PURCHASING PATTERNS OF MAJOR PLANT STAPLES IN LOW-INCOME HOUSEHOLDS IN THE VAAL TRIANGLE

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Dissertation submitted in fulfilment of the requirements for the degree Magister Technologiae Food Service Management in the Department of Hospitality and Tourism, Faculty of Human Sciences, Vaal University of Technology

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September 2006

The financial assistance of the Central Research Committee of the Vaal University of Technology towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at are those of the author and are not necessarily to be attributed to the sponsor.

DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree

Signed.....

Date: 12 September 2006

ACKNOWLEDGEMENTS

Sincere thanks and appreciation are extended to the following institutions and persons:

- Almighty God for giving me strength and knowledge to go through and complete this study. Without Him it would have been impossible.
- Directorate of Research, Vaal University of Technology (VUT) for supporting this research. Special thanks go to Prof. J. Pretorius and the Ministry of Agriculture and Food Security in Tanzania for allowing the pursue of this masters' programme in South Africa.
- Ms S. Duvenage, study supervisor and mentor, for continued spirit, encouragement, excellent guidance and constructive criticism in this study.
- Prof J. Spowart, external supervisor from the University of Johannesburg, for valuable input and final comments on this study.
- Ms J. Ntuli and Ms R. Fani of the Gold Fields Library for valuable assistance in obtaining scientific publications needed for the study.
- Ms Mathabang, a close friend, for valuable support. The selection of hard working field workers made the field work a success.
- Mr. C Manyanda and Mrs. V. Nolan for assistance and patience with the statistical work.
- Dr. E.D.A Mrindoko and Dr. K. Koperski for professional reading and editing.
- Dr RM Rutengwe, husband and formerly a research fellow at the VUT, for technical and moral support. His lateral and logical thinking motivated the successful accomplishment of this project. My lovely children Neema, Ummulkheir, Ally and Abdulwakil for patience and love throughout my research.
- Parents, brother and sisters for prayers, love and encouragement towards the completion of my studies in South Africa.
- All those who in one-way or another contributed to the completion of this Master's dissertation.

ABSTRACT

Very poor families, mostly in developing parts of the world, consume a monotonous staple diet out of need and are least likely to eat healthy diets. This study focussed on how the low income households in the urbanised informal settlement of Eatonside used available income to buy plant staples (situation analysis), the share of the food budget Rand allocated to this (investigative survey), as well as the extent of influence of low-income, food prices, and locality on the buying behaviour. The aspects of where, how much, when and how low-income households purchased were examined in order to determine the purchasing patterns for plant staples.

From the households surveyed, most (62,2%) received an income of less than R500.00/month. Household size affected food purchasing and varied according to the type of household head. Total food budget expenditure by male-headed households was 83,1 percent, 58,1 percent by female-headed households and 27,9 percent by de facto headed households. The total average share/portion of the food budget allocated to purchasing of plant staples was reported as R64.63 ±(R8.04). While male-headed households spent 15 percent of the total share/portion/month allocated to purchasing of plant staples, female-headed households spent 23,1 percent and de facto-headed households spent 21,1 percent. Total average expenditure allocated to plant staples was 58,1 percent for maize meal, 23,2 percent for rice, 4,6 percent for mabella, 3,9 percent for sugar beans, 3,7 percent for samp, 2,5 percent for split peas and 4 percent on various other plant staples. Price and quantity (63,6%) were main purchasing indicators. Less plant staples were purchased when prices were high and more when prices were low. Normally when prices of other food products are high, people buy more staples to survive. Most frequent purchases for maize meal was 12,5 kg (65%) once a month (41,7%) at an average price of R32.80 per unit from spaza shops. Plant staples were mostly purchased once a month (80,2%) at supermarkets (47%) or spaza shops (42%). The urbanised low income households of Eatonside were poor, leading to the allocation of a major component of the budget to food (plant staples). Purchasing patterns, plant staples, low-income households, Eatonside informal settlement.

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LIST OF ABBREVIATIONS, ACRONYMS AND SYMBOLS

AIDS	Acquired Immune Deficiency Syndrome
ANOVA	One way analysis of variance for quantitative dependent variable by a single factor (independent) variable
BTech	Bachelor Technologiae
CRC	Central Research Committee
CIDE	Cambridge International Dictionary of English
DDIS	Dietary Diversification Intervention Study
Dr	Doctor
FAO	Food and Agriculture Organisation
FGD's	Focus Group Discussions
FHEC	Faculty of Humanities Ethical Committee
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
Kg	Kilogram
Mr	Master
MI	Micronutrient Initiative
MLL	Minimum Living Level
MRC	Medical Research Council
MTech	Magister Technologiae
n	number
NFCS	National Food Consumption Survey
NRF	National Research Foundation
NICUS	Nutrition Information Centre University of Stellenbosch
NUTFS	Nutrition and Food Security
PhD	Doctor of Philosophy
QFFQ	Quantitative Food Frequency Questionnaire
RSA	Republic of South Africa
SA	South Africa
SANCSG	South Africa National Consumer Studies Glossary

SARPN	Southern Africa Regional Poverty Network
SD	Standard Deviation
SPSS	Statistical Package for Social Science
SSA	Sub-Saharan Africa
USA	United state of America
USAID	United States Agency International Development
US $	United States Dollar
VAT	Value Added Tax
VTNRP	Vaal Triangle Integrated Nutrition Research Project
VTT	Vaal Triangle Technikon
VUT	Vaal University of Technology
WBD	World Book Dictionary
WBE	World Book Encyclopaedia
WFP	World Food Programme
WPAP	White Paper on Agriculture Policy
<	Less than
>	Greater than
2^{ND}	Second
3^{RD}	Third
4^{TH}	Fourth
7^{TH}	Seventh
ZAR	South African Rand

DEFINITION OF TERMS

Caregiver

Is the mother or a member of the family, usually the grandmother of the child, who cares for the child during the day (Faber 2004:3). In this study, a caregiver was regarded as the person who provided the household members with major plant staples.

Cereal grains

A product derived from the fruit of any cultivated grasses, members of the monocotyledonous family Graminae. The principal cereal grain crops are wheat, barley, oats, rye, rice, maize, sorghum and millet (Kent & Evers 1994: 1, 29; RSA 2003: 6).

Consumer behaviour

The behaviour that consumers display in search for, purchasing, using, evaluating and disposing of products, services and ideas that are expected to satisfy the needs (SANCSG 2005:1). All consumer behaviour is driven by the market values that consumers seek (Sheth & Mittal 2004:v). For the purpose of this study the aspect of purchasing is of importance.

Food insecurity

The probability that in any given year, actual food consumption will fall below a minimum daily requirement level (Salih 1995:4).

Food security

Exists in the households when all people, at all times, have physical and economic access to sufficient, safe and nutritional food to meet their dietary needs and food preferences for an active and healthy life (Coutsoudis, Maunder, Ross, Ntuli, Taylor, Marcus, Dladla, & Coovadia 2000:1; FAO 1996:1; Salih 1995:5; Sayed 2002:4).

Legumes

Edible seed from the botanical family Leguminosae such as beans, peas, lentils and groundnuts (Latham 1997: 279). The pods splits into two halves with the seed attached to the lower edge of one of the halves (UD 1988:879).

Plant staples

A plant food in steady or constant demand (UD 1988:1481) such as maize, rice, sorghum, wheat, soya beans, dry beans and peas and consumed locally or regularly by the greatest section of the population (MI 1997:6; WBD 2003:1595; 2042). For the purpose of this study plant staples are constituted by cereal grains and legumes (see individual definitions).

Purchasing patterns

Are any arrangements, the configuration of qualities or traits characterizing a person/s or group/s in the act of buying or procurement by paying a price of the goods and services in the community (WBD 2003:1529, 1690). For the purpose of this study purchasing patterns would be defined as indicative of where, how much, when and how consumers purchase plant staples. Therefore it is argued that purchasing patterns will be revealed through examining the different consumer behaviours of low-income households for the indicated variables of where, how much, when and how consumers purchase plant staples (Van der Walt, Strydom, Marx & Jooste 1996:99).

Purchasing power

The financial ability of an individual to make a purchase; the ability to buy things as measured by the amount of money one earns or has available (CIDE 1996:1148; WBD 2003:1690).

Spaza shops

A uniquely South African, small retail, home-based convenience store operating in a disadvantaged community. Spaza is a Zulu word meaning "hidden or substitute", an apartheid era term used when restrictions were placed on black owned business, thus eliminating the need for the consumer to travel great distance to obtain goods and to transport them back home (Bear, Bradnum, Tladi & Pedro 2005:7; De Bruin 1991:2; Terblancé 1998:38).

Subsidy

Money payment or other form of aid that the government gives a person or organisation. The purpose is to encourage some needed activity by furnishing funds, free land, tax relief or legal rights that might otherwise be lacking (WBE 2002:943).

Township

A disadvantaged community of low-income black or/and coloured residents. Townships were established as separate areas during the apartheid era when racial groups were separated into different residential areas (Bear, Bradnum, Tladi & Pedro 2005:7).

Wages

Generally paid according to the number of hours worked or the amount of labour produced (WBE 2002:101).

CHAPTER 1

INTRODUCTION

1.1 CONTEXT OF THE DISSERTATION

The context of this dissertation is imbedded in the larger Dietary Diversification Intervention Study (DDIS) of the Vaal Triangle Integrated Nutrition Research Project (VTINRP) Refer to Figure 1 for the conceptual framework of the VTINRP. The objective of the DDIS was to improve the dietary intake of low-income households in the Eatonside urban informal settlement as part of the initiative to address household food insecurity in an urban area. This forms part of a National Research Foundation niche area at the Vaal University of Technology.

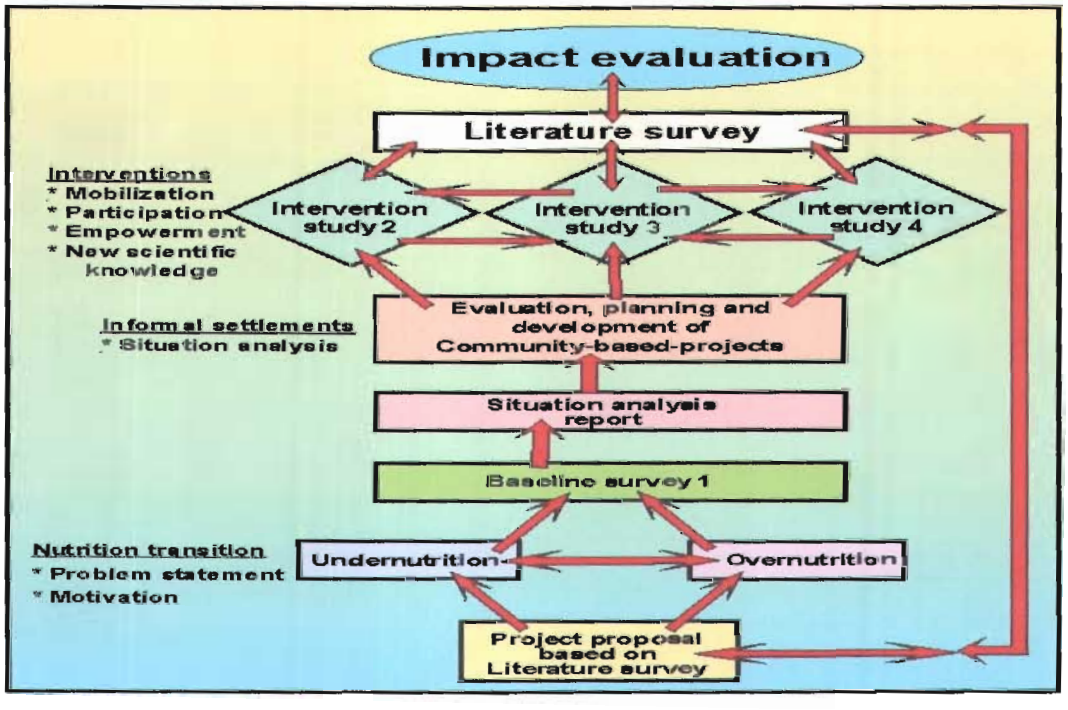

Figure 1 **Conceptual framework of the VTINRP (adapted from Oldewage-Theron & Rutengwe 2002:1)**

1.2 INTRODUCTION

Limited scientific information is available on the purchasing behaviour (patterns) of low income households in informal settlements in South Africa. A better understanding of purchasing patterns (where, how much, when and how) of plant staples in terms of socio-demographic, socio-economic and locality factors could assist in generating new scientific knowledge and providing high-quality information to policy makers and the food industry (Van der Walt, Strydom, Marx & Jooste 1996:99).

1.3 BACKGROUND TO THE PROBLEM

Despite an improved global nutrition situation, the nutrition status of several countries, especially in Africa, is deteriorating (Flores 2001:1). Although dramatic progress has been made in recent years in some areas of nutrition, 790 million people in the developing world and 34 million people in developed countries are still undernourished and do not have enough to eat (Pinstrup-Andersen & Babinard, 2001:9). Efforts to reduce poverty, raise incomes, lower food prices and redistribute wealth could have a major impact on nutrition (Latham 1997:10). Food is more than a necessity of life; access to adequate amounts of safe and nutritious food is one of the most fundamental human rights (Ferguson 2001:1).

A national household survey (n=4 000) of health inequalities among ethnic groups in South Africa indicated that 57 percent of the total population lived in poverty, that 39 percent was vulnerable to food insecurity, while only 25 percent of households were food-secure (Sayed 2002:11).

The South African National Food Consumption Survey (NFCS) reported that although food security is not a national problem, household food security is (Labadarios, Steyn, Maunder, MacIntyre, Swart, Gericke, Huskisson, Dannhauser, Voster, & Nesamvuni 2000:492). According to Webb and Rogers (2003:7), households become food insecure when they are unable to mitigate negative impacts on food availability, access, and/or

utilization. This stark contrast between household food security and national food security compounds the impact of the problem.

Poverty, diseases and ignorance will continue to haunt poor urban areas in many low-income countries (Oldewage-Theron & Rutengwe 2003:9). According to Ferguson (2001:1) the poor remains in an unfortunate cycle of poverty that further aggravates problems faced by individuals, families and communities. The poverty gap observed is the worst in Gauteng, and is accredited to the population that is rapidly exceeding economic growth (Schwabe 2004:1-2).

At present 66 percent of the South African population (28 million people) are urbanised of which the majority live in informal settlements due to the shortfall in permanent housing. Other factors, apart from legislation that contributed to squatting, include structural violence, low wages and unemployment (Cunnan & Maharaj 2000:668-669). The Vaal Triangle is an industrial area situated approximately 70km south of Johannesburg. The population consists of approximately 795 000 people of which 48 percent are unemployed. Approximately 45 percent of the households in the Vaal Triangle live in poverty (Oldewagen-Theron, Dicks, Napier & Rutengwe 2005:14). According to Oldewage-Theron *et al.* (2005:22), 94 percent of the households in the Eatonside informal settlement were unemployed. Nearly half of the households, namely 43 percent, received an income below R500 per month.

Cade, Upmeier, Calvert and Greenwood (1999:505) and Ruel, Garrett, Morris, Maxwell, Oshaung, Engle, Menon, Slack and Haddad (2001:1) argued that people with low incomes, mostly in developing parts of the world, are least likely to eat healthy diets. As staple food forms the major part of a person's daily diet on a regular basis (Jooste, Langenhoven, Wolmarans & Benadé 1994:88) and very poor families mostly consume a monotonous staple diet out of need and supplemented by other food being purchased (Uauy-Dagach & Hertramph 2001:639), the findings by Blisard (2000:20) are supported in that low-income households increase spending on cereal grains (and bakery products).

The purpose of this study was therefore to examine the purchasing behaviour (patterns) of low-income urbanised households of major plant staples (cereal grains and legumes) in terms of socio-demographic, socio-economic and locality factors (listed on page 7).

1.4 RATIONALE AND MOTIVATION

Webb and Rogers (2003:5) described food security as a concept that has evolved far beyond the traditional focus on food supply at national level. Food security demonstrates four key concepts of importance, namely food availability, food access, food utilisation and risks that can disrupt any one of these factors. Food access refers to the ability of households to secure food in the market or from other sources such as transfers and gifts.

According to Labadarios *et al.* (2000:492) food security may be determined by investigating indirect proxy indicators such as real wages, employment and food prices. More direct indicators for determining food security include food procurement patterns, food consumption patterns and people's perceptions of food security. Webb and Rogers (2003:5) proposed that information on household purchasing practices could be used as a direct indicator of household food security.

Maxwell, Levin, Armar-Klemesu, Ruel, Morris and Ahiadeke (2000:65), citing studies by Atkinson (1995); Boughton and Reardon (1997); Chaudhri and Timmer (1986); Drakakis-Smith (1991); Randolph (1997); Tinker (1997), suggested that urban diets are strongly influenced by price and income, as well as by lifestyle, social relationship, marriage pattern, family structure, availability of packaged and processed food, advertising and the media. Maxwell *et al.* (2000:61) indicated that urban food consumption patterns are less dominated by staple foods (if income is increased), than rural consumption patterns. Urban households allocate more of their food budget to complimentary food groups such as meat and fish, vegetables, fats and oils, dairy products and eggs.

South African food consumption studies undertaken amongst different population groups (1983-2000) to estimate usual food consumption, indicated that the main contributors to cereal grains and legume plant staple intake by people ten years and older were maize meal, samp/mealie-rice (grits), white rice, peanuts and dry beans. It was also found that the choice and availability of plant staples in low-income households depended mostly on household income (Nel & Steyn 2002:136-142).

The baseline survey conducted in the Eatonside informal settlement found that the only major means through which Eatonside dwellers obtained food was through purchasing (Oldewage-Theron & Rutengwe 2002:1). A high level of plant staple intake as part of the food consumption pattern of the low-income households of the urbanised Eatonside informal settlement was also measured (Oldewagen-Theron *et al.* 2005:23).

Literature on the purchasing behaviours (patterns) of households for major plant staples in urbanised informal settlements in South Africa is limited. The purchasing patterns for plant staples by low-income consumers in the Eatonside informal settlement households are unknown and will be addressed in this study.

For the purpose of this study it was argued that the purchasing patterns of plant staples would be revealed through the examination of consumer behaviour by low income households for the indicated variables of where, how much, when and how consumers purchase (Van der Walt *et al.* 1996:99).

1.5 RESEARCH QUESTIONS

The main purpose of this study was to examine the purchasing behaviours (patterns) by the low-income urbanised households of the Eatonside informal settlement for major plant staples (cereal grains and legumes) in terms of socio-demographic, socio-economic and locality factors (listed on page 7).

This investigation was guided by the following research questions:

- To what extent do low-income households use available income to purchase plant staples?
- What share/portion of the food budget (in Rand) is available to purchase major plant staples?
- To what extent do income, food prices and locality influence the purchasing behaviours for major plant staples?

1.6 STUDY OBJECTIVES

In order to achieve the main purpose of this study and to answer the research questions, the objectives were to:

- Elicit primary data on purchasing patterns for major plant staples in low-income food-insecure households.
- Examine the share/portion of the food budget (in Rand) allocated to the purchasing of major plant staples vs. the total food budget available.
- Examine the influence of low-income, food prices and locality on the purchasing patterns for major plant staples in low-income households.
- Produce a baseline on commonly consumed plant staples.

1.7 VARIABLES

The following variables were investigated:

- Demographic information: age and education level of household caregivers, household size and dependency ratio, gender and ethnic groups.
- Socio-economic factors: primary data were gathered on the sources of household income and livelihoods, household income level, household expenditure on food, type, quantity, frequency and place of plant staple purchasing, price of plant staples purchased, stock of plant staples at nearby spaza shops (where, how much, when and

how) and the subsidy policy on grains (cereal grains and legumes). Secondary data was obtained on food consumption patterns (Oldewage-Theron *et al.* 2003:23).

- Locality factors: the locality of Eatonside, access to public transport, spaza shops, super markets as well as costs of transport.

1.8 CONTEXTUAL FRAMEWORK OF DISSERTATION

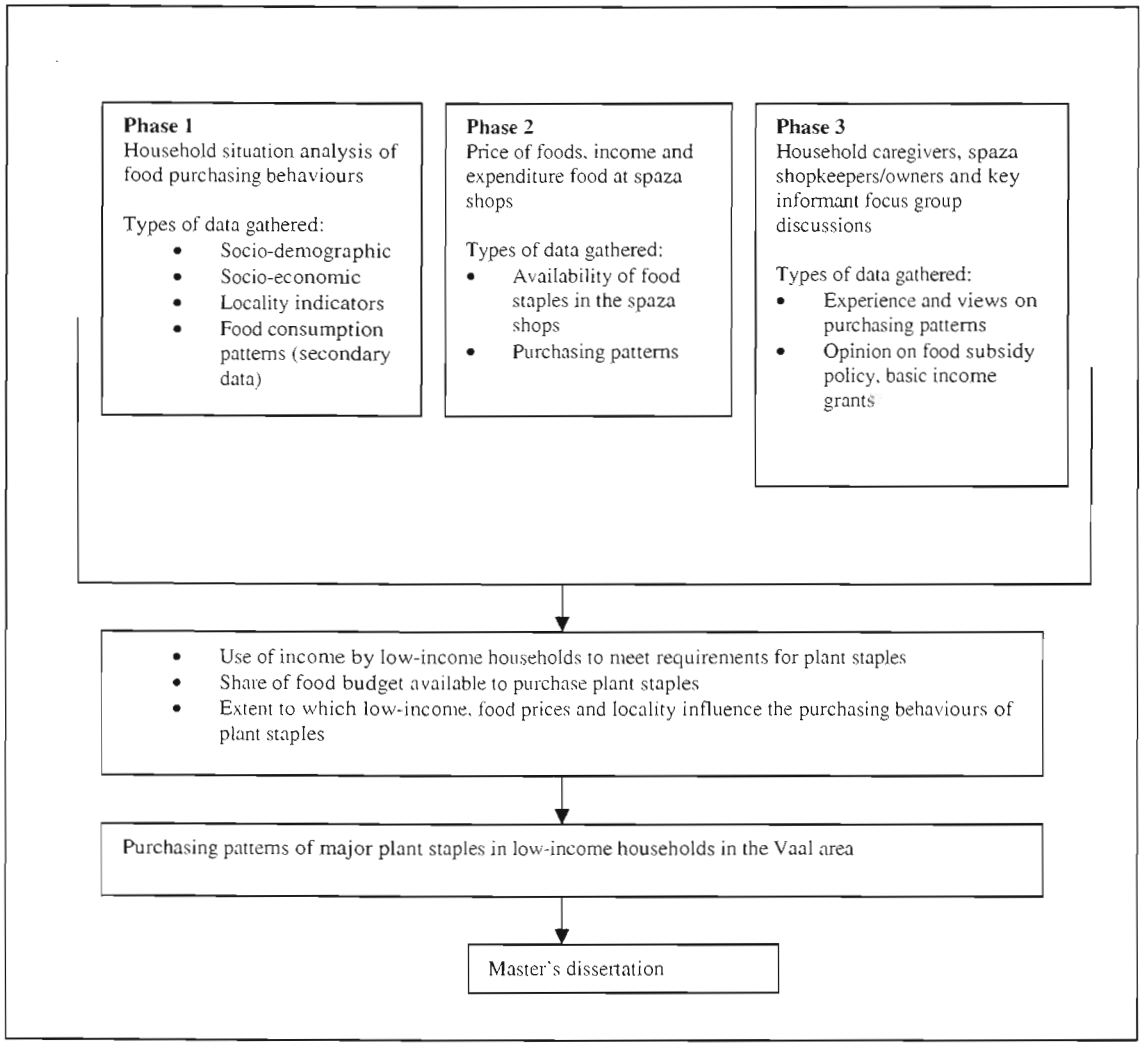

Figure 2 Contextual framework of dissertation

The contextual framework of this dissertation, as illustrated in Figure 2, focuses on the purchasing behaviour (patterns) of major plant staples in low-income households at the Eatonside informal settlement.

1.9 SCOPE OF THE STUDY

1.9.1 Inclusion criteria

- The Eatonside informal settlement is a representative studied of other informal settlements in the Vaal Triangle, South Africa.
- Key variables not previously researched in the study population, were investigated such as household expenditure on food, type, quantity, frequency and place of plant staple purchasing, price of plant staples purchased, stock of plant staples at near by spaza shops and access to public transport, spaza shops and supermarkets.
- Seventy-four (74) households were systematically chosen (described in chapter 3) out of the 360 households previously involved in a baseline study (Oldewage-Theron *et al.* 2005:16).

1.9.2 Exclusion criteria

- Health and nutrition profiles and data on caregiver food consumption patterns were not inclusive in the present study but were available as secondary data (Oldewage-Theron *et al.* 2005: 19-23; Rutengwe, Oldewage-Theron, Dicks & Napier, 2004:73-92).
- Non-cereal grain and legume staples.
- Marketing initiatives by sellers.
- Influence of seasonality.

1.10 OUTLINE OF THE METHODOLOGY

The purpose of this study was to examine the purchasing behaviour (patterns) of major plant staples (cereal grains and legumes) displayed by low-income urbanised households in terms of socio-demographic, socio-economic and locality factors (listed on page 7) in Eatonside as representative of informal settlements in the Vaal Triangle. A multi-methodological cross- sectional survey design was employed in order to achieve the aim. This included parallel theoretical and empirical surveys while using pre-tested structured household questionnaires, personal interviews, on-site observations, a weekly spaza shop stocktaking questionnaire, a weekly household plant staple inventory questionnaire for the period studied and focus group discussions.

CHAPTER 2
LITERATURE SYNTHESIS

2.1 INTRODUCTION

The purpose of this investigation was to examine the purchasing patterns of major plant staples (cereal grains and legumes) by low income urbanised households. Socio-demographic, socio-economic and locality factors were described and emerging purchasing patterns of major plant staples were identified in terms of purchasing behaviour of where, how much, when and how buyers purchase cereal grains and legumes (Van der Walt *et al.* 1996:99; WBD 2003:1529, 1690). To better understand the setting of the problem, urbanisation, poverty and food security were also discussed.

2.2 FOOD SITUATION IN SUB-SAHARAN AFRICA

2.2.1 Food security in Africa

Globally, Africa is the only continent that has experienced a decline in food production per person during the past 30 years. Consequently, more than 70 percent of the black African population lack the requirements for a minimal diet, shelter and clothing. In this continent, food insecurity has become synonymous with economic malaise (Salih 1995:1). Food insecurity is defined as the probability that in any given year, actual food consumption will fall below a minimum daily requirement level (Salih 1995:4). Since the beginning of the 1980s, the per capita income and consequent food purchasing ability in Sub-Saharan Africa (SSA) have been declining at an average rate of 1.6 percent annually and the short-term economic prospects are not encouraging (Salih 1995:8).

Eradicating hunger in Africa is a major challenge because of the rapid population growth (Flores 2001:1; Pinstrup-Andersen & Babinard 2001:11; Sayed 2002:7; Underwood 2001:53), low crop yield (Massari 2003:1) and increasing environmental degradation (UNICEF 1990:1).

The Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) pandemic has greatly affected food security (FAO 2003:3; Lambrechts & Barry 2003:12; Sayed 2002:6-7). HIV/AIDS has increased food insecurity through its impact on the physical ability of household members to cultivate/acquire food. Therefore, many households in Africa have become over-burdened in the process of helping each other with food. This has also reduced the annual gross domestic product (GDP) growth of African countries by one percent (FAO 2004a: 1).

2.2.2 Household food security and insecurity

The Food and Agriculture Organisation (FAO 1996:1) states that household food security exists only when all people, at all times, have physical and economic access to sufficient, safe and nutritional food in order to meet dietary needs and food preferences for an active and healthy life (Coutsoudis *et al.* 2000:1). Household food insecurity status is significantly associated with household food supplies and some measures of dietary intake (Kendall, Olson, & Frongillo 1996:1022). The plant staple food supplies (cereal grains and legumes) available in the households of the target population were investigated as part of this study.

At household level food security is determined by the adequacy and stability of food supply and food access. Adequate food supply at household level can be achieved either through production and/or purchase or through exchange. Storage and processing and a socially sustainable environment determine the stability of food supply. Access to food at household level can be through physical, economic and social means (Kinabo 1998:12-19). Household food security of the urban poor depends on income, prices and the need to spend earnings on other essentials such as housing and transport. Threats to food security include increased prices, job losses, income reduction, rent increases, and larger numbers of dependants (more children or relatives who live in the household) (Latham 1997:20). For the purpose of this study, household income, staple food prices,

the percentage of household income allocated to food procurement and transport and household size were of importance.

Any crisis that has an adverse effect on the livelihood of the family may result in household food insecurity, for example serious illness that may result in loss of income in any urban household, or reduced agricultural production in a farm household.

Gender discrimination, subordination of women in society, overburdening and other difficulties met in women-headed households also contribute to household food insecurity (Latham 1997:20).

2.2.3 Household food security in Southern Africa

More than 16 million people in Southern Africa have been affected by food shortages as a result of droughts and floods. In 2001 and 2003, hailstorms struck Southern Africa, destroying crops and causing massive food shortages across the region. In these periods subsistence farmers experienced endemic food shortages, especially during the few months before the next harvest (Lambretchts & Barry 2003:3).

The World Food Programme (WFP) estimated that 13 million people in this region needed food assistance in 2002-2003. A regional food deficit was estimated at more than 3 million tonnes of cereals while an increase in food prices was envisaged (Hugo & Nanterre 2003:1; Southern African Regional Poverty Network (SARPN) 2003:1).

2.2.4 Household food security in South Africa

In South Africa, national food security does not guarantee household food security (Steyn, Robertson, Mekuria, & Labadarios 1997:75; Labadarios *et al.* 2000:492). A meta-analysis involving 55 studies and various reports showed that South Africa was nationally food-secure, yet the dietary intakes of the rural population and urban blacks were indicative of household food insecurity (Steyn *et al.* 1997:75-79). According to

Faber, Smuts, and Benade (1999:59), South Africa was not classified by the FAO as a low-income food deficient country since it produces surplus food. However, Labadarios *et al.* (2000:492) argued that despite relative wealth, between 30 and 40 percent of South African households did not have access to an adequate diet. Due to the prevalence of poverty, it is estimated that 40 to 50 percent of households are poor and food-insecure (May, Woolard, & Klasen 2000:48).

2.2.5 Food availability and accessibility in low-income households

Food availability is achieved when sufficient quantities of food are consistently available to all individuals within a household. Such food can be supplied through household production, household purchase and other domestic output or food assistance (FAO 1995:1). To nourish a population adequately, there must be a sufficient quantity and variety of good-quality food in the country. Most of the food in the world is based on cereals and the second largest amount of food comes from root crops followed by legumes or pulses. To improve nutrition, agricultural planners should aim to expand the production of currently grown staple cereals and legumes (Latham 1997:17).

Staple food markets have failed to provide affordable foods and have led to the discouragement of staple food production and distribution and consequently to the destabilising of staple food prices for producers and consumers (Lambrechts & Barry 2003:14). Food accessibility is influenced by the availability of food in markets, its physical accessibility and affordability, which in turn affects household dietary intake among the poor households in urban areas.

The main determinants of food accessibility at household level include prices, income and access to formal and informal transfers of the urban poor. Access to food depends upon whether or not the household has enough income to purchase food at prevailing prices. A clear picture will emerge through this research project as applicable to the urban poor. Income may exhibit a seasonal aspect since many of the urban poor tend to

be employed in the informal sector (Latham 1997:17; Ssewanyana 2003:11; Webb & Rogers 2003:4).

In a situation where incomes are low, reducing the price of a common staple food such as maize or rice is equivalent to raising the income of those who purchase these foods. Similarly, increasing the price is equivalent to lowering the income of those who purchase the foods (Latham 1997:18). Therefore, high prices hinder access to food by poor urban households (Ssewanyana 2003:52).

In poor urban households 60 to 80 percent of income is spent on food. Households are vulnerable to higher food prices due to either transport costs or monopolistic practices by powerful traders, which leave the households with little choice of where to buy, consequently increasing the risks of consuming poor quality food (FAO 2004b:1).

2.3 NUTRITION SECURITY

Adequate nutrition is a basic human right and embedded in the constitution of most developing countries (De Onis, Monteiro, Akre & Clugstone 2002:2). This concept includes household food security, caring capacity and health (Labadarios *et al* 2000:513; NUTFS 2001:58).

Therefore, it is not enough to produce adequate food; it is also necessary that food produced is acceptable to consumers and undergoes proper preparation (Kinabo 1998:24). Dobson, Beardsworth, Keil and Walker (1994:3) indicated that in managing the household budget, women gave priority to food preferences of other members of the household. It was also indicated that low-income did not change household food preferences - families rather struggle to continue to eat what is considered to be a 'mainstream' diet. A healthy and nutrition oriented household environment together with good care and feeding practices are essential for low-income households (Garrett 2000:1).

2.3.1 Life style in low-income households

Life style refers to the way of living of individuals or families and includes behaviour and purchasing patterns; especially in the way people spend their time and money (Strydom, Jooste & Cant 2000:89).

According to Dobson *et al.* (1994:1-3), the movement to and the experience of a low income varied among households, yet it was possible to identify certain strands of behaviour that households had adopted in adjusting to having less money. According to Walker, Dobson, Middleton, Beardsworth and Keil (1995:7), financial survival is about juggling the household budget. It is also when demand exceeds the budgeted amount that money is first borrowed from other areas. Dobson *et al.* (1994:1) suggested that considerable pressures were involved in managing a low income in terms of food and other expenditures.

2.4 PLANT STAPLES

Throughout the ages plants from the grass family, namely the cereal grains, have been cultivated for edible seeds. Cereals including maize, sorghum, millet, wheat, rice, barley, and oats form an important part of the diet of many people (Latham 1997:255).

For the most part, ethnic groups consumed cereal grains and grain products (Agbola & Saini 2003:283; Webb & Rogers 2003:2).

Data from ten countries (Bangladesh, Egypt, Ghana, India, Kenya, and Kuala Lumpur, Malawi, Mali, Mexico and the Philippines) indicated that, on average, a one percent increase in dietary diversity is associated with a one percent increase in household per capita consumption. A zero comma seven percent increase in household per capita energy availability is associated with a zero comma five percent increase in household per capita energy availability from staples and a one comma four percent increase in household per capita energy availability from non-staples (Webb & Rogers 2003:3).

In order to estimate the usual food consumption in both urban and rural areas, the South African food consumption studies undertaken amongst different population groups between 1983 and 2000 indicated that maize, samp/mealie-rice, rice, white rice, peanut butter and dry beans were the main contributors to the staple (cereal grain and legume) intake for people aged ten years and over (Nel & Steyn 2002:136-142).

2.4.1 Nutritional value of plant staples

Table 1 indicates the nutritional values of some selected plant staples commonly consumed by low-income households in South Africa. Latham (1997:255) reported that despite the fact that the shape and size of the seed may be different, all cereal grains have a fairly similar structure and nutritive value. For example, 100g of whole grain provides about 1465kJ, 8 to12g of protein and useful amounts of calcium, iron (though phytic acid may hinder absorption) and B vitamins.

2.4.1.1 Maize

Maize grains contain about the same amount of protein as other cereal grains (8-10%). However, much of it is in the form of zein, a poor quality protein containing only small amounts of lysine and tryptophan. Maize forms the staple diet of many countries in the world, and is also used for the manufacture of starch, syrup and sugar, ready-to-eat cereals (corn flakes), meal, flour and industrial spirits (Kent & Evers 1994:22; Latham 1997:258).

Table 1 **Nutrient content of selected plant staples (/100g) (Adapted from Latham 1997:256)**

Plant staples	Energy (kJ)	Protein (g)	Fat (g)	Calcium (mg)	Iron (mg)	Thiamine (mg)	Riboflavin (mg)	Niacin (mg)
Maize flour, whole	1476.95	9.3	3.8	10	2.5	0.30	0.10	1.8
Maize flour, refined	1539.71	9.4	1.0	3	1.3	0.26	0.08	1.0
Rice polished	1510.42	6.5	1.0	4	0.5	0.08	0.02	1.5
Rice parboiled	1522.98	6.7	1.0	7	1.2	0.20	0.08	2.6
Wheat whole	1351.43	12.6	1.8	36	4.0	0.30	0.07	5.0
Wheat flour, white	1426.74	9.4	1.3	15	1.5	0.10	0.03	0.7
Millet bulrush	1426.74	10.4	4.0	22	3.0	0.30	0.22	1.7
Sorghum	1443.48	10.7	3.2	26	4.5	0.34	0.15	3.3

2.4.1.2 Rice

In rice, like in other cereals, the outer layers and the germ together contain 80 percent of thiamine (Table 1). The endosperm, though constituting 90 percent of the weight of the grain, contains less than 10 percent of thiamine. Lysine and threonine are the limiting amino acids in rice. Rice is mainly consumed as human food and is one of the most consumed staple cereals. In Japan a type of rice beer called saké is brewed (Kent & Evers 1994: 20; Latham 1997:258-259).

2.4.1.3 Wheat

Globally, wheat is the most widely cultivated cereal grain and the products based on wheat are very important for human nutrition. Wheat provides a little more protein than does rice or maize, about 11g per 100g (Table 1). The limiting amino acid is lysine. In

many industrialised countries wheat flour is fortified with B vitamins and sometimes iron and other nutrients. Wheat is one of the staple cereals consumed in many countries. The suitability of the product for a specific purpose depends mainly on the miller and the consumer who requires palatability and good appearance in products purchased. A high nutritive value and a reasonable price are important (Kent & Evers 1994: 6-7; Latham 1997:259-260).

2.4.1.4 Millet and Sorghum

These are valuable staples because both contain a higher percentage of protein (10.4g and 10.7g respectively) than maize (Table 1) and the protein is also of better quality, with a fairly high content of tryptophan. These cereal grains are also rich in calcium and iron. Millet and sorghum are the staple foods in many parts of Africa, Asia, Central America and the Arab countries of the Middle East; sorghum is also utilised as a base for beverages. About 300 million people rely on sorghum and about 400 million people rely on millet for sustenance. Teff, Quinoa and Fonio are types of millet grown in the highlands of Ethiopia and West Africa (Kent & Evers 1994: 24-27; Latham 1997:260-261).

2.4.1.5 Oats

Oats contain more protein than maize, rice, or wheat, but also a considerable quantity of phytic acid, which may hinder absorption of iron and calcium. Oatmeal is used for manufacturing of oat flour for infant foods, oatcake for baking, rolled oat for porridge, and manufacture of ready- to-eat breakfast cereals (Kent & Evers 1994: 14; Latham 1997:261).

2.4.1.6 Legumes or pulses

Beans, peas, lentils and groundnuts belong to the botanical family *Leguminosae*. A wide variety of these legumes are important in diets in Asia, Africa and Latin America. All

the legumes (excluding soya beans) have somewhat similar nutritive values that are about 22 percent protein and good quantities of thiamine, riboflavin and niacin. Legumes are richer than most other cereals in iron and calcium (Latham 1997:271-272).

2.4.1.7 Soybeans

Soybeans contain up to 40 percent protein of a higher biological quality than any other plant source, 18 percent fat and 20 percent carbohydrate (Table 1). However, soybeans have not become a popular food in Africa or Latin America due to little local knowledge of the best preparation methods. Those without experience of soybeans find them difficult to prepare and cook (Latham 1997:272).

2.5 PURCHASING BY LOW-INCOME HOUSEHOLDS

Purchasing is an activity concerned with the acquisition of products and is often associated with obtaining the right product, in the right amount, at the right time and at the right place (Spears 1995:264). For the purpose of this study, purchasing patterns were indicative of where, how much, when and how buyers purchase cereal grain and legumes (Van der Walt *et al.* 1996:99; WBD 2003:1529, 1690). Purchasing power is the ability to buy things as measured by the amount of money one earns or has available (CIDE 1996:1148; WBD 2003:1690).

2.5.1 Food purchase decisions

Baron and Mueller (1995:34) found that food purchasing involves consumer decisions on various elements. Agbola and Saini (2003:280) indicated that socio-economic and demographic characteristics of households are important factors that influence a decision to consume staple foods and are therefore imbedded in the purchasing decisions made. Strydom *et al.* (2000:78-79) argued that purchasing occurred when the buyer decided to buy while considering the brand, vendor, quantity, time and payment method, as shown in Table 2.

Table 2 **Where, how much, when and how buyers purchase (Van der Walt, Strydom, Marx & Jooste 1996: 99)**

Where	How much	When	How
Supermarket	Purchases regularly	Time of day	Cash
Discount store	Purchases now and then	Day of week	On credit
Department store	Purchases never	Season	Lay-by
Shopping centre			Hire purchase
			Internet

2.5.2 Food purchasing by low-income consumers

In South Africa, low income consumers which refer mainly to black and coloured people who live in large township communities, spend their groceries budgets mainly in three places namely the spaza shops near their homes, large wholesalers located on the periphery of the township and supermarkets near their work (Bear *et al.* 2005:11). Cant and Brink (1999:4) explained that low-income consumers usually purchase from a spaza store which is conveniently within walking distance.

Coutsoudis *et al.* (2000:6-7) states that staple foods are bought in bulk, usually once a month. This study further suggested that purchasing is dependent on when money is available (e.g. contribution to the household income by husbands that are working elsewhere), access to shops, or availability of storage facilities. Cant and Brink (1999:9) study found that black consumers do their monthly shopping at the major supermarkets in the city centres, but the day to day and weekly shopping are conducted within the townships.

Tladi, Miehlbradt, Pedro and Bradnum (2003:2) however, confirmed that almost all township residents' purchase from spaza shops as 75 percent use spaza shops every day. The survey results obtained from the Cant and Brink (1999:6) study indicated that children do most of the purchasing in the townships.

2.6 FACTORS INFLUENCING PURCHASING PATTERNS IN LOW-INCOME HOUSEHOLDS

Many factors are involved in influencing food purchasing patterns and are described as follows:

2.6.1 Demographic factors

According to Mmakola (1996:15) demographic characteristics play a large role in determining food purchases. Household budgets, the family life cycle stage, consumer age, socio-economic class, gender, geographical location and education seem to have a widespread effect (Davies *et al.* 1998:104; Shine, O'Reilly & O'Sullivan 1997:291). All these factors, excluding the family life cycle stage, were investigated as part of this study.

2.6.2 Socio-economic factors

For the purpose of this study the following socio-economic factors were investigated:

2.6.2.1 Education status, household size and dependency ratio

Labadarios *et al.* (2000:81) reported that one of every ten mothers of children of all age groups in South Africa had no education, 25 percent of mothers had primary school education, 27 percent had secondary and or high school education, and 8 percent had tertiary education. The increase in size of the household leads either to replacement of staple foods by cheaper ones or a decrease in consumption (Den Hartog, Van Staveren & Brouwer 1995:30). According to Pataki (2002:1) low-income households vary according to size, composition, age, and ethnic and education backgrounds. Bonti-Ankomah (2001:6) reported that the size of the household also influences the amount spent on food. Household food expenditure per capita reaches its height at a household

size of four and declines as the household size increases. Those aspects will be reported as part of this study.

2.6.2.2 Employment status, household income and food expenditure

Currently the unemployment rate in South Africa is 41,5 percent (Barker 2003:205). A cross-section baseline survey in the urban informal settlement of Eatonside found that 94,2 percent of the household caregivers and 53,5 percent of their partners were unemployed (Oldewage-Theron *et al.* 2005:22; Rutengwe *et al.* 2004:81). According to Ngwane, Yadavalli and Steffens (2001:212) economic growth will contribute most to poverty reduction only when the country expands the employment, productivity and wages of poor people. The study of income distribution in South Africa by Simkins (1995:21) found that the share of total income in black South African households was less in percentage than in white households. It was reported that 42,6 percent of the households in the Eatonside informal settlement received less than R500.00 (US $71) per month, with the inclusion of 38 percent of dwellers spending less than R50.00 (US $7) per week on food (Oldewage-Theron *et al.* 2005:22; Rutengwe *et al.* 2004:81). Household purchasing power is the key to food access and this varies in relation to market integration, price policies, and temporal market conditions (Webb & Rogers 2003:5).

Naturally, spending increases proportionately to income. Higher income earners spend about eight times as much on grocery items as do lower income consumers, with figures ranging from an average of R303 to R2 433 per household per month (Nielsen 2006:1). Household income appears to be a decisive factor in the consumption and procurement of foods (Labadarios *et al.* 2000:22).

Low-income earning forces people to buy small amounts, which are more expensive than larger amounts (Den Hartog *et al.* 1995:30). The survey results revealed that in South Africa, households with lower incomes procured a significantly lower mean number of foods items in all provinces and all areas of residence than when compared

with households with higher incomes (Maunder & Labadarios 1999:504). Total household expenditure on food in South Africa by province was estimated at R138,3 billion. In Gauteng the estimated total household expenditure on food was 33,7 percent, which was less than the total estimated expenditure of 36,2 percent per household (Martins 2003:5). It was estimated that the household cash expenditure by main food group during 2003 was R133,7 billion with cereal grain products topping the list with R31,3 billion (23,4%). Households in Gauteng were expected to spend R1,4 billion, or 19,8 percent of the estimated total household cash expenditure of R7,3 billion, on mealie meal (Martins 2003:12-16).

Therefore, it can be argued that limited income and poverty affects the ability to purchase nutritious foods in adequate quantities (Cade *et al.* 1999:505).

2.6.2.3 Food prices

Baron and Mueller (1995:36) found that actual food costs have risen substantially since the time price controls were relaxed. Food costs absorbed approximately one-third of the average person's income. Eastern European countries have seen food prices rising much higher than income. Accordingly, high food costs consume a larger percentage of income.

Urban dwellers buy food often, and food prices determine the level of food security. Food prices depend largely on the efficiency of the food marketing system and macroeconomic policies, in particular food subsidies. In addition to prices, the urban poor often work for low wages in casual or temporary jobs whereby the individual cannot earn enough cash income to buy food (Garrett & Ruel 1999:13-14). Kirsten, Mazibuko, Potgieter, Vil-Nkomo, Nhlapo-Hlope, Van Schalkwyk, Mondi & Rampomane (2004:58) found that price changes reflected in the purchasing patterns of poor households, leading to approximately 15 percent of the households to purchase food in small quantities.

2.6.2.4 Packaging size

Packaging are those activities in the production process which pertain to the design, manufacturing and filling of the container or wrapper with the product item, in such a way that the product can be protected, stored, handled, transported, identified effectively and marketed successfully (Strydom *et al.* 2000:214).

There are several choices which can be made with regard to the type of packaging chosen, for example family or individual, special, reusable and multiple packaging (Strydom *et al.* 2000:216-217). According to McNeal and Mind (2003:402) packaging also communicates information about shape, size, weight and texture through its tactility. Packaging sizes have been observed as part of this study for the purpose of examining the purchasing patterns of major plant staples.

2.6.2.5 Brand

Brand is a name, term, sign, symbol, or design or a combination of these, intended to identify the products or services of one seller or group of sellers and to differentiate them from those of competitors. Gambill (2000:13-25) concludes that for the branding to be worthwhile (for a given shopping centre or company), it needs to perform or contribute a specific value, which is better than or different from existing products.

According to Kim, Kim and Jeong (2003:335) the term "brand" has multiple meanings. Brands are increasingly considered as primary capital in many businesses. Uncles, Dowling and Hammond (2003:302) found that the brand components, which include attitude, value and social norms, were seen to have a major influence on the consumer developing a relationship with the brand. Although brand names were observed during the data gathering of this study, an in depth study was not conducted to report on the inherent meaning and relationship thereof.

2.6.3 Locality factors

Labadarios *et al.* (2000:513) explained that, in South Africa, the geographical location in terms of province seems to affect the number of food items in both lower and higher income households. It also influences the food system because various geographical conditions cause differences in food production (Davies & Worrall 1998:104; Lahsaeizadeh 2001:130).

2.6.3.1 Transport and market accessibility

An efficient food supply and distribution system ensures that low-income dwellers have convenient access to a wide variety of high-quality, affordable foods, allowing a healthy diet (FAO 2004b:2). Spontaneous settlements or informal settlements are generally situated far from central markets where cheaper foods and other commodities can be bought. Therefore, because of the public transport problems involved, these markets are less accessible to low-income consumers (Den Hartog *et al.* 1995:30). The household expenditure on transport was reported as part of this study.

2.7 RESEARCH INSTRUMENTS

2.7.1 Pre-tested structured questionnaire

A pre-tested structured questionnaire is a research instrument designed and developed to elicit primary data in the field by posing pertinent questions to respondents. The key to a good questionnaire is that it relates directly to the objectives and variables for the study and that question can be formulated as clearly and concisely as possible (Holly 1996: 23-36).

Pre-testing of research instruments is done in order to assure validity and reliability of the research (Bless & Higson-Smith 2000:125-134; Coertze 1999:57-59; Garrett &

Downen 2002:318-325; Litwin 1995:5-45). This principle has been applied for the purpose of this research project.

2.7.2 Focus group discussions

Focus groups consist typically of eight to twelve respondents who are led by a moderator (facilitator) in an in-depth discussion on a particular topic or concept. The goal of a focus group is to learn and understand what people have to say and why. The interaction provided by group dynamics is essential to the success of focus group research. Usually two or more groups are conducted so as to allow for comparison of participants' opinions and reactions (Bless & Higson-Smith 1995:113; Holly 1996:11; McDaniel & Gates 1998:125). Bloor, Frankland, Thomas and Robson (2001:26-27) argued that the size of focus groups can range from four to twelve, being conditioned mainly by two factors, namely that the group should be small enough for everyone to have an opportunity to share insights and yet large enough to provide diversity of perceptions.

According to Yates (2004:171-172) focus groups are seen as a form of "group in-depth interviewing" and are used by a range of social researchers to generate discussion with groups of people that can bring a variety of issues to the fore rather than one group interview. Bloor *et al.* (2001:8-9) explained that focus groups are superior to other methods for the study of group norms and group understanding.

2.8 DATA ANALYSIS METHOD

Maykut and Morehouse (1994:121) viewed qualitative analysis as the examination of people's words and actions. Merriam (2001:178) stated, "Data analysis is the process of making sense out of data". Data analysis entails consolidating, reducing, and interpreting what people have said and what the researcher has seen and read. Bloor *et al.* (2001:62) argued that crucially, the qualitative data analysis must be systematic and rigorous, reflecting the views of all cases, not, for instance, only those that fit the

researcher's own programme, or are the most interesting or the most commonly mentioned topics. Mouton (2001:490) referred to qualitative data analysis as including all forms of data that were gathered using qualitative techniques, regardless of the paradigm used to govern the research.

2.9 SUMMARY

Income is an essential determinant of nutrition status and food accessibility in both rural and urban poor households since people with low incomes are least likely to consume healthful diets (Cade *et al.* 1999:505). The purchase of staples has been found to be dependent on the availability of money (e.g. contribution to the household income by husbands that are working elsewhere), access to shops, or availability of storage facilities.

For all households to be food-secure, each should have physical and economic access to adequate, safe and nutritious food in order to meet their dietary needs and food preferences for an active and healthy life (Latham 1997:15). Poor urban households spend as much as 60 to 80 percent of their income on food, making them especially vulnerable to higher food prices, such as those caused by transport costs or monopolistic practices by traders. Poor urban households, being the last link in a long food chain, have little choice of where to buy, thus increasing the risk of consuming food of poor quality (FAO 2004b:1).

Information on when the buyer decided to buy while considering the brand, where to purchase, quantity purchased, time, payment method, package size, product type and price, as well as the number of people per household would allow the investigation of the purchasing patterns across the different income levels (Leibtag & Kaufman 2003:3; Strydom *et al.* 2000:78-79).

CHAPTER 3
METHODOLOGY

3.1 INTRODUCTION

The main purpose of this study was to examine the purchasing patterns of major plant staples (cereal grains and legumes) by low-income urbanised households in terms of socio-demographic, socio-economic and locality factors at the Eatonside informal settlement in the Vaal Triangle.

The limited information available on the purchasing patterns of low-income households leads to questions on how low income households use their income to purchase basic plant staples, the share of the food budget Rand available to purchase major plant staples, and the extent to what low-income, food prices, and locality influence the purchase patterns of major plant staples. In order to obtain answers to these questions, the aspects of where, how much, when and how low-income households purchase plant staples, were examined.

The study combined quantitative and qualitative methods with the aim of gathering indirect primary data in order to solicit perceptions, opinions, and understanding of the purchase patterns of Eatonside dwellers from the three respondent groups (household caregivers, shopkeepers/owners and key informants). Prior to the fieldwork, the study involved the recruitment and training of field workers, the development of the research measuring instruments including the pre-testing of questionnaires. Interviews were also conducted with female caregivers. The procedural framework of the study is presented in Figure 3.

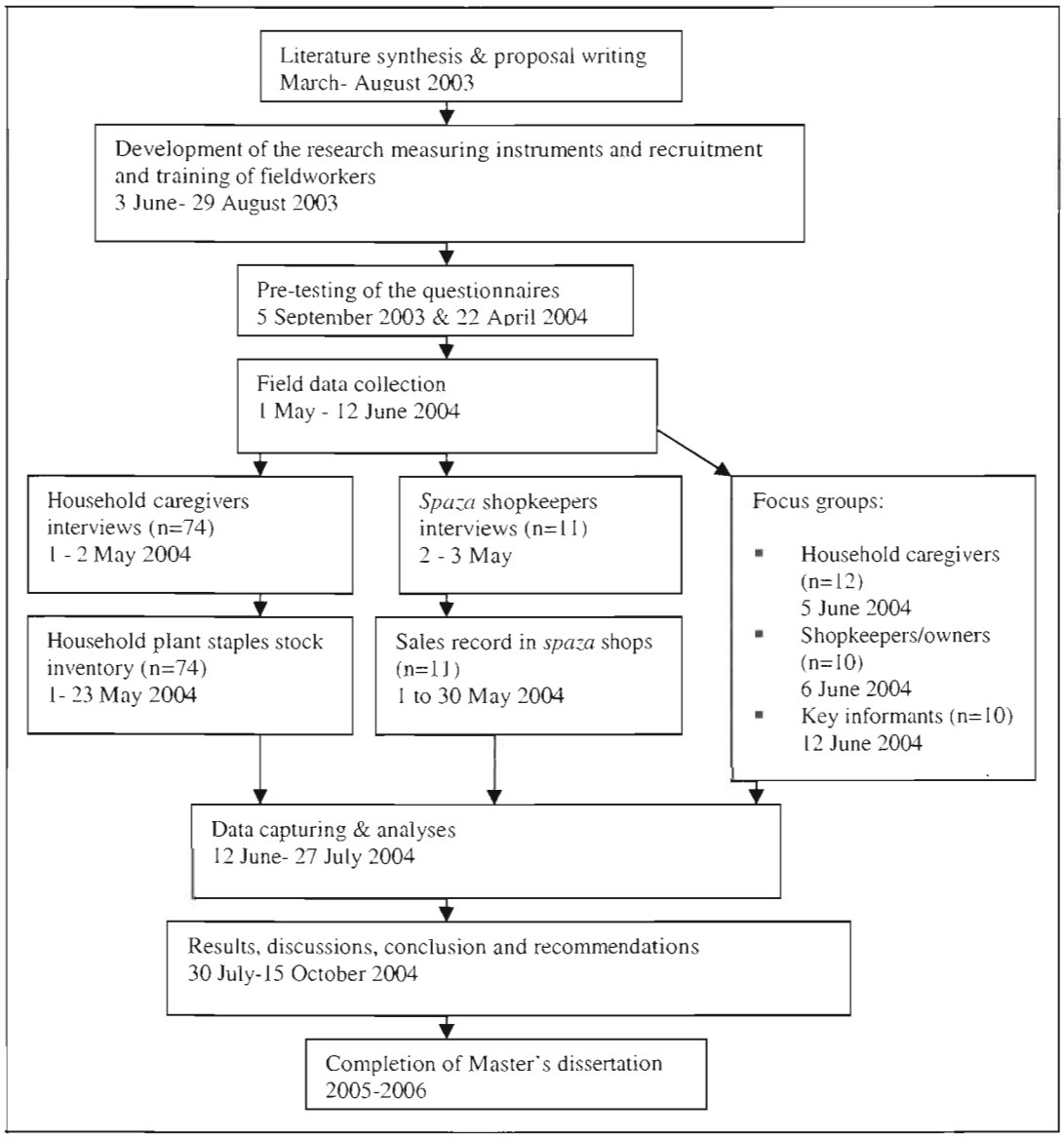

Figure 3 Procedural framework of the study

3.2 ADMINISTRATION

3.2.1 Obtaining permission

Oral permission was sought from the Eatonside community before the research project commenced. The supervisor and research team met with the local councillor to request permission to conduct the research project in the community.

For the purpose of the study, permission and collaboration were also requested from all subjects, namely household caregivers, spaza shopkeepers/owners and key informants. Collaboration was based on voluntary participation. A meeting was held with the participating households in order to explain the purpose of the study, ethical issues, duration and type of data to be gathered. The need for support and collaboration during implementation of the study (Annexure A) was communicated.

3.2.2 Ethical considerations

Household caregivers participated on a voluntary basis. All arrangements for consent were completed before commencement of the study. All subjects and data were treated with respect and confidentiality and dissemination of derived findings will take place in a responsible and professional manner.

3.3 STUDY POPULATION

3.3.1 Geographical demarcation

This study was conducted in the urban informal settlement of Eatonside, Ward 39 of the greater Sedibeng district municipality, located in the Vaal Triangle area, Gauteng Province, South Africa (Figure 4). Eatonside is situated to the northeast of Vereeniging, bordering Vlakfontein on the east, Ironside on the north and Evaton Township on the west, and Waterdal agricultural holdings on the south. Eatonside is divided into Driemoeg and Evaton Estates. The township comprised some 117 erven, averaging ± 4 000 m^2 each. These erven were subdivided into streets with 1 512 residential sites with provision of fresh water and sanitation. Housing consists mainly of shacks. Of the current household caregiver-dwellers, 94% were unemployed. The few that were employed, worked within the Vaal Triangle area (Rutengwe *et al.* 2004:81). On 9 April 2002, during the first stakeholders' planning workshop, Eatonside was selected as being representative of a true informal settlement on the ground of size (n=1 260 households) and geographic positioning.

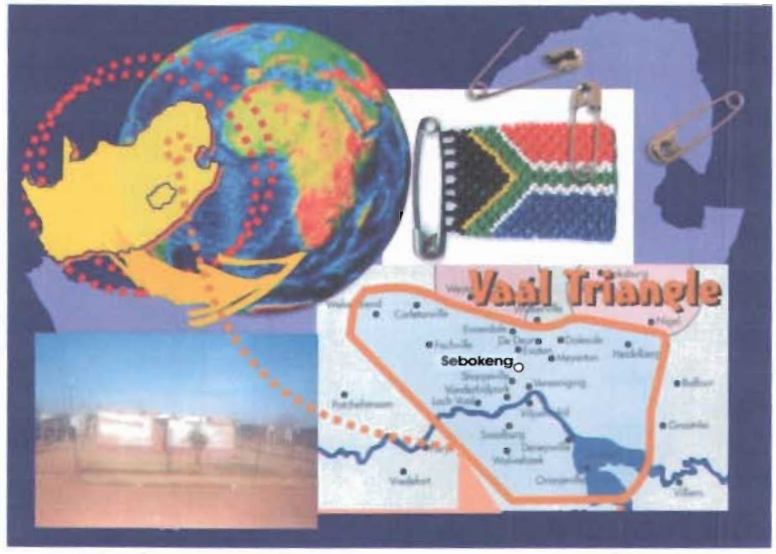

Figure 4 **Map of the Vaal Triangle: indicating Sebokeng that includes the Eatonside informal settlement**

3.4 SAMPLING TECHNIQUES AND STUDY POPULATION SIZE

During the course of this study data was gathered from low-income households (n=74), spaza shopkeepers/owners (n=11) and three different focus group discussions with household caregivers (n=12), spaza shopkeepers/owners (n=10) and key informants (n=10).

3.4.1 Household caregivers

For this study 90 households were systematically selected from a studied population of 360 households that was used in the baseline survey (Oldewage-Theron & Rutengwe 2002:1). A township map was used to facilitate the process, identifying every fifth household involved in the previous baseline survey and covering the whole area. However, only 74 households (Annexure B) voluntarily agreed to participate in this study. At a later stage twelve respondents were selected at random from the collaborating low-income households to participate in the focus group discussions

(FGDs). These were among the 74 caregivers involved in the preceding personal interviews.

3.4.2 Spaza shopkeepers/owners

Although 20 spaza shops were identified from the township map, only 12 were still in existence. From among the spaza shop owners, 11 agreed to participate in the study through stock sale record reports, of which 10 agreed to participate in the focus group discussion.

3.4.3 Key informants

Ten key informants were purposively selected from among teachers, community and religious leaders and other decision makers from the Eatonside community. Invitation letters (Annexure C) were distributed in advance and all agreed voluntarily to participate in the discussion.

3.5 STUDY DESIGN

This was a participatory study. A multi-methodological cross-sectional study design was employed (Zikmund 2003:187). Theoretical and empirical studies were implemented in parallel. The present study forms part of a PhD research project on the optimisation of a plant-based pre-mixed food product as a cost effective means of improving the nutritive content of diets of low-income households in urbanised informal settlements in South Africa.

3.6 PROCEDURES FOR DATA GATHERING

A three-phased approach was followed in gathering data for the purpose of this study, including the compilation of a situation analysis of food purchasing behaviours by low-income households, an investigative survey into food price and expenditure on plant

staples at spaza shops and an analysis of the views, perceptions and understanding of purchasing behaviours for plant staples in Eatonside as experienced by different role players. Through the gathering of the relevant data and analysis thereof (using statistics), the purchasing behaviour displayed (where, how much, when and how) were examined to identify the purchasing patterns of major plant staples in low-income households in the Vaal Triangle. The variables investigated were as follows:

- Socio-demographic profile that included the age and education levels of caregivers, household size, dependency ratio, gender of caregivers and ethnic groups.
- Socio-economic factors which included the sources of income and livelihoods, income levels of households, total budget available, household expenditures on plant staples regarding share of food budget, frequency of purchases, prices of purchases, contents of the staple food shopping basket, household food inventory and purchasing points. The subsidy policy on cereal grains and legumes, stock of plant staples available at surrounding spaza shops and the food consumption patterns of Eatonside dwellers (secondary source) (Oldewagen-Theron *et al.* 2005:22) were also examined.
- Locality factors that included the geographical setting of Eatonside, accessibility to public transport, spaza shops and supermarkets as well as transport costs.

A summary, organising the application of the populations, objectives, type of data and methods, is displayed in Table 3:

Table 3 Target groups, objectives, type of data and methods

Target group	Objectives	Type of data	Methods
Phase 1			
Household caregivers (n=74)	Direct primary data toward obtaining a clear understanding and situation analysis of food purchasing behaviours	• Socio-demographic data, socio-economic and locality indicators • Food consumption patterns	• A pre-tested, structured questionnaire. • Record (food account) of food shopping basket for four-week period • On-site observations of food stock inventory • As secondary data
Phase 2			
Spaza shopkeepers (n=11)	Indirect primary data to determine price of foods, income and expenditure on food	• Availability of food staples in the shops • Purchasing behaviours .	• Personal interviews using a pre-tested questionnaire • Inventory of food stocks at the shops. • Record of sales for four weeks
Phase 3			
Household caregivers (n=12) Spaza shopkeepers/ owners (n=11) Key informants (community leaders, influential people and professionals) (n=10)	Indirect primary data to obtain perceptions, views and understanding of purchasing behaviours of dwellers	• Experience and views on purchasing behaviours • Types of purchasing behaviours • Views on food subsidy policy, basic income, grants	• Focus group discussions using a question guide

3.7 RECRUITMENT AND TRAINING OF FIELD WORKERS

3.7.1 Recruitment of field workers

A team was recruited comprising nine field workers from among the BTech students from the Department of Hospitality and Tourism, Vaal University of Technology.

3.7.2 Training of field workers

In order to perform effectively in the field, the researcher and fieldworkers received a one-day training session prior to the actual fieldwork. This was conducted on 22 April 2004 at VUT. Two qualified and experienced facilitators, Dr R.M. Rutengwe (Vaal University of Technology) and Mr. C.I. Manyanda (North-West University), were recruited to assist in the training programme. The fieldworkers received project orientation and the issues addressed were related to the context of the research instruments (Annexure D) and the weighing of food staples using digital electric food scales (Figure 5).

3.8 DEVELOPMENT OF MEASURING INSTRUMENTS

3.8.1 Situation analysis questionnaire

A questionnaire (Annexure E) to be used to gather socio-demographic, socio-economic and locality data from household caregivers, was developed based on an existing questionnaire utilised in the baseline survey (Oldewagen-Theron *et al.* 2003) and the food procurement and households food inventory questionnaire utilised by the National Food Consumption Survey 1999: South Africa children 1-9 years old (Labadarios *et al.* 2000:1012-1042). Necessary adjustments were made to suit the purpose of this study. All questionnaires were designed for the level of understanding of the respondents. Open- and closed-ended questions were designed to allow respondents to provide detailed responses and to facilitate participatory involvement in the study.

The questionnaire was pre-tested in ten households chosen at random in the Eatonside informal settlement. The respondents involved in the pre-testing were not included in the main study. The help of a multilingual field worker fluent in Sotho and English was utilised to carry out this activity effectively. Following the pre-testing, modifications and adjustments were made to the questionnaire.

3.8.2 Household food-shopping basket and food stock inventory for purchasing of plant staples

Information that reported the plant staples in the household food-shopping basket was captured on a developed inventory assessment sheet (Annexure F). This was based on the questionnaire utilised during the national food consumption survey (Labadarios *et al.* 1999) and adjusted for the purpose of this study to report household purchasing behaviour for plant staples and the availability of plant staples in the households over a four-week period.

3.8.3 Consumer purchasing behaviour

A questionnaire was developed (Annexure G) to gather data on the purchasing behaviour of the consumers as well as the credit facilities available from shopkeepers/owners. The questionnaire was pre-tested and adjusted accordingly.

3.8.4 Record of sales

The plant staple stock available in the Eatonside spaza shops was investigated (Annexure H) in order to correlate the household purchasing behaviour for plant staples with product availability in the respondents households.

3.8.5 Focus group guideline

A focus group discussion (FGD) guideline was written and implemented (Krueger & King 1998:63). The guideline included three important sections namely the introduction, main purpose and ground rules (Annexure I). Materials for the FGD sessions were compiled prior to the sessions.

3.8.5.1 Compiling of key questions for caregivers' focus group discussion

Key questions for the caregivers' focus group discussion (FGD) were developed and pilot-tested (Annexure J). The question guides were revised with minor modifications in order to improve the clarity of the questions.

3.8.5.2 Compiling of key questions for spaza shopkeepers'/owners' focus group discussion

Key questions were developed and pilot-tested (Annexure K) for the spaza shopkeepers'/owners' focus group discussions (FGD). On the basis of the testing, the question guides were revised and minor modifications were made so as to improve the clarity of the questions.

3.8.5.3 Compiling of the key questions for key informant focus group discussions

Key questions were developed and pre-tested (Annexure L) for the key informant focus group discussion. The question guides were revised on the basis of the results of the pilot testing and minor modifications were made to improve the clarity of the questions.

3.9 FIELD DATA COLLECTION

A formal field study was conducted using the pre-tested structured questionnaires and on-site observation. Participatory qualitative methods, in particular focus group discussions (FGDs) and personal interviews with spaza shopkeepers/owners, were used to generate in-depth understanding of the purchasing behaviours in the low-income households of Eatonside.

3.9.1 Phase 1: Household situation analysis of food purchasing behaviours

3.9.1.1 Socio-demographic, socio-economic and locality questionnaire

Trained field workers administered the questionnaire using personal interviews with caregivers in the identified households.

3.9.1.2 Household food-shopping basket and food stock inventory

The household food-shopping basket and food stock inventory for household plant staples were recorded four times during one month, namely May 2004, at seven-day intervals. In the first week household stocks for plant staples were recorded on the same day as the personal interviews. During the following three weeks the shopping basket and food stock inventories for household plant staples were also recorded. Weighing of the available stock of household plant staples, packed in light polythene paper, was carried out using fully charged digital electronic food scales UWE E10973, EM-2000, 2 kilogram x 2-gram precision and UWE E10981, EM-1000 1 kilogram x 1-gram precision (Figure 5). The weighing took place in the individual homes of the respondents and was recorded accordingly.

Figure 5 Digital food scales © May 2004, Dr R.M. Rutengwe

3.9.2 Phase 2: Food price, income and expenditure survey

The participating individual spaza shopkeepers/owners completed the questionnaire reporting consumer purchasing behaviour for plant staples with the assistance of trained field workers. During the first interview the inventory of the availability of plant staples in the spaza shops, as well as sales records, were collected. The sales records were collected on three further occasions during the month from all the participating shopkeepers/owners.

3.9.3 Phase 3: Perceptions, opinions and understanding of purchase behaviours of Eatonside dwellers

A focus group discussion is conducted by a moderator and is designed to create an ongoing conversation about one or more issues related to a general topic (Abusabha, Peacock & Achtenberg 1999:72; Holly 1996:11). The FGDs were conducted to obtain in-depth information on perceptions, opinions and understanding of food purchasing behaviours and practices as shown in Table 3. Planning of the FGDs, identification of the respondents and locating a site were completed before the actual sessions. A three-person team was involved in the FGDs.

A trained (Sotho speaking) moderator, Ms. R. Tlali, an MTech student in the Department of Languages and Communication at the VUT, was recruited. This moderator was known to be a good meeting leader and knowledgeable about group dynamics. A second trained field worker (also Sotho speaking) Ms. N. Mathabang, from the Department of Hospitality and Tourism at VUT, took the position of moderator-translator and wrote the field notes, captured quotes and emotional statements. The researcher (English speaking) acted as an observer who tape-recorded all the discussions to serve as back up to the notes (Holly 1996:80). The team of researchers arrived at the venue before the respondents and arranged the seating in a U-shape so that all respondents could see each other. The moderator extended a warm welcome as the respondents arrived. In each FGD session a spot check was done of the tape-recording.

Immediately after every FGD session, the research team met to review proceedings in order to recall fresh impressions. Transcriptions of both the written notes and recorded responses were carried out soon after each FGD session and a summary of the particular FGD was prepared. These debriefing meetings were held after two hours on the same day of the completion of a FGD session so as to discuss all aspects of the session (McDaniel & Gates 1998:110). Letters of thanks were given to all respondents two days after the FGD sessions.

3.9.3.1 Perceptions, opinions and understanding of household caregivers on plant staple purchase behaviours

The focus group discussion was conducted at Setlabotjha Primary School in a classroom large enough to accommodate more than 25 people. Held on 5 June 2004, the FGD took 90 minutes. The aim of the caregivers' focus group discussion was to collect information regarding perceptions, opinions and understanding among Eatonside dwellers of purchase behaviours for all plant staples available in local spaza shops and surrounding major shopping areas. In total twelve different plant staples were included as representative of what were available for purchasing.

3.9.3.2 Spaza shopkeepers'/owners' perceptions, opinions and understanding of plant staple purchase behaviours

Similar criteria and procedures were adhered to. The FGD with the spaza shopkeepers/ owners was held at the Setlabotjha Primary School in Eatonside on 6 June 2004. The aim of the FGD was to gather information on the perceptions, opinions and understanding of the spaza shopkeepers/owners regarding the purchasing behaviours of major plant staples displayed by Eatonside dwellers.

3.9.3.3 Key informants' perceptions, opinions and understanding regarding plant staple purchasing behaviours of low-income households and on food subsidy policy and basic income grants of low-income households

The key informants' focus group discussion was held at the same venue on 12 June 2004. The aim was to gather information on the perceptions, opinions and experiences of the respondents regarding the purchasing behaviours of major plant staples displayed by Eatonside dwellers, and on the food subsidy policy, basic income and grants pertaining to low-income households.

Only one focus group discussion was conducted with each group of participants as triangulation of information derived would provide validity.

3.10 DATA CAPTURING AND ANALYSIS

3.10.1 Data capturing

All primary data generated were captured onto Excel® 2000 spreadsheets and the occurrence of data entry errors were minimised and all discrepancies were corrected by reference to the measuring instruments. The data were later transferred for further analysis into the Statistical Package for Social Sciences (SPSS)® for Windows, version 12.0.

Secondary data on the food consumption patterns in Eatonside were obtained from the preceding baseline survey (Oldewagen-Theron *et al.* 2003). In the original study the food consumption data of household caregivers (n=340) was analysed using the Food Finder 3 programme of the Medical Research Council (MRC) of South Africa (Oldewage-Theron *et al.* 2003).

3.10.2 Data analyses

3.10.2.1 Statistical analyses of the situation analysis questionnaire

The SPSS® for Windows, version 12.0 was used for the analyses of the data. Firstly, the variables were tested for normality using the Kolmogorov-Sminnorv's test. Secondly, descriptive statistics were applied in order to describe socio-demographic profiles, purchasing behaviours of the caregivers, and situational characteristics. Thirdly, means ± standard deviation (SD) among and within three groups of male-headed, female-headed and de facto-headed households were calculated in terms of purchasing and availability of plant staples and compared. *P*-values were generated using one-way analysis of variance (ONE-WAY ANOVA). Mean ± SD were considered as being statistically significant at a p-value ≤ 0.05.

3.10.2.2 Statistical analyses of the low-income household shopping basket and food stock inventory for plant staples

The SPSS® for Windows, version 12.0 was used for analyses of the data. Firstly, as in the previous analysis, variables were tested for normality using the Kolmogorov-Sminnorv's test. Secondly, descriptive statistics were conducted. Thirdly, means ± SD among three groups (male-headed, female-headed, and de facto-headed households) were compared for cereal grain and legume plant staples throughout the four weeks of the study. *P*-values were generated using ANOVA. Differences of variances of mean ± SD were considered as being statistically significant at a p-value ≤ 0.05.

3.10.2.3 Statistical analyses of consumers' purchasing behaviour, inventory and record of stock sales as reported by spaza shopkeepers/owners

The SPSS® for Windows, version 12.0 was used for the analyses of the data. Firstly, variables were tested for normality using Shapiro-Wilk's test. Secondly, descriptive statistics were conducted. Means ± standard deviation (SD) for plant staples were

compared for the four weeks of the study. *P*-values were generated using the independent sample t-test, Levene's test for equality of variances and the t-test for equality of means. Differences of variances and mean ± SD were considered as being statistically significant at a p-value ≤ 0.05. Data interpretation was done on the basis of the following criteria:

- An overall (Table 18) and weekly (Table 19) maximum and minimum of product mass (kg) and price (ZAR) for plant staples.
- Monthly maximum and minimum product mass (kg) and price (ZAR) for plant staples (Table 20).
- Weekly totals in product mass (kg) and price (ZAR) of individual plant staples (Table 21).

3.10.2.4 Perceptions, opinions and understanding of purchase behaviours by Eatonside dwellers

Focus group responses from all the FGD sessions (n=3), both written notes and recorded discussions, were carefully transcribed, edited and analysed. Only one focus group discussion was conducted with each of the respondent groups as cross referencing was also applied to identify recurrent themes and patters.

3.10.2.5 Focus groups data analysis method

The tape-recorded interviews were transcribed verbatim in dialogue form and edited (see Annexure M, N & O). Pseudonyms were used in order to protect the identity of the participants. The transcripts were analysed for recurring themes and patterns using the constant comparative method (Maykut & Morehouse 1994:26-144; Merriam 2001:181).

3.10.2.6 Focus groups data analysis and presentation of data

The constant comparative method for data analysis was used to construct categories or themes by continuous comparison of bits of data with each other (Merriam 2001:179). These categories should reflect the purpose of the research. Accordingly, the researcher began by making notes in the field and to read through the transcribed notes while adding commentary notes. The data was unitised, looking for the "unit of meaning" as described by Maykut and Morehouse (1994:128).

The following is an example of a unit of meaning in one of the responses, "I can't even go to town to buy groceries. We only buy here at the location. There is no money for transport. Our money is only enough to buy at the shops around us." This was in response to the researcher's question, "How does the transport from your place to the marketing place affect low-income households". The words written in the margin were "Effect of receiving low-income, food choice". Thereafter the coding was done. For example the code is T/S-1 where (T) refers to the transcript and (S) to the participant, Sarah, while (1) refers to group one.

Strauss and Corbin (as quoted by Mouton 2001:500), referred to coding as being "[A] set of procedures whereby data are put back together in a new way by making connection between categories [or a category and its subcategories]... Our focus is on specifying a category...in terms of the condition that give rise to it, the context (a specified set of properties) in which it is embedded, the action/interaction strategies by which it is handled, managed or carried out as well as the consequences of those strategies, categories (or subcategories) are created to give it precision."

These units of meaning were then extracted from the original transcript and pasted to another paper. The researcher then looked for recurring words, phrases and themes, which would form the basis of the provisional categories. After the preparation of a list of provisional categories, each coded unit of meaning was placed under provisional categories. The "look alike/feel criteria" were applied to see whether the unit of

meaning on one card was similar to the unit of meaning on another, in order to derive inductively salient meaning of categories from the data (Maykut & Morehouse 1994:137; Merriam 2001:182-184). When a provisional category accumulated three or more data cards, a "rule on inclusion" was written, which would serve as a basis for including other data cards in the category. The rest of the interview data were treated in the same comparative manner. An example of these data cards and rules of inclusion are displayed in Table 4.

Table 4 Example of provisional categories and subcategories with units of meaning and rules of inclusion (T/...-1 was household caregivers response, T/...-2 was spaza shopkeepers/owners response and T/...3 was key informants response).

Category	Rules of Inclusion
Food prices in low-income households.	Effect of rise and fall of food prices.
• Increase of food price. • Decrease / reduction of food price.	T/O-1 "It affects us because price changes high or low. This affects us as we don't have money; we are poor to afford expensive things. It is difficult for us" (a man). T/D-1 "We are not working in permanent jobs. Sometimes there is no job for the whole month. It is a problem to do shopping" (a man). T/S-1 "It affects us because we shop with our little money. We find price is increased. We can't afford buying, we are already poor and we must buy lowest prices" (a woman). T/B-1 "We buy with little money. We buy small items because we can't afford buying in bulk to cater for the whole family. So, our families suffer most. The children also can't get enough food to eat" (a woman).

T/Q-2

"We price our items according to the buying prices where we buy stocks. If prices come down we also reduce for the benefit of our consumers. When there is a price increase it is then we increase the prices. We lose consumers when there is a price increase" (a man).

T/Y-2

"If consumers are used to the price of an item and if it increases, we explain to them, they don't come as frequently as before. They only come back when there is low price. They compare our prices with the ones in town" (a man).

T/X-2

"If there is price increase in the items in one shop, they always compare the price until they find the low price in another shop" (a man).

T/I-3

"Highly affect them. One thing that happens when the prices go up people tends to change what they used to buy and go for items that cost less items or stay on what they used to buy but buy less" (a man).

T/L-3

"Normally they increase prices but they do not cut prices" (a man).

T/G-3

"When prices go up, they force people to go for credits so that they can afford buying food stuff" (a man).

3.11 SUMMARY

In summary, this chapter described the detailed methods employed to gather data over three phases. The different steps involved in the study were discussed and presented in sequence. In each step, the researcher has indicated the aims and procedures employed. Accordingly, this chapter provided the basis for presentation of results and findings as presented in the next chapter.

CHAPTER 4
RESULTS

4.1 INTRODUCTION

The major aim of this study was to examine the impact of low-income, food prices and locality on the purchasing patterns of major plant staples in the low-income households of the Eatonside informal settlement in the Vaal Triangle. In order to obtain answers to these questions, the aspects of where, how much, when and how low income households purchase plant staples were investigated. This chapter presents the results of the empirical study.

Cereal grain and legume items were identified from the food procurement and households food inventory questionnaire utilised by the National Food Consumption Survey of 1999: South Africa, including children 1-9 years of age (Labadarios *et al.* 2000:1012-1042). When verified against the cereal grains and legumes available for purchasing in the spaza shops in Eatonside as well as in supermarkets in the immediate surrounding areas, no products not already included in the list were identified.

Data from the empirical study were collected and presented in three phases, namely:

Phase 1
Household situation analysis of purchase behaviours for plant staples incorporating the socio-demographic, socio-economic and locality questionnaire, and the household inventory of major plant staples purchased and consumed over the four weeks of the study (household stock inventory for plant staples).

Phase 2
Investigative survey of food price, income and food expenditure, incorporating reports of stocks available for plant staples as well as record of sales by spaza shops over the four weeks of the study.

Phase 3

Analysis of the perceptions, opinions and understanding of plant staple purchasing behaviours of low-income households in the Eatonside informal settlement and of food subsidy policies and basic income grants.

4.1.1 Specific objectives

The specific objectives of the household situation analysis regarding the purchasing behaviours and food inventory of plant staples were:

- To elicit direct primary household data of purchasing behaviours regarding major plant staples over the four weeks of the study in order to carry out a situation analysis.
- To examine the share of the food budget spent on the purchasing of plant staples from the total average monthly income available.
- To examine the influence of low income, price of plant staples and locality on the purchasing behaviours of the study population.

The specific objective of the food price, income and food expenditure survey conducted through spaza shopkeepers and owners, and recording of stock sales, was:

- To investigate the influence of low income, price of major plant staples and locality on the purchasing behaviours of low-income households.

The specific objective of the focus group discussions was:

- To gather indirect primary data in order to obtain perceptions, opinions and understanding of purchase behaviours of Eatonside dwellers from the three respondent groups (household caregivers, spaza shopkeepers/owners and key informants).

4.1.2 Statistical phenomenon

A specific statistical phenomenon was observed where the standard deviation values obtained in the data analysis were large. The standard deviation summarises how far away from the average the data values typically are, thus it is a measure of dispersion. The original purpose for measures of dispersion is to summarize data from survey research. This includes measures of central tendency like the mean, and measures of variability which quantitatively describe the spread of the data. The standard deviation is considered to be the most valuable index of spread or variability. Like the mean, the standard deviation is affected by extreme scores. In a case where the range of data gathered displayed huge differences, the standard deviation values will be large (Cooper & Schindler 2003:474-475; Zikmund 2003:406- 411).

This phenomenon manifested in this study due to the wide range (distance between the smallest and largest values of a frequency) of the actual measurements observed for studied households over the research period.

4.2 HOUSEHOLD SITUATION ANALYSIS OF PURCHASING BEHAVIOURS AND FOOD INVENTORY FOR PLANT STAPLES

Results presented included the socio-demographic profile, socio-economic information, locality factors and household inventory of plant staples purchased and consumed. The compliance level of the household caregivers was 100 percent for the four week period that data was gathered.

4.2.1 Socio-demographic profile

This section represents the results on age, education level of household caregivers, household size, dependency ration, gender and ethnic groups.

Table 5 shows that household caregivers were represented by 56,8 percent females and 43,2 percent males. For all groups, ages ranged from 18 years to 56 years and older. The highest percentage of respondents was within the 46 to 55 years range (38%) for males while most of the female respondents were 56 years and older (31%). Amongst the males 69 percent were married whereas 86 percent of the females were without a spouse.

Table 5 Demographic profile of household caregivers (n=74)

Variable	Gender		
	Male	**Female**	**Both genders**
Gender			
Males and Females	32 (43,2%)	42(56,8%)	**74(100%)**
Age of caregiver			
18 to 25 years	1 (3,1%)	1 (2,4%)	2 (2,7%)
26 to 35 years	6 (18,8%)	10 (23,8%)	16 (21,6%)
36 to 45 years	6 (18,8%)	8 (19%)	14 (18,9%)
46 to 55 years	12 (37,5%)	10 (23,8%)	22 (29,7%)
56 years plus	7 (21,9%)	13 (31%)	20 (27%)
Total	**32 (100%)**	**42 (100%)**	**74 (100%)**
Language spoken			
Afrikaans	1 (3,1%)	4 (9,5%)	5 (6,8%)
Sesotho	16 (50%)	29 (69,1%)	45 (60,8%)
Zulu	7 (21,9%)	3 (7,1%)	10 (13,5%)
Tswana	0 (0%)	1 (2,4%)	1 (1,4%)
Pedi	1 (3,1%)	0 (0%)	1 (1,4%)
Xhosa	7 (21,9%)	5 (11,9%)	12 (16,2%)
Total	**32 (100%)**	**42 (100%)**	**74 (100%)**
Marital status			
Married	22 (68,7%)	6 (14,3%)	28 (37,8%)
Unmarried	10 (31,3%)	36 (85,7%)	46 (62,2%)
Total	**32 (100%)**	**42 (100%)**	**74 (100%)**
Education status			
No formal education	4 (12,5%)	9 (21,4%)	13 (17,6%)
Primary school	15 (46,8%)	19 (45,2%)	34 (45,9%)
Standard 8	6 (18,8%)	4 (9,5%)	10 (13,5%)
Standard 9	2 (6,3%)	5 (11,9%)	7 (9,5%)
Standard 10	5 (15,6%)	5 (11,9%)	10 (13,5%)
Total	**32 (100%)**	**42 (100%)**	**74 (100%)**

The language mostly spoken in the studied households was Sesotho (60,8%), followed by Xhosa (16,2%), Zulu (13,5%), Afrikaans (6,8%), Tswana (1,4%) and Pedi (1,4%).

None of the respondents (both males and females) received tertiary education. A disturbingly high percentage of respondents received no formal education (males 12,5 % and females 21,4 %) or only a primary school education (males 46,8 % and females 45,2%). In total 63,5 percent of the respondents received no or very limited formal education. A higher percentage of males (15,6%) obtained a standard ten qualification. The overall picture accordingly indicates that females are better represented at the bottom of the education scale than males.

Table 6 indicated that amongst all ages primary education predominated, with the highest occurrence within the age group 46 to 55 years (54,6%). From the younger age group of 26 to 35 years 31,3 percent obtained a standard ten qualification.

Table 6 Age of caregiver by the education status (n=74)

AGES	EDUCATION STATUS					TOTAL
	No formal education	Primary school	Standard 8	Standard 9	Standard 10	
18 to 35 years	0 (0%)	7 (43,8%)	3 (62,5%)	2 (62,5%)	5 (31,3%)	18 (100%)
36 to 45 years	3 (21,4%)	6 (42,9%)	1 (7,1%)	3 (21,4%)	1 (7,1%)	14 (100%)
46 to 55 years	4 (18,8%)	12 (54,6%)	5 (22,7%)	1 (4,6%)	0 (0%)	22 (100%)
>56 years	6 (30%)	9 (45%)	1 (5%)	0 (0%)	4 (20%)	20 (100%)
TOTAL	13 (16,4%)	34 (46,6%)	10 (13,7%)	7 (9,6%)	10 (13,7%)	74 (100%)

4.2.2 Gender characteristics of household heads

Table 7 indicates that most of the households included in the study population were headed by females (56,7%), only 39,2 percent by males and 4,1 percent by de facto (both male and female-headed household).

Table 7 Gender distribution of household heads (n=74)

Type of household heads	Number	%
Male	29	39,2
Female	42	56,7
De facto	3	4,1
Total	**74**	**100**

4.2.3 Composition and distribution of households

Table 8 indicates the composition and distribution of household members by age and gender. Of these, 46,4 percent were male and 53,6 percent female. It is of interest that 43,9 percent of the males and 31,2 percent of the females were 18 years of age and younger. The total number of members in the studied households was 338, of which 47,7 percent (n=161) were 18 years of age or younger.

Table 8 Distribution of household family members by age and gender in households studied (n=74)

Age distribution	Male	Female	Both genders
Under 5 years	16 (10,2%)	16 (8,8%)	32 (9,5%)
6 to 18 years	69 (43,9%)	60 (31,2%)	129 (38,2%)
19 to 25 years	21 (13,4%)	28 (15,5%)	49 (14,5%)
26 to 35 years	16 (10,2%)	21 (11,6%)	37 (10,9%)
36 to 45 years	7 (4,5%)	24 (13,3%)	31 (9,2%)
46 to 55 years	17 (10,8%)	14 (7,7%)	31 (9,2%)
56 years plus	11 (7%)	18 (9,9%)	29 (8,6%)
Total	**157(100%)**	**181(100%)**	**338 (100%)**
Total	**157 (46,4%)**	**181 (53,6%)**	**338 (100%)**

In Table 9 the results suggest that the total number of dependants in the 74 households was 264, giving an average combined household size of 5 members (including the

household heads). In this study a combined household was indicated as being any household without gender consideration of the household head. While considering the household head, the de facto-headed households had the largest household size of 6 people and the male-headed households were the smallest with 4 people. The de facto-headed households therefore had the highest dependency ratio, namely 5:1.

Table 9 Distribution of household members by age and by type of household head (n=74)

Age of household members	Male-headed (*n*=29)	Female-headed (*n*=42)	De facto-headed (*n*=3)	Total
Under 5 years	9 (8,3%)	21 (9,9%)	2 (10,5%)	32 (9,5%)
6 to 18 years	36 (33,3%)	84 (39,8%)	9 (47,4%)	129 (38,2%)
19 to 25 years	14 (12,9%)	33 (16,6%)	2 (10,5%)	49 (14,5%)
26 to 35 years	11 (10,2%)	25 (11,9%)	1 (5,6%)	37 (11%)
36 to 45 years	12 (11,1%)	16 (7,6%)	3 (15,8%)	31 (9,2%)
46 to 55 years	16 (14,8%)	13 (6,2%)	2(10,5%)	31 (9,2%)
56 years plus	10 (9,3%)	19 (9%)	0(0%)	29 (8,6%)
Total	**108 (100%)**	**211 (100%)**	**19 (100%)**	**338 (100%)**
Total	**108 (32%)**	**211 (62,4%)**	**19 (5,6%)**	**338 (100%)**
Number of dependants	79 (30%)	169 (64%)	16 (6%)	264 (100%)
Dependency ratio	1:3	1:4	1:5	1:4
Average household size	3,7	5,0	6,3	4,6

4.3.1 Socio-economic factors

The socio-economic factors were reported in reference to employment status, duration of unemployment, sources of household income, and contributions to household income as applicable to the studied low income households of the Eatonside informal settlement.

Table 10 Socio-economic characteristics of the household caregivers (n=74)

Variables	Number	%
Employment status of caregivers		
Unemployed	50	67,6
Full time job	17	22,9
Part-time job	6	8,1
Project	1	1,4
Total	**74**	**100**
Duration of unemployment		
6 months	1	1,4
13 to 24 months	3	4,1
25 to 60 months	9	12,1
61 months plus	37	50
Total	**50**	**67,6**
Source of income for those employed		
Salary	**24**	**32,4**
Source of income for those unemployed		
Government grants only	12	16,2
Casual work	11	14,9
Assistance from relatives & grants	7	9,5
Casual work & grants	7	2,7
Pension	6	8.1
Vending/petty business & grants	6	8,1
Unknown	2	2,7
Domestic work & grants	1	1,4
Total	**50**	**67,6**
TOTAL	**74**	**100**

4.3.1.1 Employment status

From the results displayed in Table 10, it is confirmed that 67,6 percent of household caregivers were unemployed. Of these, 50 percent were unemployed for more than five years and 12,1 percent between two and five years.

4.3.1.2 Source of household income

Overall (Table 10) it is indicated that for those unemployed, 44,6% of households depended on income that is supplemented by (28,4%) or provided only (16,2%) by

South African government grants (excluding pensions). A total of 8,1 percent of the unemployed respondents received a stable income from a SA Government pension, bringing the sum of unemployed respondents supported by or provided for by the tax payers money to 61 percent. The rest of the picture is completed by the fact that 14,9% percent of the households were dependent on the unstable income from casual work.

4.3.1.3 Household income contribution

According to results (Table 11) 45,9 percent of all household caregivers did not receive any government grants, while 46 percent of caregivers received child support grants (government: 44,6% and child maintenance: 1,4%) to assist in the providing of basic needs including purchasing of major plant staples. See 4.3.1.2 for correlation.

Table 11 Types of grants, income contribution and government food support (n=74)

Variables	Households	%
Government grant contribution		
No grant	34	45,9
Child support grant	30	40,5
Old age pension	6	8,1
Disability grants	3	4,1
Child maintenance fee[1]	1	1,4
Total	**74**	**100**
Income contribution by household members		
No contribution	41	55,4
R0 to R500	23	31,1
R501 to R1 000	7	9,5
R1 001 to R 1 500	3	4,0
Total	**74**	**100**
Awareness of food support		
Aware	46	62,2
Un-aware	28	37,8
Total	**74**	**100**
Type of government support		
I don't know	28	37,8
Food parcels	46	62,2
Total	**74**	**100**

[1]Child maintenance fee received from the pension trust fund of the deceased.

Most caregivers (55%) did not receive any income contribution from household members. Contributions from household members was mainly up to R500.00 (31,1%), while 9,5 percent received between R501.00 and R1000.00 and 4 percent of the caregivers received between R1001.00 and R1500.00. According to the studied population, additional income was often received once per month (not reported).

An awareness of the government food support programme running in Eatonside was indicated by 62,2 percent of caregivers. The government food support mentioned was in the form of a once-off submission of a food parcel to assist those with no jobs and who do not have any other means of income in the community. The value of the food parcel was R300.00.

Information reflected in Table 12 shows that the major component of households in Eatonside (62,2%) received a very low income, as reflected by 2,7 percent of respondents that reported that no income was received (no clear explanation were provided) and 59,5 percent of the respondents that received a total monthly income of less than R500.00. It is remarkable that 36,5 percent of the 59,5 percent of households within this income bracket were female headed. Twenty seven percent of households received between R500.00 and R1 000.00 with an about equal distribution between male and female households.

Table 12 Monthly income by type of household head (n=74)

Variables	Male-headed (*n*=29)	Female-headed (*n*=39)	De facto-headed (*n*=3)	Total
No income	1 (3,4%)	1 (2,4%)	0	2 (2,7%)
Below R500	16 (55,2%)	26 (61,9%)	2 (66,7%)	44 (59,5%)
R501 to R1 000	9 (31%)	11 (26,2%)	0	20 (27%)
R1 001 to R1 500	2 (6,9%)	3 (7,2%)	0	5 (6,7%)
R1 501 to R2 000	1 (3,4%)	1 (2,4%)	0	2 (2,7%)
R2 501 to R3 000	0	0	1 (33,3%)	1 (1,4%)
Total	**29 (100%)**	**42 (100%)**	**3 (100%)**	**74 (100%)**

It was observed that finding information on household budgets, especially income and expenditure, was extremely difficult. Therefore, the researcher relied on the memory of caregivers to recall such data. For the purpose of this study, one de facto-headed responded was indicated as receiving between R2 501.00 to R3 000.00 per month. The results from the analysis revealed that the population size of the de facto headed households was too limited to attach significance to the findings for this group. Results were however included in further reporting.

4.3.1.4 Household food and transport expenditures

Table 13 shows that de facto-headed households had the highest mean monthly income of R1 083.67 ±(R38.00), followed by male-headed households with R517.66 ±(R20.02) and female-headed households with the lowest income of R482.50 ±(R19.40). Looking at the combined households, the mean monthly income was R694.61 ±(R27.21).

Table 13 Monthly income and food and transport expenditure (Mean ±SD) (n=74)

Household head	Income ZAR	Food expenditure ZAR	Transport expenditure ZAR	% of food budget	% of transport budget	% of food and transport budget
Male-headed (*n*=29)	517.66 ±(20.02)	430.07 ±(20.44)	95.45 ±(9.08)	83.1#	18.4	102#
Female-headed (*n*=42)	482.50 ±(19.40)	280.38 ±(17.22)	95.90 ±(8.77)	58.1	19.9	78#
De facto-headed (*n*=3)	1 083.67 ±(38.0)	302.67 ±(17.38)	93.33 ±(8.99)	27.9	8.6	36.5
Total	694.60 ±(27.21)	337.85 ±(18.41)	94.89 ±(8.94)	48.64	13.7	62.3#

#According to the Food Agriculture Organisation of the United Nations (FAO) classification, any household that spends between 60-80% of its monthly income on food is poor (FAO 2004b).

4.3.1.5 Consumer purchasing behaviour of major plant staples

For the purpose of this study major plant staples refers to a basic items of food used regularly by a greater section of the population (MI 1997:6) which are mainly cereal grains and legumes (Webb & Rogers 2003:2) like maize porridge, samp/mealie rice, white rice and dry beans (Nel & Steyn 2002:136-142).

4.3.1.5.1 Brand name preference

From Table 14 it is clear that 45,9 percent of the respondents preferred any brand name when purchasing plant staples, 33,8 percent preferred specific brand names, 13,5 percent and 6,8 percent preferred the cheapest brand of the day and no brand name, respectively. This indicated that a brand name has no decisive influence for the majority (66,2%) of these households when purchasing plant staples.

Table 14 Brand name preference by households caregivers (n=74)

Variables	Number	%
Brand preference when purchasing food		
Specific brand name	25	33,8
Any brand name	34	45,9
No brand name	5	6,8
Cheapest brand of the day	10	13,5
Total	**74**	**100**

4.3.1.5.2 Brands usually purchased

Table 15 indicates the brand names by type of plant staples usually preferred by the studied population. Household caregivers from the studied households purchased nine different brands of maize meal namely Ideal (33,3%), Iwisa (25%), Naledi (15,7%), Super 1 (7,4%), Pride (7,4%), Mamas (4,9%), Impala (4,4%), Super Star (1,5%) and Nola (1,5%), (arranged from most purchased to least purchased, with a tie between Super 1 and Pride, and Super Star and Nola).

Table 15 Common brand names and plant staples purchased per households (*n*=74)

Plant staple	Number of households purchases/week					
	Weeks				Average	Percentage
	1	2	3	4		
Maize meal						
Ideal	19	15	19	15	17	33.3
Iwisa	9	14	14	14	12,75	25
Naledi	6	9	7	10	8	15,7
Super 1	4	6	2	3	3,75	7,4
Pride	5	3	3	4	3,75	7,4
Mamas	3	1	3	3	2.5	4,9
Impala	3	2	2	2	2.25	4,4
Super star	3	0	0	0	0,75	1,5
Nola	0	0	0	1	0,25	1,5
TOTAL	52	50	50	52	**51**	**100%**
Rice						
Tastic	2	4	7	16	7,25	53,7
Rite	4	2	4	1	2,75	20,4
Adela	0	1	1	2	1	7,4
First Value	1	0	0	2	0,75	5,6
Surprise	1	0	1	0	0,5	3,7
Sun Harvest	0	1	1	0	0,5	3,7
Elite	1	0	0	0	0,25	1,9
Pride	0	0	1	0	0,25	1,9
Cresta	0	1	0	0	0,25	1,9
TOTAL	9	9	15	21	**13,5**	**100%**
Mabela						
Nolamonati	3	3	3	3	3	92,3
Morvite	0	0	0	1	0,25	7,7
TOTAL	3	3	3	4	**3,25**	**100%**
Sugar beans						
Golden dice	3	5	5	3	4	64
Swift	1	0	2	1	1	16
Noname	4	0	0	0	1	16
Pride	0	0	1	0	0,25	4
TOTAL	8	5	8	4	**6,25**	**100%**

Split peas						
Golden Dice	1	1	0	1	0,75	30
Anisa	1	1	0	0	0,5	20
Tiger	1	0	0	0	0,25	10
Akalway	1	0	0	0	0,25	10
Imbo	0	1	0	0	0,25	10
Lion	0	0	1	0	0,25	10
Golden crest	0	0	0	1	0,25	10
TOTAL	4	3	1	2	**2,5**	**100%**
Samp						
Golden dice	1		2	4	1,75	58,3
Induna	2	0	0	0	0,5	16,7
Golden crest	0	1	1	0	0,5	16,7
Iwisa	0	0	1	0	0,25	8,3
TOTAL	3	1	4	4	**3**	**100%**
Samp and beans						
Anisa	1	0	0	0	0,25	33,3
Golden dice	0	0	1	0	0,25	33,3
Golden crest	0	0	0	1	0,25	33,3
TOTAL	1	0	1	1	**0,75**	**100%**
Kidney beans						
Anisa	1	0	1	0	0,5	100
TOTAL	1	0	1	0	**0,5**	**100%**
Oats						
Jungle oat	1	1	1	0	0,75	100
TOTAL	1	1	1	0	**0,75**	**100%**

The different brands indicated for rice were mainly Tastic (53,7%) and Rite (20,4%). For Mabela purchasing was mostly for Nolamonati (92,3%). Golden Dice (64%) was the most purchased brand of sugar beans. The most purchased brands of split peas were Golden Dice and Anisa. Purchasing for samp was most pronounced for Golden Dice (58,3%). For samp and beans a tie existed between the three brand names. For oats and kidney beans only one brand name was purchased in each case. The influence of availability was not investigated. Household caregivers indicated that the level of household income determined the purchasing choices of plant staples.

4.3.1.5.3 Household expenditure on plant staples per week

In Table 16 it is indicated that 35,1 percent of the studied households spent up to R50.00 per week on the purchasing of plant staples while 24,3 percent spent between R51.00 and R100.00 per week. Most of the studied households relied on casual work to earn wages, which was reflected by a lower supply of and lower access to plant staples in the households.

Table 16 Household expenditure on plant staples and transport (n=74)

Variables	Number	%
Money spent on foods per week		
< R50	26	35,1
R51 to R100	18	24,3
R101 to R200	13	17,6
R201 to R300	5	6,8
R301 to R400	3	4,1
I don't know	9	12,2
Total	**74**	**100**
When do you usually run out of money to purchase staple foods		
First week after receiving money	31	41,9
Second week after receiving money	21	28,4
Third week after receiving money	22	29,7
Total	**74**	**100**
Walking distance to the normal purchasing point		
1-5km	55	74,3
6-15 km	11	14,9
16-30 km	3	4,1
46-60 km	5	6,8
Total	**74**	**100**
Money spent on transport per week		
No expenditure	27	36,5
R20 – R50	43	58,1
R51 – R80	4	5,4
Total	**74**	**100**

The majority of studied households (59,4%) spent less than R100.00 per week on plant staples during the week after receiving money. Thereafter 41,9 percent of households indicated that they ran out of money to purchase plant staples in the first week after

receiving money, while 28,4 percent and 29,7 percent ran out of money for this purpose in the second and third weeks respectively.

Within the studied households, 74,3 percent indicated a walking distance of 1 to 5 kilometre to purchase staples, 14,9 percent walked between 6 to15 kilometre to purchase plant staples foods and 4,1 percent reported a walking distance of between 16 and 30 kilometre to purchase plant staples. From the studied households, 36,5 percent do not spend money on transport but indicated that they walk to the nearest spaza shop to purchase plant staples. Amongst the respondents 58,1 percent and 5,4 percent respectively used trains and taxis to travel to purchase plant staples in large stores in other towns including Sebokeng, Vanderbijlpark and Vereeniging. The most common and cheapest means of transport was by train.

4.3.1.5.4 Plant staples purchases as reported for packaging size, price, frequency and sources

Table 17 displays the packaging sizes purchased for the different plant staples in relation to frequency of purchase over the studied period by the different households, average price per kilogram (ZAR) as well as the usual source where purchasing took place.

The plant staples most frequently purchased by the households was maize meal (97,3%). The frequency of purchase was once a month by 41,7 percent of the respondents, followed by fortnightly purchasing (33,3%), once in two months (5,6%) and then weekly purchasing (18%). The purchased package size varied between 90 kg (1,4%) to 1 kg (1,4%). The 12,5 kg package was the most frequently purchased size (65%) for all occasions of buying, at an average price of R32.80 per unit (R2.62/kg). Major purchases of maize meal were from the spaza shops (58,3% of households), with less purchases (41,7%) from supermarkets.

Only 25,7 percent of the households purchased samp during the period of study. The maximum package size of samp purchased was 10 kg and the minimum 0,5 kg. From the households purchasing samp, 57,9 percent purchased the 1 kg package at an average

price of R5.18. The majority of these respondents (84,2%) purchased samp once a month, with fewer fortnightly purchases (15,8%) indicated. Samp purchases were mostly from spaza shops (57,9%), followed by purchases from supermarkets (42,1%).

Rice was purchased by 67,5 percent of the households during the study period. Six package sizes were obtainable between 0,5 kg to 12,5 kg. The 10 kg package was purchased by 34 percent of the households studied at an average price of R30.06 ±(R3.00/kg). The majority of the households (86%) indicated a purchase frequency of once a month followed by fortnightly purchases (12%) and once in two months (2%). Rice purchases were mostly from the supermarkets (66%), followed by purchases from the spaza shops (30%) and shops in other towns (4%).

Wheat was purchased by 2,7 percent of the households during the study period. The only package size of wheat was 12,5 kg, purchased by two households at an average price of R38.00 per month. Purchases were made from supermarkets.

Only 16,3 percent of the households purchased mabela during the study period. From the households purchasing mabela (16%), 25 percent purchased the 2,5 kg package size at an average price of R11.66 (R4.66/kg), while 25 percent purchased the 5 kg package size at an average price of R21.33 (R4.27/kg). Most of the respondents (58,3%) indicated a purchase frequency of once a month followed by fortnightly purchases (33,3%), and weekly purchases (8,3%). Mabella purchases were mainly from supermarkets (56,3%), followed by purchases from spaza shops (33,3%) and purchases from street vendors (8,3%).

Of the legumes, sugar beans was indicated as the most frequently purchased (29,7% of respondents). The package sizes purchased varied between 5 kg and 0,5 kg. The 0,5 kg package size recorded 36,4 percent of the purchases at an average price of R6.06 (R12.12/kg). Most of the purchasing was done once a month (81,8%) followed by fortnightly purchases (18,2%). Sugar beans were purchased often from supermarkets

(45,5%), followed by purchases from spaza shops (36,5%), shops in other towns (13,6%) and from street vendors (4,5%).

Only 22,9 percent of the households studied had purchased split peas during the period. The maximum package size purchased was 2,5 kg and the minimum was 0,5 kg. The 0,5 kg package size was indicated for 70,5 percent of the purchases by the studied households at an average price of R5.75 (R11.50/kg). Those that purchased split peas did so only once a month (100%). Purchases of split peas were made chiefly at the spaza shops (64,7%), followed by supermarkets (17,6%), shops in other towns (11,8%) and from street vendors (5,9%).

Only 10,9 percent of households purchased peanuts during the period of study. The maximum package size purchased was 1 kg and the minimum was 0,5 kg. The 0,5 kg package size was bought in 87,5 percent of the purchases at an average price of R1.00 (R2.00/kg). The majority of the purchases of peanuts were once a month (75%), followed by once a week (12,5%) and fortnightly (12,5%). Peanuts were purchased mostly from street vendors (62,5%), followed by spaza shops (25%) and from supermarket (12,5%).

Results indicated minimal buying of other plant staples such as oats (6,8%), wheat (2,7%), pre-mixed samp and beans (2,7%), haricot beans (2,7%) and kidney beans (5,4%). A detailed explanation will not be presented here.

Table 17 Package size, price, frequency and source of plant staple foods purchased by the households studied (*n*=74)

Major plant staples	Package size purchased (Kg)	Households (n=74)	% of households	Average price (ZAR)	Frequency of purchases by households							Usual source of purchase for households				
						Every day	Once a week	Once in two weeks	Once a month	Once in two months	Total households that purchased	% of purchasing households	*Spaza* shops	Supermarkets	Street vendors	Shops in other towns	Total
Maize meal	0.0	2	2.7	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	1.0	1	1.4	5.00		0	0	0	1	0	1	1.4	1	0	0	0	1
	2.5	2	2.7	11.00 (4.40/kg)		1	0	1	0	0	2	2.7	2	0	0	0	2
	5.0	8	10.8	18.99 (3.80/kg)		0	4	2	2	0	8	11.1	5	3	0	0	8
	10.0	5	6.7	30.70 (3.07/kg)		0	0	3	2	0	5	6.9	3	2	0	0	5
	12.5	47	63.5	32.80 (2.62/kg)		0	8	18	18	3	47	65.3	28	19	0	0	47
	25.0	4	5.4	60.50 (2.42/kg)		0	1	0	2	1	4	5.6	3	1	0	0	4
	50.0	4	5.4	135.50 (2.71/kg)		0	0	0	4	0	4	5.6	0	4	0	0	4
	90.0	1	1.4	90.00 (1.00/kg)		0	0	0	1	0	1	1.4	0	1	0	0	1
					Total	**1**	**13**	**24**	**30**	**4**	**72**	**100.0**	**42**	**30**	**0**	**0**	**72**
					Percent	**1.4**	**18.0**	**33.3**	**41.7**	**5.6**	**100.0**		**58.3**	**41.7**	**0**	**0**	**100**
Samp	0.0	55	74.3	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	0.5	3	4.1	3.73 (7.46/kg)		0	0	0	3	0	3	15.8	3	0	0	0	3
	1.0	11	14.9	5.18		0	0	0	11	0	11	57.9	7	4	0	0	11
	2.0	1	1.4	13.48 (6.74/kg)		0	0	1	0	0	1	5.3	1	0	0	0	1
	5.0	2	2.7	6.95 (1.39/kg)		0	0	2	0	0	2	10.5	0	2	0	0	2
	10.0	2	2.7	40.50 (4.05/kg)		0	0	0	2	0	2	10.5	0	2	0	0	2

					Total	**0**	**0**	**3**	**16**	**0**	**19**	**100,0**	**11**	**8**	**0**	**0**	**19**
					Percent	**0**	**0**	**15,8**	**84,2**	**0**	**100,0**		**57,9**	**42,1**	**0**	**0**	**100**
	0,0	24	32,4	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	0.5	6	8.1	5.25 (10.50/kg)		0	0	1	5	0	6	12	4	2	0	0	6
	1.0	6	8.1	5.75		0	0	0	6	0	6	12	4	2	0	0	6
	2.0	9	12.2	10.32 (5.16/kg)		0	0	0	9	0	9	18	3	5	0	1	9
	2,5	2	2,7	9.50 (3.80/kg)		0	0	0	2	0	2	4	1	1	0	0	2
	5.0	7	9,5	24.43 (4.89/kg)		0	0	1	6	0	7	14	1	6	0	0	7
	10,0	17	22,9	30.06 (3.09/kg)		0	0	4	12	1	17	34	2	14	0	1	17
	12,5	3	4,1	46.00 (3.68/kg)		0	0	0	3	0	3	6	0	3	0	0	3
Rice					**Total**	**0**	**0**	**6**	**43**	**1**	**50**	**100**	**15**	**33**	**0**	**2**	**50**
					Percent	**0**	**0**	**12**	**86**	**2**	**100**		**30**	**66**	**0**	**4**	**100**
	0,0	62	83,7	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	1,0	2	2,7	5.75		0	0	1	1	0	2	16,7	1	1	0	0	2
	2,0	2	2,7	6.99 (3.50/kg)		0	0	1	1	0	2	16,7	0	2	0	0	2
	2,5	3	4,1	11.66 (4.66/kg)		0	1	2	0	0	3	25	1	2	0	0	3
	5,0	3	4,1	21.33 (4.27/kg)		0	0	0	3	0	3	25	2	1	0	0	3
	10.0	2	2.7	45.50 (4.55/kg)		0	0	0	2	0	2	16,7	0	1	0	1	2
Mabela					**Total**	**0**	**1**	**4**	**7**	**0**	**12**	**100,0**	**4**	**7**	**0**	**1**	**12**
					Percent	**0**	**8,3**	**33,3**	**58,3**	**0**	**100,0**	**100,0**	**33,3**	**58,3**	**0**	**8,3**	**100**
	0.0	69	93,2	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	0,5	1	1,4	7.50 (15.00/kg)		0	0	1	0	0	1	20	0	0	1	0	1
	1,0	2	1,7	10.75		0	0	1	1	0	2	40	1	1	0	0	2
	2,5	1	1,4	10.99 (4.40/kg)		0	0	0	1	0	1	20	0	1	0	0	1
	3.0	1	1,4	6.00 (3.00/kg)		0	0	0	1	0	1	20	0	1	0	0	1
Oats					**Total**	**0**	**0**	**2**	**3**	**0**	**5**	**100**	**1**	**3**	**1**	**0**	**5**
					Percent	**0**	**0**	**40**	**60**	**0**	**100**	**100**	**20**	**60**	**20**	**0**	**100**

Wheat	0,0	72	97,3	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	12,5	2	2,7	38.00 (3.40/kg)		0	0	0	2	0	2	100	0	2	0	0	2
					Total	**0**	**0**	**0**	**2**	**0**	**2**	**100**	**0**	**2**	**0**	**0**	**2**
					Percent	**0**	**0**	**0**	**100**	**0**	**100**	**100**	**0**	**100**	**0**	**0**	**100**
Samp + Beans	0,0	72	97,3	0.00													
	0,5	1	1,4	4.00 (8.00/kg)		0	0	0	1	0	1	50	1	0	0	0	1
	1,0	1	1,4	4.50		0	0	0	1	0	1	50	1	0	0	0	1
					Total	**0**	**0**	**0**	**2**	**0**	**2**	**100**	**2**	**0**	**0**	**0**	**2**
					Percent	**0**	**0**	**0**	**100**	**0**	**100**	**100**	**100**	**0**	**0**	**0**	**100**
Sugar beans	0,0	52	70,3	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	0,5	8	10,8	6.06 (12.12/kg)		0	0	1	7	0	8	36,4	5	2	1	0	8
	1,0	6	8,1	4.20		0	0	1	5	0	6	27,3	1	5	0	0	6
	1,5	1	1,4	10.50 (7.00/kg)		0	0	0	1	0	1	4,5	0	0	0	1	1
	2,0	3	4,1	7.33 (3.67/kg)		0	0	0	3	0	3	13,6	1	1	0	1	3
	2,5	2	2,7	6.90 (2.76/kg)		0	0	1	1	0	2	9,1	1	0	0	1	2
	5,0	2	2,7	34.58 (6.92/kg)		0	0	1	1	0	2	9,1	0	2	0	0	2
					Total	**0**	**0**	**4**	**18**	**0**	**22**	**100**	**8**	**10**	**1**	**3**	**22**
					Percent	**0**	**0**	**18,2**	**81,8**	**0**	**100**	**100**	**36,4**	**45,5**	**4,5**	**13,6**	**100**
Haricot beans	0,0	72	97,3	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	0,5	2	2,7	5.75 (11.5/kg)		0	0	0	2	0	2	100	1	1	0	0	2
					Total	**0**	**0**	**0**	**2**	**0**	**2**	**100**	**1**	**1**	**0**	**0**	**2**
					Percent	**0**	**0**	**0**	**100**	**0**	**100**	**100**	**50**	**50**	**0**	**0**	**100**

Kidney beans	0.0	70	94.6	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	0.5	2	2,7	5.75 (11.50/kg)		0	0	1	1	0	2	50	1	1	0	0	2
	1.0	2	2,7	3.50		0	0	0	2	0	2	50	0	2	0	0	2
					Total	**0**	**0**	**1**	**3**	**0**	**4**	**100**	**1**	**3**	**0**	**0**	**4**
					Percent	**0**	**0**	**25**	**75**	**0**	**100**	**100**	**25**	**75**	**0**	**0**	**100**
Split peas	0,0	57	77,0	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	0.5	12	16,2	5.75 (11.50/kg)		0	0	0	12	0	12	70,5	9	2	1	0	12
	1.0	2	2.7	6.50		0	0	0	2	0	2	11,7	1	1	0	0	2
	1,5	1	1,4	10.50 (7.00/kg)		0	0	0	1	0	1	5,9	0	0	0	1	1
	2,0	1	1,4	12.00 (6.00/kg)		0	0	0	1	0	1	5,9	0	0	0	1	1
	2,5	1	1,4	9.00 (3.60/kg)		0	0	0	1	0	1	5,9	1	0	0	0	1
					Total	**0**	**0**	**0**	**17**	**0**	**17**	**100,0**	**11**	**3**	**1**	**2**	**17**
					Percent	**0**	**0**	**0**	**100**	**0**	**100**	**100**	**64,7**	**17,6**	**5,9**	**11,8**	**100**
Peanuts	0,0	66	89,1	0.00		0	0	0	0	0	0	0	0	0	0	0	0
	0,5	7	9,5	1.00 (2.00/kg)		0	1	1	5	0	7	87,5	2	0	5	0	7
	1,0	1	1,4	7.00		0	0	0	1	0	1	12,5	0	1	0	0	1
					Total	**0**	**1**	**1**	**6**	**0**	**8**	**100,0**	**2**	**1**	**5**	**0**	**8**
					Percent	**0**	**12,5**	**12,5**	**75**	**0**	**100,0**	**100,0**	**25**	**12,5**	**62,5**	**0**	**100**

4.3.1.5.5 Quantity and price of plant staples purchased by households

Table 18 indicates the mean (±SD) quantity purchased and expenditures for plant staples per month in the households studied. Maize meal was indicated as the plant staple most purchased. An average of 14,5 kg ±(3,66 kg) of maize meal were purchased per household during the study period, giving an average expenditure per household of R37.54 ±(R5.37) per month on this plant staple. The price distribution for maize meal indicated that the bigger the package size purchased, the cheaper the price per kg become. The results from this study indicated a distribution between R5.00/kg for a 1 kg package size to R1.00/kg for the 90 kg package of maize meal. The main body of respondents (63,5%) purchased the 12,5 kg package size with an average price of R32.80 (R2.62/kg).

Rice was the second most frequently purchased plant staple. An average of 3,7 kg ±(2,09 kg) of rice per households were purchased during the study period, giving an average of R15.01 ±(R4.19) per household per month.

An average of 1,93 kg ±(1,38 kg) of mabela was purchased per household during the study period. An average of only 0,60 kg ±(1,34 kg) of samp was purchased per household during the study period, giving an average expenditure of R2.40 ±(R2.64) on samp per month per household.

With regard to legumes, only sugar beans and split peas were purchased in notable quantities. Sugar beans were purchased on an average of 0,44 kg ±(0,99 kg) per household, spending R2,56 ±(R2,63) on sugar beans per month per household. An average of 0,20 kg ±(0,68 kg) of split peas was purchased per household during the study period. On average each of the households studied spent R1.59 ±(R1.76) on split peas per month per household.

Table 18 Household purchases and expenditures for plant staples (Mean ±SD) (n=74)

	Maize meal		Samp		Rice		Mabella		Oats		Wheat		Samp + Beans	
	Kg	ZAR	Kg	ZAR	Kg	ZAR	Kg	ZAR	Kg	ZAR	Kg	ZAR	Kg	ZAR
Quantity purchased and spent / household/month.	14.51	37.54	0.6	2.40	3.71	15.01	.66	2.99	0.14	1.13	.34	1.03	.06	0.20
SD	3.66	5.37	1.34	2.64	2.09	4.19	1.28	3.00	2.58	2.36	1.43	2.49	0.61	0.99
Quantity purchased and spent / household/week.	3.62	9.39	0.15	0.60	0.79	3.75	0,17	0.75	0.04	0.28	0,09	0,26	0.02	0.05
SD	1.83	2.68	0.67	1.32	1.04	2.09	0.64	1.51	1.29	1.18	0.22	1.24	0.3	0.5
Total quantity purchased and spent (n=74).	1073.5	2778	44.5	177.4	274.5	1111	48.5	221	10	83	25	76	5	15

	Sugar beans		Haricot beans		Kidney beans		Split peas		Peanuts	
	Kg	**ZAR**	**Kg**	**ZAR**	**Kg**	**ZAR**	**Kg**	**ZAR**	**Kg**	**ZAR**
Quantity purchased and spent/ household/month.	0.44	2.56	0.01	0.16	0.04	0.25	0.20	1.59	0.02	0.19
SD	0.99	2.63	0.28	0.97	0.42	1.04	0.68	1.76	0.35	0.93
Quantity purchased and spent/ household/week.	0.11	0.64	0	0.04	0.01	0.06	0.05	0.39	0.01	0.05
SD	0.5	0.40	0.14	0.49	0.22	0.52	0.35	0.88	0.17	0.47
Total quantity purchased and spent (n=74).	32.5	189.1	1	12	3.0	18.5	15	118	1	14

Table 19 Share/portion of food budget available to purchase plant staples

Households head(n=74)	Income (ZAR)	Food expenditure (ZAR)	Total spent on plant staple purchases/household/ month (ZAR)(Table 18)	% of Share/portion of plant staples food purchases	Average household size	Food expenditure/ capita /household (ZAR)
Male-headed (n=29)	517.66 ±(20.02)	430.07 ±(20.44)	64.63 ±(R8.04)	15.0	4	107.5±(10.5)
Female-headed (n=42)	482.50 ±(19.40)	280.38 ±(17.22)	64.63 ±(R8.04)	23.1	5	56.08±(7.70)
De facto headed (n=3)	1083.67 ±(38.0)	306.67 ±(17.38)	64.63 ±(R8.04)	21.1	6	50,45±(7.77)
Total n=74	694.60 ±(27.21)	337.85 ±(18.41)	64.63 ±(R8.04)	20	5	67.57±(8.23)

Table 20 Total expenditure in food budget allocated to purchasing of plant staples (%)

Plant staple foods	Maize meal	Samp	Rice	Mabela	Oats	Wheat	Samp & beans	Sugar beans	Haricot beans	Kidney beans	Split peas	Peanut	**Total**
Percentage	58.1	3.7	23.2	4.6	1.8	1.6	0.3	3.9	0.3	0.4	2.5	0.3	100.0

Table 19 and Table 20 indicated that within the studied households, the total amount of money spent to purchase plant staples was R64.63 ±(R8.04) per household during the study period, of which a pronounced 58,1 percent was allocated to maize meal and 23,2 percent to rice. Allocations to other plant staples were far less. The percentage share/portion of the food budget (in ZAR) spent on the purchase of major plant staples was the highest for female-headed households (23,1%), followed by de facto headed (21,1%) and male headed households (15%) respectively.

4.3.1.5.6 Inventory of plant staples available in the households

Table 21 reveals that 23 percent of the households did not have any plant staples in store on the first day of the study. Of the households studied, 62,2 percent had maize meal, 10,8 percent had rice, 2,7 percent had mabela and 1,4 percent had samp. Most of the plant staples, especially maize meal, were stored in larger buckets with lids, while rice, mabela, samp and other plant staples were kept in small containers. Respondents reported that the stock of plant staples was often depleted after a week.

Table 21 Plant staples available during the first inventory in the studied households (n=74)

Plant staples	Households	%
Maize meal	46	62,2
None	17	23
Rice	8	10,8
Mabella	2	2,7
Samp	1	1,4
Total	**74**	**100**

In Table 22 the total stock of cereal grains available per household per month for was indicated as 20,81 kg. Figures also confirmed maize meal as the plant staple most purchased. On a weekly basis, maize meal purchases were higher in kilograms (kg) than any other plant staple. The overall purchase of maize meal per household during the month of investigation was 17,24 kg (83%), followed by rice 2,49 kg (12%) and wheat 0,71 kg (3%) respectively.

The legume item most stocked was sugar beans (0,33 kg/month) followed by split peas (0,05 g/month) and kidney beans (0,01 kg/month) per household respectively. The total stock for legumes available in the households for the month was 0,39 kg.

Table 22 Plant staple stock available per household per month (*n*=74)

Cereal grains	kg / household				
	Week 1	Week 2	Week 3	Week 4	Month total
Maize meal	4,89	4,36	3,55	4,45	17,24
Rice	0,49	0,55	0,58	0,87	2,49
Mabella	0,03	0,02	0,02	0,08	0,11
Samp	0,09	0,01	0,07	0,05	0,22
Samp + beans	0	0	0,01	0,01	0,02
Oats	0,01	0,01	0,01	0	0,02
Wheat	0	0,17	0,14	0,41	0,71
Total	**5,51**	**5,12**	**4,38**	**5,87**	**20,81**
Legumes					
Sugar beans	0,11	0,08	0,07	0,07	0,33
Split peas	0,02	0,01	0,01	0,01	0,05
Haricot beans	0	0	0	0	0
Kidney beans	0	0	0	0	0,01
Peanuts	0	0	0	0	0
Total	**0,13**	**0,09**	**0,08**	**0,08**	**0,39**

Table 23 shows the weekly mean availability of plant staples in the studied households. Only rice indicated significant differences in stock among the different types of household-heads for the first, second and third weeks. The fourth week showed no significant differences among and within groups. In that week only wheat showed significant difference between and within groups (p-value = 0.02).

Table 23 **Household cereal grain and legume stock (kg) available for the different types of household-heads Weekly mean (n=74)**

Plant staples	Week 1				Week 2				Week 3				Week 4			
	1	2	3	p-value	1	2	3	p-value	1	2	3	p-value	1	2	3	p-value
Maize meal	6.3	3.99	3.85	0.21	4.16	4.1	10	0.09	4.15	2.9	7.17	0.15	2.89	5.32	7.33	0.12
Rice	0.18	0.51	3.25	0.02	0.1	0.72	3	0.04	0.2	0.7	2.67	0.04	0.59	0.99	2	0.54
Mabella	0.01	0.04	0	0.71	0.03	0.02	0	0.89	0	0.03	0	0.65	0.1	0.08	0	0.92
Samp	0	0.15	0	0.37	0	0.02	0	0.69	0.03	0.1	0.33	0.35	0.01	0.06	0.33	0.22
Samp + beans	0	0.01	0	0.69	0	0	0	-	0.03	0	0	0.47	0.02	0	0	0.47
Oats	0.02	0	0	0.47	0.02	0	0	0.47	0.01	0	0	0.47	0	0	0	-
Wheat	0	0	0	-	0	0.3	0	0.58	0	0.24	0	0.69	0.17	0.36	3.33	0.02
Sugar beans	0.11	0.12	0	0.85	0.03	0.12	0	0.54	0.04	0.08	0.17	0.65	0.01	0.11	0.17	0.5
Split peas	0.02	0.02	0	0.91	0.01	0.01	0	0.93	0.02	0	0	0.47	0.02	0.01	0	0.93
Haricot beans	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Kidney beans	0	0.01	0	0.69	0	0	0	-	0	0.01	0	0.69	0	0	0	-
Peanuts	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-

Values are mean ± SD of types of household-heads, i.e. **1**=male head, **2**=female head and **3**=de facto head. Mean ± SD with the symbol differed significantly among and within groups: * $p \leq 0.05$.

p – value obtained from ANOVA

In Table 24, the monthly availability (mean ±SD) of cereal grain and legume stock in the households studied indicated only rice with a significant difference between types of household-heads and within groups (p-value = 0.01). Other plant staples showed no significant difference among and within groups.

Table 24 Household cereal grain and legume stock available (kg) for the different types of household-heads (monthly mean ±SD) (n=74)

Plant staples	Month			
	Male-head	Female-head	De facto-head	p-value
Maize meal	17.5 ±(3.32)	16.27 ±(3.44)	28.35 ±(4.25)	0.23
Rice	1.01* ±(1.54)	2.91* ±(2.33)	10.92* ±(4.15)	0.01
Mabella	0.15 ±(0.72)	0.16 ±(0.89)	0	0.92
Samp	0.04 ±(0.44)	0.32 ±(1.02)	0.67 ±(1.08)	0.24
Samp + beans	0.05 ±(0.46)	0.01 ±(0.2)	0	0.34
Oats	0.05	0	0	0.47
Wheat	0.17 ±(0.96)	0.89 ±(0.94)	3.33 ±(1.82)	0.19
Sugar beans	0.18 ±(0.69)	0.43 ±(0.97)	0.33 ±(0.76)	0.45
Split peas	0.04 ±(0.16)	0.44 ±(0.44)	0	0.8
Haricot Beans	0	0	0	-
Kidney beans	0	0.01	0	0.69
Peanuts	0	0	0	-

Values are mean ± SD of type of heads of households i.e. **1**=male head, **2**=female head and **3**=de facto head. Mean ± SD with the symbol differed significantly between and within groups: *
$p \leq 0.05$. p – Value obtained from ANOVA.

Table 25 Weekly difference between types of households for plant staple stock available (kg) mean (n=74)

Plant staples	Difference Male / female households		Difference Male / de facto households		Difference Female / de facto households	
	(1-2)	p-value	(1-3)	p-value	(2-3)	p-value
			Week 1			
Maize meal	2.31	0.09	2.45	0.46	0.13	0.97
Rice	-0.33	0.46	-3.07*	0.01	-2.74*	0.01
Mabella	-0.03	0.45	0.01	0.89	0.04	0.65
Samp	-0.15	0.17	0	1	0.15	0.58
Samp + beans	-0.01	0.4	0	1	0.01	0.74
Oats	0.02	0.23	0.02	0.63	0	1
Wheat	-	-	-	-	-	-
Sugar beans	-0.02	0.86	0.11	0.63	0.12	0.58
Split peas	-0.01	0.81	0.02	0.77	0.02	0.69
Haricot beans	-	-	-	-	-	-
Kidney beans	-0.01	0.40	0	1	0.01	0.74
Peanuts	-	-	-	-	-	-
			Week 2			
Maize meal	0.07	0.95	-5.84*	0.03	-5.91*	0.03
Rice	-0.66	0.17	-2.94*	0.02	-2.28	0.06
Mabella	0.01	0.73	0.03	0.69	0.02	0.79
Samp	-0.02	0.4	0	1	0.02	0.74
Samp + beans	-	-	-	-	-	-
Oats	0.02	0.23	0.02	0.63	0	1
Wheat	-0.3	0.31	0	1	0.3	0.68
Sugar beans	0.09	0.3	0.03	0.89	0.12	0.57
Split peas	0	0.84	0.01	0.71	0.01	0.77
Haricot beans	-	-	-	-	-	-
Kidney beans	-	-	-	-	-	-
Peanuts	-	-	-	-	-	-
			Week 3			
Maize meal	1.28	0.21	-3.02	0.24	-4.3	0.09
Rice	-0.52	0.19	-2.48*	0.01	-1.96*	0.05
Mabella	0.03	0.37	0	0.97	0.03	0.69
Samp	-0.05	0.59	-0.3	0.16	-0.25	0.22
Samp + beans	0.04	0.23	0.04	0.63	0	1
Oats	0.01	0.23	0.01	0.63	0	1
Wheat	-0.24	0.4	0	1	0.24	0.74
Sugar beans	-0.04	0.54	-0.13	0.42	-0.09	0.57
Split peas	0.02	0.23	0.02	0.63	0	1
Haricot beans	-	-	-	-	-	
Kidney beans	-0.01	0.4	0	1	0.01	0.74
Peanuts	-	-	-	-	-	-

			Week 4			
Maize meal	-2.43	0.07	-4.44	0.18	-2.01	0.53
Rice	-0.4	0.48	-1.41	0.32	-1.01	0.47
Mabella	0.03	0.81	0.1	0.71	0.08	0.78
Samp	-0.05	0.48	-0.33	0.09	-0.27	0.15
Samp + beans	0.02	0.23	0.02	0.63	0	1
Oats	-	-	-	-	-	-
Wheat	-0.19	0.68	-3.16*	0.01	-2.98*	0.01
Sugar beans	-0.10	0.28	-0.16	0.49	-0.06	0.79
Split peas	0.01	0.79	0.02	0.73	0.01	0.81
Haricot beans	-	-	-	-	-	-
Kidney beans	-0.01	0.4	0	1	0.01	0.74
Peanuts	-	-	-			

Values are mean difference between type of households i.e. **1**=male head, **2**=female head and **3**=de facto head. Mean differences with the symbol differed significantly between the types of households:
* $p \leq 0.05$. p – Value obtained from ANOVA.

According to Table 25, week one showed that differences in rice availability according to types of household-heads was statistically significant for the study population. Week two indicated that maize meal and rice had significant differences of means in between male-headed and de facto-headed and between female-headed and de facto-headed households respectively. Week three indicated that rice had significant differences of means between male-headed to de facto-headed and female headed and de facto-headed households. On week four, a significant difference of mean between male-headed to de facto-headed and female-headed, and de facto-headed households (p-value = 0.01) was indicated for wheat availability.

Table 26 indicates rice as the overall plant staple with a significant mean difference between male-headed and de facto-headed, and between female-headed and de facto-headed households (p- value = 0.01) for the studied period.

Table 26 Monthly difference between types of households for plant staple stock available (kg) mean (n=74)

Plant staples	Difference Male / female households		Difference Male / de facto households		Difference Female / de facto households	
	(1-2)	p-value	(1-3)	p-value	(2-3)	p-value
			Monthly			
Maize meal	1.23	0.66	-10.85	0.13	-12.09	0.09
Rice	-1.91	0.14	-9.91*	0	-8*	0.01*
Mabella	-0.02	0.93	0.15	0.72	0.16	0.69
Samp	-0.28	0.17	-0.62	0.21	-0.35	0.48
Samp + beans	0.05	0.15	0.05	0.52	0.01	0.94
Oats	0.05	0.23	0.05	0.63	0	1
Wheat	-0.72	0.32	-3.16	0.08	-2.44	0.17
Sugar beans	-0.24	0.21	-0.15	0.76	0.09	0.84
Split peas	0.02	0.66	0.06	0.56	0.04	0.68
Haricot beans	-	-	-	-	-	-
Kidney beans	-0.01	0.4	0	1	0.01	0.74
Peanuts	-	-	-	-	-	-

Values are mean difference between type of households i.e. **1**=male head, **2**=female head and **3**=de facto head. Mean difference with the symbol differed significantly between the types of households:
* $p \leq 0.05$. p – Value obtained from ANOVA.

Table 27 demonstrates the mean ±SD of dietary intakes of selected nutrients of main caregivers. This data was based on the quantitative food frequency questionnaire (QFFQ) per individual (Oldewagen-Theron *et al.* 2003). Due to day-to-day variability in the diets, this information does not necessarily represent any one person, but the aggregate provides a valid estimate of dietary adequacy for the group as a whole.

The data in Table 27 indicate that energy, calcium, iron, magnesium, zinc, selenium, iodine, thiamine, riboflavin, niacin, folate, and vitamins A, C, B_{12} and D were deficient. The data suggest that Eatonside dwellers manifest significant deficiency in these nutrients.

The wide spread in the standard deviation values is an indication of how far away the data values were from the average typical values (Cooper & Schindler 2003:474-475; Zikmund 2003:406-411).

Table 27 Daily nutritive intakes of the main caregivers in Eatonside (mean ± SD) (adapted from Oldewage-Theron *et al* 2003)

Nutrient and Unit	QFFQ (n=409)	24-hour recall (n=432)	EAR*
Energy (kJ)	**3839.8 ±(430.4)****	**4550.1 ±(1993)****	10 093
Total protein (g)	24.5 ±(22.7)	197 ±(9.3)	46
Total fat (g)	26.9 ± (31.4)	20.9 ±(20.8)	
Cholesterol (mg)	84.8 ±(115.8)	55.8 ±(117.9)	
Carbohydrates (g)	135.2 ±(94.6)	182.4 ±(77.9)	100
Calcium (mg)	**116.2 ±(165)****	**150.1 ±(176.7)****	580
Iron (mg)	**3.54 ±(4.73)****	**3.79 ±(2.04)****	8.1
Magnesium (mg)	**135.9 ±(103.2)****	**194.7 ±(93.5)****	265
Zinc (mg)	**2.9 ±(2.65)****	**3.8 ±(2.5)****	6.8
Copper (mg)	0.39 ±(0.42)	0.41 ±(0.29)	
Chromium (mcg)	14.3 ±(23.3)	14.7 ±(19.8)	
Selenium (mcg)	**10.27 ±(16.57)****	**8.27 ±(13.15)****	45
Iodine (mcg)	**11.28 ±(16.31)****	**8.97 ±(18.12)****	95
Vitamin A (RE) (mcg)	**210.6 ±(452.5)****	**175.9 ±(617.3)****	500
Thiamine (mg)	**0.56 ±(0.51)****	**0.72 ±(0.32)****	0.9
Riboflavin (mg)	**0.32 ±(0.51)****	**0.35 ±(0.36)****	0.9
Niacin (mg)	**4.58 ±(6.66)****	**4.93 ±(4.08)****	11
Vitamin B6 (mg)	0.30 ±(0.5)	0.34 ±(0.23)	1.1
Folate (mcg)	**64.19 ±(87.64)****	**85.13 ±(125.11)****	320
Vitamin B12 (mcg)	**1.33 ±(2.76)****	**1.19 ±(3.17)****	2
Pantothenate (mg)	1.67 ±(2.19)	1.78 ±(1.65)	
Biotin (mcg)	10.52 ±(10.35)	14.62 ±(25.3)	
Vitamin C (mg)	**13.4 ±(25.7)****	**14.32 ±(14.87)****	60
Vitamin D (mcg)	1.45 ±(2.09)	0.73 ±(1.84)	
Vitamin E (mg)	**7.42 ±(10.38)****	**4.56 ±(7.33)****	12

*Estimated Average Requirement for females 19-50 years of age.
** Mean difference with the symbol differed significantly $p \leq 0.05$.

4.4 FOOD PRICE, INCOME AND EXPENDITURE ON PLANT STAPLES ACCORDING TO SPAZA SHOPKEEPERS AND STOCK RECORD SALES

4.4.1 Compliance and non-compliance of the spaza shopkeepers/ owners

The average compliance of the spaza shopkeepers was 98 percent for the duration of the study. One respondent was not willing to complete the fourth week of the study. Therefore, records for the last week were calculated using the average value of the preceding three weeks' records. All other respondents successfully completed the interview schedules as planned.

4.4.2 Characteristics of the spaza shopkeepers/owners

The average age of the shopkeepers was recorded as 41,9 ±(4.36) years and consisted primarily of males (90,9%).

4.4.3 Sales characteristics

4.4.3.1 Cash versus credit sales

Data in Table 28 indicate that 81,8 percent of the spaza shopkeepers made credit facilities available. Of the shopkeepers 36,4 percent allowed their customers to pay the accumulated credit at the month end, 27,3 percent allowed consumers to pay on weekly and monthly bases while 18,2 percent allowed fortnightly and monthly payments of accumulated credits.

Cash sales usually account for 63,6 percent of the trade by the spaza shopkeepers, while 36,4 percent sell for cash and credit. The amount of customers served by spaza shops varied between 30 to 200 customers per month indicating on average of 115 customers that purchase plant staples per month at each of the spaza shops. However, the credit

facilities were limited to a specific percentage of customers according to the preference of the spaza shopkeeper/owner, with a preference for cash sales.

Only 9,1 percent of spaza shops allowed 50 percent of customers to buy on credit, while 9,1 percent allowed 25 percent to do so, and 45,5 percent of spaza shops allowed only 10 percent of customers to do so. In order to avoid the inconvenience of debt collection, no or limited credit was allowed by most spaza shops.

Most of the shopkeepers/owners (63,6%) indicated that children, women and men purchased from their shops. Women and children were indicated as the main purchasers by 18,2 percent, while a further 18,2 percent indicated children.

4.4.3.2 Decision making determinants in plant staple purchasing

From the customers, 63,6 percent applied price and quantity indicators as determining factors when deciding on what to buy, 18,2 percent applied only price, 9,1 percent applied price, quality, and quantity, and a further 9,1 percent applied price and quality. Price was therefore indicated as a constant important and in some cases the overriding factor in decision making for purchasing.

4.4.3.3 Deteriorated stock in spaza shops

Only 18,2 percent of shopkeepers indicated that old or deteriorated stock was sold at lower prices, while the rest returned such stock to the depots, discarded it or did not experience the problem. The stock of 90,9 percent of the shopkeepers was replenished by self-purchase, while 9,1 percent made use of deliveries from food stores.

Table 28 Characteristics of sales reported by spaza shopkeepers (n=11)

Variables	Shopkeepers	%
Availability of credit facility to consumers		
Yes	9	81,8
No	2	18,2
Total	**11**	**100**
Period of payment of credit		
No credit available	2	18,2
Monthly	4	36,4
Weekly and monthly	3	27,3
Fortnightly and monthly	2	18,2
Total	**11**	**100**
Terms of selling		
Cash	7	63,6
Cash and credit	4	36,4
Total	**11**	**100**
Average number of customers per month		
30	2	18,2
76	3	27,3
126	1	9,1
176	1	9,1
226	4	36,4
Total	**11**	**100**
% of customers that buy with cash		
50	1	9,1
75	1	9,1
90	5	45,5
95	1	9,1
99	1	9,1
100	2	18,2
Total	**11**	**100**
% of customers buying on credit		
0	2	18,2
1	1	9,1
5	1	9,1
10	5	45,5
25	1	9,1
50	1	9,1
Total	**11**	**100**

Main buyer for a household at the shop		
Children	2	18,2
Children and women	2	18,2
Children, women and men	7	63,6
Total	**11**	**100**
Preference of customer when buying food		
Price and quality	1	9,1
Price and quantity	7	63,6
Price, quality and quantity	1	9,1
Price	2	18,2
Total	**11**	**100**
Action taken after stock quality deteriorates		
Sell at lower price	2	18,2
Return to depot	3	27,3
Discard	3	27,3
Stock does not stay long	3	27,3
Total	**11**	**100**
Replenishment of stock		
By deliveries	1	9,1
Self purchase	10	90,9
Total	**11**	**100**
Donation by shopkeepers to the community		
Money	7	63,6
Stock and money	4	36,4
Total	**11**	**100**
Knowledge about monthly food spending by caregivers		
R100-R300	6	54,5
R301-R500	1	9,1
I don't know	4	36,4
Total	**11**	**100**

4.4.3.4 Donations to the community

Donations of money were made to the community by 63,6 percent of the spaza shopkeepers, while 36,4 percent donated stock and money. The latter were given to schoolchildren and for funeral ceremonies.

4.4.3.5 Monthly food expenditure by households

Most of the spaza shopkeepers indicated that the monthly food spending by caregivers was between R100.00 and R300.00 (54,5%) and between R301.00 and R500.00 (9,1%) respectively per household.

4.4.3.6 Sales record for plant staples

4.4.3.6.1 Quantity and distribution of cereal grain and legume sales for the study period

Table 29 presents a record of the total mass (kg) of cereal grains and legumes sold during the four weeks under study. Overall, maize meal and oats represented the maximum (276,14 kg) and minimum (0,18 kg) weekly sales respectively. The quantities of maize meal, rice and mabela sold increased sharply in the second week, reached maximum in the third week and dropped during the fourth. In all the cases the increase from second to third week was marginal, whereas the decrease in the fourth week was greater. Maize meal showed the greatest variation (36%) while mabela showed minimum differences in the sales figures over the weeks, being steady in weeks two and three (2%). Sales of samp dropped in the second week, though regained in the third to fourth week. Sales of samp and beans increased in the first and third weeks, while decreasing in the second and fourth weeks alternatively. More oats were sold during week one, while the quantity decreased and remained stable throughout the remaining three weeks. Little variation occurred for legumes within the weekly sales. Higher weekly sales were indicated for split peas during the third and fourth weeks than was the case for weeks one and two. Sales of split peas, indicated as the legume sold in the largest quantities, increased steadily throughout the period, reaching a maximum of 5,64 kg/spaza shop in the fourth week. The sales of sugar beans, which were indicated as second for legume sales, were higher in the first and third weeks, though less in the second and fourth weeks. The sales of peanuts reached a peak in the second week and then decreased substantially over week three and four.

Table 29 **Mass (kg) of plant staple stock sales per spaza shop (n = 11)**

Plant staple	Kg/Week				kg/Month
	1	2	3	4	
Cereal grains					
Maize meal	170,64	266,27	276,14	233,56	946,66
Rice	12,91	14,91	16,32	13,27	57,41
Mabella	4,8	5,85	5,96	4,46	21,04
Samp	2,36	1,55	2,14	6,68	8,27
Samp + beans	0,86	0,5	1,14	0,27	2,77
Oats	0,41	0,18	0,23	0,46	1
Total	**191,98**	**289,26**	**301,93**	**258,7**	**1037,15**
Legumes					
Split peas	2,59	2,77	4,09	5,64	15,09
Sugar beans	3,09	2,0	2,55	1,86	9,5
Haricot beans	0,73	1,09	1,64	1	4,46
Peanuts	0,37	0,49	0,33	0,21	5,84
Kidney beans	0,27	0	0,65	0,27	0,91
Total	**7,05**	**69,7**	**9,26**	**8,98**	**35,8**

Cereals grains	Kg/household/ month	% mass cereal grains	Legumes	Kg/month/ household	% mass legume
Maize meal	946,66	91,3	Split peas	15,09	42,2
Rice	57,41	5,5	Sugar beans	9,50	26,5
Mabella	21,04	2	Haricot beans	4,46	12,5
Samp	8,27	0,8	Peanuts	5,84	16,3
Samp + beans	2,77	0,3	Kidney beans	0,91	2,5
Oats	1	0,1	**Total**	**35,8**	**100**
Total	**1037,15**	**100**			

Maize meal represents the maximum monthly sales (91%) of 946,66 kg/spaza shop for cereal grains. Of the legumes, the monthly figures showed that the sale of split peas ranked the highest with the total quantity sold amounting to 15,09 kg (42,2%), followed by sugar beans with sales of 9,50 kg/spaza shop (26,5%) during the four-week period.

Table 30 Mass (kg) of plant staple stock sales for the study period (mean ±SD) (n = 11)

Period	Plant staple mass (kg)		p-value of Levene's test	p-value of t-test
	Cereals (mean ± SD)	Legumes (mean ± SD)		
Week 1	352.0 ±(27.37)	15.6 ±(3.81)	0.06	0.346
Week 2	530.3 ±(34.3) •	13.9 ±(3.52) •	0.05	0.332
Week 3	553.5 ±(34.91) •	19.6 ±(4.2) •	0.05	0.332
Week 4	465.6 ±(32.12)	19.8 ±(4.97)	0.06	0.338
Month	1901.4 ±(64.62) •	68.9 ±(8.12) •	0.05	0.322

Values are mean ± SD; showing means differences among plant staples, cereal grains and legumes. Means with the same symbol differed significantly between the cereal grains and legumes (within the same row): • $p \leq 0.05$.
p – Value obtained from independent sample test, Levene's test of equality of variances and t-test of equality of means.

Table 30 shows the plant staple stock sales of the cereal grains and legumes during the study period. Overall, mean cereal stock sales were higher than legumes stock sales during week two, three and monthly. These differences were statistically significant.

4.4.3.6.2 Monetary values and distribution for the study period

Table 31 shows the monetary value of the cereal grains and legumes stock sales at the spaza shops. Overall, maize meal had the highest cereal grain sales with a value amounting to R2 762.69 (79%) with the highest weekly sales figure in week two, and the lowest in week one ranging between R508.03 and R792.16. Rice showed the second largest sales amounting to only R479.35 (14%).

Weekly sales values were in the range of between R500.00 and R800.00 for maize meal, between R100.00 and R130.00 for rice, between R30.00 and R50.00 for mabela, between R10.00 and R20.00 for samp, though below R10.00 for oats. Sales values showed a similar pattern as for that of stock sales in mass (kg) movements through the weeks for each cereal grain.

For the legumes, the value of stock sales of split peas ranked the highest at R164.08 (46%) during the study period. The third and fourth weeks' values were higher in sales than the first two weeks. Sugar beans ranked second highest among the legumes with total sales of R103.77 (29%) during the study period.

Regarding Table 29, stock sale values for the legumes correspond with stock mass (kg) movements through the weeks. For example, sales of sugar beans decreased in week two by R11.84, increased in week three by R6.39 and dropped in week four by R7.24. Split peas rose continuously throughout the weeks and were highest (R61.26) in the fourth week.

It is of interest to observe that a linear relationship exist between the price of the cereal grains and the quantities sold. This relationship was however not observed for the legumes.

Table 31 **Total monetary values (ZAR) of plant staples stock sales per spaza shop (n = 11)**

Product	Week				Month	%
	1	2	3	4		
	ZAR	ZAR	ZAR	ZAR	ZAR	
Cereal grain						
Maize meal	508.03	792.16	788.21	674.29	2762.69	79
Rice	108.09	125.51	133.03	112.72	479.35	14
Mabella	52.09	35.82	36.65	25.43	149.93	4
Samp	21.56	12.84	15.09	17.41	66.90	2
Samp + beans	7.14	4.05	10.27	23.50	23.59	0,7
Oats	6.87	3.20	4.00	3.20	17.27	0,5
Total	**703.78**	**970.38**	**987.25**	**835.19**	**3499.73**	**100**
Legume						
Split peas	28.61	30.14	44.07	61.26	164.08	46,4
Sugar beans	33.44	21.60	27.99	20.75	103.77	29,3
Haricot beans	8.06	11.50	17.36	11.13	48.04	13,6
Peanuts	5.82	10.22	7.33	4.54	27.90	7,9
Kidney beans	3.50	0.00	3.50	3.00	10.00	2,8
Total	**79.43**	**73.46**	**102.25**	**100.68**	**353.79**	**100**

Data in Table 32 show that there were no significant differences between cereal grains and legumes in terms of food budget allocation (ZAR). Moreover, the data also indicated that overall stock sale values for the cereal grains were higher than for the legumes throughout the studied period.

Table 32 **Monetary value (ZAR) of plant staple stock sales (mean ±SD) (n = 11)**

Period	Plant staple		p-value of Levene's test	p-value of t-test
	Cereal grains ZAR ± SD	Legumes ZAR ± SD		
Week 1	1 290.28 ±(46.34)	174.72 ±(12.42)	0.081	0.28
Week 2	1 784.87 ±(58.58)	161.6 ±(11.26)	0.064	0.332
Week 3	1 809.96 ±(58.33)	220.54 ±(13.45)	0.069	0.328
Week 4	1 531.17 ±(54.03)	221.48 ±(16.26)	0.078	0.348
Month	6 416.27 ±(109.07)	778.34 ±(26.43)	0.071	0.322

Values are mean ± SD, showing means difference among plant staples, cereal grains and legumes. Statistical analysis was done using independent sample tests, Levene's test of equality of variances and t-test of equality of means.

4.5 PERCEPTIONS, VIEWS AND UNDERSTANDING OF PLANT STAPLE PURCHASING BEHAVIOURS BY EATONSIDE DWELLERS

4.5.1 Introduction

The aim of the focus group discussions was to gather data on the perceptions, opinions and understanding of plant staple purchasing behaviours of the Eatonside informal settlement dwellers from the three respondent groups (household caregivers, shopkeepers/owners, and key informants). The questions framed in the interviews assisted in developing an insight into the perceptions, opinions and understanding of plant staple purchasing behaviours based on the experiences of the target population of plant staple purchasing behaviours, subsidy policy and basic income grants (Annexure J,

K, L). In analysing the data, categories and sub-categories were constructed, which constituted findings (Merriam 2001:178).

4.5.2 Results from the focus group discussions

The following is a summary of the findings reduced from data obtained during the different focus group interviews.

4.5.2.1 Source and use of available income

All the participants found it difficult to live on a low income. Many participants said that the main sources of income depended on casual work, temporary jobs, South African government grants and other means of obtaining money. The participants indicated that the average estimated income of the low-income receivers did not exceed R500.00 for casual and temporary jobs, and that grants ranged from R160.00 to R740.00 per month per household. All participants indicated that the little income received usually goes to the purchasing of food and clothing. Sometimes they went to sleep hungry. Participants agreed that a large share of the households budget was allocated to maize meal because "it fills the stomach fast".

4.5.2.2 Purchasing behaviour in low-income households

The participants mentioned maize meal, beans and samp as being the most commonly purchased and consumed plant staples. The shopkeepers indicated that samp and beans were bought in large quantities, especially during the cold season. Caregivers indicated that purchases were usually made for cash, but credit purchases were made when money was not available for food for the whole month. Most shopkeepers/owners agreed to sell for cash and credit and continued to say that the pensioners were thought to be having a greater chance to purchase on credit because they pay their bills. Further findings indicated that low-income households purchase food mainly during the weekdays at the

spaza shops. The participants and shopkeepers agreed that mainly women and children of the households did the purchasing.

The purchases were usually made with cash and on credit as controlled by spaza shopkeepers/owners, "...we are allowed to purchase on credit but they want a guarantee from us that if we will pay at the end of the month", "...I'm selling on credit to most pensioners because they are getting money at the end of the month. "I'm selling on credit, ...when the parents come to ask for the credit, they normally complain that kids are hungry..."I don't cry for the parents but I cry for my kids", "...If ever my children can sleep with something in the stomach I'm happy", "...Understand it pains me. So, there is nothing I can do except to sell them on credit".

4.5.2.3 Food prices in low-income households

The participants from all three of the groups stated that increases in food prices most affected those with low-incomes. It was difficult for those who were receiving low-incomes to cope with high food prices. As a result, foods need to be purchased with a very limited budget available. In the case of decreased food prices, a choice is made to provide the household with such a variety of food as can be purchased with the available money.

4.5.2.4 Transport and locality in low-income households

All participants indicated that difficulties were experienced in coping with transport as a means to get to town to purchase food. The problem with transport tended to force low-income households to eat only what was obtainable from the local spaza shops, as preferred food was not always obtainable. The participants indicated that transport by train was the cheapest and most reliable means to reach town.

4.5.2.5 Views regarding food subsidy policy and basic income of low-income households

Participants from all three focus group discussions were aware of subsidised and VAT-exempted foods and were able to list some of them. All three groups were also able to explain the government food support programme that distributes food to the value of R300.00 to people who applied for assistance. The forms that needed to be completed were delivered by the local municipal councillor and filled in by the indicated households. The neediest households were indicated at principal level and assisted only once. The opinions of the participants were focused on supporting food assistance to low-income households, relief in the face of food prices and the introduction of interventions/projects that can help them, as low-income earners, to sustain a livelihood (Annexure M, N).

4.6 COMMENTS

This study examined the purchasing behaviour of major plant staples by the low-income dwellers of Eatonside. Due to the composition of the studied households, the findings may possibly not be statistically representative of low-income informal settlement dwellers in South Africa. Therefore, it is argued that the composition and size of the households studied are sufficient only to make legitimate statements about the purchasing patterns, as based on the behaviours identified, for major plant staples of low-income dwellers of the Eatonside informal settlement.

CHAPTER 5
SUMMARY AND DISCUSSION

5.1 Introduction

The major findings of the empirical study carried out at the Eatonside informal settlement are discussed in this chapter. The three research questions that the study attempted to answer are:

i.) How do low-income households use available income to purchase plant staples?
ii.) What share/portion of the food budget (ZAR) is available to purchase major plant staples?
iii.) To what extent do low-income, food price and locality influence the purchasing behaviours of major plant staples?

5.2 Major findings

For the purpose of this study, the behaviour that the target population displayed during plant staple purchasing as reflected by where, how much, when and how purchasing took place, as well as household stock availability, guided the identification of the purchasing patterns of major plant staples in the low income households in the Vaal Triangle.

5.2.1 Socio-demographic and socio-economic profile of the low-income households in the Eatonside informal settlement

5.2.1.1 Profile of the low income households

According to findings, households consisted of 46,4 percent males and 53,6 percent females with the main average age group 18 years and younger indicated for 43,9 percent of the males and 31,2 percent of the females (Table 8).

In 67,6 percent of the households an unemployed status was indicated (Table 10). For these households, 36,7 percent indicated that income is supplemented by South African (SA) government grants, and 16,2 percent indicated sole dependency on these grants (excluding pensions). A total of 8,1 percent of the unemployed respondents received a stable income from a SA government pension, bringing the sum of unemployed respondents supported by or provided for by the tax payers money to 61 percent. The picture is further aggravated by an additional 14,9 percent of the households dependent on the unstable income from casual work (Table 11). The major component of households in Eatonside (62,2%) receive a very low income of less than R500.00/month. An income between R500.00 and R1000.00 was indicated for 27% of households while only 10,8 percent received more than R1001.00 per month (Table 12).

5.2.1.2 Profile of household heads

The socio- demographic and socio-economic profile of female- and male household caregivers is presented in summary in Table 33 (as derived from Tables 5 and 6).

Table 33 Socio-demographic profile of household caregivers

Female headed households		**Male headed households**	
	%		%
46 years and older	54,8	46 to 55 years	38
Without a spouse	86	Married	68,7
Primary school or no education	66,6	Primary school education or standard 8	65,6
Sesotho speaking	69,1	Sesotho speaking	50
Representation of total households	56,8	Representation of total households	43,2

5.2.1.3 Socio-demographic profile of households as by type of household head (n=74)

The socio- demographic profile of households, according to the type of household head, is presented in summary in Table 34 (Tables 7, 8, 9 and 12).

Table 34 Summary of the socio- demographic profile of households, according to the type of household head (n=74)

Variable	Male-headed (n=29)	Female-headed (n=42)	De facto-headed (n=3)
Distribution of households	39,2%	56,7%	4,1%
Household members mainly 6-18 years of age	33,3%	39,8%	38,2%
Number of dependants	30%	64%	6%
Dependency ratio	1:3	1:4	1:5
Average household size	4	5	6
Household income per month	55,2% <R500	61,9% <R500	66,7% <R500

Table 13 indicated a monthly income for male-headed households of R517.66 ±(R20.02) in comparison with the far lower amount of R482.50 ±(R19.40) for female-headed households (income of de facto households not used for comparison due to limited sample size). Looking at the combined households, the mean monthly income was R694.61 ±(R27.21). These findings are supportive to the findings by Oldewage-Theron *et al.* (2005:17-24) that indicated more than half of the households as female-headed, single-parent households (56%), 24 percent of the households as headed by other caregivers with no mother present and only 20 percent of households as de facto headed. Respondents had a low level of education, only 28 percent had attended high school or college. Two-thirds (68%) of the respondents were Sotho-speaking. The results showed that 94,2 percent of respondents were unemployed and 59,1 percent had been unemployed for more than 3 years. Fifty eight percent of households had a monthly income of less than R1000.00 which was an indication of poverty.

The very limited study size and the extremes of income displayed by the de facto headed households generated reservations regarding the validity of the representatives of these findings and such findings will therefore be treated with reservation.

5.2.2 Use of available income in low-income households to purchase plant staples

The findings in this study indicated that food expenditure in low-income households varied with the type of household-heads. In Tables 19 and 20 it became clear that male-headed households spent R430.07 ±(R20.44/four member household) for purchasing foods, followed by de facto headed households with R302.67 ±(R17.38/six member household) and then female-headed households that spent R280.38 ±(R17.22/five member household). The findings also indicated that the mean monthly food expenditures of the combined households were R337.85 ±(R18.41). Therefore, it appears that low-income households use R64.63 ±(R8.04) that is 20 percent of the allocated food budget (ZAR), to purchase plant staples. From the total expenditure allocated to purchase plant staples, 58,1 percent was allocated to the purchasing of maize meal, 23,2 percent for rice, 4,6 percent for mabela, 3,9 percent for sugar beans and 2,5 percent for split peas. Of the rest, 3,7 percent was allocated to samp, 1,8 percent to oats, 1,6 percent to wheat, 0,4 percent to kidney beans and 0,3 percent each for samp and beans, haricot beans, and peanuts respectively.

However, when the food Rand available per person in the food budgets of the three types of households was calculated, the dilemma of the female-headed and de facto-headed households became apparent. While the male-headed households have R107.52 ±(R10.22/person) available for food purchasing per month, female-headed households have only R56.08 ±(R7.70/person) and de facto-headed households R50.45 ±(R7.77/person). The mean monthly budget available (Table 19) to purchase food was indicated as being R67.57 ±(R8.23/person).

Consequently, the majority of households (59,4%) spent less than R100.00 per week on staple foods (Table 16). A total of 41,9 percent of households ran out of money in the

first week after having received money. Thirty five percent of the studied households spent up to R50.00 per week on plant staples. This situation usually led the low-income household to purchase plant staples once a month or sometimes fortnightly, and mainly from spaza shops (80,2%) (Table 17). According to Oldewage-Theron *et al.* (2005:25) the majority of households in the Eatonside informal settlement (58%) had a weekly food expenditure of less than R100.00 indicated for an average household size of five members.

5.2.3 Share/portion of the food budget (Rand) available for the purchase of major plant staples

The findings (Table 19) indicated that the total share/portion of the food budget (ZAR) available to purchase plant staples was R64.63 ±(R8.04/person/month). While male-headed households spent 15 percent of the total share/portion allocated to purchase plant staples, female-headed households spent 23,1 percent of the amount and de facto-headed households spent 21,1 percent of the amount to purchase plant staples. Overall, the combined households used 20 percent of the household food budget to purchase plant staples.

In reference to the monthly food expenditure (Table 13), male-headed households spend 83,1 percent of their budget to purchase food and female-headed households 58,1 percent (de facto headed households not calculated due to limited sample size), indicating an average of 70,6 percent of the household budget of these households to purchase food.

In the application of the Food and Agriculture Organisation (FAO) classification that indicates a household as poor, spends between 60-80 percent of its monthly income on food (FAO 2004b:1), most of the average household in the Eatonside informal settlement came very close to being classified as poor.

An ever more disturbing picture emerges with the inclusion of transport costs. The male-headed households spent 102 percent of household income on the food and transport budget, female-headed households 78 percent and de facto-headed households 36,5 percent. The average food and transport budget for the combined male-headed and female-headed households was 90 percent (findings for de facto headed households excluded due to limited sample size revealed in results).

5.2.4 Extent to what household size, low-income, food prices and locality influence the purchasing behaviours of major plant staples

5.2.4.1 Household size

The purchasing of plant staples decreased per capita per type of household head as the size of households increased from four to five or more family members. Refer to 5.2.2 for the general trend displayed over the different types of household heads. Mmakola (1996:18) found that an increase in family size also has an income effect that makes people relatively poor. Mmakola further indicated that larger-sized households with low incomes are more vulnerable to poverty and food insecurity than small sized-households. In this study the lowest income/capita was indicated for female headed households with an allocation of R56.08 ±(R7.70/capita/month). Accordingly, it can be argued that the larger the household size, the greater the vulnerability to poverty and consequent food insecurity (Bonti-Ankomah 2001:5).

5.2.4.2 Low-income level

The study findings indicated that most of the households caregivers were unemployed (67,6%) and that 50 percent had been unemployed for more than 5 years (Table 10). Table 12 shows that the major component of households in Eatonside (62,2%) received a very low income, consisting of 2,7 percent that had no income (no clear explanations were provided) and 59,5 percent of the respondents that received a total monthly income of less than R500.00. These findings were supported by the perceptions of the focus

groups that indicated: "the main sources of income were from "...casual work, temporary jobs and South African government grants that ranged from R160.00 to R740.00 per household per month, fruit and vegetables selling, and waste product collection and selling ...the income received was used only to purchase food and clothing" (Annexure M,N,O). The study by Oldewage-Theron *et al.* (2005:22) indicated a high rate of unemployment (94,2%) with 59,1 percent that had been unemployed for more than three years.

Rose and Charlton (2000:105) argued that the 'food poverty indicator', a quantified objective measure of food insecurity, indicates that the money spent by households on food was enough to purchase a basic subsistence diet. Based on the data of the 1995 Income Expenditure Survey, 45 percent of households in South Africa were food insecure. The minimum living level (MLL) is indicated as R900.00 per month. May, Woolard and Klassen (2000:45) specified that the poor in South Africa spend about 60 percent of their total income on food, and can consequently be seen as living in poverty. Bonti-Ankomah (2001:3-13) argued that households dependent on income from casual work do not receive enough to sustain families. Poverty would continue to contribute to household food insecurity because most poor households are highly dependent on wage incomes.

The researcher therefore argues that the food security of households in the Eatonside informal settlement is compromised due to lack of enough income to purchase adequate food, including plant staples.

5.2.4.3 Food prices

In the present study (Table 28), it was found that price and quantity (63,6%) were the main indicators determining purchasing behaviours, followed by price (18,2%) as such, and then combinations of price, quality and quantity (9,1%) and price and quality (9,1%). Respondents from the low-income households in Eatonside purchased less plant staples when prices were high and purchased more plant staples when the prices were

low (Table 31) "...an increase and decrease of food prices affected low-income households in Eatonside and forced us to purchase food on credit and to buy in bits (small quantities)"(Annexure M,N,O). These facts illustrate how difficult it is for low-income households to cope with high food prices.

It was also found that food prices differed slightly from one spaza shop to another and shopkeepers/owners (Table 28) indicated that the monthly spending of low-income household heads on staple foods ranged mainly from R100.00 to R300.00 per household per month, as is supported by feedback from the household heads (Table 13).

Table 35 Correlation between cereal grain unit price and share/portion of staple food budget allocated to purchase cereal grains

Plant staple	Share/portion of staple food budget allocated to purchase plant staples (Table 20) %	Total monetary values of plant staple stock sales / spaza shop / month (Table 31) %	Price / kg for the most often purchased package size (Table 17) ZAR
Cereal grains			
Maize meal	58,1	79	2.62
Rice	23,2	14	3.09
Mabela	4,6	4	4.27
Samp	3,7	2	5.18
Samp + beans	0,3	0,7	8.00
Oats	1,8	0,5	10.75
Legumes			
Split peas	2,5	46,4	11.50
Sugar beans	3,9	29,3	12.12
Haricot beans	0,3	13,6	11.50
Peanuts	0,3	7,9	2.00
Kidney beans	0,4	2,8	7.00

When the price/kg for the most often purchased package size for each of the different types of cereal grains (Table 17) are compared to the total monetary values of plant staple stock sales/spaza shops/month (Table 31) and the share/portion of staple food budget allocated to purchase plant staples (Table 20), it is indicated that the cheaper the cereal grain, the higher the amounts purchased as summarised in Table 35.

According to Atkinson (1995:154) pricing control and subsidies have traditionally been popular with governments for ensuring ease of access (by the urban poor) to cheap products. In a United state of America (USA) study Blisard (2000:22) reported that spending for individual food groups varies with income level, implying that the higher the income level the more food can be purchased by the low-income households, and the lower the income level the lower the food purchasing or food availability in the households.

According to the pattern observed in this study (Table 13, 19 and 20), it can be inferred that food expenditure for cereal grain plant staples tends to follow the availability of household income. In the Eatonside informal settlement the major share/portion of the staple food budget (58,1%) was allocated to the purchasing of maize meal, which was the cheapest of all the plant staples habitually purchased by the target population.

Foods available for consumption in the household impact directly on dietary intake. Table 27 (secondary data adapted from Oldewage-Theron *et al.* 2005:22) provided a valid estimate of the dietary adequacy for the group as a whole. The mean daily intakes of the entire studied family in the households indicated that energy, calcium, iron, magnesium, zinc, selenium, iodine, thiamine, riboflavin, niacin, folate, and vitamins A, C, B_{12} and D were deficient. The data suggested that Eatonside dwellers manifested significant deficiency in these nutrients.

To monitor world food security and indicate the extent of under-nutrition within countries, food energy needs are applied as indicators of per capita food consumption. The minimum requirement for energy is indicated as 7950 kJ (1900 kcal)/day by FAO

(Latham 1997:236). A respondent from the focus group discussions indicated "...we buy with little money available...we buy small items because we can't afford buying in bulk to cater for the whole family. So, our families suffer most with hunger. The children also can't get enough food to eat" (Annexure M). Bonti-Ankomah (2001:2) argued that if families are unable to grow or purchase enough food and social welfare nets were absent or ineffective, there might be hunger.

5.2.4.4 The effect of locality and transport in Eatonside

The study revealed that the urban informal settlement of Eatonside was geographically disadvantaged in terms of infrastructure (Table 16). Although railway facilities were available near the area, not all the low-income households could afford using this mode of transport, with the consequence that 74,3 percent of the studied households walked 1 to 5km to the normal purchasing point. This may influence the food spending and food accessibility of the low-income households. Purchasing in the area was limited mainly to the spaza shops (Table 28), which had limited kinds of products due to poor transportation facilities. Shopkeepers/owners (90,9%) themselves usually undertook the delivery of plant staples to the spaza shops. This situation hindered the choice of plant staples as it forced the low-income households to purchase only from what was available in the spaza shops.

The respondents indicated that although transport facilities were available, it was difficult to cope with transport costs of going to other towns to purchase foods. It was noted that a low-income household-head would normally go to other towns if transport could be afforded. The household heads that purchased plant staples in other towns used R20.00 to R50.00 per month for train fare, which was the cheapest and most reliable transport (Table16).

There is sufficient evidence from other studies (Jayaweera & Garcia 2003:14) that poor access to private and public transport, and inadequate public transport services in particular, affect those living in areas of deprivation and accordingly limit access to a

range of resources and services, for example, employment, child care, health care and good quality food.

5.2.5 Identification of major plant staples purchased

The stock records from the shopkeepers/owners (Table 29) indicated the plant staples for which the largest sales according to mass were reported as maize meal (946,99 kg/month/spaza shop), rice (57,41 kg/month/spaza shop), mabela (21,04 kg/month/spaza shop), split peas (15,09 kg/month/spaza shop) and sugar beans (9,5 kg/month/spaza shop).

According to the mass of plant staple cereal grains (kg) sold at the spaza shops (Table 29), maize meal constituted 91,3 percent, rice 5,5 percent and mabela 2 percent of the total sales. Split peas constituted 42,2 percent and sugar beans 26,5 percent respectively of the total mass of plant staple legume sales. Maize meal contributed 88,2 percent to the overall sales of plant staples according to mass, while rice, mabela, split peas and sugar beans contributed 5,4 percent, 2 percent, 1,4 and 0,9 percent respectively
(Calculated from Table 29).

In reference to the total monetary value (ZAR) of plant staple sales at the spaza shops, maize meal constituted 79 percent and rice 14 percent of the value of sales for cereal grains, where as split peas and sugar beans respectively constituted 46,6 percent and 29,3 percent of the value for legumes sales (Table 31). Maize meal contributed 71,7 percent to the overall value of sales of plant staples, while rice, mabela, split peas and sugar beans contributed 12,4 percent, 3,9 percent, 4,3 and 2,7 percent respectively (calculated from Table 31). According to these findings it can be inferred that the biggest share/portion of the food budget (Rand) available in the low income households of the Eatonside informal settlement, was spent on the purchasing of maize meal (71,7%) (Table 18). These calculations include only spending at the local spaza shops from which only 58,3 percent of the respondents purchase maize meal (Table 17. See also 5.2.5.2).

These findings are supported by reports from the respondents that participated in the focus groups (Annexure M, N, O). Maize meal, sugar beans, samp and rice were mentioned as the most commonly purchased and consumed plant staples, as these were the most affordable. The respondents, interestingly, did not indicate split peas. According to a pilot study on the consumption availability of cereal grains and legumes in very low income households as influenced by social constraints (Ndleve 2005:17), split peas were perceived as a meal accompaniment.

Cade *et al.* (1999:505) and Ruel *et al.* (2001:1) argued that people with low incomes, mostly in developing parts of the world, are least likely to eat healthy diets. As staple food forms the major part of a person's daily diet on regular basis (Jooste *et al.* 1994:88) and very poor families mostly consume a monotonous staple diet out of need and supplemented by other food being purchased (Uauy-Dagach & Hertramph 2001:639), the findings by Blisard (2000:20) are supported that that low-income households increase spending on cereal grains and bakery products.

5.2.6 Purchase peaks of plant staples

The peak purchase of the major cereal grain plant staples (Table 31) was higher during the second (maize meal) and third weeks (rice), while the purchases for both mabela and samp peaked during the first week and samp and beans peaked noticeably in the fourth week. The purchases for split peas peaked distinctively during the fourth week, sugar beans in the first week and haricot beans in the third week. These observations only partially correlate with the findings from the household cereal grain and legume survey (Table 23) which can be allocated to the fact that plant staple purchasing and data gathering for the purpose of this study did not always followed in chronological order.

5.2.7 Package size, price, frequency and source of plant staple purchases

Maize meal was indicated as the plant staple most purchased (97,3% of households). The study observed purchases of mainly 1 kg and 2,5 kg packages of maize meal during the week, while purchases increased from 2,5 kg to 12,5 kg packages during weekends (Annexure M). Table 17 indicates the 12,5 kg package size of maize meal as the most frequently purchased (65% of purchasing households), once a month (25% of purchasing households) or once in two weeks (25% of purchasing households) at an average price of R32.80 per unit (R2.62/kg). A total of 58,3 percent of all maize meal purchases were made from spaza shops. The cheapest price for the range was R2.42/kg for the 25 kg package (5,6% of purchasing households).

An average quantity of 14,5 kg ±(3,66 kg) of maize meal was purchased per household during the study period, giving an average expenditure per household of R37.54 ±(R5.37) per month for this plant staple (Table 18). The price distribution for maize meal indicated that the bigger the package size purchased the cheaper the price per kg becomes (Table 17). The results from this study indicated a distribution between R5.00/kg for a 1 kg package size to R1.00/kg for a 90 kg package of maize meal.

Rice was purchased by 67,6 percent of the participating households. Of these, 22,9 percent bought 10 kg package sizes once a month at an average price of R3.09/kg from surrounding supermarkets. This price choice reflected the cheapest option available.

Mabela was purchased by only 38 percent of the participating households. The preferred package sizes were either 2,5 kg (R4.66/kg) or 5 kg (R4.27/kg) and were bought either at the spaza shops or at surrounding supermarkets. The most affordable option was the 2 kg package size at R5.75/kg.

Only 23 percent of households purchased split peas (Table 18). A package size of 0,5 kg was preferred by most (71% of purchasing households) and mostly bought once a month

at spaza shops (64,7%), (Table 17). The quantity purchased and spent/household/month for split peas was indicated as 0,2 kg ±(0,45 kg) at a mean price of R7.95/kg ±(2.82/kg).

Sugar beans were purchased by only 29,7 percent of participating households (Table 17) of which 81,8 percent of the purchases took place once a month. The preferred packaging sizes were 0,5 kg (36,4% of purchasing households) at R12.12/kg mainly bought at the spaza shops, or 1 kg (27,3 of purchasing households) at R4.20 and mainly bought from surrounding supermarkets. It was noted that sugar beans were usually bought during the week. The quantity purchased and spent/household/month was 0,44 kg ±(0,99 kg) at a mean price of R5.82 ±(R2.41/kg). Purchases were done once a month at spaza shops (36,4%) and supermarket (45,5%) respectively.

Purchases for samp and sugar beans were only reported for 2,8 percent of the participating households. It was indicated during the focus group discussions that low-income households purchased samp and sugar beans in larger quantities during cold weather (Annexure N).

Spaza shops in the study area were the main points of purchase (Table 17). The findings by Oldewagen-Theron *et al.* (2005:25) supported the fact that monthly food shopping was done by the majority of the households (61,6%), mainly at the spaza shops/tuck shops in the area (55,5%).

5.2.8 Main household buyer at spaza shops

In most households, the mother was responsible for total households expenditure (68,3%). According to Table 28 most of the shopkeepers/owner (63,6%) indicated children, women and men as the main buyers for the households. According to the focus group respondents the main buyers in the family were women and children (Annexure M, N, O).

5.2.9 Specific brands names preferred

The study found that a brand name (Table 14) held no decisive influence on the majority (66,2%) of the households but certain choices were distinctive in favour for certain brand names (Table 15). Although this study did not attempt to investigate the reasons for these choices, it can be speculated that availability, lower price and packaging size exerted influence on brand choice. Further research is recommended.

5.2.10 Food subsidy policy and basic income grants

In the present study, all respondents from the focus group discussions (Annexure M, N, O) were aware of subsidised and VAT-exempted foods. Several respondents were able to list some of the foods, such as cereal grains and dairy products that were VAT-exempted. The government food support programme was active in the locality by distribution of assorted foods worth R300.00 on a once only basis to unemployed, poor people who did not receive any other services from the government. The food parcels were given to assist the needy while searching for jobs.

These findings concur with the views of Atkinson (1995:154) who suggested that food subsidies should be given specifically to the urban poor by subsidising a particular commodity mostly used by the poor, such as staple foods. By focussing on the poor geographic areas and giving out vouchers, food stamps or any such token to deserving households (identified through some means or test), positive contributions to the diets of the poor can be made.

The respondents from the focus groups (Annexure M, N, O) suggested that the government should continue to support the distribution of food subsidies and introduce interventions that would help low-income households to sustain their livelihoods and raise the standard of living.

5.2.11 Household food insecurity in Eatonside

At present 13,5 percent of all South African households live in informal settlements (Oldewage-Theron *et al.* 2005:1). In the National Food Consumption Survey in South Africa, Labadarios *et al.* (2000) reported that household food insecurity was prevalent in informal settlements. This observation agrees with the baseline survey by Oldewage-Theron *et al.* (2005), which confirmed that poverty and household food insecurity were major problems in the Eatonside informal settlement.

Based on the findings of the study and focus group discussions, it can be assumed that localised food insecurity and hunger are common in the Eatonside informal settlement. It was noted that income-scarcity (Annexure M, N, O) placed great strains on household spending, adversely affecting the ability to purchase sufficient plant staples for all household members. It is argued that food insecurity is often a manifestation of income-scarcity. Forty-five point nine percent of the respondents reported the inability to pay for food if they did not receive government grants. A respondent said, "...I'm begging and borrowing to feed the children".

It was also indicated by implication that low-income households at risk or experiencing hunger procured a smaller quantity of plant staples and similarly had fewer food items in the household inventory. The majority of the main caregivers (62,2%) had a monthly income of < R500.00 (Table 12). In Table 16 it was indicated that 35 percent of the studied households spent a small amount of money (R50.00) weekly on food to nourish an average of five family members.

It is speculated that the prevalence of household food insecurity may differ with the type of household heads as discussed in 5.2.1.2.

5.3 Summary

Findings in the study indicated that food expenditure in low-income households varied with the type of household heads. The dilemma of especially the female-headed households became apparent. In application of the Food and Agriculture Organisation (FAO) classification that indicates a household as poor that spends between 60-80 percent of its monthly income on food (FAO 2004b:1), the average households in the Eatonside informal settlement were indicated as poor. The urban informal settlement of Eatonside was indicated as geographically disadvantaged in terms of infrastructure and respondents indicated that they found it difficult to cope with transport costs

The purchasing of plant staples decreased per capita per type of household head as the size of the household increased. Price and quantity were indicated as the main indicators that determined purchasing, supporting the finding that the cheaper the cereal grain plant staple, the higher the amounts purchased. It was also inferred that food expenditure for cereal grain plant staples tended to follow the availability of household income.

The study findings confirmed that maize meal was the food staple purchased in the highest quantity and was followed by rice, split peas and sugar beans. Plant staples were mostly purchased once a month in spaza shops and at supermarkets. Purchase peaks were identified for the different plant staples as well as the package size most often purchased and the average prices paid.

Focus group respondents were aware of VAT-exempted foods such as cereal grains. These respondents also suggested that the government should continue to support food subsidies and introduce interventions to sustain livelihoods and raise the standard of living.

CHAPTER 6
CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The primary objective of this study was to examine the purchasing behaviours (patterns) of major plant staples (cereal grains and legumes) by low income urbanised households in terms of socio-demographic, socio-economic and locality factors at the Eatonside informal settlement in the Vaal Triangle.

The limited information available on the purchasing patterns of low-income households lead to questions on how low income households use their income to meet basic plant staple food requirements, the share of the food budget Rand available to purchase major plant staples, and the extent to what low-income, food prices, and locality influence the purchase patterns of major plant staples. In order to obtain answers to these questions, the aspects of where, how much, when and how low-income households purchase plant staples, were examined.

A three-phased approach was followed in gathering data for the purpose of this study, including the compilation of a situation analysis of food purchasing behaviours by low-income households, an investigative survey into food price and expenditure on plant staples at spaza shops and an analysis of the views, perceptions and understanding of purchasing behaviours for plant staples in Eatonside as experienced by different role players.

For the purpose of this study it was argued that the purchasing patterns would be revealed through the purchasing behaviour displayed for major plant staples (where, how much, when and how) by low-income households in the Vaal Triangle (Van der Walt *et al.* 1996:99).

The variables investigated were as follows:

- Socio-demographic profile that included the age and education levels of caregivers, household size, dependency ratio, gender of caregivers and ethnic groups.
- Socio-economic factors which included the sources of income and livelihoods, income levels of households, total budget available, household expenditures on plant staples regarding share of food budget, frequency of purchases, prices of purchases, contents of the staple food shopping basket, household food inventory and purchasing points. The subsidy policy on cereal grains and legumes, stock of plant staples available at surrounding spaza shops and the food consumption patterns of Eatonside dwellers (secondary source) (Oldewage-Theron *et al.* 2005:22) were also examined.
- Locality factors that included the geographical setting of Eatonside, accessibility to public transport, spaza shops and supermarkets as well as transport costs.

A supportive theoretical literature synthesis (Chapter 2) as well as empirical study was conducted. The results are presented in Chapter 4 and discussion of the major findings is presented in Chapter 5.

6.2 CONCLUSIONS

A supportive theoretical literature synthesis (Chapter 2) indicated a scarcity of researched information available on the purchasing patterns of low-income households for major plant staples in South Africa. Available data are often drawn from larger surveys that do not focus specifically on major plant staples consumed by low-income households in informal settlements in South Africa. It is also argued that existing conclusions have been drawn regarding the food purchasing behaviours of low income households with little research to support assumptions. This study is particularly timely as it is the first in-depth investigation carried out in an urban informal settlement in the Vaal Area to examine purchasing patterns of major plant staples in low income households.

This study attempted to answer three research questions and reached the following conclusions:

6.2.1 Use of available (food budget) income by low-income households to purchase plant staples

One of the primary factors affecting plant staple purchasing patterns of the low income households was the ability to purchase. A high rate of unemployment (67,6%) of main caregivers was observed (Table 10). Accordingly the main caregivers were dependant on wages and grants.

The study found three types of households, namely male, female and de facto-headed households with different incomes and food expenditure levels in the households. De facto-headed households showed the highest mean monthly income per household of R1 083.67 ±(R38.00), followed by male-headed households with R517.66 ±(R20.02) and female-headed households (Table 13) with the lowest income of only R482.50 ±(R27.21).

An average household size of four people had been indicated for male-headed households, giving available food expenditure per person of R107.52 ±(R5.11) per month. An average household size of five people had been indicated for female-headed households relating to an available monthly per capita expenditure of R56.08 ±(R3.44) or 52,2 percent of what was available for food expenditure per person for male headed households. For de facto-headed households the largest household size of six people has been indicated which related to available food expenditure per capita of R50.40 ±(R2.90) per month (Table 13), or 46,9 percent of what was available for food expenditure per person for male headed households.

The total expenditure (ZAR) in the available food budget on the purchasing of the individual plant staples (on average for all types of household heads) related to 58,1

percent for maize meal, 23,2 percent for rice and 4,6% for mabela for the cereal grains and an allocation of 3,9 percent for sugar beans and 2,5 percent for split peas.

It was observed that the larger-sized households spent less per capita for plant staple procurement than in the case of smaller households. Therefore, this observation suggests that the larger-sized households are more vulnerable to poverty and food insecurity.

6.2.2 The share/portion of the food budget that was available to low income households to purchase major plant staples (Table 19)

This study indicated that the biggest share/portion of the budgets for all three types of households was allocated to food procurement (83,1% for male-headed, 58,1% for female-headed and 27,9% for de facto-headed households) (Table 13). The largest share/portion of the food budget in these low-income households was allocated to cereal grains (96,3%), specifically maize meal (58,1%) (Table 19). The share /portion of the food budget available for (applied by) the different types of household heads to purchase plant staples were reported as 15 percent for male-headed households, 23,1 percent by female-headed households and 21,1 percent by de facto-headed households (Table 19).

According to the FAO classification any household that spends between 60 to 80 percent of available monthly income on food, is poor (FAO 2004b). The indicated results from the Eatonside informal settlement highlighted the limitations of the stated classification as both female and de facto-headed households are excluded from the "poor" category but have much less money available per person for food procurement.

When transport costs were considered and included with plant staple expenditures (Table 13), a different picture emerged. Male-headed households spent 102 percent, female-headed households 78 percent and de facto-headed households 36,5 percent of their respective available food expenditure budget on staple food and transport. No explanations could be obtained for these findings and further research is required.

6.2.3 Extent to which the purchasing patterns of major plant staples were influenced by low-income, food prices and locality

It was evident that income level was the most important factor influencing purchasing patterns of plant staples among low-income households of the Eatonside informal settlement. The lower the per capita income available for the purchasing of plant staples over the different types of households, the lower the quantity purchased. The low-income households in Eatonside purchased fewer plant staples when the prices were higher and more when the prices were lower, thus illustrating how difficult low-income households found it to cope with higher food prices. If there is no other option available, food is purchased in limited quantities on credit.

Different food prices existed and varied according to where the shopping was done. Food price and quantity were identified as the main indicators that determine plant staple purchasing behaviour (Table 26). However, it was noted that the most affordable options for price/kg were not always followed (Table 17). It is presumed that the biggest quantity that could be obtained for the money available guided the purchasing decision (Table 26), irrespective of where the purchasing was conducted.

As use of transport means expenditure (Table 16), most of the respondents (74,3%) indicated that a distance between one and five kilometre needed to be walked to the normal purchasing point. Due to additional transport costs, the plant staple mostly purchased, maize meal, was mostly purchased from spaza shops (58,3%).

6.2.4 Purchasing patterns of major plant staples in low income households in the Vaal Triangle

By examining purchasing behaviours, patterns could be identified related to what plant staples were purchased, where the plant staples were purchased, when the purchasing for plant staples took place and by whom the purchasing of plant staples were conducted within the setting of low income urbanised households in the Vaal Triangle.

6.2.4.1 Type of plant staples purchased

In total twelve different plant staples were included in the study as representative of what were available for purchasing in the local spaza shops and surrounding supermarkets. The cereal grains most purchased and consumed were maize meal, rice and mabela. Split peas and sugar beans were the most purchased legumes. Maize meal, rice, mabela, split peas and sugar beans were therefore indicated as the major plant staples being purchasing by urbanised low income households in the Vaal Triangle according to mass and monetary value (Table 18, 29, Annexure M).

6.2.4.2 Main points of plant staple purchasing

Plant staples were purchased from spaza shops and supermarkets (Table 17). Maize meal (58%) and split peas (64,7%) were mostly purchased at spaza shops, while rice (66%), mabela (58,3%) and sugar beans (45,5%) were mostly purchased from surrounding supermarkets.

6.2.4.3 Frequency of plant staple purchases

It was noted that purchasing of the major plant staples occurred mostly once a month (Table 17) as indicated for maize meal (41,7%), rice (86%), mabela (58,3%), sugar beans (81,8%) and split peas (100%). The only plant staple with a distinctive distribution over the month was for maize meal for which 33,3 percent of purchases were conducted every two weeks and 18 percent every week (Table 17). It is of interest to note that the peak purchasing occasions for the different plant staples were distributed through out the period of study (Table 31) with peak purchases in the first week for mabela and sugar beans (and samp), maize meal in the second week, rice (and haricot beans) in the third week and split peas distinctively in the fourth week.

Purchasing at spaza shops were usually conducted during the week for different types of beans while maize meal was purchased more often over weekends (especially the 12,5

kg package) as was rice. During month ends most purchases were made at supermarkets in surrounding areas (Annexure N),

6.2.4.4 Main purchasers for plant staples at spaza shops

Spaza shopkeepers indicated children, women and men (63,6%) as the main purchasers for plant staples at the spaza shops (Table 26).

6.2.4.5 Maize meal consumption

Maize meal was indicated as the plant staple with the highest consumption, namely 14,5 kg/month/household with an average of five members. For the duration of the study period, an average amount of 2,9 kg maize meal was consumed per person/month, giving an equivalent consumption of 97 g raw maize meal/day/person (or 194 g stiff porridge/day) at a cost of R0.25 ±(R0.02)/person/day (Coertze & Heydenreich 1994:127). The monthly expenditure on maize meal equalled R7.51 ±(R0.73) /person which represented 7 percent of the food budget available per person for the indicated period in a male headed household, 13,4 percent of the food budget available per person for the indicated period in a female headed household, and 14,9 percent of the food budget available per person for the indicated period in a de facto-headed household. The higher the portion of the food budget allocated to the purchasing of plant staples, the smaller the portion available for the purchasing of other foods to support diversity in the diet.

6.3 IMPLICATIONS OF THE FINDINGS

Implications of the findings suggest the possibility for continued interventions intended to promote a food-based approach and food policy review with regard to particular prices for the poor who live in geographically disadvantaged areas such as Eatonside. The government should continue support in terms of food subsidy and introduce interventions that would help low-income households to sustain their livelihoods and

raise the standard of living. Plant staples play a very important role in the lives of the poor in informal settlements in South Africa and need to be treated as such through price policy.

This study confirms that these low-income households face income-scarcity. Chronic low-income led to the inability to purchase sufficient plant staples which has threatened the physical availability and accessibility to plant staples by the dwellers of Eatonside.

Maize meal, as the plant staple most purchased and consumed (91,3%), could not maintain balanced nutrition. The combined use with split peas and sugar beans however enhanced mutual nutritive complementation (not calculated as part of this study). Inadequacies of food intake and poor quality diets were also indicated by the baseline data as portrayed in the proxy indication of nutritional deficiencies of the studied population (Oldewage-Theron *et al.* 2003).

6.4 VALUE OF THE STUDY

The study has contributed to scientific knowledge regarding purchasing patterns of the different types of household heads for commonly purchased cereal grain and legume plant staples in the Eatonside informal settlement. Information derived from the purchases of major plant staples will be applied as a guideline for the development of a new plant-based premixed food product that is cost-effective, nutritionally balanced and culturally sensitive. Also, the study provides quality information to the food industry as well as to policy makers that can be used to plan and implement appropriate interventions that will influence food price policy for low-income households, particularly in informal settlements.

6.5 RECOMMENDATIONS

6.5.1 Community level

- The serious low-income and inadequacy of food intake in Eatonside, should be addressed. Interventions should be undertaken so as to support livelihoods and improve accessibility to and availability of food in low-income households, especially in female- and de facto-headed households.

6.5.2 Programme level

- The researcher experienced difficulties in collecting information from records of stock sales in the spaza shops. Therefore, there is value in any future involvement to inform spaza shop owners on how to manage businesses better so as to serve the community efficiently.

6.5.3 Policy level

- Food price policy plays an important role in household food security. Therefore, the governments at local, provincial and national levels should see that such a policy does not have a negative influence on household food security in the long term. Plant staples play a very important role in the lives of the poor in informal settlements in South Africa and need to be treated as such in price policy.

6.5.4 Research level

- The reasons were unclear for the choice of some brand names. It can be speculated that the reasons for the choice of brand names could be the availability, lower price and packaging size. The study did not investigate this. Therefore, it is important that in-depth research should be carried out in order to understand why low-income

households in urban informal settlements prefer or choose particular brand names for specific cereal grains and legumes.

- There is a need to analyse the present food pricing policy in South Africa so as to help improve the low-income, disadvantaged groups in the community in order to have access to food. Such an analysis should at least consider low income households and domestic food consumption patterns in previously deprived communities including urban informal settlements. The analysis should also consider the growing concentration on the small and medium scale food manufacturing industry and its effect on food prices. The results of such an analysis would be of considerable value in the process of formulating a food pricing policy, which would take into account the food price paradox. A better understanding of how the low income households economise in food expenditure addresses an important policy question, therefore this will need further investigation.

- As the common nutritional deficiencies were not examined on the basis of the consumption patterns, this would need further investigation in future. Empirically, inadequacies of food intake and poor quality diets were vivid.

6.6 STUDY SUCCESSES AND LIMITATIONS

6.6.1 Study successes

Study successes encountered during the fieldwork were:

- Co-operative fieldworkers. Competent, understanding and hardworking fieldworkers contributed to the success of the undertaking. There was no complaint from any respondent.

- Positive attitude. The friendly and positive attitude of respondents led to full collaboration in the study.

- Literacy level. Due to the satisfactory literacy level, the participation, involvement and management of the FGDs was made easier. The moderator and observer enjoyed the FGDs.

6.6.2 Study limitations

Study limitations were:

- Language barrier. The researcher could not speak the local Sotho language. However, the use of trained fieldworkers who were fluent in both Sotho and English, assisted with the translation of clarifications.

- Study was conducted over the period of only one month (early winter 2004). The size of the study population size was limited, especially the de facto-headed households. Further investigation regarding the de facto headed-households is recommended.

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ANNEXURE A-1

Department Hospitality and Tourism
Vaal Triangle Technikon
P/bag X021
Vanderbiljpark 1900
6 August 2003

Mr. P Rampa
Setlabotjha Primary School
Eatonside
Vanderbijlpark

Dear Sir

Re: Request for permission to make use of school grounds for Community research meeting

In reference to recommendations from councillor Klaas, the following:

- Permission is requested to have a community meeting on Saturday 9 August 2003 using the school grounds. The arrangements for the meeting are as follows:
- Earlier in the week a notice will be distributed to request the Eatonside community for collaboration regarding the commencement of further research projects.
- A notice will be distributed to 70 households, previously involved with the dietary-intake survey, to invite them to an information meeting. At the meeting specific information will be made available about the projects and to appeal to their support and collaboration:
    - Duration of the projects
    - Types of data to be gathered
    - Ethical aspects, including confidentiality of information
    - Any questions will be answered
- Copies of all notices have been attached
- If your support is granted, will it be possible for you to arrange the necessary permission from the SCB and for the unlocking of the gate?

Your support and collaboration is appreciated. Together we can work for a better future for all!

With regards

.....

SS Duvenage
Principal Lecturer: Dept Hospitality and Tourism
Vaal Triangle Technikon
P/bag X021
Vanderbijlpark 1900, e-mail: saried@tritek.ac.za, Tel: (016) 950 9279

ANNEXURE A-2

COMMUNITY PUBLIC INFORMATION MEETING EATONSIDE 09/08/2003

1 Introduction

- Community intervention project: Nutrition for Public Health
- Appreciation

2 Appreciation

- Permission granted to be here
- Collaboration from school board, community leaders, Setlabotja Primary School
- Community collaboration

3 Purpose of this research project

- The focus of the current research initiative is to collect information from the Eatonside informal settlement. Following from this knowledge, intervention initiatives will be implemented at a later stage to benefit the community
- Information gathered here will be computed into results to provide an understanding of HOUSEHOLD FOOD PROCUREMENT AND FOOD INVENTORY PRACTICES.
- All information will be treated with RESPECT and CONFIDENTIALLY. All research results will be presented in community context, no personal information will be made available. At all stages only the correct information would be provided.
- NO RISKS are involved in participating in the research project. E.g. the food product is equal to that of the marketed commercial product.

4 Methodology

Several projects were implemented

At first a small group will be involved for testing the questionnaires

- Dorah Amuli Household food purchasing behaviours
- Fieldworkers to assist in data gathering
- Dates of data gathering

5 Thank you

ANNEXURE B-1

Department Hospitality and Tourism
Vaal University of Technology
P/bag X021
Vanderbijlpark 1900
27 April 2004

Councillor SJ Klaas
Emfuleni Local Municipality
Vanderbijlpark.
Dear Sir

Re: Community participation in continuation of research project

In reference to our talk through telephone on 3 March 2004, you allowed us to prepare the notices of the continuation of the research project on 'Purchasing patterns of Major Plant Staples'.

Notices were distributed to 74 households and 11 shopkeepers. Attached please find copies of the notices and letters.

We thank you in advance for continued support and cooperation.

Together we can work for a better future for all!

With regards
.....
Amuli DJ
Research assistant
Vaal University of Technology
Tel: (016) 950 9279

C.C.
SS Duvenage
Research Supervisor
Principal Lecturer: Dept Hospitality and Tourism
Vaal University of Technology
P/bag X021
Vanderbijlpark 1900, E-mail: saried@vut.ac.za, Tel: (016) 950 9279

ANNEXURE B-2

NOTICE OF CONTINUATION OF RESEARCH PROJECT

You are one of 74 households previously involved in the Dietary Diversification Project of the Dept of Hospitality and Tourism at the Vaal University of Technology. With your friendly collaboration we plan to continue with the research project as from the end of April 2004 up to the middle of June 2004. The researchers will be visiting your homes.

We thank you in advance!

NOTICE FOR SHOPKEEPERS AND OWNERS OF SPAZA SHOPS IN EATONSIDE

Kindly be notified that you are one of the respondents in the research project 'Purchasing patterns of major plant staples in Eatonside'.
With your friendly collaboration will allow us to visit your shop from the end of April up to the middle of June 2004 to conduct discussions on a number of important questions.

We thank you in advance for your active participation in the research project!

NOTICE OF THE MEETING WITH HOUSEHOLD CAREGIVERS

You have been identified to participate in the focus group discussion involving a few household caregivers at Setlabotjha Primary School on Saturday 5 June 2004 at 08:30-09:30. The researchers from the Vaal University of Technology will conduct a discussion on a number of important questions.

We thank you in advance for your active participation and punctuality!

ANNEXURE B-3

NOTICE OF MEETING WITH SHOPKEEPERS AND OWNERS OF SPAZA SHOPS

You have been identified to participate in the focus group discussion involving all shopkeepers and owners of spaza shops at the Setlabotjha Primary School on Sunday 6 June 2004 at 14:00-15:00. The researchers from the Vaal University of Technology will conduct discussions on a number of important questions.

We thank you in advance for your active participation and punctuality!

NOTICE OF MEETING WITH KEY INFORMANTS (SOCIAL WORKERS, HEALTH WORKERS, COMMUNITY LEADERS)

You have been identified to participate in the focus group discussion to be held at the Setlabotjha Primary School on Saturday 12 June 2004 at 10:30-11:30. The researchers from the Vaal University of Technology will conduct discussions on a number of important questions.

We thank you in advance for your active participation and punctuality.

ANNEXURE C-1

Department Hospitality and Tourism
Vaal University of Technology
P/ bag X021
Vanderbijlpark 1900
27 April 2004

Dear Shopkeeper/ Owner

RE: REQUEST FOR ATTENDING A FOCUS GROUP DISCUSSION

As you are most probably aware, the Department Hospitality and Tourism are currently running a research initiative in the Eatonside informal settlement with the kind support of the community.

In order to further progress in this study, you are cordially requested to attend a focus group discussion on "Purchasing patterns of major plant staples", which will be held at the Setlabotjha Primary School. Date and time of the discussion will be communicated to you after agreeing.

Your participation will be highly appreciated.

With regards

.....

Amuli DJ
Researcher
Department of Hospitality and Tourism
Vaal University of Technology, Tel: (016) 950 9279

ANNEXURE C-2

Department Hospitality and Tourism
Vaal University of Technology
P/ bag X021
Vanderbijlpark 1900
6 May 2004

Dear Health Worker/ Key Informant

RE: REQUEST FOR ATTENDING A FOCUS GROUP DISCUSSION

As you are most probably aware, the Department Hospitality and Tourism are currently running a research initiative in the Eatonside informal settlement with the kind support of the community.

In order to further progress in this study, you are cordially requested to attend a focus group discussion on "Purchasing patterns of major plant staples", which will be held at the Setlabotjha Primary School on June 12, 2004. The researchers from the Vaal University of Technology will discuss a number of important issues with you.

Your participation will be highly appreciated.

With regards

.....

Amuli DJ
Researcher
Department of Hospitality and Tourism
Vaal University of Technology, Tel: (016) 950 9279

ANNEXURE C-3

Department Hospitality and Tourism
Vaal University of Technology
P/bag X021
Vanderbijlpark 1900.
13 May 2004

Mrs E. Mochela.
Setlabotjha Primary School
Vanderbijlpark.

Dear Madam

Re: Request for permission to use a classroom at your school

Permission is requested to use a classroom on Saturdays 5, 6 and 12 June 2004. The focus group discussions will include caregivers, spaza shopkeepers and key informants living in Eatonside.

If the permission is granted, we ask you to arrange with your security and SBG. We thank you in advance for your continued support and collaboration. Together we can work for a better future for all!

Best regards

.....

Amuli DJ
Research assistant
Vaal University of Technology
Tel: (016) 950 9279

C.C.
Councillor SJ Klaas
Eatonside ward 39

ANNEXURE D-1

Training materials for field workers

Purpose of this presentation

To train, share and guide fieldworkers towards conducting successful participatory food security research at community level, especially in informal settlements. To emphasise the use of the animation process whereby researchers become close partners of interviewees. Both collaborate to identify food problems.

Overview of the problem statement

Globally, there is a growing universal concern for ending hunger and malnutrition among not only rural but also the urban disadvantaged in developing countries. The 1996 World Food Summit estimated that over 800 million people face food and nutrition insecurity globally and over 20% of the populations are hungry. Poverty, rapid population growth and increasing environmental degradation are responsible for poor nutrition in these countries (Rutengwe & Vorster 2002).

In the baseline survey conducted between April and June 2002 in the Eatonside informal settlement by a team of researchers, it was concluded that chronic food insecurity, high prevalence of malnutrition, income-poverty and inadequate skills were evident (Oldewage-Theron & Rutengwe 2002). However, this baseline study left a number of issues not clearly answered. This called for further investigation.

Rationale and motivation: The case of Eatonside

As already stated above, still there is paucity of informationregarding Eatonside that require in-depth examination. For example, the baseline study could not tell us exactly how informal settlement dwellers procure necessecities like food, school fees, medical fees, energy, etc.

Inadequate of food intake is a problem of public significance. One of the interventions to alleviate this problem is through dietary diversification and bio-fortification. We cannot implement these interventions if we do not know enough about availability of and accessibility to major plant staples by these dwellers. Further research is needed.

The concept of Household Food Security

Vast literature is available on Household Food Security, but it is important to understand that Food Security is not necessarily Household Food Security. According to Labadarios *et al.* (2000) there is Food security in South Africa but not Household Food Security.

ANNEXURE D-2

The major components of Household Food Security include:

- Availability
- Accessibility
- Stability in supply (Inter- and intra-household distribution)
- Quality
- Safety

The following conceptual framework relates to Household Food Security (Figure 1). Certainly, over 90 percent of Eatonside dwellers procure food items through accessibility (buying or purchasing), but a few obtain food through donations and from relatives.

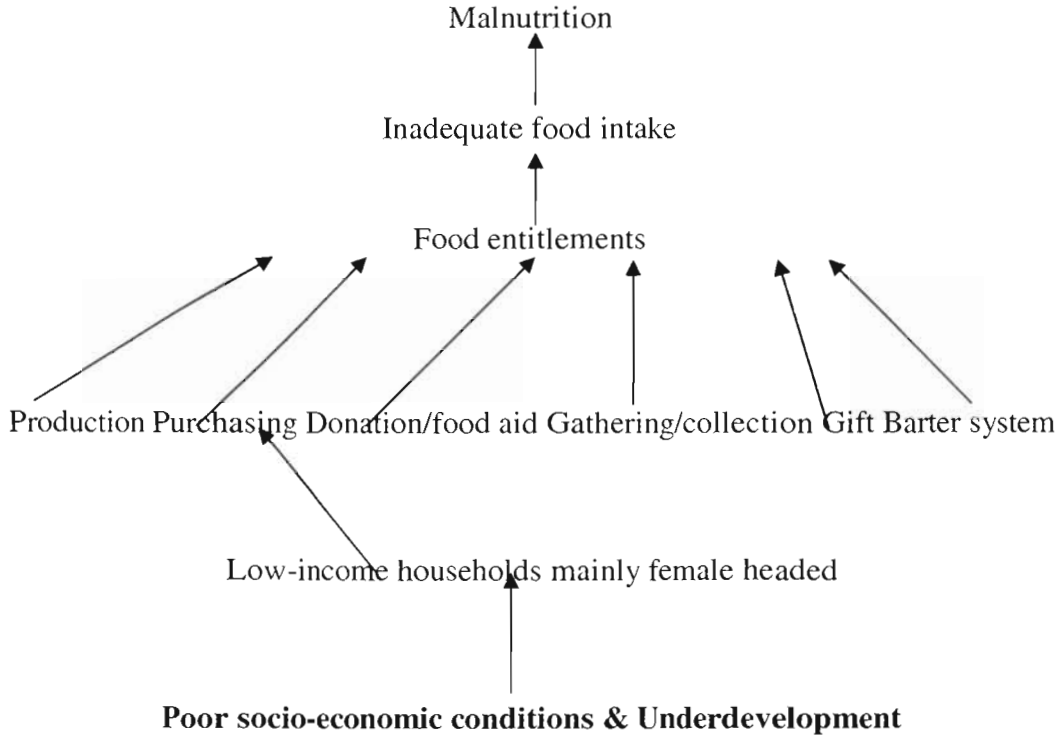

Figure 1: Conceptual framework of household food security

ANNEXURE D-3

Assessment methods and logistics

In the complex informal settlement environment, any method that seeks to produce a complete but reliable picture of peri-urban life faces formidable challenges. Since the results will inform policies and programmers, reliability is important. Researchers must ensure their approach is methodically sound so they can defend their results persuasively (Freudenberger 1998, cited by Garrett and Downen 2002).

Interpretation of our observation

To improve interpretation and contribute to context and construct validity, researchers should posses a diversity of knowledge, backgrounds, and experience. Members should vary in ethnicity, gender and age. Without those different observational and analytical "lenses" researchers may miss or misinterpret what they see (Erickson & Stull 1998, cited by Garrett & Downen 2002). For instance, in Tanzania, to further check validity, each team of researchers presented a synthesis of its findings to the entire group the day following the interviews. Members of other teams provided comments, which were then incorporated into the next day's approach. In Bangladesh, researchers undertook further analysis of the data at a weeklong session after completing data collection (Garrett & Downen 2002).

Validity of measuring instruments

Challenges to measurement validity are mainly five: choosing the appropriate population of analysis; interviewing the most appropriate respondent; making questions understandable; addressing sensitive topics; and removing sources of bias in answers.

The assessment must also ask the "right" people. While women may know most about childcare and home hygiene, men may make budget decisions. Women and men may have different perception of social networks and power relations within the community. To reduce reluctant to address sensitive topics, women and men should be interviewed separately y researchers of their own genders.

To ensure that researchers and interviewees understand the questions, it is advisable to use a common language. The researchers will further hold discussions to arrive at a consensus about the translation. In Tanzania, researchers do back-translate the questionnaire to English from Swahili.

Studies show that urban dwellers tend to be home in the evening, yet many urban neighbourhoods are unsafe at night. The most likely time to find urban dwellers at home, then, may be the most dangerous for interviewer and interviewee.

ANNEXURE D-4

In Tanzania, researchers felt communities were too dangerous after dark to conduct interviews, so interviews took place only during the day. Urban dwellers remain concerned about traditionally sensitive topics such as domestic violence. But with better communications, contacts outside the community, and greater exposure to different

ways of life, they may worry less about social and more about legal consequences when answering questions. Researchers must also make sure that respondents clearly understand the questions by using familiar concepts and terms.

Reliability of results

Representative ness of the sample and the ability to data enumerators to carry out the assessment are two key factors that affect an assessment's reliability. Enumerators, who are not well grounded in methods, or the use of tools that are not standardized or are inappropriate, will add to variation. If the characteristics of the individuals interviewed vary greatly each time, findings will also vary.

In some cases, representatively is not the objective. More purposive sampling, for example, is appropriate when selecting individuals for focus groups, where often the objective is to get a homogenous group that shares a specific characteristic (Patton 1990, cited by Garrett & Downen 2002, Rutengwe 2000). Beyond sampling concerns, the greatest threat to reliability comes from the inability to use research tools consistently. However, the complimentarily of quantitative and qualitative methods can provide triangulation.

Feasibility

Respect for local perspectives, rhythms, and culture is essential. The potential for political interference, crime, and the threat of physical violence to both researchers and interviewees is also generally a greater problem in peri-urban than in rural areas.

Assessment can involve months of preparation, including designing, training, and securing logistical support and outside expertise. In addition, peri-urban areas present some unique logistical challenges. For example, peri-urban areas are usually compact, with few open spaces for interviews. Initial contacts are already made with dwellers through their local leaders and you distributed the invitation notice. Safety should be a priority. All your meetings must be held in publicly visible spots with two or more enumerators. You can use schoolrooms or community facility available. Good planning can minimise these problems, especially transportation to and from the study area.

Utility
Are your results useful? Make sure that your results of the research are credible, timely and respond to a demand of information.
ANNEXURE D-5

Propriety

Ethically, you informed the study community of how the information will be used and any risks the research presents to them. You must always remember to start by introduction, reading a statement to make clear that the purpose of the research is to collect information about the community, not to provide service at this stage.

Conclusion

In conclusion, the following points are essential:

- Strengthening local partnership not only improves utility but also addresses issues surrounding construct validity, propriety and feasibility.
- Planning the research is essential to success.
- The enumerators should be well trained to help understand the context and to use the tools well.
- Training sessions that emphasise conceptual as well as practical matters are essential, as is intensive pre-testing, which gives insights into how well the approaches and the researchers in the field.
- Discussion of data and findings among researchers is another useful check.

ANNEXURE E-1

Questionnaire No. …

PURCHASING PATTERNS

QUESTIONNAIRE 'A' FOR CAREGIVERS

This questionnaire covers aspects of your life, including work and personal details, lifestyle, household food procurement and environmental information that are relevant to purchasing behaviour. The answers to these questions will be kept strictly confidential.

1. GENERAL INFORMATION

Name of interviewer:.....
Name of the interviewee:.....
House number.....
Zone.....
Date of data collection **Month** ..... **Date** ..... **Year**.....

Please answer all questions by marking the correct answer with X, except where otherwise indicated.

2. SOCIO-DEMOGRAPHIC INFORMATION

2.1 Gender of caregiver

Male	Female

2.2 Age of Caregiver

18-25 years old
26-35 years old
36-45 years old
46-55 years old
>56 years old

3. FAMILY COMPOSITION

3.1 How many people are living in your household?

1	2	3	4	5	6	7	8	9	10	>10

ANNEXURE E-2

3.2 Please complete the table below on all members of the household

Number of household member	Age distribution	Gender	
		M	F
	0-5 years old		
	6-18 years old		
	19-25 years old		
	26-35 years old		
	36-45 years old		
	46-55 years old		
	>56 years old		
TOTAL			

3.3 How many dependants do you have in your household?

1	2	3	4	5	6	>6	None

4 HOME LANGUAGE AND EDUCATION LEVEL

4.1 What language is spoken mostly in this household?

Afrikaans	English	Sotho	Zulu	Tswana	Pedi	Xhosa	Others, specify…

4.2 Highest education level of caregiver

Primary school	Standard 8	Standard 10	College	University	None	Other, specify……

5 SOCIO-ECONOMIC INFORMATION

Please answer all questions by marking the correct answer with X, except where otherwise indicated.

5.1 Are you currently employed?

YES	NO

5.2 If YES is your current job a:

Full-time job	Part-time job	Fixed contract	Other, specify……

5.3 What is your monthly income?

<R500	R501-R1000	R1001-R1500	R1501-R2000	R2001-R2500	R2501-R3000	>R

ANNEXURE E-3

5.4 If NO, how would you describe your current status

Unemployed	Retired	Pensioner	Housewife	Student	Other,

					specify.....

5.5 How long have you been unemployed?

6 months	6-12 months	1-2 years	2-5 years	>5 years

5.6 If NOT employed state the source of income

Pension	Casual work	Government grant	Vending / Petty business	Community	Other, explain

5.7 Does anyone in the household (including yourself) receive a monthly grant from the government to contribute to your income every month e.g. child support grants, old-age pension? If yes, please describe the use

.....
.....
.....

5.8 Household members' contributions to the household income

Household members title (e.g. Mother, uncle, father etc)	Amount of contribution to household income (Rand value per month)
1.	
2.	
3.	
4.	

5.9 What is the aggregate income of this household per month?

<R500	R501-R1000	R1001-R1500	R1501-R2000	R2001-R2500	R2501-R3000	>R

ANNEXURE E-4

5.10 Identify from the list below the type of cereal grains and legumes you have stored

List of products	(Mark X)
Maize meal Sifted raw (White)	
Special (White) Enriched raw	

Special raw (White)	
Special raw (Yellow)	
Unsifted raw (White)	
Super raw (White)	
Domestically milled (white)	
Domestically milled (Yellow)	
Other Maize meal specify,	
Samp	
White rice	
Mabella	
Oats	
Pearl wheat	
Pearl barley	
Samp + beans	
Soya beans	
Sugar beans	
Haricot beans	
White kidney beans	
Chick peas	
Split peas	
Lentils	
Peanuts	

ANNEXURE E-5

6. HOUSEHOLD FOOD PROCUREMENT

6.1 Please provide information about plant staple items as currently purchased

Food items	In what quantities do you usually purchase?	How much do you usually pay for this purchase?	How frequently/often does you make this purchase?	Where do you usually make this purchase?

Maize meal – Sifted raw (White)	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Special (White) Enriched raw	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Special raw (White)	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Special raw (Yellow)	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Unsifted raw (White)	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify

ANNEXURE E-6

Continued

Super raw (White)	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Domestically milled (White)	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag	R _____	_Every day _Once a week _Once per 2 weeks	_Spaza shop _Supermarket _Street vendor

	_ 5 kg bag _ 2.5 _ Other [ ]		_Once a month _Other, specify	_Shop in othe town _Other, specify
Domestically milled (Yellow)	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Other	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Samp	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
White rice	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify

ANNEXURE E-7

Continued

Mabella	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Oats	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Pearl wheat	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Pearl barley	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Samp + beans	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	_Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Soya beans	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify

ANNEXURE E-8

Continued

Sugar beans	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Haricot beans	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
White kidney beans	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Chick peas	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Split peas	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify
Lentils	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify

ANNEXURE E-9

Continued

Peanuts	_ 25 kg bag _ 12.5 kg bag _ 10 kg bag _ 5 kg bag _ 2.5 _ Other [ ]	R _____	Every day _Once a week _Once per 2 weeks _Once a month _Other, specify	_Spaza shop _Supermarket _Street vendor _Shop in othe town _Other, specify

6.2 You buy those foods above considering

Specific brand name	Any brand	No brand name	Other, specify

6.3 How much money is spent in your household PER WEEK to buy food? (Cross one box)

R0-R50	R50-R100	R101-R200	R201-R300	R301-R400	R401-R500	R501-R600	> R600	I do not know

6.4 Do you sometimes run out of money for food purchases? (Applicable to employed household caregivers)

YES	NO

6.5 If YES how often

1st week after pay day	2nd week after pay day	3rd week after pay day	4th week after pay day

6.6 In this area are their any government food support programmes running?

YES	NO

6.7 If YES, specify

Food supplementation	Work for food	Subsidy for grains	Cash to purchase	Others, specify

ANNEXURE E-10

7. LOCALITY INFORMATION

Please answer all questions by marking the correct answer with X, except where otherwise indicated.

7.1 What is your normal purchasing point?

Spaza shop	Super market	Street vendor	Shop n other town	Other, specify..

7.2 How far is it from your home to the normal purchasing point (in km)?

1-5	6-15	16-30	31-45	46-60

7.3 Is this area accessible by public transport?

YES	NO

7.4 If YES, which of the following types of transport are available in this area?

(Tick more than one if necessary)

Bus	Taxi	Train	Other, specify

7.5 How much do you spend on transport in a week?

R20-R40	R50-R70	R80-R100	>R100

7.6 If NO to question 7.3 by which means do you get to the normal purchasing point?

Foot	Bicycle	Bus	Taxi	Own car	Train	Motor cycle	Other, specify..

Thank you for your co-operation

ANNEXURE F-1 **Questionnaire No. …**

PURCHASING PATTERNS

QUESTIONNAIRE 'B'

ON-SITE OBSERVATION OF FOOD STOCK RECORD

1. General information

Name of observer……..
House number……..
Zone ……..
Date of observation **Month** ……. **Date** …… **Year**……

2. Please complete the table below

Type of cereal grains & legumes	**Description (Please mark X)**	**Brand names**	**Source of food (Please fill number) and storage**	**Food Inventory**			
			1 Purchased 2 Grown 3 Grown and milled 4 Barter 5 Donation/Support 6 Other	Week 1 Weight (In kgs)	Week 2 Weight (In kgs)	Week 3 Weight (In Kgs)	Week 4 Weight (In Kgs)
Maize meal	Sifted raw (White)						
	Special (White) Enriched raw						
	Special raw (White)						
	Special raw (Yellow)						
	Unsifted raw (White)						
	Super raw (White)						
	Domestically milled (White)						
	Domestically milled (Yellow)						
	Other						

ANNEXURE F-2

Continued

Type of cereal grains & legumes	**Description (Please mark X)**	**Brand names**	**Source of food (Please fill number)**	**Food Inventory**			
			1 Purchased 2 Grown 3 Grown and milled 4 Barter 5 Donation/Support 6 Other	Week 1 Weight (In Kgs)	Week 2 Weight (In Kgs)	Week 3 Weight (In Kgs)	Week 4 Weight (In Kgs)
White rice							
Mabella							
Oats							
Pearl wheat							
Pearl barley							
Samp							
Samp + beans							
Soya beans							
Sugar beans							
Haricot beans							
White kidney beans							
Chick peas							
Split peas							
Lentils							
Peanuts							
Others							

Thank you for your co-operation

ANNEXURE G-1

Questionnaire No. ...

PURCHASING PATTERNS

QUESTIONNAIRE 'C' FOR SHOPKEEPERS AND OWNERS

This questionnaire covers aspects of general information, availability of food stocks in the spaza shop, consumer purchasing practices and record of sales at end of previous week. The exercise will run for four consecutive weeks. If no food stock records are kept by spaza owners then the spaza owners will be oriented by the researcher in order to clearly understand on how to undertake their food stock records. The answers to these questions will strictly be kept confidential.

1. GENERAL INFORMATION

Name of shop owner.....
Name of shopkeeper: .....
Shop name:.....
Zone:.....
House number.....
Date of interview **Month** ... ... **Date** ..... **Year**.....

ANNEXURE G2-4

2. AVAILABILITY OF FOOD STOCKS IN SPAZA SHOP

Food items	Description (Please mark X)	Brand names	Total stock per package (In Kgs)				Price per Packaging unit			
			1kg	2kg	5kg	Other	1kg	2kg	5kg	Other
Maize meal	Sifted raw (white)	Iwisa								
		Impala								
		ACE								
		Other								
	Special (white) Enriched raw	Iwisa								
		Impala								
		ACE								
		Other								
	Special raw (Yellow)	Iwisa								
		Impala								
		ACE								
		Other								
	Unsifted raw (white)	Iwisa								
		Impala								
		ACE								
		Other								
	Super raw (white)	Iwisa								
		Impala								
		ACE								
		Other								

	Domestically milled (white)	Iwisa								
		Impala								
		ACE								
		Other								
	Domestically milled (Yellow)	Iwisa								
		Impala								
		ACE								
		Other								
	Other maize meal									
Samp										
	Other									
White rice	Other									
Mabella										
	Other									
Oats										
	Other									
Pearl wheat										
Pearl barley										
Samp + beans										
Soya beans										
Sugar beans										

Haricot beans										
White kidney beans										
Chick peas										
Split peas										
Lentils										
Peanuts										
Others										

3. CONSUMER PURCHASING PRACTICES

Please answer all questions by marking the correct answer with X, except where otherwise indicated.

3.1 Do you avail credit facilities to your consumers?

YES	NO

3.2 If YES to 3.1 when is usually payment done?

Daily	Weekly	Fortnightly	Monthly	Other specify

3.3 If NO to 3.1 how do the consumers usually purchase?
(Mark more than one if necessary)

Cash	Cheque	Accounts	Credit	Other specify

ANNEXURE G-5

3.4 What would be the number of your consumers per month?

10-50	51-100	101-150	151-200	>200

3.5 Estimate the proportion of consumers using the following medium of exchange to purchase in percentage terms

	Percentage
Cash	
Cheque	
Accounts	
Credit	
Others, specify	

3.5 Who mainly does purchases for the family at your shop?
(Mark more than one if necessary)

Men	Women	Children	Both	Do not know

3.6 When consumers come to buy food at your shop, what do they mainly consider?

Price & Quality	Price & Quantity	Price & Quality & Quantity	Do not know	Others, specify

3.7 Can you estimate average monthly food spending of your consumers per household?

R100-R300	R400-R500	R600-R900	R1000-R3000	Do not know

3.8 What happens to old stock or when quality of stock deteriorates?

Sell at lower price	Return to the depot	Discard	Others, specify

3.10 How do you replenish your stock?

Deliveries	Others, specify

Thank you for your cooperation

ANNEXURE H-1

QUESTIONNAIRE NO. ...

PURCHASING PATTERNS

QUESTIONNAIRE 'C' FOR SHOPKEEPERS

This questionnaire is a follow up to record sales of food items at the end of previous week. The answers to these questions will strictly be kept confidential.

Name of spaza shop..... **WEEK 2-4**

Month ... ... **Date** ..... **Year**.....

ANNEXURE H-2

3. RECORDS OF SALES PER WEEK

Food items	Opening stock				Description (Please mark X)	Brand names	Stock bought in Kgs				Stock sold in Kgs				Balance			
	1kg	2kg	5kg	other			1kg	2kg	5kg	other	1kg	2kg	5kg	other	1kg	2kg	5kg	other
					Opening stock	Iwisa												
						Impala												
						ACE												
						Others												

ANNEXURE H3-4

Continued

Maize meal					Sifted raw (white)																
					Special (white) Enriched raw																
					Special raw (White)																
					Special raw (Yellow)																
					Unsifted raw (white)																
					Super raw (white)																
					Domestically milled (white)																

					Domestically milled (Yellow																	
					Other																	
Samp																						
White rice																						
Mabella																						
Oats																						
Pearl wheat																						
Pearl barley																						

Samp + beans																						
Soya beans																						
Sugar beans																						
Haricot beans																						
White kidney beans																						
Chick peas																						
Split peas																						

Lentils																						
Peanuts																						
Others																						

Thank you for your co-operation

ANNEXURE I

FOCUS GROUP DISCUSSIONS SCRIPT

BEGINNING OF THE SESSION

- Participants will be greeted and welcomed
- Introduction by name
- the purpose of the discussion will be explained
- Roles of the team during the discussion will be explained

MAIN PURPOSE: To gather and collect, opinions, perceptions, ideas, experience and understanding of purchasing behaviours in the Eatonside informal settlement.

GROUND RULES

We exactly want to know about purchasing behaviour of major plant staples in low-income households. You were selected because you have certain things in common that are of particular importance to us. We are particularly interested in your views because you have had lots of experiences on purchasing practises of major plant staples. We will treat all view/ideas with respect. We will be open when talking about the matter and raise differences openly and constructively. There are no wrong answers but rather differing points of view. Please feel free to share your point of view, even if it differs. The discussion time is estimated to be one hour.

ANNEXURE J-1

KEY QUESTIONS FOR FOCUS GROUP DISCUSSION WITH HOUSEHOLD CAREGIVERS

Plant staples food are the main food in a group of cereals and cereals products and legumes consumed by people in a society or community e.g. maize meal, all types of beans, soya beans, rice, samp, wheat, barley etc.

1. Do you have an idea of what plant staples are? Yes / No

2. If yes, mention commonly consumed plant staples in Eatonside.

3. If yes, which plant staples can one afford to buy?

4. What is your main source of income?

5. What plant staples do you mostly purchase with your income?

6. Who does the food-shopping in the family? And why?

7. How do you normally pay for plant staples? Cash or credit or cheque? Choose one answer.

8. How does the fluctuation of the price of plant staples affect your households?

9. How does the transport from your place to the purchasing point affect low-income households?

10. Are you aware about any food subsidy policy? YES/ NO

11. If yes, explain.

12. Which types of food (including plant staples) are subsidised?

13. What are your views about the food subsidy policy, basic income of low-income households and grants respectively?

CLOSING QUESTIONS

Have we missed any thing?

Would anyone like to add something more to what we have just discussed?

ANNEXURE K

KEY QUESTIONS FOR FOCUS GROUP DISCUSSION WITH SHOPKEEPERS

1. What do you know about purchasing behaviour of low-income customers?

2. Mention the commonly plant staple cereals and legumes sold in Eatonside.

3. Which are the commonest cereal grains and legumes that are affordable?

4. How do they normally purchase plant staples i.e. bulk or in bits?

5. Who normally is the main buyer in your spaza shop? WHY?

6. How do low-income households normally purchase their food in your shops: in cash or credit or cheque? Choose one answer

7. Which plant staples takes a bigger share of the household income at Eatonside? WHY?

8. How do prices fluctuations of foods (plant staples) affect the low-income households?

9. Are you aware about any food subsidy policy? YES/ NO

10. If yes explain

.....

11. What types of food you know is subsidised/ VAT exempted?

12. What are your views about the food subsidy policy, basic income of low-income households and grants?

CLOSING QUESTIONS

Have we missed any thing?

Would anyone like to add something more to what we have just discussed?

ANNEXURE L

KEY QUESTIONS FOR FOCUS GROUP DISCUSSION WITH KEY INFORMANTS

1. What do you know about plant staples food?

2. Can you mention the commonly plant staples food consumed in Eatonside.

3. Which are the commonest do you think one can afford to buy?

4. What is the main source of income of the low-income households in Eatonside?

5. What is or can you estimate the average income of people living in Eatonside?

6. Can you tell us what do they mostly purchase with their income?

7. In what way do the low-income households purchase their food? Cash/credit/cheque

8. Which shops do low income households prefers to go? spaza shop, supermarkets, street vender shop in other town

9. How do they normally buy? In bulk or bits is it every day, once a week, fortnightly, a month?

10. How do foods prices fluctuations affect the low-income households here in Eatonside

11. How does the locality and transport from their place to the marketing place/centre affect the low-income households?

12. Are you aware about any food subsidy policy? YES/ NO

13. If yes explain

.....

14. What types of food you know is subsidised/ VAT exempted?

15. What are your opinions on food subsidy policy makers, basic income of low-income households and grants?

CLOSING QUESTIONS

Have we missed any thing?

Would anyone like to add something more to what we have just discussed?

ANNEXURE M-1

Focus group discussion response with household caregivers (n=12)

All responses of the focus group discussions are presented in the form of most commonly used phrases regarding purchasing patterns.

CODE: RESPONDENT: Participant
INT: Researcher
T: Transcript

INT Plant staples are the main food in a group of cereals and cereals products, and legumes consumed by people in a society or community e.g. maize meal, all type of beans, soya beans, rice, samp, wheat, barley etc. Now do you have any idea of plant staples? Yes / No

RESPONDENT All responded yes.

INT If yes mention commonly consumed plant staples.

RESPONDENT Responses were as follows: Maize meal (n=10), beans (n=8), samp (n=9), mabella (1), peanuts (n=1), beans + samp (n=1), wheat flour (n=1), soya mince (n=1) and rice (n=1).

INT If yes, which plant staples food can you afford to buy?

RESPONDENT Responses were: Maize meal (n=12), beans (n=10), rice (n=5), samp (n=9), mabella (n=1), wheat flour (n=1) and soya mince (n=1).

INT What is your main source of income?

RESPONDENT "I find income by collecting the waste products from the garbage disposal and send to recycling industry to get money" a woman.

RESPONDENT "I get income by doing temporary jobs like gardening and cleaning" a man.

RESPONDENT "I get income from child support grant because we are not working in my house" a woman

RESPONDENT "I get money from pension money because I am earning pension" a man.

ANNEXURE M-2

RESPONDENT "I get money by selling fruits and vegetables" a woman

RESPONDENT "I get money only by receiving children support grants" a woman

RESPONDENT "I get money by selling vegetables and I'm a domestic worker" a woman

RESPONDENT "I don't work, I don't get money, I live because my daughter is working very hard to find money so that we eat" a woman.

RESPONDENT "I get money from picking up tins and boxes and sell them" a woman.

RESPONDENT "I live on pension because I don't have even a husband" a woman

INT What do you mostly purchase with your income?

RESPONDENT "Food and clothing" majority.

RESPONDENT Majority of women said food, especially maize meal.

INT Who does the food shopping in the family? Why?

RESPONDENT "...I purchase food because I'm a woman and do the cooking" a woman.

RESPONDENT "I buy the food because shops are very far from here. Also, we have a problem, we can't afford the transport, we walk and therefore we can't send children because they normally involved in accidents" a woman.

RESPONDENT "I go to buy in the shop. The little money must be enough for what I want to buy, and also be enough for all of us in the house" a woman

RESPONDENT "I go to buy in the shop, because I know most of the shops, and I know most of the prices. So, I can buy the best" a man.

RESPONDENT "Sometimes we can't afford buying the food. We go to find out if we can afford the prices. Sometimes we bargain to get cheap prices" a woman

ANNEXURE M-3

INT Normally, which way do you pay, cash or credit or cheque?

RESPONDENT Majority of women said cash, We are allowed to purchase on credit but they want a guarantee from us that if we will pay at the end of the month"a man

INT When are you paying back that credit?

RESPONDENT "...When is money available" a man.

RESPONDENT "...When we receive grants or money from temporary jobs" a man.

INT When do you receive the grants?

RESPONDENT "We don't get them at the same time. Sometimes during a month and sometimes at the end of a month" a man.

INT Do shopkeepers allow you to purchase on credit?

RESPONDENT "Yes they do. We are allowed to purchase on credit but they want a guarantee from us that if we will pay at the end of the month" a man

INT How does food price fluctuations affect in your households?

RESPONDENT "It affects us because price changes high or low. This affects us we don't have money; we are poor to afford expensive things. It is difficult for us" a man.

RESPONDENT "We are not working in permanent jobs. Sometimes there is no job for the whole month. It is a problem to do shopping" a man

RESPONDENT "It affects us because we shop with our little money. We find price is increased. We can't afford buying, we are already poor and we must buy lowest prices" a woman

RESPONDENT "We buy with little money. We buy small items because we can't afford buying in bulk to cater for the whole family. So, our families suffer most with hunger. The children also can't get enough food to eat" a woman

INT How does the transport from your place to the marketing place affect the low-income households?

ANNEXURE M-4

RESPONDENT "I can't even go to town to buy groceries. We only buy here at the location. There is no money for transport. Our money is only enough to buy at the shops around us" a woman

RESPONDENT "... I'm not getting more than R200.00 per month. So, I can only afford buying from shops around us. I can save money to buy another thing that I don't have. Also I save money for transport if I have a problem elsewhere" a woman.

RESPONDENT "Transport and shops are far away. If people use taxis to town, they waste money for buying other things. There is enough land here for the government to build firms and shops near us" a man.

INT What do you do if you want other food that is unavailable in your locality?

RESPONDENT "We eat what we know is available at the 'spaza'. We don't go far for the food" a man

INT What type of food do you eat that is available at 'spaza' shops?

RESPONDENT "It is always maize meal, beans and samp. Sometimes we make gardens for vegetables" a man

RESPONDENT "We can't afford eating other foods. We eat 'morogo', cabbages, potatoes and tomatoes because we are affordable" a woman.

RESPONDENT "It is not easy to buy other foods. They are expensive. We eat maize meal, samp, sometimes vegetables if we cultivated them in the garden" a woman.

INT Are you aware of any food subsidy policy?

RESPONDENT Majority responded, "...we are not aware because we don't have in our place ... we are suffering too much and we just sometimes hear about it. But we are not aware of that.

RESPONDENT "...We just hear when other people from other places talking about it. We do not have that knowledge about VAT exemption" a man.

INT What types of food do you know are subsidised/VAT exempted?

RESPONDENT Majority responded, "They don't know what type of food"

ANNEXURE M-5

INT What are your views about food subsidy policy and basic income, grants of low-income households?

RESPONDENT "Regarding food subsidy policy, I think it can be helpful for us. May be walk door-to-door with that policy we can understand how they're helping us. We are really in a problem on how to get our food" a man.

RESPONDENT "It can be very helpful to us. We are poor. May be visit each family and see how bad poverty is in the households" a man.

RESPONDENT "... real check each and every household. Look at what is happening in the households concerning food shortages" a woman.

RESPONDENT "It can be helpful to us, if they can bring something to eat. It is true that we are poor and our children suffer. They don't have anything to eat after coming back from schools" a woman

RESPONDENT "We can be very grateful, if the government help us with food. We are hungry and sometimes we are not buying. We sleep with empty stomach in the households" a woman.

RESPONDENT "If our government can help us with something to eat, we can be very happy. It is true that we sleep without food sometimes. It can help us very much" a woman.

RESPONDENT "I can be very-very happy if the government give us food. It is sometimes difficult to buy food. Sometimes we are trying to buy clothes for our families. It is winter now it is very cold. We don't know how to make the ends meet" a woman.

RESPONDENT "I can be very grateful because we are suffering. We don't have food to eat. If the government can bring something to eat, we are grateful. We will able to cook for our children" a man.

RESPONDENT "I can be very happy if the government can help us with food because we are suffering, there are no jobs" a woman.

RESPONDENT "I can be very happy. I have got grand children without their mother and father. I'm the mother and father now. I'm suffering" a woman.

RESPONDENT "Using basic income for low-income households, we can't afford buying everything. We don't know what to say because we have nothing" a woman.

ANNEXURE M-6

RESPONDENT "It is not enough because it is too small. We can't support our families. We have orphans. I have a small boy who doesn't have parents. So, I'm struggling with him. I buy food and clothing for him" a man.

RESPONDENT "The grants give us a great help but we can even be happier if the government increases the grants two times from what we receive now. It is not enough because we can only buy insufficient food" a man.

ADDITIONAL COMMENTS BY PARTICIPANTS

RESPONDENT "We can be very happy if we can find help from other people. May be to provide us with some skills in order to help ourselves earn a living and upgrade our living standards. We can do better in our lives" a man.

RESPONDENT "It can be very helpful if we run projects, may be to make clothing for families. Give us machines to make clothing instead of buying clothes from shops" a man.

RESPONDENT "We will be happy if we can get projects whereby we plant vegetables and sewing clothing" a woman.

RESPONDENT "We can be happy to have projects like field crops, cloth making, poultry so as to sell them and earn more money to buy food" a woman.

RESPONDENT "Some people have got experiences. They don't know what to do with it. If the government could agree to take anybody with a certain experience to be given a chance for further training in order to train others on certain projects. This could be of a great deal to the people. People come together and join hands to make a bigger project. It is very important to have projects around our locality" a man.

RESPONDENT "I know two projects, poultry and vegetable planting" a man.

ANNEXURE N-1

Focus group discussion response with 'spaza' shopkeepers and owners (n=10)

CODE: RESPONDENT: Participant INT: Researcher T: Transcript

INT What you know about purchasing behaviour of low-income consumer in Eatonside?

RESPONDENT "...Thing like maize meal is viable. During the week consumer don't buy much of it. They buy more during the weekends and buy more 12,5 kg of maize meal packaging. On Mondays they buy more beans" a man.

RESPONDENT "Weekends 2,5 kg to 12,5 kg are viable. During the week they buy 1 kg to 2 kg. People don't buy much maize meal in weekdays. Beans are bought during the week but not like maize meal. Samp is not moving fast. People only buy samp during cold days" a man.

RESPONDENT "The ways I see it, consumers buy more when don't have money. They buy on credit. Some consumers' pay but some don't pay up their debts. I don't even know what to do with those. During the month end people buy from other towns, they don't buy from our 'tuck' shops. So, there is no business during month end. During the rest of the month, when people left with small amount of food at homes, it is then they buy from us" a man.

INT What is the common plant staple sold in Eatonside?

RESPONDENT "Maize meal, during winter and when it is cold they buy samp mostly" a man.

RESPONDENT "...Beans are available here in Eatonside. Cereals products are bought but depending on time. Rice is not bought during the week. Over the weekend, Sundays it is then people come to buy rice. They most buy from town" a man.

INT Which commonest food staples are affordable?

RESPONDENT "...They afford all food staples only that the business is slow. They don't buy everything in every day. You find one day one thing is viable but the next day is another thing" a man.

ANNEXURE N-2

RESPONDENT "On my views, Soya mince is the one that people buy most because is cheaper. As for beans I'm sure, I sell a packet or two packets. Sugar beans are bought but not frequently. Beans go slowly. In winter people buy more beans. It happens that in a week you don't sell even a packet. Peas are very slow moving products. Soya mince is viable because it is cheap. It needs little cooking time and fuel" a man.

INT Do you sell soya beans in your shops?

RESPONDENT "Majority indicated not to sell soya beans"

RESPONDENT "People never ask for soya beans in the shops that is why we don't bring soya beans" a man

RESPONDENT "Often before we put any thing on the shelves we receive information about the new product from the consumers. I remember there was nobody who asked me about soya beans" a man.

INT How do they normally purchase plant staples?

RESPONDENT "They buy according to packaging sizes because people don't buy the same way. One buys 1kg and another 2,5 kg or 12,5 kg" a man.

RESPONDENT "We aren't sure which maize meal they like most. People have different preferences. When they don't have money it is then time for business. People buy on credit. This is how we know what quantity a consumer buys. During the month end they pay their debts" a man

INT Are you selling on credit?

RESPONDENT "Yes we are" Majority

RESPONDENT "Yes, both on credit and cash. I'm selling on credit because they are reliable consumers. Sometimes, they don't have money. And others are pensioners" a man.

RESPONDENT "I'm selling on credit because some don't have money. Some buy from my tuck shop. So, I sell to them on credit" a Man

RESPONDENT "I'm selling on credit, what else can I do? When the parents come to ask for the credit, they normally complain that kids are hungry. "I don't cry for the parents but I cry for my kids." "...If ever my children can sleep with something in the stomach I'm happy." "Understand it pains me". So, there is nothing I can do except to give her on credit" a man.

ANNEXURE N-3

RESPONDENT "I'm selling on credit to most pensioners because they are getting money at the end of the month. During the month they don't have money. So, they are the one's that I'm supporting by providing them with credits" a man.

INT Are they not difficult in paying back?

RESPONDENT "Sometimes they pay, sometimes they run away. Some didn't pay until this day. Even the pensioners sometimes don't pay. I have got one who doesn't pay" a man.

INT Who is the main buyer in your spaza shop? Why you think so?

RESPONDENT "Most are children and women. Children are sent because they have time to go with little money the parents have to buy petty things. Women are preparing 'seshebo' in the households and know which foods to buy. Men come but not frequently. So, the main buyers are children, women and then men. Pensioners are least because they come to buy on credit" a man.

RESPONDENT "The main buyers are children, women, men and then pensioners the least to come to buy" a man

INT Do children know how to change their money?

RESPONDENT "They don't. I always tell their parents to write down what they want" a man.

INT How do low-income households normally purchase their food staples in your shops? Cash or credit or cheque?

RESPONDENT Majority responded that "...we sell both cash and on credit. It is only small percentage especially pensioners."

INT Which food staples do you think takes a bigger share of the household budget?

RESPONDENT "The food we mentioned earlier. However maize meal takes a bigger share of the budget because it is eaten every day" a man.

RESPONDENT "It is like that, a maize meal" a man.

RESPONDENT "It is true, a maize meal" a man

INT Why?

RESPONDENT "May be people use maize meal more than rice" a man.

ANNEXURE N-4

RESPONDENT "...Maize meal because it is cheaper than rice. It means they cook it more than rice. People like 'pap' more than rice. People say 'pap' fills their stomach quickly" a man.

RESPONDENT "Maize meal is cheaper than rice. One can't buy rice yet she knows that maize meal stays for the rest of the week. You can buy rice but gets finished quickly. So, they buy maize meal because they don't have enough money. People in Eatonside are low-income recipient; they try to make life for their kids" a man

RESPONDENT "I think maize meal is the one, even in my family, I know maize meal is the best thing. If you have maize meal you can mix with water and sugar to swallow. Then maize meal takes a bigger share of the households' budget" a man.

INT How does the transport affect the low-income households?

RESPONDENT "Transport is available for the people to go to town. When people buy groceries not available in 'spaza' shops goes to the other towns. So, transport is not the problem, the problem is money" a man.

RESPONDENT "...Transport affects Eatonside dwellers even though no one can say that. They pay for transport. If we could have everything here, the consumer want, they would never spend money to purchase food from other towns" a man.

RESPONDENT "In the old 1990's people were getting cash in the envelope. Now, they earn money through the bank. People buy groceries from other towns because they get paid through the banks. So, when they collect their money they shop for food in supermarkets. So, they have to go to the town to get their money. They come back while bought every thing from the towns that's why we don't have business" a man.

RESPONDENT "When we buy food stocks, we buy in bulk and break it into bits in order to people afford buying the products. If our products are expensive, people tend to buy in other towns. We have to structure the buying. We don't sell in scoops because consumers want the sealed and weighed packets" a man.

INT How does food staples prices fluctuation affects the low-income households?

RESPONDENT "We price our items according to the buying prices where we buy stocks. If prices come down we also reduce for the benefit of our consumers. Sometimes, when there is a price increase it is then we increase the prices. We lose consumers when there is a price increase" a man.

ANNEXURE N-5

INT What is the number of consumers coming to buy after price increase?

RESPONDENT "If consumers are used to the price of an item and if it increases, we explain to them, they don't come as frequently as before. They only come back when there is low price. They compare our prices with the ones in town" a man.

RESPONDENT "If there is price increase in the items in one shop, they always compare the price until they find the low price in another shop" a man.

INT Are you aware about any food subsidy policy?

RESPONDENT Majority responded that they were not aware of it.

RESPONDENT "Things that are cheap we also sell cheap. If you find one thing is cheap, then government paid the subsidy" a man.

RESPONDENT "We are still waiting for the subsidies especially for the maize meal. We don't care about other items because maize meal is the basic staple food" a man.

INT What types of food you know is subsidised/VAT exempted?

RESPONDENT "Maize meal and cake flour" a man.

RESPONDENT "Most of the food don't include VAT" a man.

RESPONDENT "The wholesales that we buy from have already included VAT. We can't find out clearly because we are just given the price of the items" a man.

RESPONDENT "We only see VAT exemption at Vereeniging. So, we clearly see VAT exempted (14%) and what is not VAT exempted. If we buy goods at the supermarkets we can't clearly see VAT. So, we pay the price that is seen on the slip" a man.

INT What are your views about food subsidy policy and basic income grants?

RESPONDENT "...What I learned is that when people have money during month end, they can't buy frequently from our shops. Pensioners get money and come frequently to our shops. Also those receive children grants support come to our shops. Pensioners and children grants recipients are supportive to our shops. If they don't have money we support them too. They are actually better than those who are working" a man.

ANNEXURE N-6

RESPONDENT "If pensioners and children grants support holders can be given enough money, they keep life going and support their families. When pensioners receive money, they come to buy a lot of things. And even those children grants holders buy from us. When money is finished they come back to buy on credit. They don't buy much on credit because of trying to avoid large credit" a man.

RESPONDENT "We understand the question but if the government can support us, we can find helping other people too. As long as the government can subsidies, we can buy and sell at profit" a man.

RESPONDENT "I would like the government to help us so that we help other people. If price can be reduced we can buy more items and help other people. Eatonside dwellers are poor, so the government should support these people" a man.

ANNEXURE O-1

Focus group discussion response with key informants (Eatonside ward committee) (n=10)

CODE: RESPONDENT: Participant INT: Researcher T: Transcript

INT What do you know about plant staples?

RESPONDENT Majority of respondents were familiar with the main plant staple foods. They indicated that it's main food eaten in the locality like maize meal, rice, samp + beans, moroho (kind of Spinach).

INT Can you mention the commonly consumed plant staples in Eatonside.

RESPONDENT Respondents remarked, "Maize meal, rice, beans, and most people use potatoes as well. In the order of priority are "rice, potatoes, beans, samp" a man.

RESPONDENT "Spinach, all types of 'moroho', peas, beans they usually eat them" a woman.

INT Which is the commonest food staple, they afford buying?

RESPONDENT "Cabbage, tomatoes, potatoes" a man.

RESPONDENT "The commonest is maize meal" a man. A woman noted that "Maize meal, sugar, tea, potatoes, all kind of moroho (spinach) and cabbage." Another respondent indicated, "...They also buy a lot of bread."

INT What is the main source of income in Eatonside?

RESPONDENT "...Casual work, and working for other people. Some are doing washing and domestic work in the other town. These are the main sources of income" a man.

RESPONDENT "They depend on government grants" a woman.

RESPONDENT "We have pensioners and hawkers (selling from door to door)" a man.

ANNEXURE O-2

INT What is an estimated average income of Eatonside dwellers?

RESPONDENT "For pensioners is R740.00" a man.

RESPONDENT "Child support grant is R160.00" a woman.

RESPONDENT "Foster grants is R540.00 because some have adopted children of the deceased" a man.

INT What do they mostly purchase with small income?

RESPONDENT "Maize meal, potatoes, spinach and paying of electricity" a woman.

RESPONDENT "Tea, coffee, milk, maize meal and even meat" a man. Another respondent said "...a lot of maize meal."

RESPONDENT "Potatoes and a lot of morogo" a man.

RESPONDENT "Mostly they buy maize meal, bread and spend on electricity because it is the cheapest energy. So, they cook better using electricity than coal. Coal is expensive to them" a man.

INT In what way do households purchase food staples? Cash / credit / cheque?

RESPONDENT "Majority often pay cash" a woman.

RESPONDENT "Sometimes, they even purchase on credit and pay when they receive money" a man.

RESPONDENT "They buy on credit before they receive money. They continue to use credit and at the end of month they pay up their credits" a woman.

INT Which shops do low income households prefer to go? 'Spaza' shop, supermarkets, street vendors?

RESPONDENT All respondents remarked, "They buy from 'spaza' shops."

RESPONDENT A man narrated, "Some go to big towns because those shops because prices are lower. Generally, Eatonside dwellers prefer buying at these wholesales...pick 'n' pay and shoprite but they buy in bits."

INT How do they normally buy? In bulk or bits? Is it every day, once a week, fortnightly, a month?

ANNEXURE O-3

RESPONDENT "It depends but they buy in bits, if they want something which is not available here transport hinders them. They use 'spaza' shops around because are nearest and no travelling costs involved. The 'spaza' shop is the best" a man.

INT How do foods prices fluctuations affect the households in Eatonside?

RESPONDENT "Highly affect them. One thing that happens when the prices go up people tend to change what they used to buy and go for cost less items or stay on what they used to buy but buy less" a man.

RESPONDENT "Normally they increase prices but they do not cut prices" a man.

RESPONDENT "When prices go up, they force people to go for credits so that they can afford buying food stuff" a man

INT How does the locality and transports from this place to the marketing place/centre affect the households?

RESPONDENT "Transport is scarce and is only available hourly. It is only for Vereeniging, Vanderbijlpark, and Meyerton. Actually, there is no reliable transport" a woman.

RESPONDENT "We just use train. It is best thing to use but comes in hourly. There are no buses and taxis" a man.

RESPONDENT "We always go for the cheapest transport. It is train from Eatonside to town. Taxi is faster but it is a bit expensive" a man.

RESPONDENT "They normally go to towns if they afford paying for transport. The only cheapest transport is train" a man.

RESPONDENT "They can't afford another transport. This is why they use train although it is unsafe" a woman

INT Are you aware about any food subsidy policy?

RESPONDENT Majority indicated that they were aware.

RESPONDENT "...This food policy from the government in which, the provincial government give food parcels worth R300.00. For these unemployed and don't have any income are subsidised with food parcels. It is available from different points at Hoed kop and Alberton at Lord McCamel. From those points people of Eatonside get their food parcels.

ANNEXURE O-4

There are letters being received from the provincial and the department social grants to notify when to get food parcels" a man.

INT How do they get to the places; it is far and is low-income earners?

RESPONDENT "Some walk to get to those places to receive their food parcels. It is far but they walk because they need the food" a woman.

INT How do you select them?

RESPONDENT "The province has the selection criteria. They fill in forms and visit house to house to identify the needy. They do the exercise through the schools. The food parcels are available for three months only. After three months they re-apply again and take some time before it is approved. During this period one must try to secure jobs. People are aware about it but not all qualify to get food parcels. Pensioners and foster grant holders don't qualify. Those unemployed and don't receive anything from the government are given food parcels. The food parcels worth R300.00" a man.

INT Are you aware about the food subsidy policy: the document?

RESPONDENT "...At present we have not yet received the document. We only received the information circulating around" a man.

INT What foods are subsidised/VAT exempted?

RESPONDENT "I know of bread, maize meal, some dairy products, eggs" a respondent.

RESPONDENT "I don't know them may be eggs, cheese and milk. It makes no difference to these people. Like maize and other products, last for a month. Dairy products need refrigerator. May be it has to be reviewed" a respondent.

RESPONDENT "Lots of things are VAT exempted but I can't remember all at the present time" a man.

INT What are your opinions regarding the policies of food subsidy and basic income grants?

RESPONDENT "Because we lack the information, it would be good if they distribute the policy to us" a man.

RESPONDENT "When policies are drafted by the government, they should involve all of us as stakeholders so that we can contribute" a woman.

ANNEXURE O-5

RESPONDENT "My opinion about the policies... there's lack of communication at the province, district and local authority right down to the wards. We aren't yet in the possession of those policies. We have to create it up in order to be involved" a man.

RESPONDENT "I think policy makers have taken upon themselves to think on behalf of the people. They must come down to see what the people need. In the case of VAT exempted foods need refrigerators and the likes. People eat some of the food for two days because they can't keep longer than two days" a man.

RESPONDENT "Things that the government should do, is to make more land available. We have a shortage of land and in some areas land is just laying vacant. Agricultural land could be utilised. I have a problem. I applied last year for the three vacant plots; the MEC office referred me to the head of land affairs. Those are some obstacles which we face if our policies could improve the situation" a man.

RESPONDENT "The grants are obviously not enough. If the government can increase the grants a lots of people will be self-reliant. People will apply for grants in order to work. 'Itsoseng' project needs to be sustained so that people should continue to work and earn money for themselves" a man.

RESPONDENT "The children, fosters and pensioners' grants are not enough. If the government can increase up to R2 000.00, it is also not enough. So, enough is never there. So we need projects to assist people but enough is never there!!" a man.

RESPONDENT "Eatonside people are unskilled. If the grants are not enough, then people should be given skills in order to help and uplift themselves" a woman.

RESPONDENT "When they increase grants then the food prices also increase. It will never be enough except that we help ourselves to make a living sustainable" a man.

INT Is there a price control office to control the unplanned increase of food prices?

RESPONDENT "...We have a consumer department. I once attended a workshop. They monitor food prices in the stores not to go high. They reach a certain level and control. We have it in Gauteng province" a man.

ANNEXURE P

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Re: EDITING OF Ms AMULI'S M.Tech. DISSERTATION

This is to certify that I have read and edited Ms. Dorah J.Amuli's M.Tech. Dissertation titled ***Purchasing Patterns of Major plant staples in Low-Income Households in the Vaal Triangle*** and have advised her accordingly.

Elli D.A. Mrindoko (Ph. D)
Lecturer