond to the survey section on agricultural production because they did not plant crops. However, over 40% of households grow their own crops largely for supplementary purposes mostly through a vegetable garden or maize plot. Major constraints to agricultural production for household food security (for consumption or sale) were a lack of inputs such as seed, fertiliser, money and water. This reinforced the importance of purchasing food for household food requirements. The lack of dietary diversity is a major concern in the Sekhukhune area.

There was a marked decrease in access to land in Sekhukhune compared to the previous study. During this study, only 25.9% of the households indicated that they have access to land, but in 81% of these cases at least some of the land is not utilised. This stresses the fact that many households are not in a position to address their food needs through household food production. The main reasons reported for not planting crops are lack of money (44.6%) and lack of interest (44.6%). Lack of water, which was the main constraint in the previous study was now only reported by 11.1% of households in this study. This is mainly due to different climatic conditions during and prior to the studies.

Although access to a place to sell produce or to buy products is very limited, it has increased from the previous study. Agricultural training, however decreased. In Fetakgomo training received by households decreased by 65.4% and for the entire Sekhukhune the decrease was 30%.

Only 20.2% of households entered information regarding the type of crop they planted, which is about half the amount that reported planting crops in the previous study. The largest number of households plant maize (64.4%), followed by sorghum (33.7%) and vegetables (20.8%). This is significantly different from the previous survey where only half of this amount (38.4% of households) planted maize. In Fetakgomo households that planted vegetables as a percentage of those who planted crops decreased by 83.3% from the previous study. Households that planted fruit trees also decreased by 65.5%. The consumption of the planted crops in the 2004 study to the 2006 study increased from 48.6% for fruit to 96.8% for sorghum. The fact that most crops are consumed implying that subsistence cropping is the main motivation for cultivation.

Only 16% of the households own livestock. This is significantly lower than in the 2004 study when 54.4% respondents indicated that they owned livestock.

The reason for this huge reduction is unclear. From the 2004 to the 2006 study households that own cattle as a percentage of those who own livestock decreased by 78.7%.

### **13. Policy implications: towards agrarian reform**

What is required is a range of complementary activities designed to ensure the food security of these marginalised groups at the local level - the level of the community, household and individual. These activities would focus largely on exploiting opportunities around increasing local food availability through production, stimulating food accessibility by, for example, supporting small enterprises through micro-credit, and supporting food utilisation through education. These activities can loosely be described as a form of agrarian reform and would contain a range of options that vulnerable people could adopt to promote their livelihoods beyond survivalist strategies. Part of this requires the recognition of the multiple and diverse character of the livelihoods of the rural and urban poor and placing this at the centre of a food security strategy. In this scenario, land and natural resources are vital, but cannot be the only focus of development; complementary forms of rural enterprise and employment must also be planned for.

For this to happen people need opportunities to be able to diversify their local livelihood strategies, access and use land, and access credit and extension services. There is also a need for a package of interventions to improve the nutritional situation in the country. This argument is based on an understanding that areas where agriculture production is limited with high levels of poverty will generally also have high levels of food insecurity. It is also in these areas where people do not have ready access to agricultural produce that dietary diversity is low and as a consequence, malnutrition levels are high. This indicates that food insecurity has a very localised context, which needs to be taken into consideration when developing appropriate interventions.

For such an “agrarian reform” to be a success, the necessary institutional framework needs to be in place to enable a broad range of services from government and non-governmental actors. The facilitation of such “joined up government”, although in existence in theory, requires concerted political will to become a reality.

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