REPORT ON SURVEY IN SEKHUKHUNE TO PILOT THE DEVELOPMENT OF A FOOD INSECURITY AND VULNERABILITY MODELLING SYSTEM (FIVIMS) FOR SOUTH AFRICA

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Overview of survey methodology

In order to provide meaningful feedback on the survey process it will be discussed under the following headings:

- Sampling
- Fieldworkers
- Training
- Fieldwork
- Questionnaires

SAMPLING

The sample for Sekhukhuneland was drawn by Statistics South Africa on behalf of the FIVIMS Consortium. The sampling frame consists of 1546 Enumerator Areas. All EA's with a MOS (measure of size) less than 20 (or missing) were removed leaving 1250 EA's on the sampling frame. This implied that many EA's probably fall only for a small part within the District Council. To obtain the MOS, the calculated number of households was inflated for the 2001 EA's, as obtained from the 1996 census (after "translating" the 1996 EA's to the 2001 EA's), per ward to the number of households as obtained per ward from the 2001 version of supercross. Systematic pps sampling was used after sorting the EA's according to municipal code, geography type, life style, sub code and EA number (in decreasing order of importance). The result was tested when the order of the variables "EA geography type" and "life style" was switched in the sorting process. 60 EA's were drawn. The optimum choice was defined as 7 households per EA, but this choice would result in too many EA's being drawn. It was recommended that 10 households per EA should be, although 8 would have been better (i.e. 75 EA's).

FIELDWORKERS

Based on the budget and the large area to be surveyed it was decided to utilise experienced coordinators and supervisors from Kayamandi Development Services (Pty) Ltd and to train people from the local communities as fieldworkers.

Difficulties that were encountered in utilising local fieldworkers included:

- Identifying appropriate people in settlements
    - limited vehicular accessibility and few landline or cellular phones
    - relatively high illiteracy
    - limited previous experience
    - many people with experience as census enumerators have left the area

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Introduction to FIVIMS Survey

INTRODUCTION:

This introduction defines some key concepts that informed the survey that was conducted as part of the pilot phase to establish a Food Insecurity and Vulnerability Information and Mapping System in South Africa (FIVIMS-ZA) and provides a general description of vulnerability and food insecurity in the country as well as in the survey area in Sekhukhune.

A number of hypotheses were developed around livelihood strategies that appeared to be fairly common in Sekhukhune to guide the analysis of a very rich data source. These hypotheses were derived from a range of documents that were produced during the pilot process, which were referred to throughout the data analysis process. These have been listed at the end of the report and are available of the FIVIMS-ZA website (http://www.agis.agric.za/agisweb/FIVIMS_ZA).

OBJECTIVES AND USE OF THE FIVIMS SURVEY:

The FIVIMS survey was designed to:

- feed into a survey report on food insecurity and vulnerability in Sekhukhune,
- identify key variables for the livelihoods / food security models that were developed as part of the pilot process, and
- the integration of the field data into the system to complement or replace existing variables, which have been presented in various forms such as maps, tables, graphs, and short reports.

The main strength of the FIVIMS survey is that it allowed for wide-ranging analysis and for diverse hypotheses to be tested around the vulnerability of individuals, households or groups of people in Sekhukhune, to identify and characterise their livelihood strategies and to measure levels of food insecurity. The intention was to critique the questionnaire through the analysis of the data and reflections on the field experience in order to refine future instruments that might be used in a possible roll-out of the system across additional Integrated Sustainable Rural Development nodes and nationally.

The Survey Report:

The data has been analysed and presented in this report to enable potential users of FIVIMS to understand vulnerability and food insecurity in Sekhukhune through the description and characterisation of diverse livelihood strategies and the measurement of key food security outcomes.

Vulnerability refers to the full range of factors that place people at risk of becoming food-insecure. The degree of vulnerability of individuals, households or groups of people is

determined by their exposure to the risk factors and their ability to cope with or withstand stressful situations. Thus an analysis of risk factors in Sekhukhune and people's coping strategies have been included in the report, particularly as this causal analysis will enable the future identification of actions to reduce food insecurity -information that is vital to policy-makers and programme designers intending to reduce food insecurity. The survey analysis will therefore contribute to the identification of structural causes of vulnerability (for example agro-ecological constraints for farming; inadequate and infrequent income, lack of assets and job opportunities) and provide measurements of vulnerability (for example through the percent of expenditures on food, which is a measure of vulnerability to food deprivation).

Food insecurity exists when people are undernourished as a result of physical unavailability of food, their lack of social or economic access to adequate food, and / or inadequate food utilisation. Using the survey, food insecurity will be measured as an outcome through nutritional status using the anthropometric measurements and, where possible, the food diversity within respondent's diets. Thus the survey report presents analyses around the physical availability of food, people's access to food (through diverse livelihood strategies), and their nutrition levels (to assess the adequacy of food access and the physical utilisation of food).

Identifying Key Variables:

The survey analysis also contributed to the identification of key variables for the livelihoods / food security models that have been developed by the FIVIMS team (both "supervised" modelling and "unsupervised" modelling using neural networks).

The identification of key food security and nutrition indicators in Sekhukhune is fundamental for the future monitoring of levels of food insecurity and malnutrition in the area, as the data is "refreshed" through future FIVIMS surveys or alternative sources of data. Thus the variables (measures) can be used to calculate within sub-national level (Sekhukhune) the prevalence of food insecurity and to monitor how these change over time. An attempt will be made to match the food data with various demographic characteristics of households to further enable the identification of who the food insecure are.**Integrating the data into FIVIMS:**

The field data has been integrated into the system (FIVIMS) to complement or replace existing variables. This data has been presented in various forms such as the survey report and the models, and also through maps, tables, graphs, and short reports.

Given that food insecurity manifests itself at household and individual levels, the survey data are likely to be more reliable than those derived from data collected at more aggregate levels, as they are collected directly from households themselves.

FOOD INSECURITY AND VULNERABILITY IN SOUTH AFRICA:

A useful definition of food security is derived from the 1996 World Food Summit:

"food security exists when all people at all times have physical or economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life." By extension, food insecurity exists when "people are undernourished as a result of physical unavailability of food, their lack of social or economic access to adequate food, and / or inadequate food utilisation."

The food security of a given social or economic unit (individual, household, community, nation) is comprised by two key components: food availability (food supply) and access to food through exchange (purchase, barter, piece work or labour exchange or gifts). The social units may be chronically food insecure, suffer from seasonal food insecurity and / or be prone to acute episodic food insecurity (see Marsland, 2004).

Vulnerability to food insecurity refers to the full range of factors that place people at risk of becoming food-insecure. The degree of vulnerability of individuals, households or groups of people is determined by their exposure to the risk factors and their ability to cope with or withstand stressful situations.Food insecurity in South Africa, and by extension Sekhukhune, is essentially driven by entitlement failures (see Du Toit & Ziervogel, 2004). According to StatsSA some 48 percent of South Africans were estimated to fall below the threshold of R250 per capita monthly income in 1996 (2000). Approximately 14 million people in South Africa are estimated to be food insecure, 43 percent of households suffer from food poverty, and 1.5 million children suffer from malnutrition.

The Project for Statistics on Living Standards and Development (1994) estimated that about 39 percent of the population (14,8 million people) did not manage to meet their daily energy requirement of 2000 kcal/day at that time (see Polzer & Schuring, 2003). In 2000, StatsSA suggested that about 35 percent of the population (14.3 million South Africans) remain vulnerable to food insecurity. These statistics are, however, not comparable, since they are measuring different indicators of food insecurity. Therefore it cannot be concluded that there has been a marked improvement over that six-year period. The National Food Consumption Survey (1999) showed that at least 21,6 percent of children between the ages of 1 and 9 years old are stunted, which indicates chronic past malnutrition. The distribution of poverty in the country is also uneven, with Limpopo Province among the poorest.

According to Polzer and Schuring, 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. As the numbers in the paragraph on household food insecurity above illustrates, food insecurity it 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. Since the vast majority of people in South Africa buy their staple foods from commercial suppliers, rather than growing them themselves, access to food is largely dependent on (direct or indirect) access to cash. 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. In addition to cash, the "bundle of entitlements" which enables individuals and households to feed themselves also includes access to land (especially in rural areas) for supplementary food production, as well as access to family and community networks for sharing the food, which is available.

Research on the livelihood profiles of poor people in selected areas of South Africa has suggested very strong links between vulnerability and **chronic poverty** (De Swardt *et al* forthcoming). This research suggests that poor people in South Africa are at risk of being caught in deeply entrenched *poverty traps* involving mutually reinforcing and cascading cycles of vulnerability and impoverishment.

PLAAS's work suggests the chronic poverty needs to be understood with reference to (at least) three intersecting kinds of vulnerability and stress (see Du Toit & Ziervogel, 2004: 21). These include:

- Economic vulnerability related to stress on livelihoods systems (asset poverty, debt, insecure entitlements to social services, wage/remittance dependency, job insecurity, monetary poverty, lack of access to credit);
- Health vulnerability related to ill-health and disease (poor diet, malnourishment, stunting and wasting, chronic ill-health, vulnerability to HIV/AIDS and TB, psychological stress);
- Social vulnerability related to stress on social networks (high dependency ratios, stressed care chains, exploitative gender dynamics, patterns of violence and crime).

Aliber (2001) suggests that particular groups particularly likely to become caught in chronic poverty in this fashion include:

- The rural poor,
- Female-headed households,
- People with disabilities,
- The elderly,
- Retrenched or evicted farm workers,
- AIDS orphans and households with HIV/AIDS sufferers,
- Cross-border migrants,
- The 'street homeless'

Although poverty and vulnerability are not the same thing, there is likely to be a high degree of overlap between the chronically poor and the chronically vulnerable, i.e. those who are "persistently highly vulnerable to failing to secure enough food" (Ellis 2003:9), as opposed to those who may only be vulnerable at particular points during the year, e.g. when food stocks are low, when flood increase the risk of water-borne diseases.

From these general characteristics, and drawing upon the more detailed account of livelihoods in Sekhukhune provided by the qualitative research (see Bhayat, ARC and Zanner *et al)*, a number of hypotheses around vulnerability and food insecurity have been developed to guide the analysis of the survey data. These are detailed below.

HYPOTHESES RELATING TO FOOD INSECURITY/VULNERABILITY IN SEKHUKHUNE:

These hypotheses were derived largely from the literature, from the questionnaire (itself derived from the literature) and from the qualitative fieldwork. They were intended to guide the analysis and to stimulate other hypotheses being developed by the specialists that conducted the analysis for each section of the survey. It should be noted that the analysis was not intended to be bounded within each section and that the specialists were required to look at relationships that reflect the complexity of food insecurity and vulnerability described above.

Income and Expenditure:

- Households with greater income are more food secure than those with less income.
- Households with more diverse sources of income are more food secure than those with less diverse sources of income.
- Households with more stable sources of income are more food secure than those with less stable sources of income.
- Households that depend on income from the formal sector are more food secure than those that depend only on income from the informal sector.
- Households with a higher proportion of expenditure on food are more vulnerable to food insecurity than households with lower proportion of expenditure on food.

Social Grants:

- Households that access social grants are more food secure than those that do not access social grants.
- Households with a high number of children or foster children (eligible for child or foster care grants) are more food secure than households without such dependents (despite conventional wisdom about high dependency ratios).
- Households with high numbers of adults (older than 16) dependent on a pensioner for income are vulnerable to food insecurity.

Livelihood / Coping Strategies:

- Households with higher levels of savings and assets are more food secure and resilient to shocks than households with fewer savings and assets.

- Households with more diverse livelihood strategies for food consumption (e.g. own production, cash income, piece jobs, family support, neighbourhood support) are more food secure than those that depend on one source of food (e.g. only production, only buying food).
- Households that depend primarily on piece jobs are more food insecure than those with more stable sources of income such as grants.
- Households with a high asset base (productive assets e.g. land, tractors, livestock) are more food secure than households with a low asset base.
- Households that rely on wild foods are more food insecure than households that do not rely on wild foods.

Health:

Households with the presence of an adult with chronic illness are more food insecure than households without chronic illness.

Services:

- Households with access to safe water for household consumption are more food secure than households with low access to safe water.
- Households that have difficulty accessing (terrain, distance, disability, road network, infrastructure) centres of exchange (e.g. government offices such as pension pay out points, clinics, markets, home affairs) are more food insecure than households that easily access such centres.
- Households further from sources of food for purchase (shops, spaza, markets, traders) are more food insecure than households closer to sources of food.

Demographics:

- Households with a large number of adopted/foster children without grants are more vulnerable to food insecurity
- Households that are headed by orphans are more vulnerable to food insecurity
- Households that have a high percentage of people who are uneducated are more vulnerable to food insecurity
- Households that have high unemployment amongst the economically active population are more vulnerable to food insecurity
- Households in the lower LSM groups are more vulnerable to food insecurity

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Difficulties that were encountered in utilising local fieldworkers included:

- Identifying appropriate people in settlements
    - limited vehicular accessibility and few landline or cellular phones
    - relatively high illiteracy
    - limited previous experience
    - many people with experience as census enumerators have left the area

- local councillors useful but interactions entailed a lengthy process

- Some of the terms and concepts in the questionnaire were difficult for the fieldworkers to understand, as they were not part of everyday usage. An attempt to overcome this was made through the translation of the questionnaire into local languages and to use local words.

- As the fieldworkers were local many of the difficulties, problems and even everyday life was seen as "normal", unlike fieldworkers from an urban environment, and therefore some of the aspects were not probed in sufficient detail.

TRAINING

In terms of the training it was decided to hold one centralised training session in Pretoria for the following reasons:

- Fieldworkers homes were spread over a large geographic area
- Limited venues were available in the area to accommodate the training session and to provide accommodation at a reasonable rate
- High levels of input were required from a number of members of the professional team

The training session was organised over a three-day period with the fieldworkers arriving the previous night and departing after lunch on the third day to accommodate travelling arrangements and to reduce accommodation costs.

The training sessions covered the following aspects:

- Introduction and background to the study
- Survey techniques and basic survey training
- Sampling and mapping
- Questionnaire training
- Anthropometric training

The introduction and background to the study was undertaken at the beginning of the training session and the fieldworkers found it interesting and enlightening and provided a good base for the sessions to follow.

Many of the fieldworkers had undertaken previous surveys but to get everyone up the same level of understanding, training sessions were held on surveying techniques, approach, etiquette, confidentiality, amongst other issues.

A training session was held on the sampling methodology that was utilised and how the sample was drawn and illustrated on the maps. It was also explained how to utilise the maps to identify the relevant households to be interviewed.

All in all there was approximately an entire day dedicated to training the fieldworkers on the questionnaire. In hindsight this was most probably not sufficient time even including the informal sessions which were held by the fieldworkers in the evenings. The main reasons for advocating more time, which may not be true for future surveys in other areas, were:

- Language and translating difficulties
    - Very rural fieldworkers mostly spoke only Northern Sotho with some understanding of either English or Afrikaans
    - Fieldworkers from the KwaNdebele area spoke mostly English
    - Fieldworkers either used the English or the translated Northern Sotho questionnaire which sometimes lead to difficulties
    - The terms and concepts were sometimes difficult to describe in translation especially when fieldworkers disagreed on the understanding of the translated questionnaire
- Very lengthy and involved questionnaire
- "Sophisticated" questionnaire which was difficult for many to relate to in terms of daily rural life
- The long periods of discussion around why certain questions were incorporated and what type of information we were trying to obtain

The anthropometric training lasted for almost a full day. Considerable time was devoted to why the measurements were required and what would be done with the information. Training was then provided on how to take the measurements and the importance of accuracy. It is felt that sufficient time was not devoted to practising the measurements and determining the accuracy of taking the measurements by each fieldworker. This meant that either less time must be devoted to the background with regards to anthropometric measurements or additional time needs to be devoted to this training session.

FIELDWORK

The fieldwork was undertaken over approximately a month period by 20 fieldworkers, which means an average on 30 questionnaires per fieldworker at an average rate of one questionnaire per fieldworker per day.

The fieldworkers sometimes had great difficulty in identifying the correct house for the survey as they found it difficult to obtain a reference point. At the training sessions it was decided that it would be easiest to utilise the schools as a reference point as they were marked on the maps. The fieldworkers however found that in most cases the schools were incorrectly marked.

The coordinators visited the Tribal Chiefs in the areas where the surveys were to be undertaken before the fieldworkers started. It was sometimes a difficult task to find the Chief, secure a meeting and explain why the surveys were to be undertaken in certain areas

and not others, which the Chief felt, might be "better". In many of the areas when the fieldworkers started with the surveys they discovered that the Chief or a representative had not informed the respondents of the survey.

The fieldworkers had to visit the allocated house on the map three times before the house could be substituted. The fieldworker could then replace the house with an adjoining house where someone was available to be interviewed. This process was sometimes extremely time-consuming owing to transport, distances and terrain.

The fieldworkers were each provided with a letter of introduction from the Department of Agriculture and a letter of appointment of the fieldworker including their photo. This helped to ease access to the respondent but many respondents were apprehensive about providing answers especially when it came to age, children, income and grants as many were afraid of loosing their pensions and child support grants, which in most cases was their only income.

In order for a respondent to open up and provide meaningful answers, the fieldworker spent up to half an hour talking generally to the respondent in order to gain further trust. After this the fieldworker would administer the questionnaire, which would take approximately an hour and a half. Following this the fieldworker would explain the need to take their measurements. This often caused either consternation with the members of the family, as they did not want to be measured especially the women and the elderly, or amusement mostly on the part of the children. The anthropometric measurements would normally take another half an hour if all family members were present which was not normally the case. In many instances the fieldworker would have to return several times in order to measure all family members. School children and working adults were the most difficult to find at home even after arranging to meet them at a specific time.

The entire process of undertaking the survey was extremely time consuming and in many instances the respondents would get bored with answering the questions after the initial interest had worn off.

No compensation either monetary or in kind was provided to the respondents.

QUESTIONNAIRE

The overall impressions of the questionnaire have been provided below based on the fieldwork perspective and not on the need for the questions or the quality of the results:

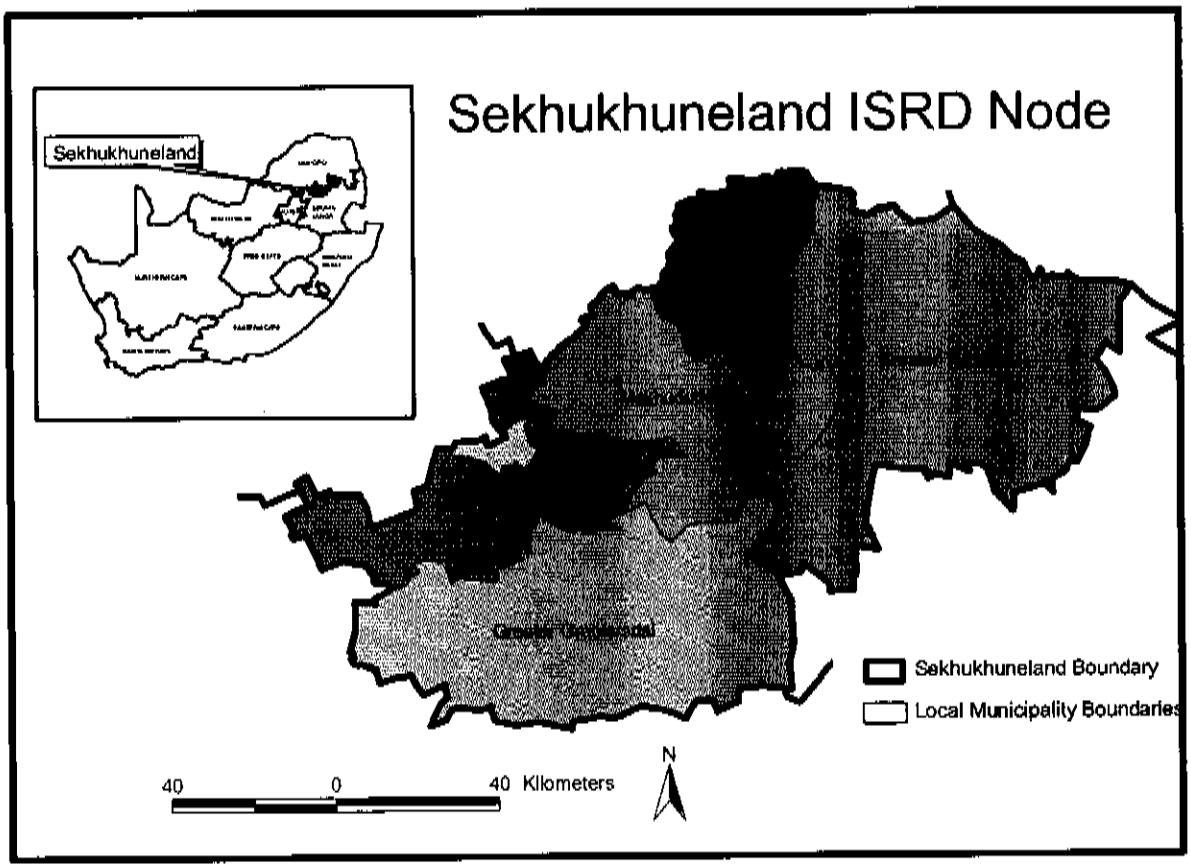
- The questionnaire was too long
- Many of the questions should be reworded or reworked based on the answers and the results of the analysis. This was subsequently done and a "revised" questionnaire submitted to the Department of Agriculture, as part of the finalisation of the pilot process.
- Some of the questions appeared to be too sophisticated or complex for this area but may work better in other areas.

- The anthropometric measurements for all household members were extremely time consuming as many times the questionnaire was completed but the fieldworker needed to return to the same house a number of times to measure one or two people. An experienced team of nutritional experts drawn from the Medical Research Council and the University of Pretoria critiqued this section of the survey and have provided a detailed report as to how subsequent measurements should be implemented if deemed an essential part of a future FIVIMS-ZA survey. This critique is available from the Department of Agriculture.

Household Particulars

AN OVERVIEW OF SEKHUKHUNE

- The pilot study of FIVIMS in South Africa is the Greater Sekhukhune District Municipality (GSDM). This incorporates the Integrated Sustainable Rural Development (ISRD) node of Sekhukhune. The area was chosen by the Department of Agriculture largely due to its close proximity to Pretoria (200km). Additionally, this area offers the kind of diverse environment that provides for a good representation of the whole country, to which the system could, potentially, be up-scaled.



The Greater Sekhukhune District Municipality (GSDM) lies across the border of two provinces; Mpumalanga and Limpopo. It is therefore a cross-border district occupying the northern parts of Mpumalanga and the middle to southern parts of Limpopo provinces. The district comprises of approximately 13 264 Km2 of geographical area, the majority of which is rural. The Greater Sekhukhune District Municipality (GSDM) consists of five municipalities:

- *Fetakgomo* Local Municipality
- Greater Marble Hall Local Municipality - *Leeuwfontein*
- Greater *Tubatse* Local Municipality

- Makhuduthamaga (*Jane Furse*) Local Municipality
- Greater Groblersdal Local Municipality

1 RESPONDENTS

A total of 597 individuals have been interviewed across five municipalities. As Sekhukhune is a cross-border district municipality, two-thirds of the respondents live in Limpopo Province and a third in Mpumalanga Province.

Age

Overall, the average age of the respondents was 48 years. Table 1 shows the averages per municipality.

Table 1: Average age respondents by municipality (years).

Mean and N	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo
Mean Years	44	49	47	49	46
N*	74	143	159	153	48

* Please note that owing to some missing data on age the number of respondents is smaller than the total sample.

Gender

Almost three quarters of the respondents were female (70%; 32 missing data). Women in the Sekhukhune area were more likely to be at home during the fieldwork visits than were men. In addition, the proportion of women in the study area is somewhat larger than that of men (see section on households). As table 2 shows, the proportion male respondents were relatively larger in Greater Groblersdal.

Table 2. Gender respondents by municipality (valid %)

Gender	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo	Total*
% Male	26.9%	35.5%	24.4%	21.4%	22.2%	26.5%
N Male	21	50	38	31	10	150
% Female	73.1%	64.5%	75.6%	78.6%	77.8%	73.5%
N Female	57	91	118	114	35	415

* These are valid percentages, i.e. excluding missing data.

Ethnicity

All but four of the respondents were black (99%). The interviews were conducted in the home language of the respondent. Most interviews were conducted in Sepedi (84%) followed by IsiNdebele (7%) and Sesotho (3%). Other languages included English, IsiZulu and Siswati (6%).

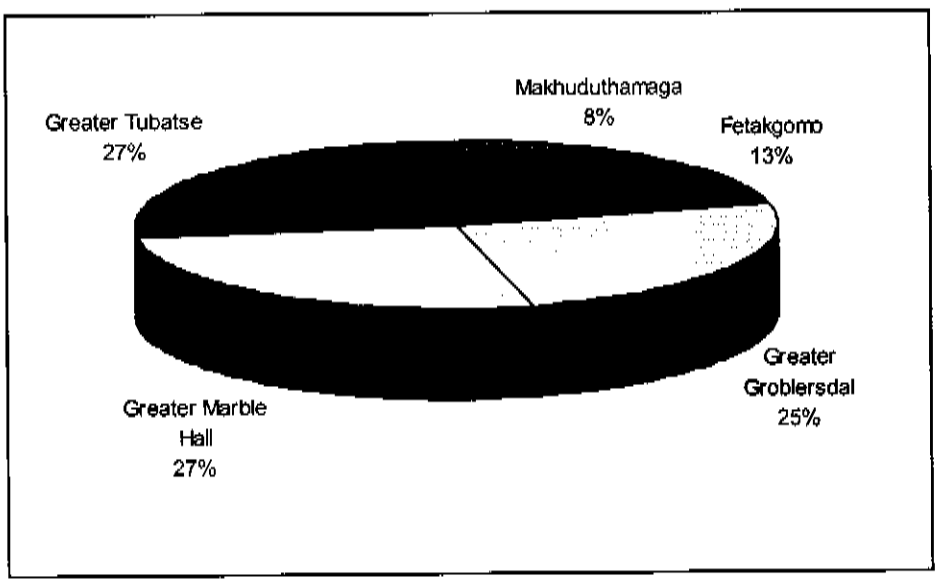
Educational level

Two thirds of the respondents had no secondary education (65%) of which a large proportion had no education at all (39% of total). About 14% had finished secondary school and 16% had finished high school. A small proportion had attained a diploma or some kind of formal training after school (5%).

2 HOUSEHOLDS

The respondents represent 597 households with an average household seize of 4.64. The total sample comprises 2773 individuals. The weighted data result in a total of 206235 households. The weighted data, reflecting estimations of real population proportions, have been reported upon in the following paragraphs. Figure 1 presents the distribution of households over the 5 municipalities.

Figure 1: distribution of households over the 5 municipalities



Household size

The largest household seize was 16 persons in Greater Tubatse. A relatively high proportion of single person households were found in Greater Marble Hall. Table 3 shows the frequencies of household size per municipality.

Table 3: Frequencies number of household members by municipality

Persons per hh	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo	Total
1	6545	5843	1719	5201	382	19690
2	2107	6187	2406	8333	2979	22012
3	5201	7562	4468	9333	1795	28359
4	3031	8937	7218	11083	4583	34852
5	3344	9624	10312	10263	1375	34918
6	2107	6875	9968	4583	3246	26779
7	2069	2750	7562	2062	1069	15512
8	1031	2062	3437	2031	1413	9974
9	687	687	1719		344	3437
10	1375	344	4812	1764		8295
11		687	344			1031
12			344			344
13			344			344
15				344		344
16			344			344
Total	27497	51558	54997	54997	17186	206235

The average number of individuals per household differed somewhat between the municipalities, with Greater Tubatse having slightly larger household sizes than Greater Marble Hall (see Table 4)

Table 4: Average household seize by municipality.

Mean and N	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo
Mean	4.02	4.25	5.86	4.12	4.58
N	27498	51559	54996	54996	17186

Age

Almost half of the residents in the study area (46%) were comprised of youth (between 0 and 17 years old). About one out of eleven (9%) were elderly. The age groups represented in the sample reflect a relatively large proportion of small children (0 to 14 years, 37%), compared to the national census 2001 figure (32%). Table 5 shows the age distribution per municipality.

Table 5. Age groups by municipality (%).

% and N	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo	Total*
% 0-1 yrs	1.3%	2.4%	2.9%	3.1%	1.9%	2.5%
N 0-1 yrs	1413	5156	9281	6927	1451	24228
% 2-5 yrs	10.2%	9.3%	10.8%	6.8%	9.4%	9.3%
N 2-5 yrs	11232	20280	34716	15450	7371	89049
% 6-14 yrs	23.4%	19.9%	28.0%	28.2%	23.8%	25.3%
N 6-14 yrs	25842	43653	90056	63936	18638	242125
% 15-17 yrs	5.6%	7.4%	8.8%	9.9%	13.5%	8.7%
N 15-17 yrs	6163	16155	28185	22422	10541	83466
% 18-25 yrs	15.2%	13.0%	19.4%	14.7%	20.1%	16.4%
N 18-25 yrs	16846	28529	62558	33192	15773	156898
% 26-35 yrs	11.1%	13.8%	8.2%	10.9%	6.6%	10.3%
N 26-35 yrs	12284	30248	26467	24668	5194	98861
% 36-59 yrs	12.3%	22.4%	13.2%	14.0%	17.4%	15.8%
N 36-59 yrs	13621	49153	42622	31685	13596	150677
% 60>	7.5%	10.8%	8.2%	10.0%	7.3%	9.1%
N 60>	8340	23717	26467	22554	5729	86807

* These are valid percentages, i.e. excluding missing data (70 cases, 2.5% unweigthed).

More specifically, the average number of toddlers (0-1 yrs), the average number of small children (2-5 yrs) and the average number of elderly per household and per municipality are presented in Table 6.

Table 6. Average number of toddlers, small children and elderly per household by municipality.

Age groups	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo	Total Mean
Toddlers	.05	.10	.17	.13	.08	.12
Small children	.41	.39	.63	.28	.44	.43
Elderly	.30	.46	.48	.41	.33	.42

2.3 Gender

Against a national figure of 48% males and provincial statistics of 48% males in Mpumalanga and 45% males in Limpopo provinces (census 2001), relatively few males reside in Sekhukhune. In the study area, only 43% of the household members were male. Moreover, the gender pattern reveals a fairly skewed distribution of males and females over the municipalities. In the Makhuduthamaga municipality, only 39% were male, whereas in Fetakgomo this proportion was 48% (see table 7).

Table 7. Gender household members per municipality.

Gender	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo	Total*
% Male	41.7%	43.1%	44.4%	38.8%	48.4%	42.9%
N Male	40678	90400	136803	75192	34907	377980
% Female	58.3%	56.9%	55.6%	61.2%	51.6%	57.1%
N Female	56895	119273	171175	118717	37275	503335

* These are valid percentages, i.e. excluding missing data (N 213, 7.7%).

Table 8 details the gender by age group distribution over the municipalities.

Table 8. Gender residents by age group by municipality

% and N	Gender	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo
% 0-1 yrs	M	25%	57%	56%	50%	50%
	F	75%	43%	44%	50%	50%
% 2-5 yrs	M	52%	33%	54%	56%	53%
	F	48%	67%	46%	44%	47%
% 6-14 yrs	M	45%	55%	47%	44%	59%
	F	55%	45%	53%	56%	41%
% 15-17 yrs	M	56%	40%	52%	38%	57%
	F	44%	60%	48%	62%	43%
% 18-25 yrs	M	46%	53%	48%	37%	51%
	F	54%	47%	52%	63%	49%
% 26-35 yrs	M	28%	35%	32%	35%	46%
	F	72%	65%	68%	65%	54%
% 36-59 yrs	M	36%	40%	29%	29%	22%
	F	64%	60%	71%	71%	78%
% 60>	M	50%	34%	40%	29%	47%
	F	50%	66%	60%	71%	53%

Education

The educational level of the household members aged 18 years and older was on average substantially higher than that of the respondents themselves. About half had no secondary education (48%) of which half had no education at all (27% of total). A fifth had completed secondary school (20%) and almost a third had finished high school (28%). The rest (5%) had attained a diploma or some kind of formal training after school (see table 9).

Table 9. Educational level by municipality among 18 and older.

% and N	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo	Total*
% none	29.5%	31.0%	24.2%	28.1%	20.5%	27.1%
N none	14968	40216	38154	31539	8249	133126
% primary	10.3%	16.2%	24.8%	23.6%	22.2%	20.6%
N primary	5246	20967	39185	26477	8937	100812
% secondary	20.2%	19.9%	19.2%	19.1%	21.3%	19.6%
N secondary	10256	25779	30248	21377	8593	96253
% high school	28.2%	28.1%	28.5%	27.8%	27.0%	28.1%
N high school	14329	36435	45028	31217	10885	137894
% higher	11.7%	4.8%	3.3%	1.3%	9.0%	4.6%
N higher	5947	6187	5156	1489	3628	22407
% total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N total	50746	129584	157771	112099	40292	490492

Income and Expenditure

INCOME

From the survey sample, it is apparent that there are four common sources of household income in Sekhukhune (Table 1). These are government-provided Old Age and Child Support Grants (each being received by a third of households), in addition to remitted income from migrant labourers (31%) and income from regular wage employment (27%). The remaining types of social assistance (Foster Care Grant, Disability Grant, Care Dependency Grant and Compensation Funds) all have a limited coverage in the survey area, with none being present in more than five percent of households. The same can be observed for other income sources, including pension funds from work, selling of production and non-production related assets, and the receipt of gifts in kind. Four percent of households reported that they received no form of income during the month prior to the survey.

Table 1: Percentage of households receiving an income in the past month from various sources, by municipality

Income Source	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhudthamaga	Total
Work	21	37	42	34	6	27
Remittances	35	37	48	13	35	31
Pension fund from work	8	1	1	2	4	3
Old Age Pension	23	34	24	36	35	33
Child Support Grant	32	31	27	44	25	33
Foster Care Grant	19	1	0	6	8	5
Disability Grant	4	7	1	6	3	5
Care Dependency Grant	0	1	5	1	7	3
Compensation Fund	4	0	0	0	0	0
Selling of production and non production related assets	0	5	0	1	0	2
Gifts received in kind	0	4	1	0	0	1
Other	4	3	0	4	4	3
No income at all	26	1	0	5	2	4
Weighted N	17186	51559	27498	54996	54996	206235

There exists a notable amount of municipal level differentiation in income sources. In Marble Hall, remittances and income from regular wage employment predominate, with over 40 percent of households reporting income from each of these sources. A similar picture emerges in Groblersdal, with 37 percent of households reported income from remittances

and another 27% from regular employment. A further third (34 %) receive an Old Age Pension, marginally higher than one proportion in Marble Hall (27%). A different pattern emerges in Greater Tubatse, with the most common reported income sources being Child Support (44%) and Old Age Grants (36%). While the share of households with an income from wage employment still (34%) exceeds the average for Sekhukhune, relatively few households in the municipality derive income from remittances. In Makhuduthamaga, remitted income and old age pensions (both 35%) are the dominant forms of income. A quarter of households receive child support grants, with a mere six percent receiving income from regular employment. Finally, income sources in Fetakgomo are more diversified than in the other municipalities. Remittances are the most common source (35%), followed by child support grants (32%), old age pensions (23%), and wage employment (21%). One source that is surprisingly high relative to the other localities is foster care grants (19%). The share of households stating that they did not receive any income in the last month (26%) was also substantially higher than in the other municipal areas surveyed.

Highest mean income came from working remuneration (R1485), with work pension (R1026), Disability Grants (R829) and Old Age Grants (R819) also accounting for high mean levels.

Table 2: Mean monthly income from source by municipality (Rands)

Income Source	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhudthamaga	Total
Work	1212	1698	1569	1449	392	1485
Pension fund from work	802	870	500	713	1480	1026
Disability grant	1070	810	740	888	676	829
Old Age Grants	813	849	853	842	760	819
Compensation Fund	600	..	..	..	..	600
Remittances	670	577	822	512	444	589
Foster care grant	553	540	..	471	222	398
Selling of production and non production related assets	..	410	..	250	..	378
Child support grants	189	254	317	297	297	280
Care dependency grant	..	340	206	170	273	255
Gifts received in kind	..	200	150	..	..	193
Other, specify	1211	390	..	362	231	414

Table 3 indicates that, with the exception of the selling of assets and receiving gifts in kind, most of the income sources are regularly received by the surveyed households. The same pattern broadly holds at the municipal level, particularly for Groblersdal, Marble Hall, Tubatse and, to a slightly lesser extent, Makhuduthamaga and Fetakgomo.

Table 3: Percentage of incomes received from sources that are received regularly on a monthly basis

Income Source	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhudthamaga	Total
Work	89	87	93	90	82	89
Remittances	87	77	100	81	98	88
Pension fund from work	79	..	100	100	92	90
Old age Grant	92	100	100	100	98	99
Disability Grant	74	100	100	100	91	94
Compensation Fund	74	..	..	..	86	82
Child Support Grant	93	100	100	100	98	99
Care Dependency Grant	100	100	100	100	88	90
Foster Care Grant	89	..	100	100	95	94
Selling of production and non production related assets	100	25	..	50	86	57
Gifts received in kind	50	..	..	..	84	41

The mean household income in Sekhukhune is R1128 per month. The highest level of household income is found in Greater Marble Hall (R1393), followed by Groblersdal (R1389) and Tubatse (R1208). The mean monthly household income in Fetakgomo is slightly lower at R1045, with the lowest average income levels in Makhuduthamaga at R689. Adjusting for household size, the average monthly per capita income in the survey area is R233, ranging from a high of R420 in Marble Hall to a low of R202 in Makhuduthamaga. In terms of the ranking of the municipalities, the main difference is in Fetakgomo, which has the highest mean monthly per capita income (R363) after Marble Hall.

Table 4 also provides estimates of mean monthly household and per capita incomes based upon a direct question, as opposed to a summated value based upon income sources. While the ranking remains consistent based upon household income, the ranking does alter using per capita income.

Table 4: Mean monthly household income by municipality

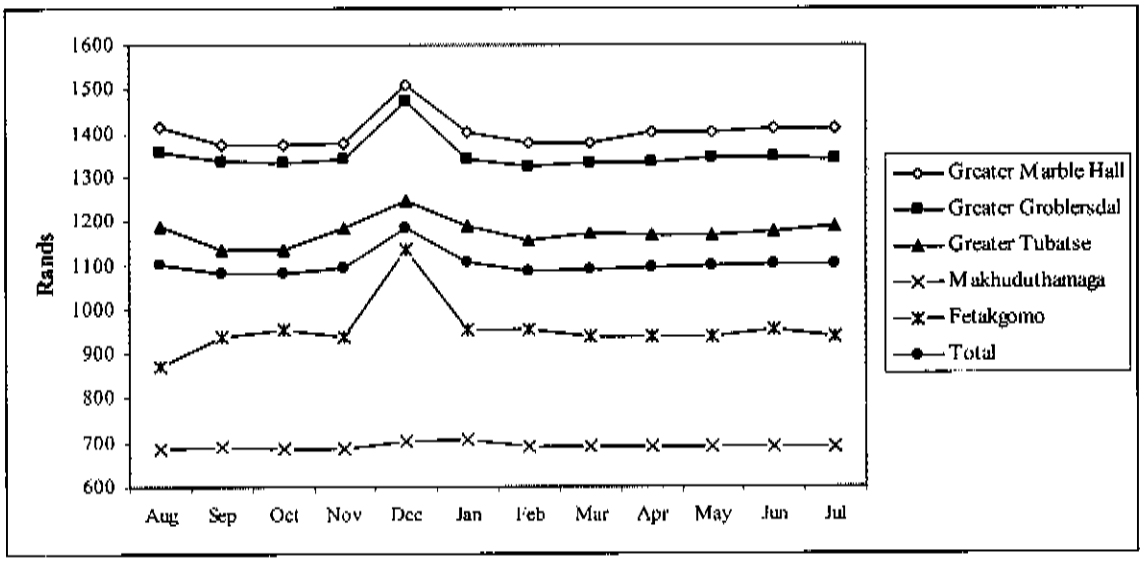
Municipality name		Average monthly household income derived from summing income source data (q5.1)	Average monthly income per capita (q5.1)	Q5.4 What would you say is the average household income per month	Average monthly income per capita (q5.4)
Greater Marble Hall	Mean	1393	420	1455	524
	Median	*940*	*234*	*1000*	*300*
Greater Groblersdal	Mean	1389	223	1422	390
	Median	*960*	*143*	*945*	*251*
Greater Tubatse	Mean	1208	136	1218	227
	Median	*900*	*95*	*900*	*163*
Makhuduthamaga	Mean	689	202	688	235
	Median	*710*	*130*	*710*	*148*
Fetakgomo	Mean	1045	363	941	271
	Median	*740*	*179*	*740*	*150*
Total	Mean	1128	233	1137	314
	Median	*740*	*137*	*740*	*185*

Table 5: Grouped Mean monthly household income by municipality

Recoded monthly hh income (hhminc)	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo	Total
No information	1.3	5.3	6.9	6.4	2.2	5.2
R1-500	15.1	16.0	20.6	39.3	42.2	25.5
R501-1000	37.2	34.7	36.9	41.6	28.7	36.9
R1001-1500	21.6	18.0	16.3	10.1	10.4	15.3
R1501-2000	12.4	12.7	8.7	1.3	2.0	7.7
R2001+	12.4	13.3	10.6	1.2	14.4	9.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Recoded monthly hh income (q5_4)						
No information	2.5	5.3	7.5	5.7	4.2	5.5
R1-500	13.9	16.7	20.6	41.3	42.2	26.0
R501-1000	37.2	34.7	36.9	40.2	30.7	36.7
R1001-1500	20.3	18.7	14.4	10.2	10.4	14.8
R1501-2000	12.4	10.7	9.4	1.3	2.0	7.3
R2001+	13.7	14.0	11.2	1.2	10.4	9.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

From Figure 1, it is immediately apparent that, with the exception of December, there are only minor variations in income on a month-to-month basis. This may be attributable to the aforementioned regularity of incomes for the majority of households surveyed. It could also be, at least in part, the influence of recall error.

Figure 1: Mean Total Monthly Household Income during the Past Year (Rands)



Of the four types of financial asset that we asked about in the survey, burial insurance is, by a substantial margin, the most common form (Table 6). Slightly less than 60 percent of households acknowledged that they had burial insurance. Whether this is an indication of mounting mortality in Sekhukhune or perhaps the greater availability of this form of asset in the areas surveyed is something warranting further investigation. In contrast to burial insurance, only 18 percent have access to a bank savings account, 5 percent to money in a post office savings account and 2 percent to some other form of savings. Again there are important municipal level differences in access to financial assets. Access to burial insurance and bank accounts is higher among households in both Fetakgomo and Greater Tubatse than in the other three municipalities. Having a post office savings account and some other form of savings tends to be more common in Greater Groblersdal. In Makhuduthamaga, burial insurance appears to be the only significant form of financial asset.

Table 6: Household Access to Financial Assets by Municipality (%)

Income Source	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhudthamaga	Total
Burial insurance	79.5	54.1	47.9	64.2	56.0	58.5
Money in a savings account at a bank	30.6	19.0	15.1	28.7	4.3	18.1
Money in a savings account at post office	6.4	11.0	4.9	1.9	2.4	5.0
Other savings	2.6	4.0	0.0	0.0	3.4	2.0

EXPENDITURE

At the time of survey, the average monthly household expenditure in Sekhukhune was R787, while the average monthly *per capita* expenditure was R233 (Table 7). This includes expenditure on all goods and services that are covered in the FIVIMS questionnaire, with the exception of the value of consumption from own production. Disaggregating by

municipality, it is apparent that expenditure is unevenly distributed. Greater Marble Hall and Fetakgomo have the highest levels of per capita expenditure (R418 and R363 respectively). This is followed by Greater Groblersdal and Makhuduthamaga, which have per capita expenditure values that are approximately 40 percent lower than Fetakgomo and 50 percent lower than Greater Marble Hall. Finally, Greater Tubatse appears to be the poorest of the municipalities, with an average monthly per capita expenditure of R136. This means that at the time of survey the average individual monthly expenditure in Greater Marble Hall was more than three times that of Greater Tubatse.

Table 7: Mean monthly household and per capita expenditure (Rands)

Municipality	Household		Per capita		
	Mean	Median	Mean	Median	N
Greater Marble Hall	1052	755	418	234	27154
Greater Groblersdal	760	530	223	143	50871
Greater Tubatse	703	520	136	95	53277
Makhuduthamaga	667	440	202	130	54614
Fetakgomo	1088	755	363	179	17186
Total	787	550	233	137	203103

By presenting grouped monthly per capita expenditure, Table 8 gives further evidence of the skewed nature of the expenditure distribution across the different municipalities included in the study. The distinction between Greater Marble Hall and the other localities is particularly stark, with 44 percent spending less than R200 per capita per month as compared with approximately two-thirds in Fetakgomo, Groblersdal and Makhuduthamaga, and 80 percent in Tubatse.

Table 8: Grouped monthly per capita expenditure, by municipality (Col. %)

Recoded pcmexp	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhuduthamaga	Total
No information	0.0	1.3	1.3	3.1	0.7	1.5
R1-200	60.4	67.3	43.7	80.0	65.0	66.4
201-500	30.9	24.0	24.8	14.4	27.5	23.0
R501-1000	2.2	4.7	22.8	2.5	5.0	6.4
R1001-1500	2.2	0.7	2.4	0.0	0.6	0.8
R1501-2000	0.0	1.3	3.7	0.0	1.2	1.2
R2001+	4.2	0.7	1.3	0.0	0.0	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 9 provides a breakdown of the percentage of households that spent on each of the 18 items included in the FIVIMS questionnaire during the month prior to being interviewed. More than half of the surveyed households reported spending on basic necessities, such as food, services (water and electricity), and energy sources (wood/gas/paraffin). Apart from these, the only other expenditure item occurring in the majority of households was in relation to burials.

Table 9: Percentage of households spending on item in the past month (ranked in descending order)

Share	Greater Marble Hall	Greater Groblersdal	Greater Tubatse	Makhuduthamaga	Fetakgomo	Total
Food	96	96	94	91	94	94
Water and electricity	83	86	44	70	78	70
Burials	57	58	61	56	85	61
Wood / gas / paraffin	76	67	46	45	78	58
General transport	55	22	44	8	21	29
Clothing (excl uniforms for school)	38	25	7	37	56	28
Education (fees, books, uniforms etc.)	14	15	24	34	61	26
Cell phone	20	18	21	15	19	18
Health care (doctor, dentist, medical aids, medicine)	36	21	8	6	14	15
Personal items and entertainment	31	21	5	2	14	12
Lottery	31	17	6	4	8	12
Transport of breadwinner(s) to work and back	16	11	13	2	6	9
Loan	18	6	3	4	4	6
Support for HH member(s) away for more than 4 days a week	0	7	4	7	11	6
Home maintenance (building materials, cleaning materials)	0	4	8	1	4	4
Rent	11	6	1	1	0	4
Telephone	4	7	2	1	8	4
Debt and interest	4	3	4	1	0	3
Other	5	5	1	2	0	3
N	27498	51559	54996	54996	17186	206235

Transport, clothing, education related expenses were recorded in slightly more than a quarter of the surveyed households. The remaining items were reported in less than a fifth of households. Most expenditure on these items occurs on a regular monthly basis, with only spending on clothing, rent, healthcare, home maintenance, loans, and education occurring less frequently (less than 70% of households identifying these items as regular monthly expenditures).

In terms of expenditure shares, the purchasing of food consumes the largest proportion of total expenditure (42%) (Table 10). At the municipal level, the food share ranges from a low of 31 percent in Fetakgomo to a high of 56 percent in Greater Tubatse. It is likely that the food shares reported are underestimated since the value of the consumption of home-grown food and livestock products is not included. As the agriculture section analysis has shown, 55% of households in Fetakgomo grow crops, followed by 53% in Makhuduthamaga, 45% in

Greater Groblersdal, 42% in Greater Tubatse and 29% in Greater Marble Hall. Most of this produce is intended for own consumption rather than for sale. Apart from food, no other expenditure item accounts for more than ten percent of total expenditure.

Table 10: Expenditure Shares by Municipality (% of monthly municipal expenditure)

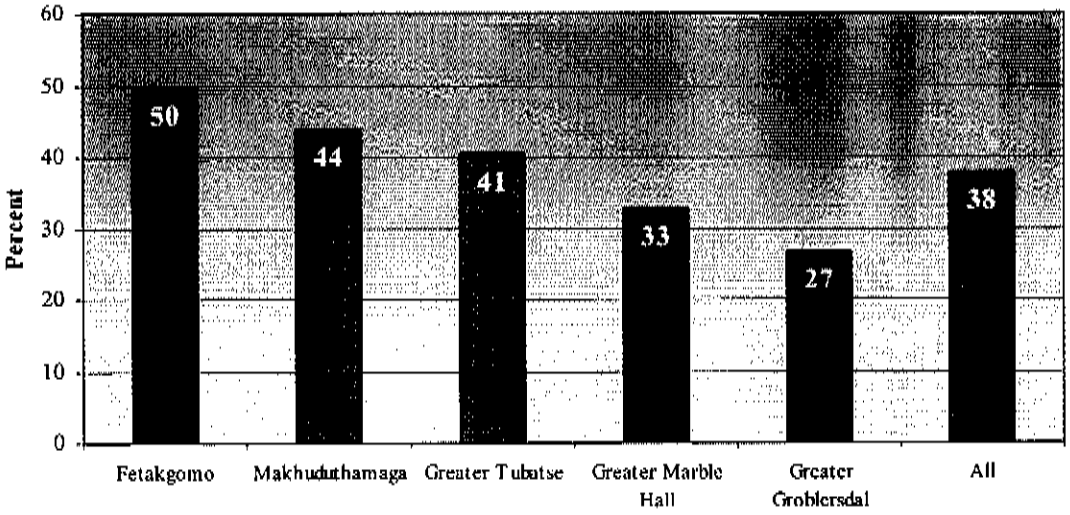
Share	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhudthamaga	Total
Food	31	40	36	56	39	42
Clothing (excl uniforms for school)	7	4	9	2	20	9
Education (fees, books, uniforms etc.)	10	4	4	5	17	8
Wood / gas / paraffin	15	5	6	5	6	7
Water and electricity	4	10	6	3	4	5
Burials	4	4	3	4	3	4
Loan	15	4	3	2	0	4
Health care (doctor, dentist, medical aids, medicine)	2	6	6	2	1	3
General transport	2	3	9	2	1	3
Support for HH member(s) away for more than 4 days a week	5	3	0	2	5	3
Home maintenance (building materials, cleaning materials)	2	3	0	7	0	3
Transport of Breadwinner(s) to get to work and back home	1	3	4	3	0	2
Cell phone	1	2	2	2	1	1
Personal items and entertainment	2	2	3	1	0	1
Debt and interest	0	2	2	2	0	1
Lottery	0	1	3	0	1	1
Other	0	1	3	1	0	1
Rent	0	2	1	0	0	1
Telephone	0	1	0	0	0	0
Total	100	100	100	100	100	100

CASH LOANS, CREDIT AND DEBT

Of the surveyed population, an estimated 38 percent reported that either the household or a household member received a cash loan, bought on credit or has some form of debt. As Figure 1 illustrates, this ranged from 27 percent in Greater Groblersdal to 50 percent in Fetakgomo. Households in Greater Groblersdal and Greater Marble Hall appear less likely than the other three municipalities to take out loans or buy on credit, a situation that is

probably attributable, at least in part, to the relatively higher per capita incomes recorded in these localities.

Figure 1: Percentage of households receiving a cash loan, buying on credit or possessing debt in the past year, by municipality



Where are these households getting their loans from, who are they borrowing from, and to whom are they indebted? Table 11 indicates that in Sekhukhune a small number of sources are typically relied upon in hard times. The first notable cluster of sources consists of borrowing from family members, neighbours or friends, in addition to taking credit at a local dealer or shop. More than ten percent indicated that borrowed or owed in each of these cases. A second cluster of sources of loans/debt, ranging between 1and 10 percent of households, comprises burial societies, a church or religious organisation, and lastly money-lenders. Other sources were hardly mentioned by the respondents.

Table 11: Percentage of households receiving an income in the past month from various sources, by municipality

Source of Loan/Credit/Debt	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhuduthamaga	Total
Family member	21.1	10.7	3.9	3.7	21.2	11.6
Neighbour / friends	2.0	7.3	14.0	11.2	16.4	11.2
Local dealer / shop	22.4	4.0	11.3	11.9	10.9	10.4
Burial society	4.4	0.7	2.5	13.1	4.5	5.6
Church / religious organisation	2.2	0.0	0.0	6.9	1.2	2.4
Money lender / mashonisa	6.2	0.0	1.3	3.1	1.2	1.9
Commercial bank / building society	0.0	1.3	0.0	0.6	0.0	0.5
Commercial farmer	0.0	0.7	2.5	0.0	0.0	0.5

Source of Loan/Credit/Debt	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhuduthamaga	Total
Employer	0.0	1.3	0.0	0.0	0.0	0.3
Stokvel	0.0	0.0	0.0	1.2	0.0	0.3
Land Bank	0.0	0.7	0.0	0.0	0.0	0.2
Municipality	0.0	0.0	0.0	0.0	0.0	0.0
Tax / revenue service	0.0	0.0	0.0	0.0	0.0	0.0
Gambling house	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	1.2	0.0	0.3
Weighted N	17186	51559	27498	54996	54996	206235

At the municipal level, Greater Groblersdal has borrowed principally from family (11%), friends and neighbours (7%), with only a small share of respondents mentioning the taking of credit from local dealers or shops (4%). Greater Marble Hall relies predominantly on borrowing from neighbours or friends (14%) and taking credit at shops (11%). In Fetakgomo, approximately a fifth of respondents indicated borrowing from family members or taking credit from shops. While reported in only a small percentage of cases, this municipality was more likely to have borrowed from a money lender than the other areas surveyed. In Makhuduthamaga, borrowing from family members (21%) and neighbours or friends (16%) is again the most common source of debt, followed to a lesser extent by shop credit (11%). Finally, in Greater Tubatse, there is more of a spread of sources of debt. While few are borrowing from neighbours, 11 percent are borrowing from friends and 12 percent from local shops. Furthermore, in contrast with the other municipalities, residents in Greater Tubatse appear more likely to have borrowed from or owe to a burial society and a church/religious organisation. This is broadly consistent with Tables 6 and 9, which revealed that this municipality has the second highest level of investment in burial insurance and expenditure on burials after Fetakgomo.

Table 12 provides the average amount that was borrowed or is owed for each of the aforementioned sources. Since the amounts owed are quite lumpy in some instances, with a few cases with large average values, the focus will be the first six most commonly reported sources in the table.

Table 12: Average amount owed from various sources, by municipality (Rands)

	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhuduthamaga	Total
Family member	331	104	66	589	109	182
Neighbour / friends	150	115	199	203	70	136
Local dealer / shop	556	118	230	323	378	347
Burial society	60	10000	180	35	45	345
Church / religious organization	20		..	50	40	46

	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhuduthamaga	Total
Money lender / mashonisa	1071		300	1120	1600	1119
Commercial bank / building society	..	10000	..	315		6772
Commercial farmer	..	100	250	..	..	200
Employer	..	2850	..	..	..	2850
Stokvel	..	..	..	155		155
Land Bank	..	..	..	..	..	..
Municipality	..	..	..	..	..	..
Tax /Revenue Service	..	..	..	..	..	..
Gambling house	..	..	..	..	..	..
Other	..	..	..	228	..	228
Weighted N	54996	51559	17186	27498	54996	206235

Note: Median values are included in Table A2 in the appendix to this section.

The average amount borrowed from family and friends or neighbours ranges between R100 and R200 for the whole sample. This is equivalent to about 15 percent of average monthly household income in Sekhukhune. Shop credit was slightly higher at around R350, which translates into nearly one third of average monthly household income. The amount borrowed or owed to a burial society is distorted by Greater Groblersdal, where a mean value of R10,000 is reported. Looking at the other municipalities, a value equivalent to between 3-12 percent of the average monthly household income in those municipalities was owed to burial societies. The amount borrowed from or owed to churches is relatively small. Finally, the average amount borrowed from moneylenders is R1100. The amount owed is 2.5 times the mean monthly income in Makhuduthamaga and 1,1 times the monthly income in Fetakgomo, and about 92 percent of the mean monthly income in Greater Tubatse.

Having examined the extent and level of debt in the survey area, what remains is to try and gain an understanding of the reasons why households or individuals have borrowed or owe money. Table 13 reveals that the most common reason why people are taking shop credit (84%) and borrowing from family (51%) or friends and neighbours (49%) is to provide for their food needs. For those borrowing from family, friends or neighbours, between 5-10 percent are spending on health related concerns, such as going to hospital or caring for the sick. However, a further third of respondents did not specify what exactly they were using the money for, merely indicating that they 'had other things to do with the money'. Those that reported borrowing from a burial society or church were, as one would expect, using the money primarily for funeral related expenses. More than half of those that owe to money lenders used the loan to buy food and pay for services (electricity and water), with the remainder not specifying use. Two-thirds of those that borrowed from a commercial bank did so to buy a house or car, while two-thirds of those borrowing from a commercial farmer did so to purchase food. Finally, people in the survey area were borrowing from an

employer (other than commercial farmer) to take care of the sick or to pay for funeral expenses.

Table 13: Reasons why household or household member borrowed or owes money (Col %)

	Family member	Neighbour friend	Local dealer/ shop	Burial society	Church	Money lender/ mashonisa
To buy food/ There is no food	51	49	84	4	9	28
Needed money to go to hospital.	5	7	0	0	0	0
If someone is sick.	0	2	0	0	0	0
Short for transport.	4	2	2	0	0	0
Welding material.	0	2	2	0	0	0
We were in trouble	0	2	2	4	0	0
To pay electricity/rent	5	3	0	0	0	28
To buy clothes	0	2	0	0	0	0
He/she is earning less money	2	0	4	0	0	0
Want to buy a car/loan for house.	0	0	0	0	0	0
Funeral arrangements.	0	0	0	77	18	0
Church condolences (memorial donations)	0	0	0	0	64	0
Had other things to do with the money	34	33	7	15	9	44
Total	100	100	100	100	100	100

Note: Only the top six reported sources of loans/debt are reported, since the remaining sources were reported by fewer than one percent of respondents.

APPENDIX

Table A1: Mean Total Monthly Income during the Past Year (Rands)

Municipality	2003					2004						
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Greater Marble Hall	1414	1376	1372	1376	1508	1402	1377	1378	1402	1404	1410	1409
Greater Groblersdal	1357	1336	1333	1342	1472	1339	1324	1331	1334	1347	1345	1342
Greater Tubatse	1189	1136	1136	1184	1247	1188	1154	1170	1167	1169	1177	1190
Makhuduthamaga	688	690	688	688	702	705	689	692	689	689	689	689
Fetakgomo	871	938	953	936	1136	953	953	938	937	936	953	936
Total	1101	1083	1082	1096	1184	1105	1086	1091	1093	1097	1101	1102

Table A2: Median amount owed from various sources, by municipality (Rands)

	Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhuduthamaga	Total
Family member	100	100	50	150	60	100
Neighbour / friends	150	100	100	180	50	50
Local dealer / shop	300	100	300	270	300	270
Burial society	60	10000	180	20	40	30
Church / religious organization	20	..	..	23	40	23
Money lender / mashonisa	1000		300	800	1600	800
Commercial bank / building society	..	10000	..	315	..	10000
Commercial farmer		100	250			200
Employer		2850				2850
Stokvel	..	..	..	155	..	155
Land Bank	..	..	..		..	..
Municipality	..	..	..	..	..	..
Tax /Revenue Service	..	..	..	..	..	..
Gambling house	..	..	..	..	..	..
Other	..	..	..	228	..	228
Weighted N						

Migrant workers

Labour migration is an important component of the South African rural economy. For example, not only does it directly affect income levels through the remittances sent home by migrant workers but migrant labour also ensures that rural unemployment is reduced. Labour productivity may also increase through this process since the migration would be from low-productivity, surplus-labour areas to higher-productivity ones (ILO 2004:96).

Of course migrant labour also has negative impacts on rural areas by, for example, removing many of the young, able-bodied men and women from the local labour force. Sending areas also tend to lose an important part of its human capital in a process frequently referred to as the 'brain drain'. Labour migration, furthermore, tends to be cumulative: 'Remittances may lead to more migration because they show that migration works, they finance other family members' trips, and they show what the neighbors have to do to "keep up with the Jones"' (Ellerman 2003:15–16).

Labour migration should also not be seen as stimulating growth in the areas of origin. There is little evidence to indicate that labour migration and flows of remittances have generated sustained growth (Abella, quoted in Ellerman 2003:24). While individual migrants and their families tend to gain from migration (in terms of greater economic security), the same cannot be claimed for the area as a whole. Although remittances can jump-start local development they should not be expected to 'supply the ongoing fuel' (Ellerman 2003:24). Various studies internationally have also shown the negative effects of migrant labour on family life.

While these positive and negative effects are also expected to be present in the Sekhukhune Cross Boundary District Municipality, this contribution is limited to a description of the association between migrant labour and the local household's income, food security and health.

In the next section we take a brief look at 'more permanent' migration to the area. Then follows a basic profile of the migrant workers and their remittances. We then deal with relationships between migrant labour on the one hand, and local household income, food production and security, and health on the other hand. The contribution ends with a summary and conclusions.

'MORE PERMANENT' MIGRATION

More than 60 per cent of households in the Sekhukhune study area have been staying in their current areas for longer than 20 years. This general pattern also applies to all the various local municipalities, and especially in Makhuduthamaga, but somewhat less so in Greater Tubatse. As is clear from Figure 1, the same general pattern is also visible in respect of urban households and those in tribal areas, but the picture is

notably different for households in formal rural areas, where household in-migration appears to be far more recent.

The household immobility is also reflected by the (unweighted) data for individual persons. When asked whether a particular household member had been staying there for more than five years, 88 per cent of the responses were affirmative. The age-sex distribution of these persons is shown in Figure 2. Children between 6 and 15 years have been more mobile than persons in the other age categories, especially when compared to persons 46 years and older and to a lesser extent persons aged 16 to 25 years. It is interesting to note that persons in the age category 26 to 45 years have also been more mobile than older adults and persons in the age group 16–25 years. It is clear from this pattern that young adults have probably moved to the current area along with their children.

Figure 1
Households' duration of stay in the current area by locality type

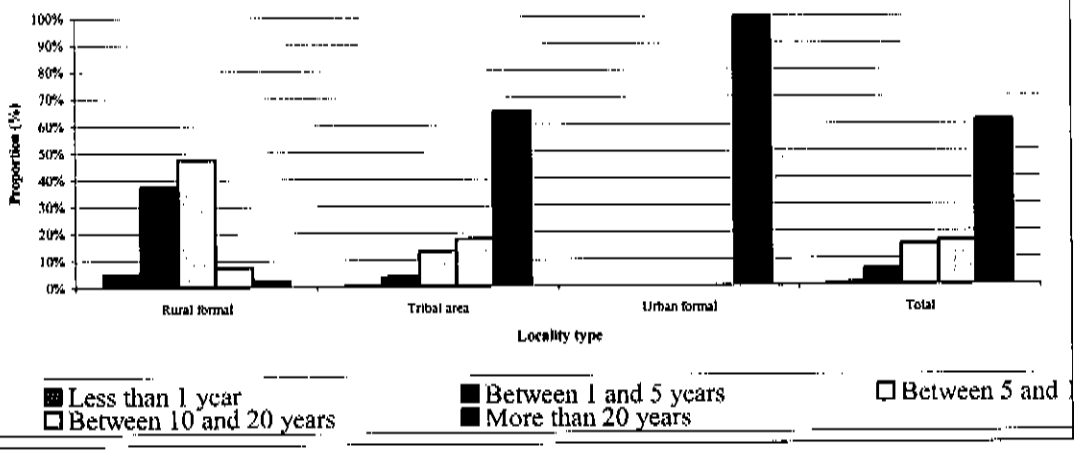


Figure 2
Persons having lived in household for more than five years by sex (unweighted)

MIGRANT LABOUR

Migrant workers and their remittances

In the Sekhukhuland area a large proportion (48%) of households have one or more migrant workers. The details are provided in the appendix. In Table A.1 of the appendix the weighted number of households in terms of migrant workers' sex, relationship to the household head and remittance category is given. Table A.2 (also in the appendix) gives the corresponding percentages over the various remittance categories. Tables 1 and 2 below show the distribution of the weighted numbers of migrant workers[1] (per sex) from the various local municipalities and locality types respectively. A summary of the information in these four tables is given below.

Table 1: Weighted numbers and proportions of migrant workers originating from the five municipalities in the study area

Municipality	Migrant workers					
	Male		Female		Total	
	No.	%	No.	%	No.	%
Fetakgomo	13 214	13%	6 111	11%	19 325	12%
Greater Groblersdal	27 842	27%	19 592	36%	47 434	30%
Greater Marble Hall	16 808	16%	10 989	20%	27 797	18%
Greater Tubatse	27 155	27%	10 999	20%	38 154	24%
Makhuduthamaga	17 405	17%	7 187	13%	24 592	16%
Total (municipalities)	102 423	100%	54 878	100%	157 301	100%
Proportion: sexes		65%		35%		100%

Table 2: Weighted numbers and proportions of migrant workers originating from the three locality types found in the study area

Locality type	Migrant workers					
	Male		Female		Total	
	No.	%	No.	%	No.	%
Rural formal	687	1%	687	1%	1 375	2%
Tribal area	101 048	99%	53 503	97%	154 552	96%
Urban formal	687	1%	687	1%	1 375	1%
Total (types)	102 423	100%	54 878	100%	157 301	100%
Proportion: sexes		65%		35%		100%

An estimated 157 300 persons in the study area were classified as migrant-worker members being absent from home for more than a month each year to work or to seek work elsewhere. About two-thirds (65%) of these are men. Table 1 shows that the proportions of all migrant workers from the five local municipalities in the area are as follows: Greater Groblersdal: 30%; Greater Tubatse: 24%; Greater Marble Hall: 18%,

[1] It is appropriate to give the weighted numbers here in order to indicate the actual magnitude of the phenomena being studied in Sekhukhune.

Makhuduthamaga: 16%, and Fetakgomo: 12%. There does not seem to be any geographical reason for this spatial distribution of migrant workers, indicating that it may depend more on the population size than, for example, proximity to Gauteng.

An overwhelming majority (96%) of migrant workers in the study area originate from households in tribal areas, while only two per cent originate from formal rural areas. The remaining one per cent of migrant workers originates from formal urban areas (see Table 2).

As shown in Table A.2 (in the appendix), in almost half (49%) of the households with a migrant worker these migrants remit at least once a month, with a vast majority of these remitting members being the household heads themselves or their spouses. However, more than one-fifth (21%) of migrant workers never send or bring money back to the household. *Spouses* of the household heads or acting heads comprise almost three-quarters (73%) of these non-remitting migrant workers. There is a slightly higher proportion of non-remitting female migrant workers (77%) than among male migrants (71%).

Tables 3 and 4 below give the number of remitting migrant workers from the five municipalities and three locality types respectively and as a proportion of all migrant workers originating from these areas.

Table 3: Weighted numbers and proportions of remitting migrant workers originating from the five municipalities in the study area

Municipality	Remitting migrant workers		
	No.	% Distribution over municipalities	% (Of all migrant workers from the specific area)
Fetakgomo	11 458	9%	59%
Greater Groblersdal	41 591	34%	88%
Greater Marble Hall	25 200	21%	91%
Greater Tubatse	21 654	18%	57%
Makhuduthamaga	21 384	18%	87%
Total	121 286	100%	77%

Table 4: Weighted numbers and proportions of remitting migrant workers originating from the three locality types in the study area

Locality type	Remitting migrant workers		
	No.	% Distribution over locality types	% (Of all migrant workers from the specific area)
Rural formal	1 031	1%	75%
Tribal area	118 537	98%	77%
Urban formal	1 375	1%	100%
Total	121 286	100%	77%

The local impact of migrant labour

In this subsection an attempt is made to determine the relationships, if any, between migrant labour and local household's (a) income, (b) food security and (c) health. The kinds of analyses that can be undertaken in this regard depend on the nature of the available data.

Migrant labour and the local household income

Migrant remittances are expected at least to augment local household incomes. If confirmed, it will be necessary also to take a closer look at the frequency and stability of remittances sent home by migrant workers.

Since there is only a small, though statistically highly significant, correlation between the detailed household income calculations for the last month and the respondent's estimate of the average household income per month ($r = +0,12$, $p = 0,34\%$), it was decided to restrict the analyses in this section to the former because of its expected greater reliability and the better-defined period, i.e. the month prior to the survey.[2]

In this part of the report we are particularly interested in migrant remittances, and therefore the question on 'remittance from household member or family elsewhere' is of particular importance. A simple Pearson correlation analysis confirmed that there is a statistically significant, positive association between migrant remittances and household income ($r = 0,30$; $p < 0,01\%$).

Remittance amounts in the study area vary between R0 and R8 000 in the month prior to the survey, with the mean amount remitted however being a mere R184. On average, though, remittances constitute more than one-fifth (22%) of total household incomes in the area, with more than one-eighth (13%) of households depending entirely on migrant remittances. Although the frequency of remittance receipts vary from more than once monthly to less than once a year, only four per cent of the households in the survey reported 'loss of remittances' as a problem affecting their households.

Migrant work and the local household's food production and security

It can be expected that remittances from migrant labour would be positively associated with food production and negatively correlated with food insecurity in the household of origin. However, even if such associations were found, it should not be concluded that the observed relationships are deterministic. In other words, remittance income should not be seen as a guarantee against food insecurity, and this is so mainly because remittances may be quite infrequent or irregular.

For the analysis on food production a simple dummy-type variable was constructed to denote whether (=1) or not (=0) the household keeps any stock or grows any crops,

[2] There is, however, one outlier amount of R200 496, which had to be removed from all income analyses based on household income, with the result that the valid incomes received in the previous month ranged from R0 to R10 000, with a mean monthly household income of R1 053.

vegetables/fruit/trees (based on the responses to Questions 6.15 and 6.26). While food production correlates significantly and positively with total household income (as would probably have been expected), no significant association was found with either migrant workers or their remittances. The relationship between migration and food production is clearly far more complex than this analysis is able to measure.

For the analyses on migration and food insecurity one of the two direct questions on food insecurity (Question 4.1) was used in conjunction with the questions on migrant workers. Responses to this question were recoded so as to construct two 'scales of food insecurity', the first for all households and the second only for households with children. While *all* 597 households covered in the survey apparently had children, it may still be a good idea to explore the implications of separating the two indices with a view to informing analyses of similar relationships in future studies (where *not* all households may have children).

a. For *Scale 1* the following (arbitrary) weights were allocated if responses were affirmative:: (a) 'Do your household members ever need to eat less expensive / the cheapest types of food?': a weight of one (1,0), (b) 'Do your household members ever need to eat less expensive food or the cheapest brands of the same food?': a weight of two (2,0), (c) 'Do your household members ever need to eat food of a poor/bad quality?': a weight of 3, (d) 'Does your household ever run out of money to buy food?': 4, (e) 'Do your household members ever eat less than they should because there is not enough food to eat?': 5, and (f) 'Do your household members ever have to skip meals because there is not enough food?': 6.

b. For *Scale 2* the same weights were used as for Scale 1, but the following items were added: (g) 'Do your children ever eat less than they should because there is not enough food to eat?': a weight of seven (7,0), (h) 'Do your children ever skip meals because there is not enough food?': a weight of 8, and (i) 'Do any of your children ever go to bed hungry because there is not enough money to buy food?': a weight of 9.

For the purposes of this contribution it is not necessary to construct foolproof indices of food insecurity, but it will be important to see whether or not there are any relationships between migrant labour and food insecurity.[3]

A Pearson correlation analysis shows that the indices of food insecurity are, as expected, associated *negatively* with (a) the number of migrant workers in the household (Scale 1: $r = -0,12$, $p = 0,35\%$; Scale 2: $r = -0,14$, $p = 0,04\%$), (b) the remittance amount received in the household (Scale 1: $r = -0,17$, $p < 0,01\%$; Scale 2: $r = -0,20$, $p < 0,01\%$), and (c) the proportion of the remittance amount to total household income (Scale 1: $r = -0,17$, $p < 0,01\%$; Scale 2: $r = -0,14$, $p = 0,12\%$). These findings confirm the hypothesis that remittances from migrant labour are positively associated with food

[3] Constructing a more defensible food insecurity index is not regarded part of the brief for this contribution.

security in the household of origin, but the differences between the two scales of food insecurity are not notably different.

Migrant work and the health of local household members

Aids is associated with being chronically ill. Migration – especially labour migration – is often associated with the spread of HIV/Aids, as reported recently by the International Organization for Migration (IOM, 2003:74):

> The system of migrant labour in southern Africa, which gathers together young men at work sites while leaving their partners and wives behind in typically impoverished rural areas, is a key factor in the pattern of the region's HIV epidemic, with the cyclical nature of labour migration facilitating the spread of HIV infection.

The relationship between migration and health is very complex. In-depth research is required to determine whether or not migration is the cause or the result of health problems in the household. However, if a strong association between migrant labour and chronic ill health in the household can be found, the IOM's assumption may be confirmed to some extent. Nevertheless, while it can be expected that migrant remittances should have a positive effect on the general health of local household members through increased household income, the cause-effect relationship between migration and household health is very difficult to determine by means of the data generated during this survey, since it was not possible to construct a causal framework/'web'.[4] Any empirically determined associations may therefore be purely coincidental. It is important, though, at least to establish whether or not any such a relationship exists.

We therefore look merely at the chronically ill (i.e. those who had been ill for more than three months during the preceding year). Nine per cent of all households covered in the survey were reported to have at least one chronically ill member.

No statistically significant associations between the number of chronically ill persons in the household and migrant labour or remittances could be found. The only comparatively meaningful, though not necessarily statistically significant, correlation is between the number of chronically ill persons in the household and the two indices of food insecurity (in both cases r = 0,07, p = 9,96%), thereby again confirming, albeit only to some extent, the importance of sufficient food for good health.

SUMMARY AND CONCLUSIONS

The study area is characterised by a high level of household immobility, with only two-fifths (40%) of the Sekhukhune households having moved to their current areas of

[4] "Causal webs are ... a visual way of depicting the multi-causal relationships of health effects. They are more complex than [in] traditional one-cause, one-outcome analysis. Each link between two causes or between causes and a health outcome can be characterised by a function. The combination of these functions may result in a mathematical model. However it may not always be possible to quantify the entire model" (EPHIA 2004:18).

residence over the last 20 years. Furthermore, only about one-eighth (12%) of individuals had moved to their current areas during the past five years. The latter proportion corresponds perfectly with the findings by Kok et al. (2003) based on the 1980 and 1996 censuses, and separate analyses of the 2001 census data, that only about one-eighth of the South African population tends to migrate during any given five-year period (1975–1980, 1992–1996 or 1996–2001).

However, an estimated 157 300 migrant workers originate from households in the study area. Almost two-fifths (38%) of households have one or more members absent from home for more than a month each year to work or to seek work elsewhere. About two-thirds (65%) of these migrant workers are men.

Almost half (49%) of the households with migrant workers receive remittances at least once a month, and the vast majority of remitting migrants are the household heads themselves or their spouses. Remittances constitute more than one-fifth (22%) of total household incomes in the area, and more than one-eighth (13%) of households depend entirely on migrant remittances. However, it should be remembered that more than one-fifth (21%) of migrant workers *never* send or bring money back to the household, and the main 'culprits' are the (male *and* female) *spouses* of the household heads or acting heads. This finding may be caused by many factors, but it is possible that a proportion of these spouses might have set up second households elsewhere and are left with two little money to remit to their original households.

As hypothesised, migrant remittances are positively associated with total household income and negatively correlated with household food insecurity (based on an index constructed rather arbitrarily). No correlation could, however, be found between migrant labour or remittances and food production or the extent of chronic illness in the household. Although the latter finding certainly does not constitute any proof that such a relationship (or for that matter a relationship between migrant labour and HIV/Aids) does not exist, it casts some doubt over assumptions made regarding migrant labour and health in the local household. More research into the complex interrelationships between labour migration on the one hand and household food production and health on the other is thus essential.

APPENDIX

Table a.1: Migrant workers, in terms of sex, relationship to head of household and remittance category (weighted numbers)

Sex	Relation-ship*	Remittance category**							
		1	2	3	4	5	6	7	Total
Male	1	2 031	18 964	344	687	344	1 375	1 719	25 464
	2	4 163	23 301	2 406	2 444	1 375	18 790	20 165	72 645
	3	344	3 132	382	687	344	4 850	5 194	14 933
	4	687	7 104	0	344	0	687	687	9 510
	5	0	687	0	344	0	0	0	1 031
	6	0	382	0	0	0	344	344	1 069
	7	0	0	0	0	0	382	382	764
	8	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0
	10	344	0	0	0	0	0	0	344
	11	0	0	0	0	0	0	0	0
	Total	7 569	53 569	3 132	4 507	2 062	26 429	28 491	125 758
Female	1	344	3 857	344	0	0	1 413	1 413	7 371
	2	3 781	15 176	2 750	1 375	0	11 763	11 763	46 608
	3	344	1 719	0	344	344	687	1 031	4 468
	4	687	6 545	0	344	0	687	687	8 951
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	687	687	1 375
	7	0	0	0	0	0	0	0	0
	8	0	344	0	0	0	0	0	344
	9	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0
	Total	5 156	27 640	3 094	2 062	344	15 238	15 582	69 117

Sex	Relation-ship*	Remittance category** 1	2	3	4	5	6	7	Total
Total (M+F)	1	2 375	22 822	687	687	344	2 788	3 132	32 835
	2	7 944	38 476	5 156	3 819	1 375	30 553	31 928	119 252
	3	687	4 850	382	1 031	687	5 538	6 225	19 401
	4	1 375	13 648	0	687	0	1 375	1 375	18 460
	5	0	687	0	344	0	0	0	1 031
	6	0	382	0	0	0	1 031	1 031	2 444
	7	0	0	0	0	0	382	382	764
	8	0	344	0	0	0	0	0	344
	9	0	0	0	0	0	0	0	0
	10	344	0	0	0	0	0	0	344
	11	0	0	0	0	0	0	0	0
	Total	12 725	81 210	6 225	6 569	2 406	41 667	44 073	194 875

* The meanings of the relationship codes are as follows:

1 Head/Acting head
2 Husband/Wife/Partner
3 Brother/Sister
4 Father/Mother
5 Grandparent/Great grandparent
6 Grandchild/Great grandchild
7 Other relative – child
8 Other relative – adult
10 Other relative – elderly
11 Non-related person

** The remittance categories have the following meanings:

1 More than once a month
2 Once a month
3 Less than once a month, but more than once a year
4 Once a year
5 Less often than once a year
6 Never
7 Unknown code

Table a.2: Migrant workers, in terms of sex, relationship to head of household and remittance category (weighted proportions)

Sex	Relation ship*	Remittance category** 1	2	3	4	5	6	7	Total
Male	1	8%	74%	1%	3%	1%	5%	7%	100%
	2	6%	32%	3%	3%	2%	26%	28%	100%
	3	2%	21%	3%	5%	2%	32%	35%	100%
	4	7%	75%	0%	4%	0%	7%	7%	100%
	5	0%	67%	0%	33%	0%	0%	0%	100%
	6	0%	36%	0%	0%	0%	32%	32%	100%
	7	0%	0%	0%	0%	0%	50%	50%	100%
	8								
	9								
	10	100%	0%	0%	0%	0%	0%	0%	100%
	11								0%
	Total	6%	43%	2%	4%	2%	21%	23%	100%

Sex	Relation ship*	Remittance category**							
		1	2	3	4	5	6	7	Total
Female	1	5%	52%	5%	0%	0%	19%	19%	100%
	2	8%	33%	6%	3%	0%	25%	25%	100%
	3	8%	38%	0%	8%	8%	15%	23%	100%
	4	8%	73%	0%	4%	0%	8%	8%	100%
	5								
	6	0%	0%	0%	0%	0%	50%	50%	100%
	7								
	8	0%	100%	0%	0%	0%	0%	0%	100%
	9								
	10								
	11								
	Total	7%	40%	4%	3%	0%	22%	23%	100%
Total (M+F)	1	7%	70%	2%	2%	1%	8%	10%	100%
	2	7%	32%	4%	3%	1%	26%	27%	100%
	3	4%	25%	2%	5%	4%	29%	32%	100%
	4	7%	74%	0%	4%	0%	7%	7%	100%
	5	0%	67%	0%	33%	0%	0%	0%	100%
	6	0%	16%	0%	0%	0%	42%	42%	100%
	7	0%	0%	0%	0%	0%	50%	50%	100%
	8	0%	100%	0%	0%	0%	0%	0%	100%
	9								
	10	100%	0%	0%	0%	0%	0%	0%	100%
	11								
	Total	7%	42%	3%	3%	1%	21%	23%	100%

* The meanings of the relationship codes are as follows:

1 Head/Acting head
2 Husband/Wife/Partner
3 Brother/Sister
4 Father/Mother
5 Grandparent/Great grandparent
6 Grandchild/Great grandchild
7 Other relative – child
8 Other relative – adult
10 Other relative – elderly
11 Non-related person

** The remittance categories have the following meanings:

1 More than once a month
2 Once a month
3 Less than once a month, but more than once a year
4 Once a year
5 Less often than once a year
6 Never
7 Unknown code

Schönfeldt, H.C.[5], Faber, M.[6], Van Lieshout, M.[7] & Vermeulen, H.[8]

QUESTION 4.1

Questions 4.1 and 4.2 were related to the development of a hunger scale. The questions used in the National Food Consumption Survey (NFCS) were based on the Community Childhood Hunger Identification Project (CHHIP) hunger index, which is a scale composed of eight questions that investigate whether adults and/or children in the household are affected by food insecurity, food shortages, perceived food insufficiency or altered food intake due to constraints of resources. The eight questions included in the NFCS are as follows (Gericke, Labadarios & Nel, 2000):

Question 1: Does your household ever run out of money to buy food,

- in the past 30 days?
- 5 or more days in the past 30 days?

Question 2: Do you ever rely on a limited number of foods to feed your children because you are running out of money to buy food for a meal,

- in the past 30 days?
- 5 or more days in the past 30 days?

Question 3: Do you ever cut the size of meals or skip because there is not enough money for food, in the past 30 days?

- 5 or more days in the past 30 days?

Question 4: Do you ever eat less than you should because there is not enough money for food,

- in the past 30 days?
- 5 or more days in the past 30 days?

Question 5: Do your children ever eat less than you feel they should because there is not enough money for food,

- in the past 30 days?
- 5 or more days in the past 30 days?

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Question 6: Do your children ever say they are hungry because there is not enough food in the house,

- in the past 30 days?
- 5 or more days in the past 30 days?

Question 7: Do you cut the size of your children's meals or do they ever skip meals because there is not enough money to buy food,

- in the past 30 days?
- 5 or more days in the past 30 days?

Question 8: Do any of your children ever go to bed hungry because there is not enough money to buy food,

- in the past 30 days?
- 5 or more days in the past 30 days?

A comparison between the CHHIP hunger index questions used in the NFCS and the hunger scale questions used in the FIVIMS study revealed the following observations:

- NFCS Question 1 is exactly the same as FIVIMS Question D.
- NFCS Question 8 is exactly the same as FIVIMS Question I.
- NFCS Question 2 does not appear in the FIVIMS questions.
- NFCS Question 6 does not appear in the FIVIMS questions.
- NFCS Question 3 is similar the FIVIMS Questions E and F in terms of households eating less or skipping meals, but differ from NFCS Question 3 in terms of the hunger reason ("not enough money to buy food" versus "not enough food to eat").
- NFCS Question 4 is similar the FIVIMS Question E in terms of households eating less, but differ from NFCS Question 4 in terms of the hunger reason ("not enough money to buy food" versus "not enough food to eat").
- NFCS Question 5 is similar the FIVIMS Question G in terms of children eating less, but differ from NFCS Question 5 in terms of the hunger reason ("not enough money to buy food" versus "not enough food to eat").
- NFCS Question 7 is similar the FIVIMS Questions G and H in terms of children eating less or skipping meals, but differ from NFCS Question 7 in terms of the hunger reason ("not enough money to buy food" versus "not enough food to eat").

Thus, the questions asked in Question 4.1 of the FIVIMS study did not correspond with the questions of the CHHIP hunger index, which is a validated index. Question 4.1 of the FIVIMS study has not been validated and consequently a cut-off value (for the

number of positive responses) to identify households who are food insecure could not be applied.

Within question 4.1 the respondents were presented with a number of statements to evaluate. The percentage of households that answered "yes" for each individual statement within Question 4.1 is indicated in Table 1.

Table 1 The percentage of households that answered "yes" for each individual statement within Question 4.1

Question number:	Statement:	Yes %	No %
A	Do your HH members ever need to eat less expensive / the cheapest types of food? (beans instead of meat etc.)	62.4	37.6
B	Do your HH members ever need to eat less expensive /the cheapest brands of the same food? (impala instead of a more expensive brand)	64.9	35.1
C	Do your HH members ever need to eat food of a poor / bad quality? (old onions instead of fresh vegetables)	35.4	64.6
D	Does your household ever run out of money to buy food?	63.6	36.4
E	Do your HH members ever eat less than they should because there is not enough food to eat?	52.6	47.4
F	Do your HH members ever have to skip meals because there is not enough food?	40.5	59.5
G	Do your children ever eat less than they should because there is not enough food to eat?	51.4	48.6
H	Do your children ever skip meals because there is not enough food?	40.6	59.4
I	Do any of your children ever go to bed hungry because there is not enough money to buy food?	35.8	64.2

On the household level three statements were applicable to more than 60% of the respondents:

- Eating less expensive / the cheapest brands of the same food (64.9%).
- Running out of money to buy food (63.6%).
- Eating less expensive / the cheapest types of food (62.4%).

These observations confirmed the importance of income when dealing with household food procurement. According to the hunger scale research within the National Food Consumption survey (Gericke, Labadarios & Nel, 2000), 7 out of 10 households did not have sufficient money to buy food. The above-mentioned results seem to support this finding.

When dealing with the quantity of food available within the households the study revealed that 52.6% of the households' members sometimes ate less than they should due to inadequate food availability, while 40.5% of the households' members sometimes had to skip meals due to inadequate food availability. These observations seem to be similar to a finding within the hunger scale research within the National

Food Consumption survey (Gericke, Labadarios & Nel, 1999), according to which 1 out of 2 household reduced the size of meals or skipped meals due to a lack of food in the household.

The last three statements dealt with hunger and children within the household. According to the results 51.4% of the households indicated that their children sometimes ate less than they should due to inadequate food supplies in the household, while 40.6% of the households indicated that their children sometimes skipped meals due to inadequate food supplies in the household. Furthermore, 35.8% of the households indicated that their children sometimes went to bed hungry due to a lack of money to buy food. A number of observations from the hunger scale research within the National Food Consumption survey (Gericke, Labadarios & Nel, 1999) compare well with these observations:

- Four out of ten children were hungry at times due to inadequate food supplies in the household.
- One out of two children sometimes ate less than they should because there was not enough money to buy food.
- Four out of ten children sometimes had smaller meal sizes or skipped a meal due to insufficient money to buy food.

The answers to individual statements within Question 4.1 were used to calculate the number of statements answered with "yes" out of the possible 9, as listed in Table 2. Households with a score of 0/9 (14% of the households) are the most food secure while those with a score of 9/9 (14% of the households) are the most food insecure.

Table 2 The number of questions that were answered "yes" within Question 4.1 by the responding households.

Number "yes" answers (score)	Number of households (n=564)	Percentage	Score interpretation
0/9	81	14	← Most food secure
1/9	68	12	
2/9	43	8	
3/9	50	9	
4/9	62	11	
5/9	30	5	
6/9	37	7	
7/9	30	5	
8/9	85	15	
9/9	78	14	← Most food insecure

Missing n=33

QUESTION 4.2

Within Question 4.2 the respondents had to indicate how often someone in their household has gone without enough food to eat in the past year. The frequency distribution of the responses is shown in Table 3.

Table 3 Frequency distribution of responses to Question 4.2 (In the past year, how often has someone in your household gone without enough food to eat?

Response:	Number of households: (n=584)	Percentage of households:
Never	357	61
Every day	5	1
Every week	25	4
Twice a month	35	6
Once a month	87	15
Four times a year	30	5
Two times a year	6	1
Less often than twice a year	39	7

Missing n=13

A large percentage of the participants (61%) stated that their households never ran out of food, which seems to contradict the results of Question 4.1, and it is therefore difficult to draw conclusions about food insecurity. Secondary data analyses, comparing individual responses to Questions 4.1 and Question 4.2 may give some indication on the value of these two questions. QUESTIONS 4.3 to 4.10

Questions 4.3 dealt with the frequency of food consumption of the households. Table 4 shows the number of households that consumed foods within a specific food group within the last 2 days before the survey interview.

Table 4 The number of households (out of a possible 597) that consumed foods within a specific food group within the last 2 days before the survey interview

Food group	Frequency of number of households which answered this question*
	Last 2 days
A. Grains	532
P. Beverages	360
N. Sugars	254
O. Oils	246
K. Vitamin C-rich vegetables	195
B. Tubers	188
C. Meat and fish	176
H. Vitamin A-rich vegetables	176
F. Eggs	149
E. Milk	117
J. Vitamin C-rich fruits	110

Food group	Frequency of number of households which answered this question*
	Last 2 days
L. Other fruits	68
M. Other vegetables	59
C. Beans	47
I. Vitamin A-rich fruits	39
D. Nuts and seeds	33
Q. Breastfeeding	28
R. Formula milk	14
S. Other baby	7
T. Other foods	3

* Out of a possible 597 households. Irrespective of the value of their answer

The results in Table 4 indicated that the food groups consumed by the largest number of households within the survey (in order of importance) were grains, beverages, sugars and oils. Grains were a staple food group as 89% of the households consumed grains.

The National Food Consumption survey revealed that the most commonly consumed and procured food items were (Steyn & Labadarios, 2000; MacIntyre & Labadarios, 2000; Maunder & Labadarios, 2000):

- Maize (consumed by 78% to 94% of children, depending on the method applied).
- Sugar (consumed by 76% to 93% of children, depending on the method applied).
- Tea (consumed by 46% to 78% of children, depending on the method applied).
- Whole milk (consumed by 42% to 61% of children, depending on the method applied).
- Brown bread (consumed by 37% to 61% of children, depending on the method applied).

Thus, the importance of grains (including maize and brown bread) observed in the FIVIMS study, is supported by the data from the National Food Consumption Survey.

The data gathered within Question 4.3 could be used to develop a food group diversity score for the households whom participated in the survey. However, in order to develop such a diversity score index, certain items within Table 4 will have to be regrouped to fall within 9 specific food groups:

- Food group 1: Starches (A + B)
- Food group 2: Meat and fish (F + G)
- Food group 3: Vegetables (K + H + M)

- Food group 4: Fruit (I + J + L)
- Food group 5: Beans, nuts and seeds (C + D)
- Food group 6: Dairy (E)
- Food group 7: Sugars (N)
- Food group 8: Oils (O)
- Food group 9: Beverages (P)

The food group diversity table could have the following format:

Food group diversity score:	Number of households (n=.....)	Percentage of households	Score interpretation
0/9			← Lowest food group diversity
1/9			
2/9			
3/9			
4/9			
5/9			
6/9			
7/9			
8/9			← Highest food group diversity
9/9			

No analysis has been done for Questions 4.7 and 4.8, since the question is more economics- than nutrition-related.

Question 4.9 stated the following: "Which months of the year did you eat food you grew yourselves instead of buying all food / have to rely on food you did not grow yourselves instead of growing it all yourselves?". A summary of the number of households responding to the different options within Question 4.9 is shown in Table 6.

Table 6 Number of households applicable to the different food procurement options within Question 4.9 for the specific months

			Aug 04	Sept 03	Oct 03	Nov 03	Dec 03	Jan 04	Feb 04	Mrch 04	April 04	May 04	June 04	July 04
A	Had to buy staples e.g. maize instead of growing all	# *	375	375	366	377	375	352	369	381	390	394	395	384
		% *	63	63	61	63	63	59	62	64	65	66	66	64
B	Ate food we grew ourselves, instead of buying all	# *	22	16	17	22	20	15	12	20	30	42	59	52
		% *	4	3	3	4	3	3	2	3	5	7	10	9
C	Borrowed food / received food from others	# *	66	50	44	45	40	95	59	38	38	52	67	70
		% *	11	8	7	8	7	16	10	6	6	9	11	12

			Aug 04	Sept 03	Oct 03	Nov 03	Dec 03	Jan 04	Feb 04	Mrch 04	April 04	May 04	June 04	July 04
D	Had to eat wild food through hunting / gathering	# *	1	2	1	4	1	0	1	0	0	2	1	2
		% *	0	0	0	1	0	0	0	0	0	0	0	0
E	Begged for food	# *	26	27	21	21	19	42	29	20	25	21	25	22
		% *	4	5	4	4	3	7	5	3	4	4	4	4
F	Had to work for food in kind	# *	4	3	3	3	2	3	3	5	5	5	8	6
		% *	1	1	1	1	0	1	1	1	1	1	1	1
G	Received food as a gift	# *	7	7	9	8	14	7	7	7	7	7	5	5
		% *	1	1	2	1	2	1	1	1	1	1	1	1

* Out of a possible 597 households.

The results in Table 6 revealed a number of observations related to food procurement practices:

- The dominance of staple food purchasing as a food procurement mechanism.
- The relatively small contribution of food procurement through own production, borrowing and begging.
- The insignificance of food procurement through hunting / gathering, working for food in kind and receiving food as a gift.

These observations support the findings of the National Food Consumption Survey in that most households procured maize, sugar, tea, whole milk and brown bread by purchasing the items and that subsistence agriculture was not a major source of the most widely consumed food items (including maize).

According to the results in Table 6 the procurement of staples through purchasing was applicable to a large number of households throughout the year (ranging from 59% to 66% in the various months). It is interesting to note that this staple food procurement mechanism was even more important in the months of March, April, May, June and July. This could possibly be explained by the nature of the maize production season. Normally green maize would be available from December up to February or March, while maize grain will normally be harvested from May onwards. Thus, it might be possible that the higher staple food purchasing among the survey households during March to July, could be attributed to the availability of higher maize stock levels in the maize harvesting period. The nature of the maize production season might also explain the observation that a larger number of households ate food they grew themselves during April to July (compared to the other months) since the period of April to July corresponds to the maize harvesting season.

QUESTION 4.10

Question 4.10 stated the following: "Which months of this year were months in which you experienced a period of lack of food or money such that one or more members of

the household had to go hungry?". A summary of the number of households experiencing a period of lack of food or money such that one or more members of the household had to go hungry, is given in Table 7.

Table 7Number and percentage of households experiencing a period of lack of food or money such that one or more members of the household had to go hungry

Month	Number of households	% of households*
Aug	163	27
Sept	152	25
Oct	145	24
Nov	112	19
Dec	108	18
Jan	261	44
Feb	213	36
March	143	24
April	121	20
May	122	20
June	146	24
July	147	25

* Out of a possible 597 households.

It is interesting to note that according to the results in Table 7, the largest number of households experienced a period of lack of food or money during January and February, which can be linked with the results in Table 6 showing that borrowing and begging for food was high in the months of January and February (compared to many of the other months). These observations might be attributed to a number of factors such as:

- Household budget deficit caused by high spending patterns over the festive season.
- Lack of income during the festive season due to vacation leave.
- Funds being allocated to other cost items (such as school fees and –clothing) in January.

Agricultural Production

LAND OWNERSHIP, ACCESS TO LAND AND NON-USE OF LAND

Fetakgomo is the municipality where the highest percentage of households have access to a garden or small plot, field for cultivation or grazing land. Greater Marble Hall has the lowest percentage. The total percentage of households that have access to gardens/ small plots, fields for cultivation or grazing land for Sekhukhune is 34.7%.

Of the households that have access to gardens/small plots, fields for cultivation or grazing land, 22.4 % use these for cultivation.

Table 1 Percentage of households with access to gardens, fields or grazing land.

	Garden	Field	Grazing land	Any of these	Utilize garden/field
Fetakgomo	55.8	14.6	50.0	58.5	58.5
Greater Groblersdal	24.6	5.2	22.0	35.9	10.9
Greater Marble Hall	7.8	8.0	10.0	16.7	8.3
Greater Tubatse	25.2	11.6	29.4	30.1	19.9
Makhuduthamaga	25.8	18.5	23.3	40.2	29.3
TOTAL	**26.1**	**11.5**	**25.0**	**34.7**	**22.4**
Number of respondents	460	435	597	429	96

Almost nine out of ten (89%) own the land on which they live, the balance either renting (6%) or having been given the land (5%).

Table 2 The percentage of households that own or rent land or have been given land.

	Own land	Rent	Given	Responded positive to access without ownership
Fetakgomo	90.9	4.5	4.5	27.8
Greater Groblersdal	81.3	15.6	3.1	49.0
Greater Marble Hall	75.0	25.0	0.0	46.8
Greater Tubatse	92.3	0.0	7.7	42.6
Makhuduthamaga	95.8	0.0	4.2	69.9
TOTAL	**89.3**	**5.8**	**5.0**	**50.3**
Number of respondents	121	121	121	288

Relatively few households have access to dam (9%) or river water (4%), the exception being Greater Tubatse.

Access to somewhere that products can be sold or bought is also very limited (6% and 2% respectively). Fetakgomo is best placed in respect of access to a place for selling products (39%).

Table 3 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.

	Dam	River	Place to sell	Place to buy
Fetakgomo	2.4	12.2	39.0	0.0
Greater Groblersdal	0.0	12.0	0.0	9.8
Greater Marble Hall	2.1	0.0	0.0	0.0
Greater Tubatse	21.8	0.0	0.7	0.0
Makhuduthamaga	2.2	2.2	7.7	1.1
TOTAL	**8.9**	**4.2**	**5.6**	**2.4**

The main reason (49%) reported for not planting crops is the lack of water (Table 4). All 5 respondents in the Greater Marble Hall municipality reported the lack of water as the only reason for not planting crops. In Makhuduthamaga 70.5% of the 44 respondents reported that a lack of money is one of the reasons for not planting crops, while over 50 % of them also named the lack of fertilizer and seed as a reason for not planting crops. The latter is related to a shortage of funding. The data shows that the same respondents who lack fertilizer and seed often also reported a lack of money.

Table 4 Reason given for not planting crops.

	No seed	No fertilizer	No water	No labour	Pest	Rented out	Too old/ young/weak	No money	Not interested	Other
Fetakgomo	5.0	5.0	95.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0
Greater Groblersdal	11.4	14.3	45.7	2.9	0.0	0.0	8.6	11.4	5.7	2.9
Greater Marble Hall	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Greater Tubatse	5.9	0.0	47.1	11.8	0.0	0.0	0.0	11.8	0.0	23.5
Makhuduthamaga	54.5	56.8	25.0	0.0	0.0	0.0	2.3	70.5	0.0	2.3
TOTAL	**24.8**	**25.6**	**48.8**	**2.5**	**0.0**	**0.0**	**3.3**	**31.4**	**1.7**	**5.0**
Number of respondents	30	31	59	3	0	0	4	38	2	6

Table 5 The relationship between the household and the land which they use for cultivation or grazing.

	Allocated by tribal autority	HH member may use land	HH must provide a worker for owner	Share cropping	HH member(s) work for owner	Free access	Access to commonage
Fetakgomo	27.8	0.0	0.0	0.0	0.0	11.1	0.0
Greater Groblersdal	43.8	14.3	6.1	12.2	12.2	16.3	14.3
Greater Marble Hall	42.6	0.0	0.0	0.0	0.0	8.7	0.0
Greater Tubatse	36.6	9.0	1.0	1.0	3.0	16.0	11.1
Makhuduthamaga	54.2	20.5	6.8	11.0	9.6	46.6	43.8
TOTAL	**42.7**	**10.8**	**3.1**	**5.2**	**5.6**	**22.4**	**17.6**
Number of respondents	286	286	286	286	286	286	284

Just over two-fifths (43%) of households that use land for cultivation or grazing, were allocated the land by a tribal authority. Just over one fifth (22%) have 'free access' to the land and just over one sixth (18%) have access to 'Commonage'.

LIVESTOCK

Livestock ownership varies from almost half to two-thirds, the only exception being, Fetakgomo, where only 16% of households are in this category (Table 6). Of those who own livestock, all own cattle whereas 69% own chickens and 29% own goats.

Table 6 Percentage of households that own livestock.

Own Livestock?	Yes
Fetakgomo	15.6
Greater Groblersdal	47.9
Greater Marble Hall	58.2
Greater Tubatse	59.7
Makhuduthamaga	66.7
TOTAL	54.4

Table 7 Type of livestock that is owned as a percentage of those households that own livestock.

	Cattle	Sheep	Goats	Horses	Donkeys	Pigs	Chicken	Geese	Other
Fetakgomo	100.0	14.3	28.6	14.3	0.0	0.0	71.4	0.0	0.0
Greater Groblersdal	100.0	0.0	30.4	0.0	1.8	1.8	64.3	1.8	5.4
Greater Marble Hall	100.0	2.2	37.0	0.0	2.2	0.0	80.4	2.2	0.0
Greater Tubatse	100.0	1.2	27.7	1.2	3.6	2.4	72.3	2.4	0.0
Makhuduthamaga	100.0	5.0	25.0	1.3	5.0	1.3	61.3	5.0	0.0
TOTAL	100.0	2.6	29.0	1.1	3.3	1.5	68.8	2.9	1.1

Table 8 shows the consumption of livestock products as a percentage of those who have livestock **of any kind**. This ranges from just under half (46%) in Greater Groblersdal to 66% in Greater Tubatse. Whereas one-third (36%) consumes self produced meat, 27% eat eggs laid by their own chickens and 6% drink milk from their own cattle.

Table 8 Percentage of households that consume livestock products.

	Milk	Eggs	Meat	Any of these products
Fetakgomo	0.0	57.1	28.6	57.1
Greater Groblersdal	17.9	28.6	5.4	46.4
Greater Marble Hall	0.0	10.9	52.2	60.9
Greater Tubatse	2.4	20.5	53.0	66.3
Makhuduthamaga	6.3	40.0	30.0	58.8
TOTAL	**6.3**	**27.2**	**35.7**	**58.8**

Table 9 shows the percentage of households that sell livestock products as percentage of those who have livestock of any kind. Again, this expression did not take into account which kind of animal was kept by the household (see section 1) and therefore this information should only be used as a comparative indicator between the municipalities and not as absolute values. Households in the Greater Tubatse municipality sell more of their products than the households in any of the other municipalities.

Table 9 Percentage of households that sell livestock products.

	Livestock	Milk	Eggs	Meat	Any of these products
Fetakgomo	0.0	0.0	0.0	0.0	0.0
Greater Groblersdal	0.0	0.0	0.0	0.0	0.0
Greater Marble Hall	2.2	0.0	2.2	2.2	4.3
Greater Tubatse	6.0	0.0	6.0	6.0	12.0
Makhuduthamaga	1.3	0.0	1.3	1.3	2.5
TOTAL	**2.6**	**0.0**	**2.6**	**2.6**	**5.1**

CROPS

A total of 227 households reported that they plant crops (question 6.26), however, only 177 entered information regarding the type of crop planted, the consumption and sale of the produce (question 6.27-6.29). The percentages of households that plant crops are highest in Fetakgomo (55%) and Makhuduthamaga (53%).

Table 10 The percentage of households that plant crops.

Plant crops?	Yes	No
Fetakgomo	55.3	44.7
Greater Groblersdal	44.8	55.2
Greater Marble Hall	29.0	71.0
Greater Tubatse	42.1	57.9
Makhuduthamaga	53.3	46.7
TOTAL	44.8	55.2

Fruit trees were the main sources of home grown food (70%), followed by maize (38%) and vegetables (31%).

Table 11 Distribution of the different crops that are planted by the respondents.

	Sorghum	Veg	Fruit	Maize	Other
Fetakgomo	8.7	100.0	30.4	82.6	0.0
Greater Groblersdal	0.0	22.4	87.9	20.7	0.0
Greater Marble Hall	0.0	21.4	64.3	28.6	0.0
Greater Tubatse	2.9	31.4	40.0	40.0	2.9
Makhuduthamaga	0.0	8.5	89.4	40.4	2.1
TOTAL	**1.7**	**30.5**	**69.5**	**38.4**	**1.1**

Table 12 Consumption as percentage of those who plant crops.

	Sorghum	Veg	Fruit	Maize	Other
Fetakgomo	0.0	91.3	26.1	78.3	0.0
Greater Groblersdal	0.0	17.2	70.7	10.3	0.0
Greater Marble Hall	0.0	21.4	57.1	14.3	0.0
Greater Tubatse	0.0	20.0	34.3	25.7	2.9
Makhuduthamaga	0.0	4.3	51.1	19.1	0.0
TOTAL	**0.0**	**24.3**	**51.4**	**24.9**	**0.6**

Very small percentages of products are produced for selling (Table 13). The implication being that subsistence cropping is the motivation.

Table 13 Selling of products as percentage of those who plant crops.

	Sorghum	Veg	Fruit	Maize
Fetakgomo	0.0	0.0	0.0	0.0
Greater Groblersdal	0.0	0.0	1.7	0.0
Greater Marble Hall	0.0	0.0	0.0	7.1
Greater Tubatse	0.0	0.0	0.0	2.9
Makhuduthamaga	0.0	2.1	0.0	2.1
TOTAL	**0.0**	**0.6**	**0.6**	**1.7**

TRAINING

Agricultural training was received by a member of the household in 77 out of 297 household that responded to this question. This had occurred most frequently in Makhuduthamaga (66%) and Fetagomo (65%).

Table 14 Percentage of households where some form of agricultural training was received by someone in the household.

	Training
Fetakgomo	65.4
Greater Groblersdal	6.5
Greater Marble Hall	14.3
Greater Tubatse	33.3
Makhuduthamaga	66.1
TOTAL	**36.0**

The sources that people use to keep themselves informed are given in Table 15. Nobody reported that they receive information from the Land Bank. The Department of Agriculture seems to be the most active conveyor of agricultural information in Fetakgomo. In the Greater Tubatse municipality two-thirds of people rely on information obtained in their neigbourhoods and in the Greater Groblersdal municipality they most common source of information is radio (39%).

Table 15 The sources that people use to keep themselves informed.

	Training	Comm Farmers	DOA	Friends	Neighbourhood	Land Bank	Radio	Magazines	Other
Fetakgomo	65.4	7.7	38.5	3.8	11.5	0.0	7.7	0.0	30.8
Greater Groblersdal	6.5	16.1	8.1	22.6	9.7	0.0	38.7	3.2	1.6
Greater Marble Hall	14.3	3.6	3.6	10.7	3.6	0.0	3.6	7.1	67.9
Greater Tubatse	33.3	0.0	0.0	10.3	64.1	0.0	5.1	0.0	20.5
Makhuduthamaga	66.1	1.7	1.7	6.8	10.2	0.0	6.8	0.0	72.9
TOTAL	**36.0**	**6.5**	**7.9**	**12.1**	**19.2**	**0.0**	**15.4**	**1.9**	**36.9**

Household Shocks

PROBLEMS AFFECTING HOUSEHOLDS

Survey respondents were asked whether their households had experienced any of a specified list of challenges, problems or shocks during the current year. It emerged that almost one-quarter (23%) of households had suffered the death of an adult member and one-seventh (15%), the death of a child in the household. Additionally, almost one-fifth (19%) had been victims of drought, or general joblessness (17%). Food price increases had impacted on 14% of households, and lack of access to clean water on one in nine (11%). Slightly less common were increases in the family or household size (9%), serious injury or chronic illness preventing normal activities (7%) and loss of remittances (4%).

The problems identified varied spatially in that Greater Groblersdal (CBLC4) had suffered the highest incidence of adult deaths, reported by in excess of one-third (36%) of households. Greater Marble Hall (CBLC3)'s most frequently mentioned problem was general joblessness in the household (20%). In Greater Tubatse (CBLC5), increases in family or household sizes were the most mentioned at 14%; in Makhuduthamaga (NP03A2) food price increases were mentioned by the largest proportion of households (36%) and drought had most frequently been experienced as a problem in Fetakgomo (NP03A3) (28%).

Table 1: Shocks or problems experienced by households in the last year (%), by municipality

	Groblers-dal	Marble Hall	Tubatse	Makhu-duthamaga	Fetak-gomo	Sekhukhune total
Death of an adult	36,1	15,3	10,2	26,0	22,1	22,5
Drought	21,4	6,2	8,1	32,3	28,2	18,9
General joblessness in the household	4,8	20,3	12,6	32,6	6,7	16,8
Death of a child	27,3	7,8	4,5	23,0	4,2	15,2
Increase in foods prices	7,9	1,2	8,2	36,1	2,2	14,2
No access to clean water	1,6	5,0	4,4	27,5	17,3	11,1
Increased family/ household size	8,7	5,0	13,8	8,5	2,0	9,0
Injury or illness preventing normal activities	12,5	5,1	0,6	12,3	4,0	7,3
Loss of remittances	0,0	2,6	1,9	11,5	4,4	4,3
Increase in food self production costs	7,9	1,2	0,0	3,4	0,0	2,8
Loss of a job of the main breadwinner	0,8	7,5	1,9	2,0	2,2	2,5
Death of many livestock	1,6	1,2	0,6	4,0	0,0	1,8
Serious accident	1,5	1,2	0,6	2,7	2,2	1,6
Other price increases	2,4	0,0	0,0	2,3	2,3	1,4
Loss of possessions, theft	0,8	2,5	1,3	0,0	4,2	1,3

	Groblers-dal	Marble Hall	Tubatse	Makhu-duthamaga	Fetak-gomo	Sekhukhune total
Violence within the community	0,8	0,0	0,0	3,3	2,2	1,3
Fire or destruction of household property	1,6	5,0	0,6	0,0	0,0	1,2
Witchcraft	0,0	0,0	1,9	0,7	2,2	0,9
Government grant loss not through death	0,0	0,0	0,0	2,0	4,2	0,9
Break-up/abandonment/ divorce	1,6	0,0	0,0	1,3	0,0	0,7
Eviction from dwelling	0,0	1,2	0,0	1,3	0,0	0,5
Violence within the household	0,0	1,3	0,0	0,6	0,0	0,4
Failure or bankruptcy of family business	0,0	0,0	0,0	0,0	0,0	0,0

There was less variation in most frequently mentioned problems by the household's level of income. Amongst most income groups, the death of an adult member of the household was the most common problem, ranging from almost one-third (32%) amongst those who provided no information about their household income, to 20% amongst the R501-R1000 per month income category. Other shocks such as general joblessness, the death of a child and drought were also common across most groups.

The exception was the top income group (R2501+) amongst whom the death of an adult household member occurred in 3% of cases. The most frequently reported shocks experienced by this top income group were drought and increases in food prices (both 8%).

Table 2: Shocks or problems experienced by households in the last year (%), by monthly household income

	No info	R1-R200	R201-R500	R501-R1000	R1001-R1500	R1501-R2500	R2501+	Sekhukhune total
Death of an adult	32,0	21,5	26,9	20,1	28,5	23,6	2,6	22,5
Drought	14,6	26,3	21,2	20,8	20,5	9,8	7,9	18,9
General joblessness in the household	21,7	20,1	16,4	20,5	11,3	17,7	0,0	16,8
Death of a child	24,0	12,0	13,1	13,7	22,8	19,2	2,7	15,2
Increase in foods prices	7,5	12,7	17,0	19,0	11,3	5,0	7,9	14,2
No access to clean water	10,6	12,4	14,7	11,5	13,8	6,6	0,0	11,1
Increased family/ household size	0,0	6,1	7,0	11,8	8,7	11,4	5,3	9,0
Injury or illness preventing normal activities	10,6	8,1	7,0	7,3	10,2	4,9	2,6	7,3
Loss of remittances	7,5	8,2	6,1	3,9	3,8	1,8	0,0	4,3
Increase in food self production costs	0,0	4,2	1,0	2,9	4,9	3,3	2,6	2,8

	No info	R1-R200	R201-R500	R501-R1000	R1001-R1500	R1501-R2500	R2501+	Sekhukhune total
Loss of a job of the main breadwinner	3,9	2,0	2,0	3,3	0,0	5,0	0,0	2,5
Death of many livestock	0,0	6,2	1,0	1,9	1,4	1,6	0,0	1,8
Serious accident	0,0	0,0	1,1	2,8	2,6	0,0	0,0	1,6
Other price increases	4,2	2,5	1,1	1,0	1,3	0,0	2,6	1,4
Loss of possessions, theft	3,5	0,0	1,1	2,4	0,0	0,0	0,0	1,3
Violence within the community	0,0	2,0	2,1	0,9	2,6	0,0	0,0	1,3
Fire or destruction of household property	0,0	0,0	1,0	2,4	1,2	0,0	0,0	1,2
Witchcraft	0,0	0,0	3,1	0,5	1,4	0,0	0,0	0,9
Government grant loss not through death	3,5	6,6	1,1	0,0	0,0	0,0	0,0	0,9
Break-up/abandonment/divorce	0,0	2,0	2,0	0,5	0,0	0,0	0,0	0,7
Eviction from dwelling	0,0	2,0	0,0	0,9	0,0	0,0	0,0	0,5
Violence within the household	0,0	0,0	0,0	0,5	1,4	0,0	0,0	0,4
Failure or bankruptcy of family business	0,0		0,0	0,0	0,0	0,0	0,0	0,0

An index was computed for each individual, in terms of which each positive response to whether or not a specified incident had occurred in the respondent's household during the current year increased the index score for the respondent by a value of one (1). The index values by municipality are listed in the next table. Makhuduthamaga emerged with by far the highest mean Shock Index of 2,22 incidents per household. Greater Groblersdal, Fetakgomo and Greater Marble Hall had similar mean Shock Indices in the range from 0,9 to 1,23. Least affected by shocks was Greater Tubatse, with a mean Shock Index of 0,69.

Table 3: Shock index by municipality

Shock index	Municipality					Total
	Groblersdal	Marble Hall	Tubatse	Makhuduthamaga	Fetakgomo	
0	36.7%	56.1%	49.3%	34.4%	54.0%	43.5%
1	29.3%	18.7%	35.6%	10.9%	14.4%	23.4%
2	18.0%	12.8%	11.9%	13.2%	18.2%	14.4%
3	8.7%	5.0%	2.5%	10.6%	2.2%	6.5%
4	5.3%	5.0%	0.6%	15.8%	4.4%	6.7%
5	2.0%	2.5%	0.0%	8.3%	4.4%	3.4%

Shock index	Municipality					Total
	Groblersdal	Marble Hall	Tubatse	Makhuduthamaga	Fetakgomo	
6	0.0%	0.0%	0.0%	1.2%	2.2%	0.5%
7	0.0%	0.0%	0.0%	3.7%	0.0%	1.0%
8	0.0%	0.0%	0.0%	1.9%	0.0%	0.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean	1.2267	0.9164	0.6941	2.2223	1.1089	1.2990
N	150	80	160	159	48	597

When analysed by monthly income, a clear inverse correlation (Pearson's R=-0,152; p=0,000) emerges with the number of shocks experienced. Thus, households with lower incomes report having experienced a higher incidence of shocks than do their better-off counterparts. Table 4 lists the distribution of Shock Indices by household monthly income category.

Table 4: Shock Index by Household Income

Shock index	Mean monthly household income							Total
	No info	1-200	201-500	501-1000	1001-1500	1501-2500	2501+	
0	42.5%	42.8%	42.9%	41.8%	36.4%	41.4%	76.4%	43.5%
1	27.1%	23.6%	21.4%	20.9%	25.9%	33.1%	18.4%	23.4%
2	18.1%	9.8%	15.3%	15.9%	18.3%	11.1%	2.6%	14.4%
3	3.0%	3.9%	7.7%	6.8%	9.0%	7.9%	0.0%	6.5%
4	0.0%	10.0%	5.9%	9.5%	5.8%	3.2%	2.6%	6.7%
5	3.0%	8.0%	3.9%	2.7%	3.5%	3.3%	0.0%	3.4%
6	6.4%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	.5%
7	0.0%	0.0%	1.0%	1.8%	1.1%	0.0%	0.0%	1.0%
8	0.0%	2.0%	1.0%	.5%	0.0%	0.0%	0.0%	.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean	1.2542	1.5038	1.3839	1.4124	1.3788	1.0841	0.3416	1.2990
N	33	51	104	220	88	63	38	597

DEALING WITH SHOCKS

1. Death of an adult

Asked how they dealt with the most frequently mentioned shock (by 23% of households), namely the death of an adult in the household, only one in ten (14 out of 132) gave a response, the vast majority of these saying that they sought counselling. Amongst the 89% who reported the causes of death of the people concerned, these were mainly old age (18%); accidents not involving motor vehicles (15%); tuberculosis (13%); strokes (11%); influenza (8%); or motor accidents (6%). Less frequent causes were cancer (5%); diabetes (3%); other heart diseases (4%); asthma (3%); HIV/AIDS (1%); or diarrhoea (1%). A further 12% were categorised as "other" causes. Two-thirds (67%) of the reported adult deaths were of males and one-third (33%), females. In most cases (80%), the deceased was the head of the household.

2. Drought

Amongst the 19% who mentioned drought as having been experienced in the last twelve months, just over one third provided information on how they dealt with the drought. The majority (76%) of these said that they bought water from a tractor-pulled tanker or obtained water from a river. Others cut down on their groceries (13%), begged for food (8%) or cultivated a smaller area (3%).

3. General joblessness

The coping mechanisms of respondents who reported having experienced "general joblessness in the household" (17% of the total) were primarily to look for part-time work (60%), to depend on social grants (19%), to rely on the support of their families (11%), or to beg for food (6%). Small proportions said that they cut down on their household groceries (2%) or sold fruit (2%).

4. Death of a child

Amongst the alarmingly high 15% of households that reported the death of a child during the year, one household reported having borrowed money to deal with the shock. The rest did not indicate what action they took following the tragedy. Tuberculosis was the most frequently reported (24%) cause of death amongst the 71% of households that did provide information in this regard. Other reported causes were motor accidents (11%); diarrhoea (8%); pneumonia (8%); diabetes (8%); cancer (8%); drowning (7%); or other heart diseases (6%). Less frequently mentioned were other accidents (5%); cholera (3%); HIV/AIDS (2%); or "other" causes (10%). The fatalities were approximately equal proportions of males and females (48:52).

5. Increase in food prices

Amongst those who reported having experienced an increase in food prices, notably mielie meal, the most frequently mentioned coping mechanism was to increase expenditure on food (84%). Smaller proportions indicated that they cut down on some groceries (9%) or begged for food (7%).

6. No access to clean water

The main coping mechanism (88%) for households that suffered a lack of access to clean water was to purchase this commodity from persons selling it from a tractor-drawn tanker, to fetch it from a river or to collect rainwater. A small proportion boiled their water (9%) or begged for it (3%).

COMMUNITY SAFETY

Respondents were asked how safe they felt in their communities and most felt "safe" (48%) or "very safe" (33%). About one in eight (13%) indicated that they felt "unsafe" and 3% "very unsafe", with a further 4% saying that they did not know how safe they felt. Whereas

perceived safety levels were highest in the most rural and remote municipalities, i.e. proportions "very safe" or "safe" at 89% in both Makhuduthamaga and Fetakgomo, these were significantly lower in Groblersdal (69%), Marble Hall (76%) and Tubatse (84%). Conversely, the proportions feeling "unsafe" or "very unsafe" in the latter three municipalities were 28%, 23% and 16% respectively, as opposed to only 3% in Makhuduthamaga and 4% in Fetakgomo.

Table 5: How safe do you feel in your community, by municipality

Perceived safety level	Municipality					Total
	Groblersdal	Marble Hall	Tubatse	Makhuduthamaga	Fetakgomo	
Very safe	10.1%	32.1%	51.8%	21.6%	73.6%	32.5%
Safe	58.8%	43.6%	32.5%	67.3%	15.6%	48.6%
Unsafe	20.3%	21.8%	13.8%	3.3%	4.2%	12.8%
Very unsafe	8.1%	1.3%	1.9%	0.0%	0.0%	2.7%
Do not know	2.7%	1.3%	0.0%	7.9%	6.7%	3.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N	148	78	160	159	48	593

Disagregated by monthly household income, no significant variations in perceived levels of community safety emerged. The proportions that felt "very safe" or "safe" in all categories ranged from 78% (R501-R1000 group) to 88% (R1501-R2500 group). Conversely, those feeling "unsafe" or "very unsafe" numbered between 8% (R1-R200 group) and 18% (R1001-R1500 group).

Table 6: How safe do you feel in your community, by household income

Perceived safety level	Mean monthly household income							Total
	No info	1-200	201-500	501-1000	1001-1500	1501-2500	2501+	
Very safe	34.1%	41.4%	32.2%	32.2%	26.0%	30.1%	42.4%	32.6%
Safe	46.6%	42.6%	50.2%	46.2%	52.2%	58.8%	39.2%	48.4%
Unsafe	12.4%	8.0%	10.7%	16.0%	14.8%	6.3%	13.1%	12.8%
Very unsafe	0.0%	0.0%	2.9%	2.7%	3.4%	4.7%	2.6%	2.7%
Do not know	6.9%	8.0%	4.1%	2.8%	3.6%	0.0%	2.6%	3.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	00.0%	100.0%
N	32	51	103	218	88	63	38	593

PERCEIVED THREAT OF HIV/AIDS

Just over half (51%) of respondents thought that HIV/AIDS was a "big problem" in their communities, with almost one-fifth (18%) holding the view that it was not such a big problem. The remaining 31% did not know whether it was a big problem or not. Geography emerged as an important determinant of these perceptions, however, with a huge 81% of Marble Hall and 70% of Makhuduthamaga respondents seeing HIV/AIDS as a big problem in their communities. In contrast, this was the view of 50% in Groblersdal, 44% in Fetakgomo and only 19% in Tubatse.

Table 7: How big of a problem is HIV/AIDS in your community, by municipality

	Municipality					Total
	Groblersdal	Marble Hall	Tubatse	Makhuduthamaga	Fetakgomo	
Not so big	16.2%	11.3%	38.4%	5.6%	13.1%	18.4%
Big problem	50.0%	81.2%	18.8%	70.2%	44.0%	50.7%
Do not know	33.8%	7.6%	42.8%	24.2%	42.9%	30.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N	148	79	159	158	48	592

In relation to monthly household income, minimal variation emerged, with a slightly stronger trend amongst the top two income groups to say that HIV/AIDS was not so big a problem in their communities. Amongst all other categories, the proportions holding this view were less than 20%.

Table 8: How big of a problem is HIV/AIDS in your community, by monthly household income

	Mean monthly household income							Total
	No info	1-200	201-500	501-1000	1001-1500	1501-2500	2501+	
Not so big	15.5%	10.0%	16.2%	19.4%	18.0%	25.3%	21.6%	18.4%
Big problem	40.3%	58.4%	48.0%	52.4%	51.2%	44.4%	56.5%	50.7%
Do not know	44.1%	31.7%	35.8%	28.2%	30.8%	30.3%	21.9%	30.9%
Total	100.0%	100.0%	100.0%	00.0%	100.0%	100.0%	00.0%	100.0%
N	32	51	104	217	88	63	37	592

DEPRIVATION OF MEDICATION OR MEDICAL TREATMENT

Respondents were also asked whether someone in their households had gone without medical treatment or medicine, while in need of either medical treatment or medicine. More than one-fifth (21%) indicated that this was indeed the case, ranging from as high as 36% in Makhuduthamaga to only 4% in Groblersdal.

Table 9: Has someone in your household gone without medical treatment or medicine while in need of treatment or medicine, by municipality

	Municipality					Total
	Groblersdal	Marble Hall	Tubatse	Makhuduthamaga	Fetakgomo	
Yes	3.5%	24.3%	20.7%	36.3%	19.3%	21.0%
No	96.5%	75.7%	79.3%	63.7%	80.7%	79.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N	148	78	155	153	48	576

Analysed by household income, respondents that reported having had the experience of a household member being deprived of medication or treatment were far more prevalent amongst the lower than the higher income households (Pearson's R=0.135, p=0,002).

Table 10: Has someone in your household gone without medical treatment or medicine while in need of treatment or medicine, by household income

	Mean monthly household income							Total
	No info	1-200	201-500	501-1000	1001-1500	1501-2500	2501+	
Yes	42.0%	43.4%	30.1%	17.2%	11.5%	10.0%	8.3%	21.0%
No	58.0%	56.6%	69.9%	82.8%	88.5%	90.0%	91.7%	79.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	00.0%	100.0%
N	31	50	103	209	87	60	36	576

SOCIAL RELIANCE NETWORKS

As a means of determining the extent of supportive social capital, respondents were asked on whom their households relied in difficult times. The most frequent response was family (49%), followed by neighbours (22%), the church (10%), "no one" (7%) or friends (5%). Smaller proportions mentioned the tribal office or office of the chief (2%), social workers (2%), a loan from their company or the bank (0,9%), family and church (0,5%), "never had problems" (0,5%), school (0,4%), family and tribal office (0,2%) or the Department of Health (0,2%, i.e. n=1).

Geographically, the reliance on family was highest in Groblersdal (62%) and lowest (35%) in Marble Hall, where the church was relied on to a greater extent (27%) than in any of the other four municipalities. Reliance on neighbours ranged from a high of 32% in Tubatse to only 7% in Fetakgomo. The proportion of respondents that relied on "no one" was highest in Tubatse (12%), and friends were relatively much more important in Fetakgomo (13%) than in Groblersdal (2%) or Marble Hall (1%). The tribal office or office of the chief was relied upon by 5% of Fetakgomo respondents and 4% of Makhuduthamaga respondents, reflective of their location in tribally-dominated areas, as opposed to the more urban orientated municipalities of Groblersdal and Tubatse (both less than 1%).

Table 11: On whom do your household members rely in difficult times, by municipality

	Municipality					Total
	Groblersdal	Marble Hall	Tubatse	Makhuduthamaga	Fetakgomo	
Family	61.7%	36.3%	43.4%	51.6%	46.4%	49.3%
Neighbours	14.2%	15.9%	32.1%	25.0%	6.9%	21.6%
Church	12.8%	27.1%	.6%	9.1%	11.1%	10.2%
No one	4.3%	6.5%	12.0%	6.0%	6.9%	7.4%
Friends	2.1%	1.3%	8.8%	2.7%	13.0%	4.9%
Chief's office	0.7%	2.6%	.6%	4.4%	4.7%	2.2%
Social worker	2.1%	6.3%	0.0%	0.7%	2.1%	1.7%
Other	2.1%	4.0%	1.9%	0.5%	4.6%	2.2%
No problems	0.0%	0.0%	.6%	0.0%	4.3%	.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N	141	77	159	150	45	572

In relation to household income levels, reliance on family emerged as highest amongst the second lowest category of R201-R500 per month (58%), declining to 41% amongst the R1001-R1500 group and rising again to 44% amongst the top income group (R2501+). Reliance on neighbours declined similarly with increasing income, from 33% amongst the R1-R500 group to 18% amongst the R2501+ group. Reliance on the church was highest amongst the poorest and second wealthiest groups, with a low of 5% amongst the R201-R500 group. Similarly, the proportions that relied on "no one" in difficult times were higher amongst the better off than amongst the poorer households.

Table 12: On whom do your household members rely in difficult times, by household income

	Mean monthly household income							Total
	No info	1-200	201-500	501-1000	1001-1500	1501-2500	2501+	
Family	48.5%	47.2%	57.5%	51.2%	41.4%	45.3%	44.2%	49.3%
Neighbours	34.4%	32.8%	20.7%	18.9%	25.0%	14.5%	17.7%	21.6%
Church	10.3%	12.3%	4.9%	10.5%	10.9%	14.5%	11.6%	10.2%
No one	6.9%	3.9%	4.8%	7.2%	10.7%	9.7%	8.8%	7.4%
Friends	0.0%	2.0%	6.0%	6.6%	1.2%	8.1%	2.9%	4.9%
Chief's office	0.0%	1.8%	3.9%	3.2%	0.0%	0.0%	3.3%	2.2%
Social worker	0.0%	0.0%	1.0%	0.0%	5.9%	4.7%	2.7%	1.7%
Other	0.0%	0.0%	1.1%	2.0%	2.5%	2.2%	8.8%	2.2%
No problems	0.0%	0.0%	0.0%	.5%	2.4%	0.0%	0.0%	.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	00.0%	100.0%
N	29	51	101	211	84	62	34	572

Asked about the nature of the assistance received, more than one third (38%) said that it came in the form of food. Advice (17%) and money (16%) were also common ways in which help was provided in times of need. Smaller proportions mentioning a combination of money and food (12%), counselling (5%), prayers (5%), "what we need/they help us with everything" (4%), problem solving (2%), ideas (1%), transport (0,6%) or "food, money and clothes" in one case (0,2%).

In Tubatse, assistance in the form of food was by far (68%) the most common way that people were helped in times of need, with only 18% in that municipality mentioning financial assistance. Food assistance was also most common but less dominant in Makhuduthamaga (31%), Fetakgomo (29%) and Groblersdal (25%), followed by advice or money. In Marble Hall, advice was the most common form of assistance (34%), ahead of food and prayers, with money ranking only fourth at 7%.

Table 13: How do they (those on whom you rely) provide help, by municipality

	Municipality					Total
	Groblersdal	Marble Hall	Tubatse	Makhuduthamaga	Fetakgomo	
Food	25.0%	22.4%	67.7%	30.9%	29.2%	37.8%
Advice	8.1%	33.5%	2.9%	27.0%	25.7%	16.5%
Money	23.5%	6.8%	18.0%	13.0%	14.5%	16.3%
Money/food	13.2%	9.6%	6.5%	18.5%	10.2%	12.1%
Counselling	11.0%	10.9%		.7%	2.7%	4.7%
Prayers	5.9%	15.4%	.7%	1.4%	5.1%	4.6%
Other, incl. combinations	13.3%	1.4%	4.2%	8.5%	12.6%	8.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	00.0%
N	136	72	139	138	40	525

Disagregated by household income, food was the most common form of aid received by all groups. However, the prominence of food declined with the household income level from 41% amongst the R1-R200 group to 23% amongst the R2501+ group. Conversely, money was received by higher proportions in the higher than the lower income categories (15% for R1-R200 versus 23% for R2501+ group). Advice, combinations of money and food, and prayers were received by similar proportions of all income groups, an exception being the top income group, amongst whom the money/food combination was less frequently received. Counselling and prayers were more commonly received by upper income households than poorer ones.

Table 14: How do they (those on whom you rely) provide help, by household income

	Mean monthly household income							Total
	No info	1-200	201-500	501-1000	1001-1500	1501-2500	2501+	
Food	48.0%	41.3%	31.8%	42.4%	36.5%	34.3%	22.6%	37.8%
Money	11.1%	14.5%	16.3%	16.5%	17.4%	14.5%	22.6%	16.3%
Advice	15.2%	19.4%	20.1%	15.9%	12.5%	14.7%	19.4%	16.5%
Money/food	14.8%	16.2%	15.3%	11.9%	10.7%	9.1%	3.2%	12.1%
Counselling	0.0%	0.0%	2.2%	3.1%	8.1%	12.5%	12.6%	4.7%
Prayers	3.7%	2.3%	3.2%	4.6%	5.4%	5.6%	9.5%	4.6%
Other, incl. combinations	7.4%	6.3%	11.1%	5.1%	9.3%	9.3%	10.1%	7.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N	27	48	97	193	74	55	31	525

Anthropometric Measurements

Schönfeldt, H.C.[9], Faber, M.[10], Van Lieshout, M.[11] & Vermeulen, H.[12]

UNDERSTANDING ANTHROPOMETRIC MEASUREMENTS

Fieldworkers set up meetings with households at end of implementing questionnaire to take anthropometric measurements. At subsequent meeting with entire household fieldworkers requested ages from household head. Most households either knew the date of birth or the age of the child immediately. If there was uncertainty the household member invariably looked up the dates on official documentation inside the dwelling.

Weight and height measurements are expressed as height-for-age, weight-for-age and weight-for-height.

Low height-for-age is an indicator of stunting (i.e., "shortness"), which is frequently associated with poor overall economic conditions and/or repeated exposure to adverse conditions.

Low weight-for-height is an indicator of wasting (i.e., "thinness") and is generally associated with failure to gain weight or a loss of weight.

Weight-for-age is primarily a composite of weight-for-height and height-for-age; weight-for-age cannot distinguish tall, thin children from short, well-proportioned children.

The anthropometric indices are expressed in terms of Z-scores, also referred to as standard deviation (SD) units. The Z-score in the reference population has a normal distribution with a mean of zero and standard deviation of 1. For example, if a study population has a mean weight-for-height z-score of 0, this would mean that it has the same median weight-for-height as the reference population.

Z-scores rely on the fitted distributions of the indices across age and are consistent in their interpretation across anthropometric indices. Z-scores have the statistical property of being normally distributed, thus allowing a meaningful average and standard deviation for a population to be calculated. In addition, Z-scores have a greater capacity to determine the proportion of a population that falls below extreme anthropometric values than do percentiles.

The Z-score cut-off point recommended by WHO, CDC, and others to classify low anthropometric levels is 2 SD units below the reference median for the three indices. The proportion of the population that falls below a Z-score of -2 is generally compared with the reference population in which 2.3% fall below this cut-off. The cut-off for very low anthropometric levels is usually more than 3 SD units below the median.

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The prevalence of < -2SD can be used as an indication of the severity of malnutrition in a population as indicated below.

Relative Prevalence of Low Anthropometric Values

Index	Low	Medium	High	Very High
Low WH	<5.0%	5.0-9.9%	10.0-14.9%	>15.0%
Low HA	<20.0%	20.0-29.9%	30.0-39.9%	>40.0%
Low WA	<10.0%	10.0-19.9%	20.0-29.9%	>30.0%

CALCULATION OF Z-SCORES

- Height-for-age and weight-for-age indices were calculated for individuals from 24 months up to 18 years of age.
- No z-scores were calculated if gender was missing, as there are separate growth reference curves for boys and girls.
- In cases where height, weight or gender was missing or unreliable, the entire case was excluded from the data analysis.

Cleaning of the data

A z-score with a value of 9.99 means that it could not be calculated because of missing data or data values that were out of the appropriate range (e.g. an age of 18 years or older). A code of 9.98 for Z-scores denotes that the Z-score was greater than or equal to 9.98 and most likely indicates an error in measurement.

The record FLAG field was used to identify records with missing data or a strong likelihood that some of the data were incorrect (based on extreme Z-scores). The criteria for "flagging" an anthropometric index are as follows:

Index	Minimum	Maximum
HAZ	-6.00	+6.00
WHZ	-4.00	+6.00
WAZ	-6.00	+6.00

Two additional criteria for "flagging" a record are combinations of data items:

(HAZ > 3.09 and WHZ < -3.09) or (HAZ < -3.09 and WHZ > 3.09)

Records were flagged as follows:

Flag				Index Flagged
Code	HAZ	WHZ	WAZ	Notes
0				No indices flagged
1	Y			HAZ flagged only
2		Y		WHZ flagged only
3	Y	Y		Both HAZ and WHZ

4			Y	WAZ flagged only
5	Y		Y	Both GAZ and WAZ flagged
6		Y	Y	Both WHZ and WAZ flagged
7	Y	Y	Y	All three indices flagged

Y=Index flagged, blank means index not flagged.

Interpretation of the flags is as follows:

Flag 0: None of the indices were flagged. However, this does not necessarily mean the information is correct. Gender, age, weight, or height could be incorrect but not extreme enough to be flagged.

Flag 1: Height-for-age is flagged but not weight-for-height or weight-for-age. This could be extremely short or tall individual. If the height measurement were incorrect, the weight-for-height z-score would generally be close to -3.09 or 3.09 (a weight-for-height z-score beyond these would produce a flag error number 5). The other alternative is that the age information is incorrect, which would make the weight-for-age z-score extreme (near -6 or 6).

Flag 2: Weight-for-height is flagged but height-for-age and weight-for-age are not. First, check the age and height of the child and make sure they are within the limits described in the section Limitations of Growth Reference Curves. If the child is within the age and height limitations, then either height or weight may be incorrect. If height were incorrect, then height-for-age z-score would be expected to be near an extreme value (but not extreme enough to be flagged), and if weight were incorrect, then weight-for-age z-score would be close to an extreme value (but not extreme enough to be flagged). Finally, this could truly be an extremely thin or obese child.

Flag 3: Height-for-age and weight-for-height are both flagged but weight-for-age is not. This is an indicator that height may be incorrect or missing.

Flag 4: Weight-for-age is flagged but not height-for-age or weight-for-height. If the weight were incorrect, then weight-for-height z-score would be near an extreme value (but not extreme enough to be flagged), and if age is incorrect, then height-for-age z-score is likely to be near an extreme value (but not extreme enough to be flagged).

Flag 5: Height-for-age and weight-for-age are flagged but not weight-for-height. This is an indication that the age information is incorrect, missing, or out of range.

Flag 6: Weight-for-height and weight-for-age are flagged but not height-for-age. This is an indication that weight is likely to be incorrect or missing.

Flag 7: All three indices are flagged. This can occur if gender is unknown or incorrectly coded; or at least two of the following are missing, incorrectly coded, or beyond the limitation of the growth curve: age, weight, or height.

Out of 1 274 records for children younger than 18 years, 249 were excluded from the data analysis (reasons given below).

Flagged records were checked. Cases with missing values for age, gender, height or weight were excluded. Records with extreme values were excluded from the data analysis.

1. ATHROPOMETRIC DATA OF THE CHILDREN

Anthropometric data for children were analysed using the Epi Info 2000 software package and expressed as z-scores (standard deviations of the median of the reference population) for each of the anthropometric indices of child malnutrition, namely height-for-age, weight-for-age and weight-for-height.

Out of 1 274 records for children younger than 18 years, 249 were excluded from the data analysis. The reasons for exclusion are indicated in Table 1.

Table 1: Reasons for excluding cases from anthropometric analysis for children younger than 18 years (Sekhukhuneland, FIVIMS, 2004)

	Frequency	Percentage
Included in the analysis	1 025	80.5
Height / weight missing	24	1.9
Problem with weight	2	.2
Problem with height	53	4.2
Problem with weight & height	25	1.9
Gender missing	141	11.1
Younger than 6 months	4	0.4
Total	*1 274*	*100.0*

Children were categorized according to age, namely 12-23 months, 24-71 months, 72-119 months and 120-215 months. The number of children per age group per municipal area is shown in Table 2. The sample sizes per age group were insufficient and the anthropometric indicators for each age group are therefore not given for the municipal areas separately.

Table 2: Number of children per age group per municipal area (Sekhukhuneland, FIVIMS, 2004)

		Municipality name:					
		Fetakgomo	Greater Groblersdal	Greater Marble Hall	Greater Tubatse	Makhudut hamaga	Total
Age group	12 – 23	2	9	4	15	9	39
	24 – 71	14	29	33	86	29	191
	72 - 119	19	39	21	91	66	236
	120 - 215	54	96	54	217	138	559
Total		89	173	112	409	242	1025

1.1 Height-for-age

Children with a z-score for height-for-age below –2 SD of the median of the reference population were classified as stunted, which is an indicator for chronic malnutrition. The prevalence of stunting in Sekhukhuneland per age category is shown in Table 3. The sample size for the 12-23-month-old category was insufficient. For children two years and older, the severity of the prevalence of stunting was high (30.0-39.9%) in all three age categories, according to the WHO classification (Gorstein et al., 1994).

Table 3: The prevalence of stunting per age category (n = 1025) (Sekhukhuneland, FIVIMS, 2004)

		Age group				Total
		13 – 23 months	24 – 71 months	72 – 119 months	120 – 215 months	
Stunted	Count	17	70	79	200	366
	% within age group	43.6	36.6	33.5	35.8	35.7
Normal	Count	22	121	157	359	659
	% within age group	56.4	63.4	66.5	64.2	64.3
Total	Count	39*	191	236	559	1025
	% within age group	100.0	100.0	100.0	100.0	100.0

* The sample size (n = 39) in the 12 - 23 months age-group was too small

Table 4 shows the prevalence of stunting per municipal area for children aged 24 – 119 months. The prevalence of stunting was high (30.0 – 39.9%) in the municipal areas of Fetakgomo, Greater Groblersdal, Greater Marble Hall and Greater Tubatse, and very high (>40%) for Makhuduthamaga, according to the WHO classification (Gorstein et al., 1994).

Table 4: The prevalence of stunting per municipal area for children aged 24 – 119 months* (n = 466) (Sekhukhuneland, FIVIMS, 2004)

		Stunted	Normal	Total
Fetakgomo	Count	13	22	35**
	% within municipal area	37.1	62.9	100.0
Greater Groblersdal	Count	25	52	77***
	% within municipal area	32.5	67.5	100.0
Greater Marble Hall	Count	19	39	58***
	% within municipal area	32.8	67.2	100.0
Greater Tubatse	Count	67	125	192
	% within municipal area	34.9	65.1	100.0
Makhuduthamaga	Count	42	62	104
	% within municipal area	40,4	59.6	100.0
Total	Count	166	300	466
	% within municipal area	36.6	64.4	100.0

* The 12 - 23 months age-group was excluded due to inadequate sample size

** The sample size in the Fetakgomo municipality (n = 35) was inadequate

*** The sample sizes in Greater Marble Hall (n=58) and Greater Groblersdal (n=77) were low

A comparison of the prevalence of stunting in Sekhukhuneland with the prevalence recorded in previous national surveys is shown in Table 5.

Table 5: A comparison of prevalence (%[1]) of stunting in Sekhukhuneland with prevalences recorded in previous national surveys (Sekhukhuneland, FIVIMS, 2004)

	Sekhukhuneland, Fivims 2004 (24-71 months)	Northern Province SAVACG 1995 (6-71 months)	SA SAVACG 1995 (6-71 months)	SA NFCS 1999 (12-71 months)	Northern Province NFCS 1999[2] (1-9 years)
Stunting (HAZ <-2SD)	36.6 (29.8-43.4)	34.2 (30.0- 38.4)	22.9 (21.4-24.5)	23.8 (21.9-25.8)	23.1 (18.4-27.7)

1 Mean prevalence with 95% confidence interval in parentheses

2 The last column is not compared with the other prevalences as the age of the children differs too much to make this a relevant comparison

There was no significant difference in the national prevalence of stunting between the 1995 SAVACG survey and the 1999 NFC survey.

The 1995 SAVACG survey showed that the prevalence of stunting in the Northern Province was higher than the national prevalence. The prevalence of stunting in Sekhukhuneland (2004) was similar to the prevalence of stunting observed in the Northern province during the 1995 SAVACG study. Therefore, these findings suggest that Sekhukhuneland is one of the more vulnerable areas in terms of chronic child malnutrition.

1.2 Weight-for-age

Children with a z-score for weight-for-age below –2 SD of the median of the reference population were classified as underweight. The prevalence of underweight for Sekhukhuneland per age category is shown in Table 6. The sample size for the 12-23-month-old category was insufficient. For children two years and older, the severity of the prevalence of underweight was medium (10.0 – 19.9%) for children aged 24–71 months and 72–119 months, and high (20.0 – 29.9%) for children in the age group 120–215 months, according to the WHO classification (Gorstein et al., 1994).

Table 6: The prevalence of underweight per age category (n = 1025) (Sekhukhuneland, FIVIMS, 2004)

		Age group				Total
		13 – 23 months	24 – 71 months	72 – 119 months	120 – 215 months	
Underweight	Count	8	31	36	120	195
	% within age group	20.5	16.2	15.3	21.5	19.0
Normal	Count	31	160	200	439	830
	% within age group	79.5	83.8	84.7	78.5	81.0
Total	Count	39*	191	236	559	1025
	% within age group	100.0	100.0	100.0	100.0	100.0

* The sample size (n = 39) in the 12 - 23 months age-group was too small

Table 7 shows the prevalence of underweight per municipal area for children 24–119 months. The sample size for Fetakgomo was insufficient. The prevalence of underweight was medium (10.0 - 19.9%) for Greater Groblersdal, Greater Marble Hall, Greater Tubatse and Makhuduthamaga.

Table 7: The prevalence of underweight per municipal area for children aged 24 – 119 months* (n = 466) (Sekhukhuneland, FIVIMS, 2004)

		Underweight	Normal	Total
Fetakgomo	Count	10	25	35**
	% within municipal area	28.6	71.4	100.0
Greater Groblersdal	Count	10	67	77***
	% within municipal area	13.0	87.0	100.0
Greater Marble Hall	Count	9	49	58****
	% within municipal area	15.5	84.5	100.0
Greater Tubatse	Count	27	165	192
	% within municipal area	14.1	85.9	100.0
Makhudu-thamaga	Count	19	85	104
	% within municipal area	18.3	81.7	100.0
Total	Count	75	391	466
	% within municipal area	16.1	83.9	100.0

* The 12 - 23 months age-group was excluded due to inadequate sample size

** The sample size in the Fetakgomo municipality (n = 35) was inadequate

**** The sample sizes in Greater Marble Hall (n=58) and Greater Groblersdal (n=77) were low

A comparison of the prevalence of underweight in Sekhukhuneland with the prevalence recorded in national surveys is shown in Table 8.

Table 8: A comparison of the prevalence (%[1]) of underweight in Sekhukhuneland with prevalences recorded in previous nationwide surveys (Sekhukhuneland, FIVIMS, 2004)

	Sekhukhune-Land Fivims 2004 (24-71 months)	Northern Province SAVACG 1995 (6-71 months)	SA SAVACG 1995 (6-71 months)	SA NFCS 1999 (12-71 months)	Northern Province NFCS 1999[2] (1-9 years)
Underweight (WAZ <-2SD)	16.2 (11.0-21.4)	12.6 (9.9-15.2)	9.3 (8.5-10.1)	11.1 (9.7-12.5)	15.0 (11.0-18.9)

1 Mean prevalence with 95% confidence interval in parentheses

2 This column is not compared with the other prevalences as the age of the children differs too much to make this a relevant comparison

There was no significant difference in the national prevalence of underweight in the 1995 SAVACG survey and the 1999 NFC survey.

In the 1995 SAVACG survey the prevalence of underweight in the Northern Province did not differ from the national figure, and the prevalence of underweight in Sekhukhuneland (2004) did not differ from the prevalence of underweight observed in the Northern province during the 1995 SAVACG study. The prevalence of underweight in Sekhukhuneland (2004)

was higher than the national figure of the 1995 SAVACG study, but did not differ from the national figure of the 1999 NFC survey.

1.3 Weight-for-height

Weight-for-height z-scores were calculated for boys up to 138 months (11.5 years) of age and less than 145 cm (57 inches) and for girls up to 120 months (10 years) of age and less than 137 cm (53 inches). In the 120-215 months age-group, 510 out of 558 children were either too old or too tall to calculate weight-for-height z-scores.

Children with a z-score for weight-for-height below –2 SD of the median of the reference population were classified as wasted, which is an indicator for acute malnutrition. Children with a z-score for weight-for-height above 2 SD of the median of the reference population were classified as overweight for height. The prevalence of wasting and overweight for Sekhukhuneland per age category is shown in Table 9. The sample size for the 12-23-month-old category was insufficient. For children two years and older, the severity of the prevalence of wasting was low (<5%) in the age group 12 – 23 months, and medium (5.0 – 9.9%) in the age groups 24 – 71 months and 72 – 119 months, according to the WHO classification (Gorstein et al., 1994).

Table 9: The prevalence of wasting per age category (n = 1025) (Sekhukhuneland, FIVIMS, 2004)

		Age group				Total
		12 – 23 months	24 – 71 months	72 – 119 months	120 – 215 months**	
Wasting	Count	1	14	18	5	38*
	% within age group	2.6	7.3	7.7	0.9	3.7
Normal	Count	31	160	199	43	433
	% within age group	79.5	83.8	84.7	7.7	42.3
Overweight	Count	7	17	15		39
	% within age group	17.9	8.9	6.4		3.8
	Count			3	510	513
	% within age group			1.3	91.4	50.1
Total	Count	39	191	235	558	1023
	% within age group	100.0	100.0	100.0	100.0	100.0

* The sample size (n = 38) in the 12 - 23 months age-group was too small

** Calculating a weight-for-height z-score in this age category was not applicable

The prevalence of wasting per municipal area for children aged 24 – 119 months is shown in Table 10. The sample size for Greater Marble Hall was insufficient. The prevalence of wasting was low (<5%) for Greater Tubatse, medium (5.0 – 9.9%) for Greater Groblersdal and Makhuduthamaga, and very high (>15.0%) for Fetakgomo (17.1%), according to the WHO classification (Gorstein et al., 1994).

Table 10: The prevalence of wasting per municipal area for children aged 24 – 119 months* (n = 466) (Sekhukhuneland, FIVIMS, 2004)

		Wasted	Normal	Overweight	Total
Fetakgomo	Count	6	28	1	35**
	% within municipal area	17.1	80.0	2.9	100.0
Greater	Count	5	66	6	77***
Groblersdal	% within municipal area	6.5	85.7	7.8	100.0
Greater	Count	6	43	8	58***
Marble Hall	% within municipal area	10.3	74.1	13.8	100.0
Greater	Count	8	165	19	192
Tubatse	% within municipal area	4.2	85.9	9.9	100.0
Makhudu-	Count	8	88	5	104
thamaga	% within municipal area	7.8	85.4	4.9	100.0
Total	Count	33	390	39	466
	% within municipal area	7.1	83.9	8.4	100.0

* The 12 - 23 months age-group was excluded due to inadequate sample size

** The sample size in the Fetakgomo municipality (n = 35) was inadequate

*** The sample sizes in Greater Marble Hall (n=58) and Greater Groblersdal (n=77) were low

A comparison of the prevalence of wasting and overweight in Sekhukhuneland with the prevalence recorded in national surveys is shown in Table 11.

Table 11: A comparison of the prevalence (%[1]) of wasting and overweight in Sekhukhuneland with prevalences recorded in previous nationwide surveys (Sekhukhuneland, FIVIMS, 2004)

	Sekhukhune-Land Fivims 2004 (24-71 months)	Northern Province SAVACG 1995 (6-71 months)	SA SAVACG 1995 (6-71 months)	SA NFCS 1999 (12-71 months)	Northern Province NFCS 1999[2] (1-9 years)
Wasting (WHZ <-2SD)	7.3 (3.6-11.0)	3.8 (2.9-4.7)	2.6 (2.2-2.9)	3.6 (2.7-4.4)	7.5 (4.6-10.4)
Overweight (WHZ >+2SD)	8.9 (4.9-12.9)	N.D.[3]	N.D.	N.D.	3.7 (1.7-5.8)

1 Mean prevalence with 95% confidence interval in parentheses

2 This column is not compared with the other prevalences as the age of the children differs too much to make this a relevant comparison

3 N.D. = not determined

There was no significant difference in the national prevalence of wasting in the 1995 SAVACG survey and the 1999 NFC survey, although the distribution of wasting may have shifted slightly to the left making wasting a larger problem in 1999 than it was in 1995.

In the 1995 SAVACG survey the prevalence of wasting in the Northern Province was higher than the national figure. The prevalence of wasting in Sekhukhuneland (2004) did not differ from the prevalence of wasting observed in the Northern province during the 1995 SAVACG

study. The prevalence of wasting in Sekhukhuneland (2004) was higher than the national figure of the 1995 SAVACG study, but did not differ from the national figure of the 1999 NFC survey.

2 Anthropometric status of the adults

Body mass index (BMI) was calculated as the weight in kilograms divided by the square of the height in metres and categorised as underweight (<18.5), normal weight (18.5 ≤ BMI < 25), overweight (25 ≤ BMI < 30), obese (BMI ≥ 30).[13] For adults, a mid-upper arm circumference (MUAC) of <23 cm can be used to identify adults who are undernourished, and a MUAC of ≥ 33 cm for those who are obese.[1]

The mean BMI values for males and females per age category are shown in Table 12.

Table12: Mean ± SD body mass index (BMI) of adults per age group per sex and for the total group

	Age category				
	18-24	**25-44**	**45-64**	**65-older**	**Total group**
Male	21.5 ± 4.1	22.8 ± 3.8	23.4 ± 5.4	24.6 ± 5.1	22.7 ± 4.6
n	177	148	97	67	489
Females	22.5 ± 3.9	25.2 ± 5.0	26.9 ± 6.5	26.2 ± 6.3	25.1 ± 5.6
n	196	328	202	101	827

The anthropometric status of male and female adults per age category is shown in Table 13.

Table 13: The anthropometric status of male and female adults per age category (Sekhukhuneland, FIVIMS, 2004)

Gender	Status		Age group (years)				Total
			18 - 24	**25 - 44**	**45 - 64**	**65 & older**	
Male	Under weight	Count	28	18	6	4	56
		% within age group	15.8	12.2	6.2	6.0	11.5
	Normal weight	Count	129	95	67	36	327
		% within age group	72.9	64.2	69.1	53.7	66.9
	Overweight	Count	16	27	16	15	74
		% within age group	9.0	18.2	16.5	22.4	15.1
	Obese	Count	4	8	8	12	32
		% within age group	2.3	5.4	8.2	17.9	6.5
	TOTAL	Count	177	148	97	67	489
		% within age group	100.0	100.0	100.0	100.0	100.0
Female	Under weight	Count	18	12	7	10	47

[13] World Health Organization. *Obesity: preventing and managing the global epidemic. Report of a WHO consultation in obesity, Geneva, June 30, 1997.* Geneva: World Health Organization, 1998.

Gender	Status		Age group (years)				Total
			18 - 24	25 - 44	45 - 64	65 & older	
		% within age group	9.2	3.7	3.5	9.9	5.7
	Normal weight	Count	139	177	90	33	439
		% within age group	70.9	54.0	44.6	32.7	53.1
	Overweight	Count	33	82	51	37	203
		% within age group	16.8	25.0	25.2	36.6	24.5
	Obese	Count	6	57	54	21	138
		% within age group	3.1	17.4	26.7	20.8	16.7
	TOTAL	Count	196	328	202	101	827
		% within age group	100.0	100.0	100.0	100.0	100.0

Table 14: A comparison of prevalence (%[1]) of underweight, normal weight, overweight and obesity in Sekhukhuneland with prevalences recorded in a previous provincial survey (Sekhukhuneland, FIVIMS, 2004)

	Men		Women	
	Sekhukhuneland, Fivims 2004 (≥18 yrs)	North-West Province 1996/1998 (≥15 yrs)	Sekhukhuneland, Fivims 2004 (≥18 yrs)	North-West Province 1996/1998 (≥15 yrs)
BMI, mean ± 95% CI		21.1 (20.8-21.4) 768		26.9 (26.5-27.3) 1024
Underweight (BMI ≤18.5) count and %/sex	56 11.5%	172 22.4%	47 5.7%	65 6.3%
Normal weight (18.5< BMI <25) count and %/sex	327 66.9%	492 64.1%	439 53.1%	409 39.9%
Overweight (18.5≤ BMI <30) count and %/sex	74 15.1%	76 9.9%	203 24.5%	258 25.2%
Obese (BMI ≥30) count and %/sex	32 6.5%	28 3.6%	138 16.7%	292 28.5%

In comparison, the percentage of obese women in Sub-Saharan Africa has been reported to be 2.5% (Martorell, 2000), but this study focused on very poor developing countries. In a longitudinal study in Mauritius, although perhaps not typical for the African region, obesity in men increased from 3.4 % in 1987 to 5.3% in 1992, while the percentage of obese women increased from 10.4% to 15.2% in the same period (all subjects between 25-74 yr-old) (WHO,

2000). In 1991, Steyn et al reported a prevalence of obesity of 8 and 44% for black men and women between the ages of 15 and 64 in the Cape Peninsula (Steyn, 1991).

The South African Demographic and Health Survey of 1998 showed that for adults (15+ years) 29% of men and 56% of women are either overweight or obese. For the Northern Province, 22% of men and 44% of women were either overweight or obese.

CONCLUDING REMARK

In Sekhukhuneland alongside child malnutrition (stunting, wasting and underweight), maternal overweight and obesity were found.

General Conclusions

FOOD INSECURITY AND VULNERABILITY IN SEKHUKHUNE:

It is well established that food insecurity in South Africa, and by extension Sekhukhune, is largely driven by:

- Poor people's lack of access to land and other assets essential to food production,
- The meagre contribution of subsistence agriculture to household food needs,
- A relatively high dependence on wages and remittances,
- A relatively great reliance on purchased food, and
- A corresponding disproportionate exposure to inflation and price shocks.

The Sekhukhune area is largely rural with 94.7 percent of the people living in rural areas, and only 5.3 percent of the population residing in the urban areas (Aird & Archer, 2004). Such a strong bias towards rural living has several implications. These areas generally have a small economic base, which was borne out by the survey, implying that a large proportion of the population reside in areas with few employment opportunities and therefore, by inference, high unemployment levels. This implies that households would look towards other sources of income such as remittances from Gauteng ("reef remittances") or social grants in order to secure food security in an environment where food production was minimal. A limited scope of income opportunities and reduced migration remittances, which is also occurring in Sekhukhune according to the survey, focus group and institutional respondent interviews, means that many households lack cash to purchase food.

Furthermore, with the settlement patterns in rural areas being largely scattered over a wide area, the provision of infrastructure and services for the majority of the population is difficult and costly to achieve. Most of these areas have a very low infrastructure base, due largely to the fact that parts of all five municipalities that constitute Sekhukhune fell within *Bantustan* areas during the previous regime.

LIVELIHOOD STRATEGIES:

Sekhukhune is largely a product of the policies of segregation and apartheid, which beset South Africa until the 1990s, and ten years of democracy and development after advent of multi-party democracy in 1994. In particular the area to the north of Greater Groblersal, which is characterised by high population densities, an undeveloped and inadequate agricultural base, and levels of out-migration (allegedly decreasing in the last five years) to wage employment in the broader South African economy ("reef remittances"). The FIVIMS survey provides an important insight into the details of the rural economy in Sekhukhune

In general, Sekhukhune has a number of strong characteristics, which have a strong bearing on the livelihoods strategies available to most people. In terms of the physical environment:

- Dispersed settlement pattern,
- Low annual rainfall,
- Growth of the mining sector may create water shortages and cause environmental problems,
- Land degradation due to poor farming methods.

The infrastructure profile is characterised by:

- Backlog in infrastructure provision as well as water and sanitation,
- Lack of municipal capacity to provide infrastructure,
- Low cost-recovery levels from users of services,
- Lack of good road and/or rail networks connecting the district to the major economic centres outside of the district,
- The poor conditions of the internal road infrastructure,
- With the exception of the formal towns, there is no formal solid waste management system and facilities within the Greater Sekhukhune areas,
- Few households have access to private phones but a substantial percentage does have access to public phones.

The socio-economic profile is characterised by:

- Lack of accurate current data,
- High unemployment rate,
- Low household income levels,
- Predominantly youthful population and a small proportion of the potentially economically active population group,
- Predominantly rural population,
- High poverty levels,
- High levels of illiteracy,
- High HIV prevalence amongst the potentially economically active population group,
- Low purchasing power,
- Lack of major commercial and service nodes,
- Lack of agri-industries, abattoirs and agricultural markets.

A variety of highly diversified livelihood strategies were evident in Sekhukhune, which households engage in to meet their food needs, including dependence on extended family, pension and child grants, neighbourhood networks for money and food as well as piece jobs for food or income.

The survey raised the importance of family networks underpinning livelihood strategies, especially dependence of relatively old children on their parents' pension money. As indicated by Schuring and Polzer, this is clearly a dangerous dependence, since large families are exposed to high vulnerability when the pension-earner dies (2003). Family networks are also important in terms of receiving food and cash transfers from working family members.

SOCIAL NETWORKS

As a means of determining the extent of supportive social capital, respondents were asked on whom their households relied in difficult times. The most frequent response was family (49%), followed by neighbours (22%), the church (10%), "no one" (7%) or friends (5%). Smaller proportions mentioned the tribal office or office of the chief (2%), social workers (2%), a loan from their company or the bank (0,9%), family and church (0,5%), "never had problems" (0,5%), school (0,4%), family and tribal office (0,2%) or the Department of Health (0,2%, i.e. n=1).

In relation to household income levels, reliance on family emerged as highest amongst the second lowest category of R201-R500 per month (58%), declining to 41% amongst the R1001-R1500 group and rising again to 44% amongst the top income group (R2501+). Reliance on neighbours declined similarly with increasing income, from 33% amongst the R1-R500 group to 18% amongst the R2501+ group. Reliance on the church was highest amongst the poorest and second wealthiest groups, with a low of 5% amongst the R201-R500 group. Similarly, the proportions that relied on "no one" in difficult times were higher amongst the better off than amongst the poorer households.

Asked about the nature of the assistance received, more than one third (38%) said that it came in the form of food. Advice (17%) and money (16%) were also common ways in which help was provided in times of need. Smaller proportions mentioning a combination of money and food (12%), counselling (5%), prayers (5%), "what we need/they help us with everything" (4%), problem solving (2%), ideas (1%), transport (0,6%) or "food, money and clothes" in one case (0,2%).

Disagregated by household income, food was the most common form of aid received by all groups. However, the prominence of food declined with the household income level from 41% amongst the R1-R200 group to 23% amongst the R2501+ group. Conversely, money was received by higher proportions in the higher than the lower income categories (15% for R1-R200 versus 23% for R2501+ group). Advice, combinations of money and food, and prayers were received by similar proportions of all income groups, an exception being the top income group, amongst whom the money/food combination was less frequently received. Counselling and prayers were more commonly received by upper income households than poorer ones.

Pension-related networks are a significant livelihood strategy. Many households rely on pensioners within their families. This confirms StatsSA data that grants are the safety net for the majority of the poor population. The fact that over 33% of households depend on grants as their main source of income suggests that the vast majority who receive grants have no other significant source of income.

Most dominant coping strategies for households vulnerable to food insecurity in nearby Bohlabela included borrowing, selling assets or taking children out of school because of lack of funds and food (Polzer & Schuring, 2003).

INCOME

From the survey sample, it is apparent that there are four common sources of household income in Sekhukhune (Table 1). These are government-provided Old Age and Child Support Grants (each being received by a third of households), in addition to remitted income from migrant labourers (31%) and income from regular wage employment (27%).

With the exception of the selling of assets and receiving gifts in kind, the surveyed households regularly received most of the income sources. These included (in depreciating mean value) work, pension fund from work, disability grants, old age grants, compensation funds, remittances, foster care grants, selling of assets and child support grants. It is apparent that, with the exception of December, there are only minor variations in income on a month-to-month basis. This may be attributable to the aforementioned regularity of incomes for the majority of households surveyed. It could also be, at least in part, the influence of recall error.

Of the four types of financial asset that we asked about in the survey, burial insurance is, by a substantial margin, the most common form (Table 6). Slightly less than 60 percent of households acknowledged that they had burial insurance. Whether this is an indication of mounting mortality in Sekhukhune or perhaps the greater availability of this form of asset in the areas surveyed is something warranting further investigation. In contrast to burial insurance, only 18 percent have access to a bank savings account, 5 percent to money in a post office savings account and 2 percent to some other form of savings.

EXPENDITURE

At the time of survey, the average monthly household expenditure in Sekhukhune was R787, while the average monthly *per capita* expenditure was R233. This includes expenditure on all goods and services that are covered in the FIVIMS questionnaire, with the exception of the value of consumption from own production.

A breakdown of the percentage of households that spent on each of the 18 items included in the FIVIMS questionnaire during the month prior to being interviewed. More than half of the surveyed households reported spending on basic necessities, such as food, services (water and electricity), and energy sources (wood/gas/paraffin). Apart from these, the only other expenditure item occurring in the majority of households was in relation to burials.

In terms of expenditure shares, the purchasing of food consumes the largest proportion of total expenditure (42%). At the municipal level, the food share ranges from a low of 31 percent in Fetakgomo to a high of 56 percent in Greater Tubatse. It is likely that the food shares reported are underestimated since the value of the consumption of home-grown food and livestock products is not included. As the agriculture section analysis has shown, 55% of

households in Fetakgomo grow crops, followed by 53% in Makhuduthamaga, 45% in Greater Groblersdal, 42% in Greater Tubatse and 29% in Greater Marble Hall. Most of this produce is intended for own consumption rather than for sale. Apart from food, no other expenditure item accounts for more than ten percent of total expenditure.

MIGRANT WORKERS AND THEIR REMITTANCES

The study area is characterised by a high level of household immobility, with only two-fifths (40%) of the Sekhukhune households having moved to their current areas of residence over the last 20 years. Furthermore, only about one-eighth (12%) of individuals had moved to their current areas during the past five years. The latter proportion corresponds perfectly with the findings by Kok et al. (2003) based on the 1980 and 1996 censuses, and separate analyses of the 2001 census data, that only about one-eighth of the South African population tends to migrate during any given five-year period (1975–1980, 1992–1996 or 1996–2001).

However, an estimated 157 300 migrant workers originate from households in the study area. Almost two-fifths (38%) of households have one or more members absent from home for more than a month each year to work or to seek work elsewhere. About two-thirds (65%) of these migrant workers are men.

Almost half (49%) of the households with migrant workers receive remittances at least once a month, and the vast majority of remitting migrants are the household heads themselves or their spouses. Remittances constitute more than one-fifth (22%) of total household incomes in the area, and more than one-eighth (13%) of households depend entirely on migrant remittances. However, it should be remembered that more than one-fifth (21%) of migrant workers *never* send or bring money back to the household, and the main 'culprits' are the (male *and* female) *spouses* of the household heads or acting heads. This finding may be caused by many factors, but it is possible that a proportion of these spouses might have set up second households elsewhere and are left with two little money to remit to their original households.

As hypothesised, migrant remittances are positively associated with total household income and negatively correlated with household food insecurity (based on an index constructed rather arbitrarily). No correlation could, however, be found between migrant labour or remittances and food production or the extent of chronic illness in the household. Although the latter finding certainly does not constitute any proof that such a relationship (or for that matter a relationship between migrant labour and HIV/Aids) does not exist, it casts some doubt over assumptions made regarding migrant labour and health in the local household. More research into the complex interrelationships between labour migration on the one hand and household food production and health on the other is thus essential.

AGRICULTURAL PRODUCTION AND LAND OWNERSHIP

Fetakgomo is the municipality where the highest percentage of households has access to a garden or small plot, field for cultivation or grazing land. Greater Marble Hall has the lowest

percentage. The total percentage of households that have access to gardens / small plots, fields for cultivation or grazing land for Sekhukhune is 34.7%. Just over two-fifths (43%) of households that use land for cultivation or grazing, were allocated the land by a tribal authority. Just over one fifth (22%) have 'free access' to the land and just over one sixth (18%) have access to 'Commonage'.

The main reason (49%) reported for not planting crops is the lack of water. All 5 respondents in the Greater Marble Hall municipality reported the lack of water as the only reason for not planting crops. In Makhuduthamaga 70.5% of the 44 respondents reported that a lack of money is one of the reasons for not planting crops, while over 50 % of them also named the lack of fertilizer and seed as a reason for not planting crops. The latter is related to a shortage of funding. The data shows that the same respondents who lack fertilizer and seed often also reported a lack of money.

Livestock ownership varies from almost half to two-thirds, the only exception being, Fetakgomo, where only 16% of households are in this category (Table 6). Of those who own livestock, all own cattle whereas 69% own chickens and 29% own goats.

A total of 227 households reported that they plant crops (question 6.26), however, only 177 entered information regarding the type of crop planted, the consumption and sale of the produce (question 6.27-6.29). The percentages of households that plant crops are highest in Fetakgomo (55%) and Makhuduthamaga (53%). Fruit trees were the main sources of home grown food (70%), followed by maize (38%) and vegetables (31%).

PROBLEMS AFFECTING HOUSEHOLDS

Survey respondents were asked whether their households had experienced any of a specified list of challenges, problems or shocks during the current year. It emerged that almost one-quarter (23%) of households had suffered the death of an adult member and one-seventh (15%), the death of a child in the household. Additionally, almost one-fifth (19%) had been victims of drought, or general joblessness (17%). Food price increases had impacted on 14% of households, and lack of access to clean water on one in nine (11%). Slightly less common were increases in the family or household size (9%), serious injury or chronic illness preventing normal activities (7%) and loss of remittances (4%).

When analysed by monthly income, a clear inverse correlation (Pearson's R=-0,152; p=0,000) emerges with the number of shocks experienced. Thus, households with lower incomes report having experienced a higher incidence of shocks than do their better-off counterparts. Table 4 lists the distribution of Shock Indices by household monthly income category.

MORTALITY AND CAUSES OF DEATH:

Amongst the 89% who reported the causes of death of the people concerned, these were mainly old age (18%); accidents not involving motor vehicles (15%); tuberculosis (13%); strokes (11%); influenza (8%); or motor accidents (6%). Less frequent causes were cancer (5%); diabetes (3%); other heart diseases (4%); asthma (3%); HIV/AIDS (1%); or diarrhoea

(1%). A further 12% were categorised as "other" causes. Two-thirds (67%) of the reported adult deaths were of males and one-third (33%), females. In most cases (80%), the deceased was the head of the household.

As iterated by StatsSA in a recent report, there exists indirect evidence in national death notification forms from the Department of Home Affairs that HIV may be contributing to the increase in the level of mortality for prime-aged adults, given the increasing number of deaths due to associated diseases (2005). The FIVIMS survey was not able to link mortality to age as questions around the age of the deceased within the household were not asked.

StatsSA indicate that there was an increase in the proportion of deaths among persons aged 20 to 44 and children younger than 4 years in the period 1997 – 2003 (2005). The figures also show a continuing shift in the age distribution of mortality, with relative large increases of deaths among young adults.

In Sekhukhune, amongst the alarmingly high 15% of households that reported the death of a child during the year, one household reported having borrowed money to deal with the shock. The rest did not indicate what action they took following the tragedy. Tuberculosis was the most frequently reported (24%) cause of death amongst the 71% of households that did provide information in this regard. Other reported causes were motor accidents (11%); diarrhoea (8%); pneumonia (8%); diabetes (8%); cancer (8%); drowning (7%); or other heart diseases (6%). Less frequently mentioned were other accidents (5%); cholera (3%); HIV/AIDS (2%); or "other" causes (10%). The fatalities were approximately equal proportions of males and females (48:52).

In terms of causes of deaths, StatsSA differentiated between deaths due to natural and non-natural causes. The number of associated deaths for the ten leading recorded natural causes of death indicated that *"other forms of heart disease"*; *"tuberculosis"*; and *"influenza and pneumonia"* were the three reported causes that were associated with the most deaths for 1997, 1999 and 2001. it should be noted that the number of deaths which had *"tuberculosis"* or *"influenza and pneumonia"* as one of the reported causes increased substantially over the period. The proportion of deaths due to *"tuberculosis"* increased from 6.9% in 1997 to 11.3% in 2001. The proportion of deaths due to *"influenza and pneumonia"* also increased from 3.6% in 1997 to 7.0% in 2001. On the other hand, the proportion of deaths due to *"other forms of heart disease"* decreased from 6.3% in 1997 to 5.0% in 2001.

The StatsSA figures also reveal that in 1997 *"tuberculosis"* was the cause of death with the greatest difference between the percentage of males (63%) and females (37%). *"Malnutrition"* was among the leading causes of death among children aged under 4 and the numbers of deaths linked to *"malnutrition"* increased steadily.

Just over half (51%) of respondents thought that HIV/AIDS was a "big problem" in their communities, with almost one-fifth (18%) holding the view that it was not such a big problem. The remaining 31% did not know whether it was a big problem or not. Geography emerged as an important determinant of these perceptions, however, with a huge 81% of Marble Hall and 70% of Makhuduthamaga respondents seeing HIV/AIDS as a big problem

in their communities. In contrast, this was the view of 50% in Groblersdal, 44% in Fetakgomo and only 19% in Tubatse.

ANTHROPOMETRIC MEASUREMENTS

Children with a z-score for height-for-age below –2 SD of the median of the reference population were classified as stunted, which is an indicator for chronic malnutrition. The prevalence of stunting in Sekhukhuneland per age category is shown in Table 3. The sample size for the 12-23-month-old category was insufficient. For children two years and older, the severity of the prevalence of stunting was high (30.0-39.9%) in all three age categories, according to the WHO classification (Gorstein et al., 1994).

The prevalence of stunting per municipal area for children aged 24 – 119 months. The prevalence of stunting was high (30.0 – 39.9%) in the municipal areas of Fetakgomo, Greater Groblersdal, Greater Marble Hall and Greater Tubatse, and very high (>40%) for Makhuduthamaga, according to the WHO classification (Gorstein et al., 1994).

The 1995 SAVACG survey showed that the prevalence of stunting in the Northern Province was higher than the national prevalence. The prevalence of stunting in Sekhukhuneland (2004) was similar to the prevalence of stunting observed in the Northern province during the 1995 SAVACG study. Therefore, these findings suggest that Sekhukhuneland is one of the more vulnerable areas in terms of chronic child malnutrition.

Children with a z-score for weight-for-age below –2 SD of the median of the reference population were classified as underweight. The prevalence of underweight for Sekhukhuneland per age category is shown in Table 6. The sample size for the 12-23-month-old category was insufficient. For children two years and older, the severity of the prevalence of underweight was medium (10.0 – 19.9%) for children aged 24–71 months and 72–119 months, and high (20.0 – 29.9%) for children in the age group 120–215 months, according to the WHO classification (Gorstein et al., 1994).

Children with a z-score for weight-for-height below –2 SD of the median of the reference population were classified as wasted, which is an indicator for acute malnutrition. Children with a z-score for weight-for-height above 2 SD of the median of the reference population were classified as overweight for height. The prevalence of wasting and overweight for Sekhukhuneland per age category is shown in Table 9. The sample size for the 12-23-month-old category was insufficient. For children two years and older, the severity of the prevalence of wasting was low (<5%) in the age group 12 – 23 months, and medium (5.0 – 9.9%) in the age groups 24 – 71 months and 72 – 119 months, according to the WHO classification (Gorstein et al., 1994).

The prevalence of wasting per municipal area for children aged 24 – 119 months was calculated. The sample size for Greater Marble Hall was insufficient. The prevalence of wasting was low (<5%) for Greater Tubatse, medium (5.0 – 9.9%) for Greater Groblersdal and Makhuduthamaga, and very high (>15.0%) for Fetakgomo (17.1%), according to the WHO classification (Gorstein et al., 1994).

NUTRITION

On the household level three statements were applicable to more than 60% of the respondents:

- Eating less expensive / the cheapest brands of the same food (64.9%).
- Running out of money to buy food (63.6%).
- Eating less expensive / the cheapest types of food (62.4%).

These observations confirmed the importance of income when dealing with household food procurement. According to the hunger scale research within the National Food Consumption survey (Gericke, Labadarios & Nel, 2000), 7 out of 10 households did not have sufficient money to buy food. The above-mentioned results seem to support this finding.

When dealing with the quantity of food available within the households the study revealed that 52.6% of the households' members sometimes ate less than they should due to inadequate food availability, while 40.5% of the households' members sometimes had to skip meals due to inadequate food availability. These observations seem to be similar to a finding within the hunger scale research within the National Food Consumption survey (Gericke, Labadarios & Nel, 1999), according to which 1 out of 2 household reduced the size of meals or skipped meals due to a lack of food in the household.

According to the results 51.4% of the households indicated that their children sometimes ate less than they should due to inadequate food supplies in the household, while 40.6% of the households indicated that their children sometimes skipped meals due to inadequate food supplies in the household. Furthermore, 35.8% of the households indicated that their children sometimes went to bed hungry due to a lack of money to buy food. A number of observations from the hunger scale research within the National Food Consumption survey (Gericke, Labadarios & Nel, 1999) compare well with these observations:

- Four out of ten children were hungry at times due to inadequate food supplies in the household.
- One out of two children sometimes ate less than they should because there was not enough money to buy food.
- Four out of ten children sometimes had smaller meal sizes or skipped a meal due to insufficient money to buy food.

SEASONAL FOOD INSECURITY:

A particular vulnerability pattern identified by Polzer and Schuring through their study in nearby Bohlabela, was seasonal food insecurity (2003). Their survey showed that food insecurity was not felt equally throughout the year for many poor families. 64 percent reported seasonal stress, with the rest finding every month equally difficult to secure enough food for the household. The Polzer / Schuring study revealed that December and January were experienced as especially difficult months by 63 percent of those who experienced seasonal food insecurity, because of the expectation to provide new clothes and enough food for Christmas and especially school-related

expenses in January. Winter (June-August) was the other main time of concern, quoted by 28 percent of those with seasonal food stress, when there are no fresh fruits and vegetables in the gardens to supplement bought foods. Six percent also noted that August and September are difficult because there are fewer jobs. As indicated below, these seasonal variations in Bohlabela were confirmed by the FIVIMS survey.

The table below depicts various activities that household members in Sekhukhune are involved in throughout a typical year (see NovAfrica, 2005). It is clear that an agricultural activity starts from around October, ploughing and planting and ends in May for harvest. A concentrated demand for labour demand occurs in September/October in preparation of the land for planting and May during the harvest period. Either people use hoes mainly in smallholdings (backyard gardens) and in larger holdings a hectare or more, they hire tractors.

Oct.	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept
Preparation of Land							Harvest				

The procurement of staples through purchasing was applicable to a large number of households throughout the year (ranging from 59% to 66% in the various months). It is interesting to note that this staple food procurement mechanism was even more important in the months of March, April, May, June and July. This could possibly be explained by the nature of the maize production season. Normally green maize would be available from December up to February or March, while maize grain will normally be harvested from May onwards. Thus, it might be possible that the higher staple food purchasing among the survey households during March to July, could be attributed to the availability of higher maize stock levels in the maize harvesting period. The nature of the maize production season might also explain the observation that a larger number of households ate food they grew themselves during April to July (compared to the other months) since the period of April to July corresponds to the maize harvesting season.

It is interesting to note that according to the results above, the largest number of households experienced a period of lack of food or money during January and February, which can be linked with the results in Table 6 showing that borrowing and begging for food was high in the months of January and February (compared to many of the other months). These observations might be attributed to a number of factors such as:

- Household budget deficit caused by high spending patterns over the festive season.
- Lack of income during the festive season due to vacation leave.
- Funds being allocated to other cost items (such as school fees and –clothing) in January.

ONGOING FOOD SECURITY CHALLENGES:

As expressed in the Integrated Food Security and Nutrition Programme and reiterated by Schuring and Polzer, the country faces the following key food security challenges at the household and national levels (2003):

Household food production: the majority of poor, rural producers, especially in the former Bantustans such as in the northern municipalities of Sekhukhune, are deficit producers, with seasonally vulnerable production (see section under "agriculture"). Where there is an interest and available support structures, the challenge is to strengthen rural household food production, storage, and distribution, to facilitate access to markets and to impart marketing skills. Water is a key question with regard to agricultural production particularly with multiple pressures on an increasingly scarce resource (mining, irrigation farming, highly capitalised agriculture to the south).

Purchasing power: there is generally a limited scope of income opportunities, especially in rural areas, and reduced migration remittances means that many households in South Africa lack cash to purchase food. The challenge is to foster participation in the mainstream economy through pro-poor employment creation and to create sustainable opportunities through government assistance such as the public works programme.

Nutrition: especially children are vulnerable to malnutrition as shown by childhood stunting figures, especially in rural populations. The challenge is to empower and inform citizens so that they can make optimal choices for nutritious and safe food.

Safety nets: the government's role is to ensure that there are adequate safety nets and food emergency management systems as a last resort to assist households that are unable to meet their food needs from their own efforts and mitigate the extreme impact of environmental, economic, social or other shocks (Polzer & Schuring, 2003).

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