

# FOOD PRODUCT ATTRIBUTES GUIDING PURCHASE CHOICE BY LOW-INCOME HOUSEHOLDS

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**Vaal University of Technology**

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

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at, are those of the author and are not necessarily to be attributed to the  
sponsors.

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

Signed.....*K. Marumo*.....  
Date.....*09/09/2009*.....

### STATEMENT 1

This dissertation is being submitted in fulfilment of the requirements for the degree of Magister Technologiae Food and Beverage Management.

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### STATEMENT 2

The dissertation is the result of my own independent work/investigation, except where otherwise stated. Other sources are acknowledged by giving explicit references. A bibliography is appended.

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## **DEDICATION**

This dissertation is dedicated to my parents Mr MM Marumo and Mrs MC Marumo.

## ABSTRACT

**Background:** About 66 percent of South Africans are urbanised. The majority of this population is forced by circumstances to live in informal settlements. Despite the income challenges faced, the market expenditure by these low-income consumers amounts to R129 billion per year. A lack of information exists regarding food product attributes that guide purchasing choice for maize meal.

**Objective of the study:** To identify and describe the food product attributes experienced as most important during purchasing of maize meal by low-income consumers in informal settlements in the Johannesburg-Vaal region.

**Methods:** Phase 1 comprised a quantitative survey in three informal and one formal settlement (n=502), testing the level of importance perceived for 14 food product attributes. In Phase 2, focus group discussions were conducted to describe and compare the understanding of the food product attributes between groups and with literature.

**Results:** Phase 1 defines income level as the boundary within which low-income consumers perceived the importance of food product attributes. Satiety value and the affordability of food products override sensory attributes as the main decision choice, as usually applicable to higher income groups. Nutrient content was ranked least important. These findings can probably be allocated to the need of low-income consumers to satisfy priorities for survival (satiety value). Phase 2 reported no distinctive differences in the meaning of terms between groups. However, a difference exists in the depth of meaning. The majority of descriptive elements indicated a link to economic attributes. Strong cross-links between attributes were revealed through the findings. No major differences were found in the understanding of food product attributes between the respondents' groups and with existing literature. Two concept elements, the versatility of product use as linked to taste and the ability of sensory qualities to report quality of maize meal as linked to product safety, were revealed by the current study.

**Key words:** Food product attributes, low-income households, staple food, maize meal, informal settlement, purchase choice

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## **GLOSSARY OF TERMS**

### **Focus group discussion**

A qualitative research method that brings together a small number of people to discuss a topic that is determined by the researcher. The main purpose of focus group discussions is to provide richer detail for exploring viewpoints which allow the researcher to gain better initial understanding of issues (Morgan 1998a:130).

### **Food product attributes**

The intrinsic or extrinsic characteristics that the consumers infer from the product (Van Kleef, Van Trijp & Luning 2005:186). Intrinsic attributes involves the physical composition of the product which cannot be changed without altering the nature of the product itself e.g. taste, texture, etc. Extrinsic attributes are product-related but not part of the physical product itself, for example brand name, price and store (Brunsø, Fjord & Grunert 2002:7; Martínez, Mollà-Bauzá, Gomis & Poveda 2005:316).

### **Informal settlement**

Human settlements, which for a variety of reasons do not meet the requirements for legal recognition, e.g. have been constructed without respecting formal procedures of legal ownership, transfer of ownership, as well as construction and urban planning regulations (Vienna 2004:2).

### **Low-income consumers**

People who live in large township communities who spend their food budget at three places, namely in spaza shops, in large wholesalers located on the periphery of the townships and in supermarkets near the work place (Bear, Bradnum, Tladi & Pedro 2005:9). In this study low-income consumer refers to mainly black people of different ethnic groups who live in urbanised informal settlements.

**Product quality**

Product quality refers to the acceptance of the perceived characteristics of a product by the consumers who are the regular users of the product category or those who comprise the target market (Cardello 1995:164).

**Staple food**

The food that forms the basis of the traditional diet, particularly for poor people, and refers to basics that can be purchased every week (Wikipedia 2008b).

**Spaza shop**

A “spaza” means “hidden” in Zulu. A spaza shop is a small informal convenience store that operates from a residence or in a separate structure in a residential neighbourhood (Bear *et al.* 2005:9).

## LIST OF SYMBOLS

ANHIE	Adam Navigator Health Illustrated Encyclopaedia
BFAP	Bureau for Food and Agricultural Policy
BSE	Bovine Spongiform Encephalopathy
BTech	Baccalaureus Technologiae
e.g.	For example
EUFIC	European Food Information Council
FAO	Food and Agriculture Organisation
FGs	Focus groups
FGDs	Focus group discussions
FPAs	Food product attributes
ID	Identification
JRF	Joseph Rowntree Foundation
kg	Kilogram
MTech	Magister Technologiae
NALEDI	National Labour & Economic Development Institute
NAMC	National Agriculture Marketing Council
NICUS	Nutrition Information Centre University of Stellenbosch
OSAD	Old and Sold Antiques Digest
PhD	Doctor of Philosophy
PPT	Pro-Poor Tourism Pilots in South Africa
R	Rand
SA	South Africa
SSA	Statistics South Africa
SU-LSM	Universal Living Standard Measures
USAID	United States Agency for International Development
US\$	United States Dollar
VUT	Vaal University of Technology
%	Percentage
<	Less than
n=	Population size



≡	Identical to
§	Section sign
*	Asterisk

## SETTING OF THE PROBLEM AND JUSTIFICATION

---

### 1.1 INTRODUCTION

Approximately 790 million people in the developing world and 34 million in developed countries do not have enough food to eat (Food and Agriculture Organisation (FAO) 1999:1; Healey 2006:1) despite the huge improvements that have been made in recent years in the area of food availability. About 28 million people in South Africa (SA), which represents 66 percent of the population, are urbanised. Owing to low availability of permanent housing, the majority of this population is forced by circumstances to live in informal settlements (Oldewage-Theron, Dicks, Napier & Rutengwe 2005b:313). Within this setting, poverty is manifesting in the form of alienation from the community, food insecurity, crowded homes, and usage of unsafe and inefficient forms of energy, lack of jobs that are adequately paid and/or secure, and fragmentation of families (Eighty 20 2006:1).

### 1.2 BACKGROUND TO THE PROBLEM

More than half of South African households earn less than R2 000 (US\$ 198.41) (for the purpose of calculations of SA Rand to US Dollar the exchange rate  $R10.08 \equiv US\$ 1$  was applied in this study) per month (National Agriculture Marketing Council (NAMC) 2007: 6). This indicates that the majority of South African households are low-income consumers (Bureau for Food and Agricultural Policy (BFAP) 2007:47). A situation analysis of an informal settlement in the Vaal Triangle (included in the focus region for this study) indicated that the socio-economic status of the people was poor. Only six percent of the respondents and 20 percent of their spouses were employed, while the majority of the respondents have been without a job for more than three years (59 percent). Over half of the households (58 percent) had an income of less than R1000.00 (US\$ 99.21) per month (Oldewage-Theron, Dicks, Napier & Rutengwe 2005b:318).

Maize meal has been identified as the staple food that is purchased by the majority of low-income consumers in South Africa (Nel & Steyn 2002:136-142; BFAP 2007:48). An increase in food prices, especially for staple foods, impacts on the ability of poor households to afford food and accordingly seriously threaten the food security of such households (NAMC 2007:6).

South Africa is currently facing a crisis of rising food prices and food insecurity. NAMC (2007:36) reported a two-fold increase in the price of maize meal for the period of January to December 2007, which manifested in a price increase of 18 percent (2,5kg packaging size) and 27 percent (12,5kg packaging size). During this period, the average price increase for maize meal was reported as 21 percent. This is devastating for the low-income consumers who spend about 50 percent of their income on food purchasing from which 20 percent is spent on maize meal alone (National Institute for Economic Policy 1995 as quoted by the National Labour & Economic Development Institute (NALEDI) 2002:1).

Although a higher share of the expendable household income is allocated to food purchasing by the low-income consumers, these consumers are no less aware of healthy eating guidelines than other groups (applicable in USA), but are unable to afford to eat healthily. Research has indicated that food is the flexible item in the low-income household budget which is often cut in order to meet other financial demands. As a result, low-income consumers change food buying habits in an attempt to economise, culminating in the consumption of a less healthy diet (Consumers' Association 1997:2).

In order to meet this challenge, low-income consumers purchase more discounted products, favour private-label (generic) low quality products over brand and pursue volume discounts or settle for a less expensive product (Imram 1999:224-230). These purchase decisions are influenced by poor access to and unavailability of larger supermarkets offering wide food product ranges and lower prices, in informal settlements. Another factor that limits access to and use of these outlets is transport

problems, as frequently reported (Consumers' Association 1997:4; Kaufman, MacDonald, Lutz & Smallwood 1997:3; Anderson & Morris 2000:12-15; NALEDI 2002:5).

Small independent shops are the most frequented by low-income consumers in informal settlements. These outlets are more expensive than supermarkets which are located in suburbs (Consumers' Association 1997:4; Kaufman *et al.* 1997:3; Anderson & Morris 2000:12-15). NALEDI (2002:5) reported differentials for basic foods according to locations (Table 1), confirming that consumers pay more for staples in low-income areas than in formal suburbs. Table 1 provides an indication that sifted maize meal, which is a lower grade of maize meal than super maize meal is more expensive in rural areas than in medium towns. In urban areas, the retail prices of bread double when purchases are not made at national supermarkets.

**Table 1 Price differentials for basic foods according to location (NALEDI 2002:6)**

	Product and location	Price per unit weight / retail markup
<b>Maize meal</b>	Sifted 50kg rural	R1.18 –R1.30 / kg
	Sifted 50kg small town	R1.04 –R1.06 / kg
	Sifted 50kg medium town	R1.09 / kg
	Super 50kg medium town	R1.16 / kg
<b>Brown bread</b>	National supermarkets	<13%
	Independent supermarket	20%
	Urban café	20-26%
	Rural café	20-26%
	Urban spaza shop	20-26%

Income directly affects access to availability of a healthy diet and indirectly affects the relationship between food and health. In low-income households food choice reflects a

complex interaction between economic circumstances (poor levels of disposable income), limited access to a wide variety of reasonably priced foods and cultural norms and expectations (Anderson & Morris 2000:12-15).

### **1.3 RATIONALE AND MOTIVATION**

Only limited research has been conducted on the identification and description of food product attributes (FPAs) experienced as most important by low-income consumers in South Africa. Currently there is a dearth of information in this field. A PhD study focusing on the “Development of a food product concept formulation framework for low-income households in urbanised informal settlements in Gauteng South Africa” aims to develop food product formulation guidelines for industry. These guidelines will be applied to direct food product development for improved compatibility with low-income consumer needs and preferences for food product attributes for maize meal to enhance consumer satisfaction. Currently limited information is available to guide food product formulation by industry for low-income households in a consumer acceptable manner.

The contribution of this MTech study to the PhD study was to develop a better understanding of the respective FPAs that guide consumer purchase choice.

Despite the income challenges that the low-income consumers face, recent studies indicated that the market expenditure by low-income households in SA amounts to a surprising R129 billion per year (Prahalad & Hart 2006:1). This may be an indication to the food product industry that there is a wider opportunity in the market that exists for this group. This market needs attention as higher-income segments become more competitive.

### **1.4 OBJECTIVE OF THE STUDY**

The main objective of this study was to identify and describe the food product attributes (FPAs) most important to low-income consumers in urbanised informal settlements within the Johannesburg-Vaal area. The aim was to contribute to an understanding of

the food product attributes guiding purchase choice of low-income consumers of their staple food, maize meal.

In order to achieve the main objective of this study a two phased approach was followed. Phase 1 included an investigative survey to identify food product attributes of importance to low-income consumers during purchasing their staple food mostly consumed, maize meal (sub-objective 1). Phase 2 entailed a description and comparison of the meaning of the respective FPAs to the low-income consumers in the different informal settlements (sub-objective 2 and 3). Phase 2 constitutes the main focus of this MTech study.

The first sub-objective was to identify the food product attributes (concepts) experienced as most important by the predicted category users. This phase of the study was conducted in collaboration with the PhD study and the results are reported as for the referred study.

The second sub-objective was the description of the FPAs reported as most important in Phase 1 and the identification of the descriptive elements for each of these concepts.

The third sub-objective was to validate results by comparing the understanding generated of the various FPAs between the respondent groups and with existing literature.

The sub-objectives will be described in detail in Chapter 3 of this study.

## **1.5 DELIMITATIONS OF THE STUDY**

### **1.5.1 Inclusion criteria**

- Low-income respondents (household income  $\leq$  R1003/month) habitually consuming maize meal as staple food.

- Eatonside, Boipatong and Alexandra informal settlements and Tsutsumani formal settlement.
- Only the food product attributes identified as important during Phase 1 (reported in collaboration with the PhD study) were addressed in Phase 2 of this study.
- Subjective quality: the quality perceived by the consumer.

### **1.5.2 Exclusion criteria**

- Other informal settlements in South Africa.
- Household members not responsible for household food purchasing.
- Other staple foods available to the low-income consumers.
- Objective quality: the physical characteristics built into the product which is dealt with by food engineers and food technologists.

## **1.6 JUSTIFICATION OF THE STUDY**

The sharp depreciation of the Rand against major currencies directly and indirectly increased the cost of food bought by South Africans. The majority of households in South Africa experience a shortage of money to purchase food, therefore hunger is likely to increase (Nutrition Information Centre University of Stellenbosch (NICUS) 2006:1). Low-income consumers spend approximately R129 billion per year on food expenditure (Pralahad & Hart 2006:1). A higher share of the expendable household income is allocated to food purchasing (Consumers' Association 1997:2), mainly on a staple food, maize meal (Nel & Steyn 2002:136-142; BFAP 2007:48). Despite this higher share of household income on food purchasing, a gap in knowledge is experienced on food product attributes that are most important to low-income consumers in South Africa. Parameters applied for food product development for low-income consumers are not clearly defined. Therefore, the food industry can ensure that the interests of both the consumers and food producers are safeguarded by evaluating and providing the appropriate type of maize meal product that will meet the needs of the low-income consumers.



Current literature on food product attributes guiding purchase choice of low-income consumers for their staple food is limited and does not give a precise and uniform picture as for higher income groups. The current state of knowledge clearly warrants further investigation, and it was against this background that the present study was undertaken.

## **1.7 LAYOUT OF THE DISSERTATION**

Following the setting of the problem and justification Chapter, Chapter 2 covers the profile of South African consumers with attention to low-income consumers, the importance of staple food in low-income households, product quality and consumer perceptions and as well as food product attributes of importance to this study. The application of questionnaire and focus group discussions in this study is covered in chapter 3. In Chapter 4 the results and discussions of the identified and described food product attributes (FPAs) most important to the low-income consumers is presented. The study ends with conclusions and recommendations discussed in Chapter 5.



## 2.1 INTRODUCTION

The main purpose of this study was to identify and describe the food product attributes (FPAs) perceived as most important by low-income consumers in urbanised informal settlements within the Johannesburg-Vaal region. The aim was to contribute to an understanding of the food product attributes guiding purchase choice of low-income consumers for their staple food, maize meal.

In this chapter the profile of South African consumers is discussed with attention to low-income consumers, the importance of staple food in low-income households, product quality and consumer perceptions thereof, as well as food product attributes of importance to this study. The literature overview provides the context for this study.

## 2.2 PROFILE OF SOUTH AFRICAN CONSUMERS

South Africa is a diverse nation with a wide variety of wealth groups and cultural denominations spread over urban and rural areas. A marketing segmentation tool, the Universal Living Standard Measures (SU-LSM), based on the socio-economic status of groups of individuals was developed by the South African Advertising Foundation. This tool divides South African consumers into 10 categories. Consumers of least status represent the categories SU-LSM 1 to 3 (marginal consumers) and those of the higher status, SU-LSM 4 to 10 (modern consumers). Modern consumers incorporate the emerging (SU-LSM 4 to 6) and established consumer (SU-LSM 7 to 10) categories (ACNielsen 2005; BFAP 2007:47). The majority of South African consumers (59 percent) being marginalised, fall within the SU-LSM 1 to 3 categories (BFAP 2007:47). For the purpose of this study, focus will be positioned on marginalised (low-income) consumers as the target population of this study.

## 2.3 LOW-INCOME CONSUMERS

In South Africa, low-income consumers refer mainly to black and coloured people who live in large township communities (Bear *et al.* 2005:9). Rose and Charlton (2001:384) state that a household is defined as experiencing food poverty when the amount of money spent on food is inadequate to purchase a basic, nutritionally adequate diet. The low-income households spend only R200.00 to R300.00 (US\$19.84 - US\$29.76) per month on food. This means only R8.00 (US\$0.79) is available per household per day to purchase food (Kruger, Schönfeldt & Owen 2008:10). The food budget of low-income consumers is spent at three places, namely in spaza shops close by, in large wholesalers located on the periphery of the townships and in supermarkets near the work place (Bear *et al.* 2005:9).

Within this section an overview is presented regarding the purchasing and consumption of food by low-income consumers, as well as the influence of household members on food choice.

### 2.3.1 Food purchasing by low-income consumers

Consumer food choice is influenced by product price, product quality and income levels (Codron, Grunert, Giraud-Heraud, Soler & Regmi 2005:33). Low-income consumers spend a considerable amount of time when shopping owing to constantly comparing the prices of foods between various shops in order to maximise savings and obtaining value for money. In low-income households there are four factors that determine food choice when making food choices during purchasing, namely cost, taste, acceptability and health (Dobson, Beardsworth, Keil & Walker 1994:12). Low-income consumers must consider these factors within the context of quantity, price, quality versus nutritional differences. This often involves making tradeoffs between taste, preference and quality factors in order to meet the food budget (Leibtag & Kaufman 2003:1).

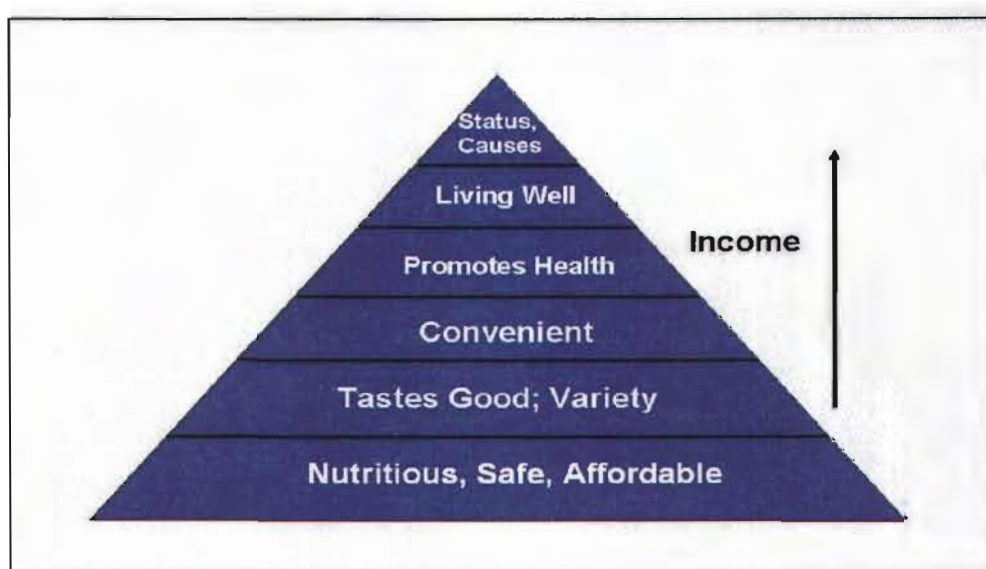
In a low-income household set-up, food shopping is managed as a survival strategy. All money is spent on survival (Ballantine, Rousseau & Venter 2008:3). The shops that are

usually frequented by low-income consumers are mainly smaller independent stores within a walking distance from the household. Only what is needed is bought from these shops since only limited ranges of foods to choose from are available in these shops (Dobson *et al.* 1994:12; Kaufman & Lutz 1997:9; ACNielsen 2005:1).

Low-income consumers could typically take advantage of multiple special offers. However, bulk purchasing at discount stores is limited (Hersey, Anliker, Miller, Mullis, Daugherty, Das, Bray, Dennee, Sigman-Grant & Thomas 2001:16; Ballantine *et al.* 2008:3). Public transport to the nearest town or city where discount stores are located is costly and usually includes an additional charge for luggage (Consumers' Association 1997:2; Ballantine *et al.* 2008:3). This means that low-income consumers who often do not possess transport to drive to discount stores, are further forced to spend on public transport to obtain low-priced foods. Transport cost has a negative impact on economising the food budget.

A limited budget has a negative impact on food choices for household preferences. It offers no margin for error or waste (Joseph Rowntree Foundation (JRF) 1994:1). These households cope with shopping on a limited budget by buying the same types of food or not buying expensive food. Another way to cope involves not taking the risk of buying nutritious foods which the household members might not eat when alternatives might not be available. This will lead to a need to buy acceptable foods, therefore doubling the cost of food (JRF 1994:4). The Consumer's Association (1997:11) states that the cost of food took precedence over issues of taste, cultural acceptability and healthy eating for many consumers on a low-income budget. According to the Consumer's Association (1997:2) and the Joseph Rowntree Foundation (1994:2) food is the flexible item in the low-income household budget which may be cut back in order to support the shortfall in other household expenditures. When money is limited, households shop daily, mainly buying only what would be eaten that day (Dobson *et al.* 1994:13). The decisions made are constrained by the money available.

Maslow's hierarchy of needs, which includes five levels of human needs (physiological, safety, love/belonging, esteem and self-actualization) as a model of human motivation, has been applied by Jean Kinsey to develop the consumer food preferences model (Figure 1). This Figure presents a consumer choice process beginning with the basic needs such as the safe and affordable categories at the bottom of the triangle and culminating in purchasing foods for status (top of the triangle). The concept of the model is that basic needs must be met before the individual moves on to the next level (Painter 2007:14).



**Figure 1 Hierarchy of consumers' food preferences (Kinsey as quoted by Painter 2007:15)**

Painter (2007:14) is of the view that as income rises, consumer demand for various food attributes grows. This includes demand for more luxuries such as convenience and health-promoting food, then high quality foods in the living well category towards the top of the pyramid (Figure 1). However, if we consider the literature so far studied, affordability overrides nutritious foods, for low-income consumers during food choice. It implies that at the first level of the consumers' food preferences, there is also a hierarchy. However results of this study will provide high level of clarity in this regard.

Von Alvensleben (1997:209) states that with lower consumer income, the relative influence of prices and income on food demand are increased while the influence of preference is decreased (see Table 2).

**Table 2      Change of demand-determining factors in economics with rising consumer income (Von Alvensleben 1997:209)**

Demand-determining factor	Relative influence on the food demand	
	Low income	High income
Income	Strong	Small
Prices/price relations	Strong	Small
Consumer preferences (motives, attitudes)	Small	Strong
Population	Same influence	Same influence

### **2.3.2 Food consumption by low-income consumers**

Food consumption choice begins at an early age (Lin & Guthrie 2007:1). In low-income households cheap meals are eaten on a regular basis. The same foods are prepared in order to ensure that everything is eaten (Dobson *et al.* 1994:17; Guthrie *et al.* 2005:38). Tasting a new food is regarded as a treat in low-income households owing to the fact that this is something that could not usually be afforded (Dobson *et al.* 1994:19).

Low-income consumers employ food coping strategies such as changing their diets. This involves switching food consumption from preferred foods to cheaper, less-preferred substitutes. Low-income households can attempt to increase food supplies using short-term strategies that are not sustainable over a long period. For example borrowing or purchasing on credit. More extreme examples are begging, consuming wild foods and immature crops or even seed stocks, reducing of portion size, feeding



working members at the expenses of nonworking members and skipping of meals (Maxwell, Watkins, Wheeler & Collins 2003:5; Kruger *et al.* 2008:11).

Most low-income households eat together in the evenings. This eating plan is applied to avoid extra costs of cooking another meal or keeping the food warm which will cost more money (Dobson *et al.* 1994:18). According to Ballantine *et al.* (2008:5) low-income consumers sometimes eat small amounts as food is not available in adequate quantities to meet needs. In such circumstances, households can try to reduce the number of people that have to be fed by sending some of the household members elsewhere (Maxwell *et al.* 2003:5; Kruger *et al.* 2008:11). Oldewage-Theron, Dicks & Napier (2006:802) and Kruger *et al.* (2008:10) have shown that low-income consumers fail to have adequate diets owing to eating foods that are less preferred, limiting portion sizes through skipping of meals or by not eating the whole day.

Many sacrifices have to be made by members of the low-income households in order to manage the food budget. This sometimes resulted in women going without food (JRF 1994:3). Men and children in low-income household are said to receive larger portions of food than the women. Sometimes mothers or adults would eat less so that children would have food to eat (Kruger *et al.* 2008:11).

### **2.3.3 Influence of household members on food purchase choice**

Factors which influence food purchases in low-income households include family size, presence or absence of a male partner and availability of additional income (Dobson *et al.* 1994:31). Household composition influences food product purchase. The amount of foods purchased varies according to household composition, with larger households purchasing more. When household size increases, the variety of food purchases begins to decline (Guthrie, Lin, Reed & Stewart 2005:38). Possible explanation for this may be that in large households income constraints are more pronounced. Also less risk to purchase a product that will not be accepted by all.

Usually, one person is responsible for the shopping in a low-income household. This eliminates the tendency to spend more on food and to argue on what to buy (Dobson *et al.* 1994:13). Women give priority to the food preferences of other members of the household, especially children and/or partners by allowing them to take turns in decisions on food choice (Dobson *et al.* 1994:19).

## **2.4 IMPORTANCE OF STAPLE FOOD IN LOW-INCOME HOUSEHOLDS**

ACNielsen (2005:1-3) states that as household income decreases, staple food comprises a relatively bigger portion of the food basket, with less allowance for other categories. In low-income households the greatest portion of the income is spent on staple starch (Oldewage-Theron *et al.* 2005:23; Amuli 2006:107; Oldewage-Theron *et al.* 2006:798; BFAP 2007:48; Duvenage & Schönfeldt 2007:689; Kruger *et al.* 2008:10). According to Wikipedia (2008b) a staple food is the food that forms the basis of the traditional diet, particularly for poor people, and refers to basics that can be purchased every week (Dobson *et al.* 1994:14). Staple foods vary, but are typically inexpensive starchy foods of vegetable origin that are high in food energy (kilojoules) and carbohydrates. Staple foods can be served as part of everyday meals. Most staple foods are derived from cereals such as maize, wheat, barley, rye or rice and starchy roots such as potatoes and cassava. Other staple foods include pulses and bananas (Wikipedia 2008b).

Maize meal has been identified by various researchers as the staple food that is purchased by the majority of low-income consumers in South Africa (Oldewage-Theron *et al.* 2005:23; Amuli 2006:107; Oldewage-Theron *et al.* 2006:798; BFAP 2007:48; Duvenage & Schönfeldt 2007:3; Kruger *et al.* 2008:10). A food consumption study undertaken amongst different population groups (1983-2002) indicated maize meal (78 percent of group: 848g/person/day) as the most often consumed cereal grain and legume staple food by all households in SA (Nel & Steyn 2002:136-142). For the purpose of this study, maize meal will be regarded as the food product that low-income

consumers refer to when identifying and describing the important FPAs when purchasing.

## **2.5 FOOD PRODUCT QUALITY AND CONSUMER PERCEPTION**

### **2.5.1 Food product quality**

Cardello (1995:164) indicates that product quality reflects the acceptance of the perceived characteristics of a product by the consumers who are the regular users of the product category or those who comprise the target market. According to Brunsø *et al.* (2002:6) there are four types of food quality namely:

- Product-oriented quality: all the aspects of the physical product that together give a precise description of the specific food product.
- Process-oriented quality: the manner in which the food product has been produced, e.g. without pesticides or being produced by organic production.
- Quality control: a product has to meet certain standards in order to be approved for a specific quality class.
- User-oriented quality: subjective quality perception from a user point of view.

The above types of qualities can be classified into two categories, namely objective and subjective (Altmann 1997:287; Brunsø *et al.* 2002:7; Grunert 2007:181). The first three types constitute objective quality, referring to the physical characteristics built into the product which are dealt with by food engineers and food technologists. The user-oriented quality constitutes subjective quality, indicating the quality perceived by the consumer. Brunsø *et al.* (2002:6) states that user-oriented quality can also be influenced by factors that are not characteristics of the product itself, such as purchasing situations, type of retail outlets, price, brand, etc. The four types of quality are interrelated (Brunso *et al.* 2002:7; Grunert 2007:181), but the last is of importance to this study.



Altmann (1997:286) states that quality summarises product characteristics such as the nature of the product, the packaging, the labeling and branding as well as the warranties and legal protection.

For the purpose of this study, only subjective quality perception was included in order to enhance understanding of what the target consumers perceive as food product quality.

### **2.5.2 Consumer perception of food quality**

The economic theory on product quality makes use of search, experience and credence characteristics as important elements in understanding subjective quality perception (Brunsø *et al.* 2002:7).

Search characteristics, such as the colour of meat, can be ascertained before purchase. Experience characteristics e.g. taste can only be established after buying and tasting the product (Brunsø *et al.* 2002:7). In order for consumers to make a food product quality choice, the consumer has to develop expectations about the quality of that particular product by having experienced the quality. The experienced quality can be determined only after consumption of the food product. The relationship between the quality expected and quality experienced is believed to determine product satisfaction and the probability of the consumer repurchasing the product (Brunsø, Bredahl, Grunert & Scholderer 2005:86-87). This perception is supported by Codron *et al.* (2005:33).

With credence characteristics, it involves the quality that cannot be inferred before the purchase and sometimes not even after the purchase of the product. An example of credence characteristics can refer to whether a food product has been produced according to organic principles. These characteristics may not be visible and cannot be validated by the consumer (Brunsø *et al.* 2002:7).

Modern consumers consider quality of food products as four groups of product attributes namely: taste and appearance (sensory), health, convenience and process

attributes (Brunsø *et al.* 2002:6; Grunert 2003:2; Codron *et al.* 2005:32; Grunert 2007:183).

The link between subjective quality perception and quality attributes is explained in order to provide an understanding of consumers' perception of food product quality.

- Sensory attributes refer to the hedonic characteristics of food such as texture, flavour, aroma and with taste being the dominant aspect (Brunsø *et al.* 2002:12; Grunert 2003:2). This sensory attribute represents an experienced characteristic of a food product since taste can usually be established after consumption (Brunsø *et al.* 2002:12).
- Health attributes have become very important food product attributes to many consumers. It is indicated that sensory and health attributes considerations in purchase choice carry an equal weight (Brunsø *et al.* 2002:12; Grunert 2003:2; Codron *et al.* 2005:33). Health attributes relate to qualities of a product that are invisible to the consumers. Consumers do not expect the consumption of a particular product on a particular occasion to have a direct health implication that can be experienced (Grunert 2003:2). Health-related qualities are credence characteristics (Brunsø *et al.* 2002:12).
- Consumers are concerned with the way food products are produced and the production process has become a quality attribute. This quality attribute takes, for example, organic production and animal welfare into consideration. This quality attribute also represents credence characteristics, since the consumers must rely on guarantees about production-oriented quality from various sources such as food labels (Brunsø *et al.* 2002:12).
- Convenience is indicated as another factor of increasing importance to consumers. Convenience means the saving of time, physical or mental energy at one stage of the overall meal preparation and consumption process. This includes planning and

shopping, storage and preparation of the product, consumption and the cleaning up and disposal of leftovers (Brunsø *et al.* 2002:12).

Previous research did not indicate how low-income consumers categorise food product quality.

For the purpose of this study a theoretical overview of the FPAs important to consumers will be presented, following a similar format (modern consumers). Perception trends of global consumers as well as modern and marginalised (low-income) South African consumers are presented.

## **2.6 FOOD PRODUCT ATTRIBUTES IMPORTANT TO CONSUMERS**

Food product attributes refer to the intrinsic or extrinsic characteristics that the consumer infers from the product (Van Kleef *et al.* 2005:186). Intrinsic attributes involve the physical composition of the product which cannot be changed without altering the nature of the product itself e.g. taste, texture, etc. Extrinsic attributes are product-related but not part of the physical product itself, for example brand name, price and store (Brunsø, Fjord & Grunert 2002:7; Martínez, Mollà-Bauzá, Gomis & Poveda 2005:316). Consumers refer to both intrinsic and extrinsic attributes during food purchasing choices.

### **2.6.1 Global trends**

According to BFAP (2007:50-51) six food product attributes have been identified as important to consumers globally namely:

- **Convenience:** Consumers are challenged with insufficient time in their daily schedule. This is due to the fact that women are entering the workforce. Convenience attributes that consumers look for include ready-to-eat meals, speed shopping and increased shopping frequency.

- Health: Consumers are more aware of health issues. More focus is placed on improving vitality through healthy eating and dieting. A health pattern that consumers adapt to is for example, reduced salt intake.
- Simplicity: Consumers are moving away from complex to simpler, natural, authentic food offerings. This involves buying locally produced foods and moving back to whole and unprocessed food.
- Attractive food: More consumers seek improved and diverse sensory experiences, including more pleasure, intensity and sensation in terms of taste, shapes, presentation, aroma and colour of the food. These lead consumers to enjoy consumption of food away from home.
- Consumers are concerned about sustainability of the community and the environment. Therefore, organic food, free-range food and origin-labeled food are growing.
- Value-for-money: Consumers are still seeking value-for-money through private supermarket labels, despite diverse and complex food requirements.

### **2.6.2 South Africa trends**

The food purchasing and consumption behaviour trends of middle- and high-income (modern) consumers in South Africa reflect increasingly complex food requirements, representing global food consumption trends. The application of global consumers trends within the South African context as reported by BFAP (2007:52-54), are presented.

- Convenience: South African consumers are increasingly challenged with longer working hours, women entering the workforce and time spent commuting to work locations. South African consumers associate convenience with portable food products, ready-to-eat and other time-saving food products.

- Health: Improved health through healthy eating and dieting is increasing amongst South African consumers. This trend includes consumption of lots of fruits, vegetables and salads and an increase in consumption of mineral water and yoghurt.
- Attractive food: South African consumers are increasingly focusing on the attractiveness of food and diverse sensory experiences. This leads to the need of food variety in terms of flavours, shape and the presentation of food based on aroma and colour.
- Value-for-money: South Africa is a country characterised by a more diverse food choice. Value for money and affordability remain more important to South African consumers. An important factor for South African consumers when selecting a retail outlet is to obtain value for money.
- Ethical/environmental eating: this is still a niche trend in SA. A growing interest is developing amongst wealthy consumers for free-range foods which are now available in the SA food market. Shepherd, Magnusson and Sjöden (2005:352) indicated that consumers who find it more important to support local business and buy locally produced foods, are more likely to purchase organic products than consumers who did not consider local production necessary.
- Simplicity: this is also a niche trend in SA including a growing interest amongst wealthy consumers. These consumers have shown a need for modern and comfortable stores.

The food product attributes that are important to low-income consumers (SU-LSM 1-3) in South Africa are linked to economics, with affordability being of the most importance. Other attributes include convenience and value for money (BFAP 2007:52-53).

In this study, the FPAs that are important to low-income consumers during the purchasing of their staple food, maize meal, were identified in a baseline study conducted in an urbanised informal settlement. The identified FPAs included satiety value, affordability, packaging size, value for money, taste, acceptability, appearance/colour, product quality, convenience/ease of preparation, nutrient content, texture, product safety/shelf life, Brand loyalty/satisfaction and household influences in sequence of importance as stated by the baseline study (Duvenage 2009). In the following section, a discussion of these FPAs is presented.

## **2.7 FOOD PRODUCT ATTRIBUTES**

The understanding of concepts, theories and terminologies of food product development is a problem. It is aggravated by confusion amongst scientists regarding the meaning of terminology (Cardello 2005:203-204). This further complicates the understanding of the food product attributes guiding purchase choice for a specific consumer group. Descriptive terminology for FPAs cannot be compared with industry terms alone but it should be interpreted within the context of consumer understanding to be of any value.

Attributes describing food quality are popularly associated with four categories for the modern consumers, namely sensory attributes, health attributes, process attributes and convenience attributes (Codron *et al.* 2005:32). For the purpose of this study the food product attributes identified as important for low-income consumers (Duvenage 2009) will be accordingly categorised and described. The use of this categorisation will assist in identifying whether attributes describing the food quality for modern consumers apply for low-income consumers.

### **2.7.1 Sensory attributes**

Sensory attributes refer to the hedonic characteristics of food, with taste being the dominant aspect (Furst, Connors, Sobal & Falk 1996:257; Brunsø *et al.* 2002:12; Grunert 2003:2; Codron *et al.* 2005:33). Meilgaard, Civille and Carr (1999:7) state that



consumers tend to perceive the sensory attributes of food items in the order of appearance, aroma, consistency of texture and flavour.

#### **2.7.1.1 Appearance**

Appearance refers to the visual properties of a product. Appearance encompasses several basic attributes such as size, shape (visual structure), colour, visual texture, gloss, transparency, cloudiness and perceived flavour (Lawless & Heymann 1998:796; Imram 1999:227).

Consumers are indicated as having a strong preference for products with an appealing appearance. In a food choice situation, appearance attracts consumer's attention and is used by consumers as a screening mechanism. Products with the greatest visual appeal are chosen first before closer examination and purchase (Imram 1999:227).

Imram (1999:226) states that human perception of quality is dependent on visual image. This is due to the fact that the first encounter with food products is often visual and will affect subsequent willingness to accept a product. Generally, colour and appearance can have a halo effect which modifies subsequent flavour perception and food acceptance but the situation for low-income households is not known.

#### **2.7.1.2 Texture**

Texture in food varies widely. Texture refers to characteristics of a product perceived by the visual or tactile senses. These include geometric quality, surface attributes and perceived changes under deformation forces (Lawless & Heymann 1998:808).

According to Tuorila (2007:35) properties that are related to visually perceived texture include smooth, lumpy, rough, flaky, crystalline and viscose. Food texture is also related to auditory perceptions in the context of food. The sounds during eating of food vary and are typical of some textures. Auditory perception will be the primary source of information of this type of texture (Tuorila 2007:41).

Memory plays an important role in the formation of food expectations (Harker 2001:2; Mojet & Köster 2005:251). Most people seem to have a clear idea on the expected texture of a product. The expectations are based on previous encounters with the same or similar foods (Mojet & Köster 2005:251). Aspects of food texture are remembered extremely well, and any departure from what the consumer expects is noted immediately (Mojet & Köster 2005:264). This change is regarded as a defect in quality.

Food texture is traditionally considered less important than flavour. This is because texture and flavour are perceived in an integrative manner. Texture is noticed when flavour is mild or when texture does not correspond to expectations (Tuorila 2007: 35).

#### **2.7.1.3 Taste**

Taste has been widely identified as the most important determinant of food choice (Bogue, Delahunty, Henry & Murray 1999:313). Taste is the sum of all sensory stimulation that is produced by the ingestion of food. This includes not only taste, but also the smell, appearance and texture of food. These sensory aspects are thought to influence, in particular, spontaneous food choice (European Food Information Council (EUFIC) 2005:1). Generally people of all ethnicities have similar taste sensitivities, and choice and preference for food is influenced by existing diet and familiarity with various types of food (Harker 2001:4).

From an early age, taste and familiarity influence behaviour towards foods. A liking for sweetness and a dislike for bitterness are considered innate human traits, present from birth. Taste preference and food aversions develop through experiences and are influenced by attitudes, beliefs and expectations (EUFIC 2005:1). Researchers describe taste as an experienced quality that can be evaluated only after product purchase. Consumers therefore use a host of market signals like brand, price and quality labels in trying to predict taste experience (Brunsø *et al.* 2005:86-87). Harker (2001:2) also indicates that memory plays a part in judgment of taste quality.



For low-income consumers taste is regarded as important during purchasing and consumption. The low-income consumers see no point in buying food not liked by the household members, who would insist on something else to eat, which would incur extra cost. The limited resources also do not allow preparation of separate meals to suit the taste of individual household members. Therefore, the person responsible for purchasing considers or caters for individual likes and dislikes as far as possible. Taste is also important in relation to snacks in low-income households. Children and partners usually express their views more clearly when it comes to snacks than with other food items purchased for the household (Dobson *et al.* 1994:3).

## **2.7.2 Health attributes**

Health attributes relate to qualities of a product that are invisible to the consumers. Consumers do not expect the consumption of a particular product on a particular occasion to have a health implication that can be experienced (Grunert 2003:2).

### **2.7.2.1 Nutrient content of food**

Food cost is one of the barriers to the adoption of healthier diets, especially by low-income households (Drewnowski & Darmon 2005:900). The available money for purchasing food is limited thereby restricting the demand to satisfy the nutritional needs (Von Alvensleben 1997:213). According to Oldewage-Theron *et al.* (2006:798) and Sosa and Hough (2006:591), the main source of nutrition for low-income households is carbohydrate rich foods. This is mainly obtained from maize meal and brown bread which is consumed on a regular basis (Department of Health (DoH) 2005:253).

Research has indicated that low-income consumers are aware of what constitutes a healthy meal (Consumers' Association 1997:2). However, low-income consumers experience financial pressure which forces the purchasing of enough staple food to prevent hunger and there is a lack of high-quality protein and a variety of vegetables and fruits to provide good nutrients (Kruger *et al.* 2008:4). Constraints on food selection may also lead to the purchasing of nutritionally less desirable foods in situations where

better products are sold at higher prices (Kirkpatrick & Tarasuk 2003:594). This situation leads to the selection of energy-dense diets high in refined grains which are less costly and an effective way to save money (Drewnowski & Darmon 2005:900).

Fresh fruits and vegetables which are regarded as healthy are not only expensive for low-income consumers but are also likely to be unavailable in low-income communities (Ellaway & Macintyre 2000:54; Drewnowski & Darmon 2005:900). As a solution to these challenges, low-income consumers adopt a very monotonous diet to keep them satiated. This diet may nevertheless not be adequate to meet basic nutritional needs since the diet may compose of only carbohydrate (Rose & Charlton 2001: 387; Ballantine *et al.* 2008:5).

#### **2.7.2.2 Product safety**

Food safety is increasingly becoming a major concern for consumers worldwide. This is caused by consumers' experiences or awareness of risks (e.g. allergies due to genetic modification) associated with consumption of some food products. This is reported to have effects on the reduction of consumer confidence in the healthiness of food products (Yeung & Morris 2001:170). Dobson *et al.* (1994:32) indicated that low-income consumers are concerned about food scares such as Bovine Spongiform Encephalopathy (BSE), also known as mad cow disease (applicable in USA). This resulted after having seen television programmes about BSE and low-income consumers even stopped buying red meat.

Yeung and Morris (2001:179) stated that if a food product is reported to be contaminated, consumers have a tendency to avoid all food products that in their views are potentially contaminated. This indicates that consumers become subjective about product safety and this has a negative impact on the purchase chances of the food product. On the other hand consumers may be willing to consider a trade-off risk against a discounted price. Consumers are said to develop/adapt strategies when purchasing if a risk is perceived in a particular food product. According to Yeung and Morris (200:179) these strategies are:

- Stopping from purchasing the specific product on a temporary or permanent basis, e.g. where meat is indicated as the risk product, a consumer may adopt a vegetarian diet to avoid meat.
- Shift from one brand to another, or to the same type of product (e.g. poultry to fish).
- Continue to purchase and absorb the unresolved risk. The consumer may feel there is no other food product more important than the food product to which the risk is associated.
- Reduce the consumption of the risk-associated product and thereby reduce the exposure to the perceived risk.

Dobson *et al.* (1994:13) states that low-income consumers prefer buying food at supermarkets (applicable in USA). Although purchasing in the market is cheaper, in supermarkets food is less likely to deteriorate quickly and this gives better value for their money. It is of interest to note that low-income consumers and other groups of consumers have the same view when it comes to food product safety in shops. Low-income consumers view the food in shops to be of an acceptable standard, reasoning that if not, the shops would have not been able to sell them or the government would have not allowed the food to be sold (Dobson *et al.* 1994:32). Other consumers assume that food products reach the shops shelves via processing systems that are hygienic and ensure product safety. Food safety may therefore not have a major bearing on consumers' daily food purchases (Codron *et al.* 2005:34).

### **2.7.3 Process attributes**

Process attributes relate to consumers' interest in the way a food product has been produced rather than qualities inherent in the final product. These process attributes are important to the consumer even when the way a product has been produced has no analysable impact on the final food product. Process attributes cover aspects such as organic production, ecofriendly production, fair trade, worker protection, authenticity of methods of product and support of artisan or local production systems (Grunert 2003:3).

There is a demand for process attribute quality owing to food safety concerns. Food safety is directly linked to food production, processing (packaging) and handling. Some consumers pay premiums for organic products; for products produced with due concern for equitable income distribution, animal welfare and biotech-free products even when these products look and taste as products produced without these attributes (Codron *et al.* 2005:34).

### **2.7.3.1 Packaging size**

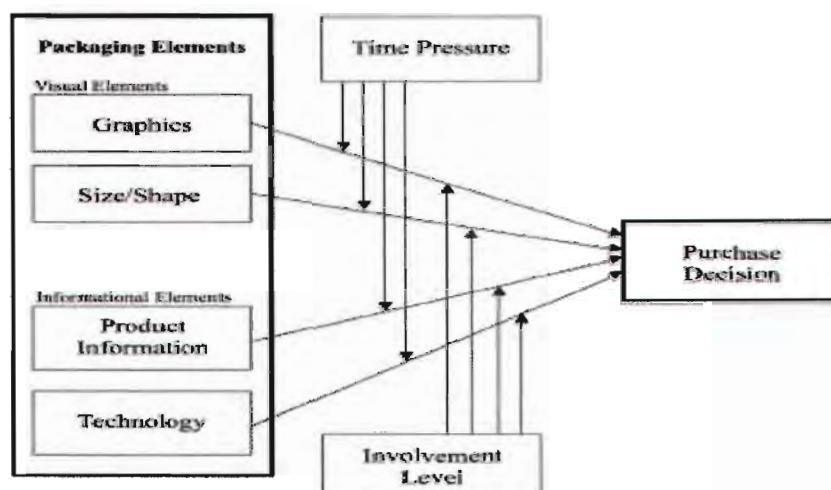
#### **2.7.3.1.1 Packaging and purchase decisions**

Packaging refers to activities in the production process which pertain to the design, manufacturing and filling of a 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, Jooste & Cant 2000:456).

The food industry is offering consumers a vast choice of packaged food products and these lead to complex conflicting trends in consumer decision-making. Nowadays consumers give more attention to the information on the package than to the graphics on the packaging. This is due to consumer concerns about health. On the other hand, due to time constraints modern consumers are said to use visual package elements like graphics and size/shape when making food choice (Silayoi & Speece 2004:607).

Silayoi and Speece (2004:607) state that the package is a very important tool for the consumers; it should communicate the benefits of the product to the consumer. The purchase will then depend on the degree to which the consumers expect the product to satisfy their needs when consuming the product. Other factors that influence purchase choice of packaged food products can be the consumer involvement level and time pressure when purchasing a product. A consumer under time pressure makes a purchase decision based on the distinctive appearance of a product. The size of the packaging is also indirectly related to time pressure. Consumers with a low involvement level use visual elements such as packaging graphics and colour to make a purchase

decision as indicated by Figure 2 (Silayoi & Speece 2004:623). In general, visual elements like graphics (colour) constitute major influences on choice when purchasing packaged food products.



**Figure 2 Conceptual model of packaging elements and product choice (Silayoi & Speece 2004:621)**

#### 2.7.3.1.2 Packaging size and shape

Consumers use package size, shape and elongation to judge the quantity of the product. Consumers are in search of a good deal, like the purchasing of generics which are usually packaged in larger sizes (Silayoi & Speece 2004:621). Low-income consumers pursue volume discounts and may take advantage of these volume discounts by purchasing larger sizes which often have lower per-unit prices than smaller packages (Leibtag & Kaufman 2003:2). However, Kunreuther (1973:377) has shown that low-income consumers buy smaller sizes on a more frequent basis. This is due to the fact that low-income consumers purchase in shops located in their neighbourhoods which stock up fewer large sizes than chain stores. This is caused by space constraints, inventory costs owing to slow turnover and their clientele's (low-income consumers) preference for smaller packaging sizes (Kunreuther 1973:371). Also large discounts on food product in towns cost travel expenses as discussed earlier.



#### 2.7.4 Convenience attributes

Convenience attributes refers to aspects of a food product that save time or energy that household members spend on shopping, food storage, food preparation, eating and disposal (Furst *et al.* 1996:258; Grunert 2003:3; Codron *et al.* 2005:33-34). Convenience can also refer to a number of factors namely the availability of a product when the product is out of season, extended shelf life, the ability of a product to be consumed without the use of utensils (Jaeger 2006:133).

Candel (2001:17) state that convenience can be divided into two categories namely basic and complex convenience. Basic convenience is considered to include time and energy required to prepare the meal while complex convenience includes also the skills invested to produce that food. There is a high demand for convenience and it has become the key to innovation driving forces in the food industry. This demand is associated with modern consumers who consider convenience as "ease of preparation" because of the time constraints of the work environment and more women entering the work force (Jaeger 2006:133, BFAP 2007:52).

In South Africa, consumers have shown the same need for convenient food purchasing and consumption as did global consumers. The convenience aspects that are of importance include portable food products, convenient location for purchasing and a wide range of products, ready to eat products, other time-saving products and increased food-away-from-home consumption. Even for the low-income consumers in SA, convenience is seen in terms of affordable aspects (BFAP 2007:52).

Silayoi and Speece (2004:605) and Jaeger (2006:133) are of the view that lay people understand convenience as being quick and easy or ready to eat. This understanding may be influenced by the lack of knowledge and cooking skills which can also prevent buying and preparing meals from basic ingredients (EUFIC 2005:4). This is supported by research conducted by Dobson *et al.* (1994:14) indicating that low-income consumers found it more economical to buy prepared foods rather than preparing from

basic ingredients which could not be afforded. Low-income consumers also viewed buying prepared foods as representative of good value for money.

For a convenience food product to be considered important by the consumer it depends on the interest of the consumer towards the product. This can lead to an increase in preference for the product and vice versa. Consumers may attach importance to the ease of preparation and thus infer quality to be a measure of the extent to which the convenience of the product satisfies this requirement (Young 1999:3).

The following factors (FPAs) as reported in the baseline study (Duvenage 2009) are not classified as food product attributes, but have been identified as important to low-income consumers during the purchasing of their staple food, maize meal.

## **2.8 ECONOMIC-LINKED ATTRIBUTES**

### **2.8.1 Satiety value**

The key driver for eating is hunger but what the consumer chooses to eat is influenced by the interaction of many factors which vary according to the life stage of an individual. Each individual consumer needs energy and nutrients in order to survive and will respond to the feeling of hunger and satiety value (EUFIC 2005:1).

Satiety value refer to the degree to which foods gives a sense of well-being or satisfaction of appetite and the state of no hunger between two eating occasions (Old and Sold Antiques Digest (OSAD) 1929:1; EUFIC 2005:1). An important satiety signal may be the volume of food or portion size consumed. Many people are unaware of what constitutes appropriate portion sizes and thus inadvertently consume excess energy (EUFIC 2005:1). Lack of food produces a rhythmic contraction of the stomach which gives rise to the sensation called hunger. A full stomach gives a feeling to the contrary, a sense of food gratification (OSAD 1929:1). According to Dobson *et al.* (1994:31) low-income consumers consider foods which are filling over foods which are liked and affordable during food choice. A possible explanation for this may be that in low-income

households the main objective of food choice is to achieve satiety rather than pleasing household members with foods that are liked.

The energy density of diets has been shown to exert a potent effect on satiety: diets of lower energy density generate greater satiety than diets of high energy density. The high energy density of high-fat and/or high-sugar foods can also lead to passive over-consumption, as excess energy is ingested unintentionally and without the consumption of additional bulk (EUFIC 2005:1). Maize meal, which is the most purchased food product by the low-income consumers, is an energy-dense food item high in refined grains (Drewnowski & Darmon 2005:900; Oldewage-Theron *et al.* 2006:798).

### **2.8.2 Value for money**

On average there is more demand by consumers for value-added food products instead of greater quantities of food (Imram 1999:224). Hughes (2002:5) states that consumers purchase food products with a mix of quality attributes that match their budget and non-monetary preferences. Low-income consumers do not want price benefits built in food products that they purchase (Hughes 2002:11).

Consumers obtain value in one of the following four ways (Cant, Brink & Brijball 2002:28):

- By buying a product at a lower price, so that the cost incurred to obtain the product is low.
- By obtaining a product that the consumers strongly want e.g. obtaining the benefits needed.
- By obtaining a quality product for an agreed price that is a trade-off between one benefit (e.g. experiential benefits that are the benefits consumers experience from using a product) and one cost component (monetary cost that is what the consumer pays to obtain the product).
- By obtaining total benefits for the cost paid or sacrifice made.



Low-income consumers regard foods which are less likely to deteriorate quickly as offering better value for their money. This may be due to lack of storage facilities like refrigerators that delays deterioration. Buying of some prepared foods in supermarkets by low-income consumers is also seen as representing good value for money since the ingredients and equipment to prepare that particular dish may not be available or may be expensive to buy (Dobson *et al.* 1994:13-14).

### **2.8.3 Affordability**

The cost of food is a primary determinant of food choice and is directly influenced by a consumer's income and socio-economic status (EUFIC 2005:2; Guthrie *et al.* 2005:38). As early as 1895 it was stated that the share of expenditure on food products declines with rising income (Engel 1895:57 as quoted by Martins 2005:41). Affordability refers to the extent to which something is affordable, as measured by its cost relative to the amount that the purchaser is able to pay (Wiktionary 2007).

Low-income consumers purchase the best food that can be afforded. There is however, an indication that if an additional income is available to the low-income consumers, priority is given to quality over quantity. This does not mean that low-income consumers spend more, but that quality is sacrificed for quantity. The additional income is linked to removal of worries about not having enough money for food, preserving choice and control over diet, and enables low-income consumers to maintain the standards and values that low-income consumers had enjoyed previously (Dobson *et al.* 1994:31).

EUFIC (2005:2) reports a different view regarding additional income. More money is linked to an increase in the range of foods which one can choose from, but not necessarily reflecting a choice for better quality.

Price is the amount of money one must pay to obtain the right to use the product (Hawkins, Best & Coney 1998:20). Researchers have stated that consumers use price

as an indicator of quality by believing that a product which is of a higher price is also of higher quality (Walley, Parsons & Bland 1999:158; Young 1999:2; Codron *et al.* 2005:36). Brunsø *et al.* (2005:85) reveals that the amount the consumer is willing to pay for a food product depends on the subjective perceived quality. Consumers become suspicious about the quality of food when presented with a food product which is considered to be of a low price (Young 1999:9).

Research by Lin and Guthrie (2007:1) indicated that low-income consumers are more responsive to price changes than high-income consumers. This perception is supported by Akbay and Jones (2005:622) who indicated that low-income consumers in Europe have a higher preference for the lower-priced, private brands. Low-income consumers do purchase national brands and it is apparent from price paid per unit that careful purchase decisions are made. This involves selecting either larger packaging size and/or promoted products (Akbay & Jones 2005:622).

Consumer response to food price can vary depending on the food chosen. Price manipulation has been indicated as having varying effects on food purchases across different foods. The increase in price of a basic consumed product has shown that consumers' demand for that product is unresponsive to the price. Therefore price manipulation may influence consumption of other food categories which appear to be most responsive to price change (Lin & Guthrie 2007:2).

## **2.9 OTHER FACTORS INFLUENCING PURCHASE CHOICE**

### **2.9.1 Acceptability**

Food acceptance refers to the broad category of affective responses to food. For a product to be acceptable, the initial impressions create an expectation that has to be confirmed or in a successful, positive, way be disconfirmed (Tuorila 2007:35). According to Imram (1999:226) sensory attributes have a significant role in the overall perception and acceptance of food products. In a low-income household taste is important in terms of acceptability. Food purchased by a low-income household has to accommodate the

taste preference of all members of the household to avoid wastage. Food of very low status which is not acceptable in terms of taste is only eaten when there are no other foods available in the household (Dobson *et al.* 1994:32).

Although taste is an important factor for acceptability of food in low-income households, other factors have been identified as major factors for acceptability. Foods which are filling or regarded as being good value for money have also been indicated as a major factor for acceptability of food in favour of foods which are liked and can be afforded (Dobson *et al.* 1994:31). Other sensory attributes which have been confirmed to be of importance in food preference and food acceptability for consumers are colour in taste recognition, and intensity in flavour detection and recognition (Imram 1999:227).

At the point of consumption, anticipatory factors such as the initial product appearance and participatory factors such as product flavour and texture, may dominate the acceptance level for many foods (Imram 1999:226). However, this has not been proven for low-income households.

### **2.9.2 Brand loyalty**

Brand loyalty consists of a consumer's commitment to repurchase the brand and can be demonstrated by the repeated buying of a particular product. True brand loyalty can also involve consumers' willingness to pay a higher price for that particular product (Wikipedia 2008).

A brand should indicate the origin of the product, state the responsibility of the manufacturer towards the product and symbolise a sign of quality. The majority of consumers do not make specific brand choices before entering a food store. This is because consumers are loyal to a small number of brands and this indicates that several brands can all be acceptable to the consumer. Experience with different brands can lead to a point where a consumer finds a brand which meets demands and the consumer will tend to stay satisfied with the product (Silayoi & Speece 2004:609).

Another factor that influences brand loyalty can be the level of involvement. Consumers who have a higher involvement level are prone to be more strongly brand loyal because of spending time to check and obtain the knowledge and the benefits which will be acquired from the product. This leads to a willingness to postpone purchase or to travel to another store to search for that particular brand if it is not available at the previous store (Silayoi & Speece 2004:609).

### **2.9.3 Household influences**

The discussion for household influences was presented in § 2.3.3

### **2.9.4 Product quality**

The discussion for product quality was presented in § 2.5.1

## **2.10 RESEARCH INSTRUMENTS AND DATA ANALYSIS METHODS**

### **2.10.1 Quantitative approach**

Quantitative research involves any method that produces information that can be usefully analysed numerically, typically by obtaining data from a scientific sample of the population (Market Street Research (MSR) 2004:1). In Phase 1 of this study a survey questionnaire (Annexure D) was applied to obtain quantitative data.

Relevance and accuracy are the two basic criteria a questionnaire must meet in order to achieve the researcher's study's objectives. A questionnaire is relevant if no unnecessary information is collected and if the information that is needed to solve the problem is obtained. The researcher has to decide on questions to be asked based on the objectives of the study. The communication medium used for data collection whether through telephone interview, personal interview, or self-administered survey, will have to be determined (Zikmund 2003:330-331).

For the purpose of Phase 1 personal interviews were employed.

### **2.10.2 Qualitative approach**

The primary goal of the qualitative study is to describe and understand rather than explaining human behaviour (Babbie & Mouton 2002:270). Qualitative methods provide richer detail for exploring viewpoints which allow the researcher to gain better initial understanding of issues. In this study focus group discussions were conducted to obtain an indepth understanding of the meaning of food product attributes that guide purchase choice by low-income consumers.

#### **2.10.2.1 Focus group discussions**

Focus groups became widely used in marketing research during the 1980s and are increasingly diverse research tools applications today. The most common application of focus group research continues to be in the consumer field (Cooper & Schindler 2003:155). Focus group discussions are a form of qualitative research that brings together a small number of people (6 to 10 respondents) who share common characteristics and experiences, to discuss and exchange ideas and feelings on a topic that is determined by the researcher (Morgan 1998a:130; Cooper & Schindler 2003:155; Finch & Lewis 2003:191; Zikmund 2003:119). If a group is too small, one or two members may intimidate the others. If the group is too large adequate participation may not be possible. Therefore such a group results in less effective participation (Cooper & Schindler 2003:155; Zikmund 2003:119). A free elicitation technique will be used for this study. Free elicitation is a personal interviewing technique in which the respondent is asked to express the attributes the respondent considers relevant in the perception of a particular product set (van Kleef *et al.* 2005:193).

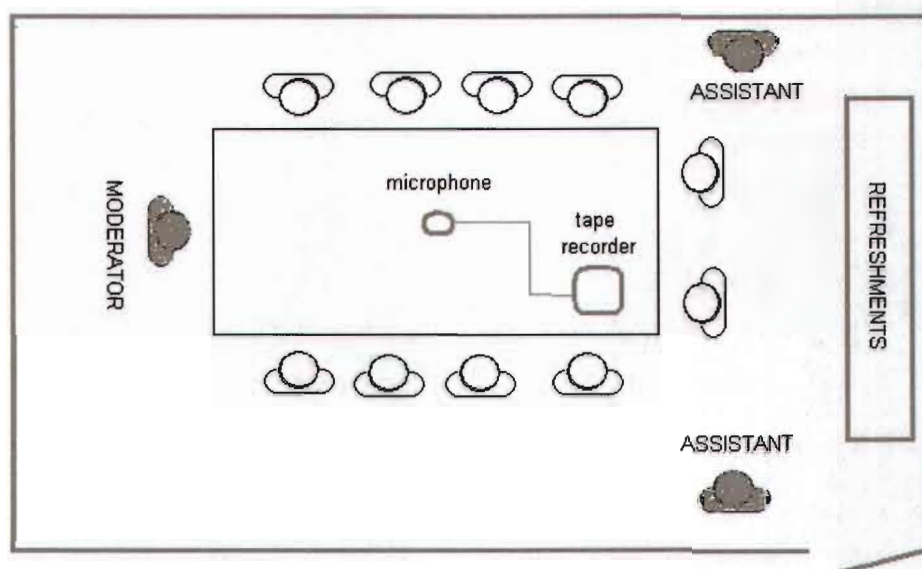
The use of the free elicitation technique in this study is to support the researcher's main interest in the content and organisation of the consumers' existing knowledge of a particular product category (van Kleef *et al.* 2005:193). The focus group method does

not aim for precise measurement, but rather at gaining in-depth knowledge about a certain topic area. This method allows learning about respondents' conceptualisation of particular phenomena and the language used for description (Blackburn & Stokes 2000: 45), as applied in this study.

The physical environment where discussions are conducted should be as natural as possible (Cooper & Schindler 2003:155). This implies that the venue should be easily accessible and be a familiar setting for all the participants (Finch & Lewis 2003:195). The participants should seat around a table as indicated by Figure 3 for ease of communication between the respondents (Finch & Lewis 2003:195; Zikmund 2003:119).

A good quality tape recorder/transcriber is essential. The tape recorder/transcriber should be able to capture soft voices or the contribution of people sitting further away from the microphone. The tape recorder/transcriber is usually positioned adjacent to the moderator, with the microphones in the centre of the table (Morgan 1998b:123) (see Figure 3). Before the participants arrive it is essential to check that the tape recorder/transcriber is functioning: i.e. that the recording level is appropriate, the batteries are charged, tape inserted, and that a spare tape is available. After the discussion has ended, checks should be made as soon as possible to ascertain that no technical problems have prevented recording (Finch & Lewis 2003:196).





**Figure 3** Layout of a focus group discussion venue (Morgan 1998b:123)

### **2.10.2.2 Stages of conducting focus group discussions**

This section focuses on the stages that are employed when conducting focus group discussion according to Finch and Lewis (2003:176). These stages include scene setting and group rules, individual introductions, the opening topic, discussion and ending of the discussion.

#### **Stage one: Scene setting and group rules**

The management of the start of the session is of vital importance. The focus group meets for approximately one to two hours. A trained moderator/researcher leads the discussion (Cooper & Schindler 2003:155). As participants arrive at the venue, the moderator warmly welcomes the participants, puts them at ease with friendly conversation, avoiding the research topic (Finch & Lewis 2003:176). When the group is complete, the moderator formally introduces the research team, outlines the research topic and aim, as well as the role of the specific interview in the research (Finch & Lewis 2003:176; Henning 2004:75). Confidentiality is stressed as participants need to know that their privacy and sensitivity will be protected. Explanation is presented to the participants on how focus groups operate and the processing of the recorded data. The moderator's introduction should aim at assuring the participants about the value of their

opinions and comments for the study and encourages the group to contribute to the discussion (Henning 2004:73).

### **Stage two: Individual introductions**

The moderator will ask the group to introduce themselves by saying their names and giving other simple background information while the tape recorder is switched on. This enhances the process of speaking and listening which are essential in focus group discussions. The information provided by the participants also helps the moderator to link a voice (and its spatial location) with a name and other personal characteristics on the recording tape. This is useful in the transcription process, particularly in research studies that require individual responses to be tracked as far as possible through the discussion. The moderator jots down a spatial diagram of participants' names as the individual introductions proceed for their own use to refer to throughout the discussion. For some groups, name cards or badges can be useful, if participants are accustomed to a rather more formal set-up (Finch & Lewis 2003:178). In some groups a questionnaire is given to the participants before the group begins to gather additional data (Cooper & Schindler 2003:155).

### **Stage three: The opening topic**

The general discussion is initiated by the moderator as soon as the individual introductions are completed to promote discussions and to use the opening topic to engage as many of the participants as possible. The general discussion entails issues that are neutral and easy to talk about by the group members (Finch & Lewis 2003:178). Ideally, the discussion proceeds mostly at the group's initiative. The moderator does not give the group total control of the discussion, but normally has prepared questions on topics that are of concern for the research (Zikmund 2003:119).

### **Stage four: Discussion**

The discussion proceeds with the moderator asking questions and receiving answers, but also with clarifications, explorations and pauses where appropriate (Henning 2004:74). The moderator will steer the discussion to ensure that all the relevant



information desired is considered by the group. This also requires asking questions to clarify topics that have been introduced into the discussion (Zikmund 2003:119). During the process the moderator should keep an eye on the recording, because machines are prone to mechanical failure when least expected (Henning 2004:76).

The moderator also keeps gregarious individuals from dominating the conversation, ensuring that every participant get a chance to contribute in the discussion (Finch & Lewis 2003:182). During the session, if the discussions begin to lag, the moderator moves it along by introducing another facet of the topic that the group has not yet considered. One or more assistants will sit in the focus group room to observe and note down the verbal and non-verbal interactions and responses of participants (Cooper & Schindler 2003:155).

#### **Stage five: Ending the discussion**

Towards the end of the discussion the moderator signals its approach by mentioning phrases such as 'the final topic' or 'anything else to say before we finish?' Finally, the moderator sums up the discussion and thanks the group, stressing how helpful the discussion has been (Finch & Lewis 2003:178; Henning 2004:74).

#### **2.10.2.3 Data analysis method**

The process of qualitative data analysis involves moving back and forth between the steps of the analysis. The major steps that are applied during analysis of qualitative data include the following:

- **Transcription of data**

The transcription of the conversation should commence as soon as possible. This is best done by the person (researcher/moderator) who was present at the interview, who will have a better idea of what some of the possibly indistinct speech is about and also what the tone of the voice implies (Henning 2004:76). The audio-taped discussion is transcribed verbatim for analysis. Good analysis depends on knowing the data. The better an analyst or researcher knows the data, the more competent the researcher will

be in labeling units of meaning (Henning 2004:105). In qualitative data this involves reading and re-reading the transcribed data. The impressions that arise during the reading of the transcribed data are recorded as these impressions can be useful later (Taylor-Powell & Renner 2003:2).

- **Coding of data**

In order to manage the data in analytical approaches, the themes or concepts under which the data will be labeled, sorted and compared, have to be decided upon. The researcher must first read and re-read the data set in order to gain an overview of the data coverage and become more familiar with the data. Open coding is an inductive process, whereby the codes are selected according to what the data means to the researcher (Henning 2004:104). Recurring themes and ideas will be noted but the coding process does not begin until all the data has been read through. Recurring themes are identified and marked (assigning abbreviated letters, words or symbols) or labeled by the use of a marker or different coloured pens.

- **Categorising data**

The next step which includes the categorising of data, involves the organising of the data in a way that all the material with similar content or properties are grouped together (Ritchie, Spencer & O'Connor 2003:228). It is also important when sorting data to ensure that the opportunity exists to assign material to multiple locations. Sometimes sections of data fit into two or more categories. As the data is organised into categories, patterns and connections will begin to be visible within and between the categories (Taylor-Powell & Renner 2003:2).

- **Identification of themes**

This step of data analysis involves identifying themes, which in this study is reported descriptions as concept elements. Once the data are sorted out, it is possible to determine how the categories fit together and relate. A good start in interpreting the data is to develop a list of key points or important findings discovered as a result of

categorising and sorting of the data. It is often essential to include quotes or descriptive examples to illustrate points and bring data to life (Taylor-Powell & Renner 2003:7-8).

These results are then presented to clarify terminology used and to compare with the existing literature.

## **2.11 SUMMARY**

In this chapter, the first section covered was the profile of South African consumers focusing more on the low-income consumers. The second section addressed food product quality and consumer perceptions and food product attributes important to consumers. Finally the research instruments and data analysis were presented.

The methodology applied to identify and describe the FPAs experienced as most important by low-income consumers for maize meal is described in the following chapter.

### 3.1 INTRODUCTION

The main purpose of this study was to identify and describe the food product attributes (FPAs) experienced as most important by low-income consumers in urbanised informal settlements within the Johannesburg-Vaal Region. The focus of this chapter is to provide an overview of the research processes applied.

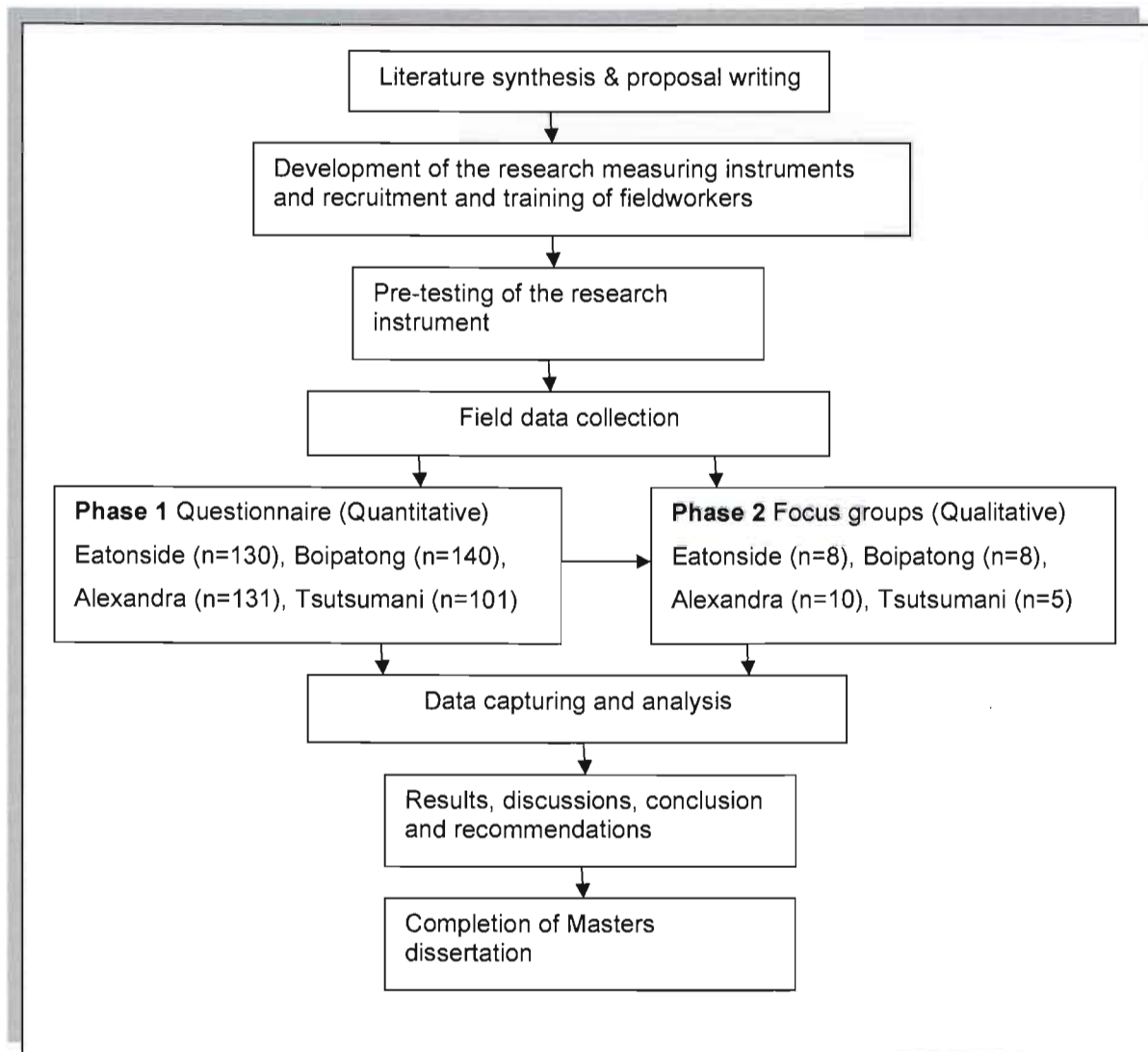
The current study consisted of two phases (see Figure 4). The data gathered during Phase 1 contributed to a collaborative investigative survey to identify the importance of FPAs needed by low-income consumers during purchasing of their staple food, maize meal. The first sub-objective of the study, to identify the food product attributes (concepts) experienced as most important by the predicted category users was addressed in this phase. The objective was to create a clear understanding of the importance the target group attached to specific FPAs to create a point of departure for Phase 2.

Phase 2 entailed the description and comparison of the meaning of the respective FPAs as perceived by the low-income consumers in the different settlements. These descriptions were then compared to literature in order to ensure applicability to the real world. This phase constitutes the main focus of this study. This phase covered two further sub-objectives of the study namely:

To describe the FPAs reported as most important through the identification of the descriptive concept elements for each of the concepts.

To validate results by comparing the understanding for the FPAs between the respondents, groups and existing literature.

The procedural framework of the MTech study is presented in Figure 4.



**Figure 4 Procedural framework for the MTech study**

## **3.2 ADMINISTRATION**

Owing to the strong focus on consumer perceptions in this study, certain procedures as presented in the sections below were followed:

### **3.2.1 Obtaining permission**

Three informal settlements and one formal urbanised settlement were involved in both Phases 1 and 2 of this study. The informal settlements included Eatonside, Boipatong

and Alexandra, and the formal settlement was Tsutsumani. The formal settlement was incorporated as part of this study to support the identification of possible differences between the informal settlements and the formal settlement that would possibly have been overlooked and to enhance the understanding of the issues investigated. The project supervisor and the research team met with community leaders/ ward councillors of the three informal settlements to request permission to conduct research. Oral permission was also requested from the ward council of the formal settlement, Tsutsumani. The dates and time for data collection were finalised.

### **3.2.2 Ethical considerations**

All respondents participated on a voluntary basis. All data gathered from respondents during the study are treated with respect and confidentiality, including anonymity ✓ regarding personal and sensitive information (Coertze 1999:178). Dissemination of derived findings did take place in a responsible and professional manner.

### **3.2.3 Intellectual property rights**

The information generated is reported for the purpose of an MTech Food and Beverage Management qualification. The findings of this project also contributed to a PhD study. A reporting academic article will also be compiled and submitted to an accredited scientific journal for publication. The intellectual property rights for the MTech study belong to the Vaal University of Technology (VUT) and/or to the publishers of the article.

## **3.3 STUDY POPULATION**

The study population consisted of collaborative low-income consumers from Eatonside, Boipatong, Alexandra (informal settlements) and Tsutsumani (formal settlement).

### **3.3.1 Sampling techniques**

#### **Phase 1**

A planned sampling procedure was used to identify respondents from the various settlements for the survey. This entailed approaching every fourth household in each street until sample size was reached. In households where respondents were not available, the next neighbouring household was approached.

#### **Phase 2**

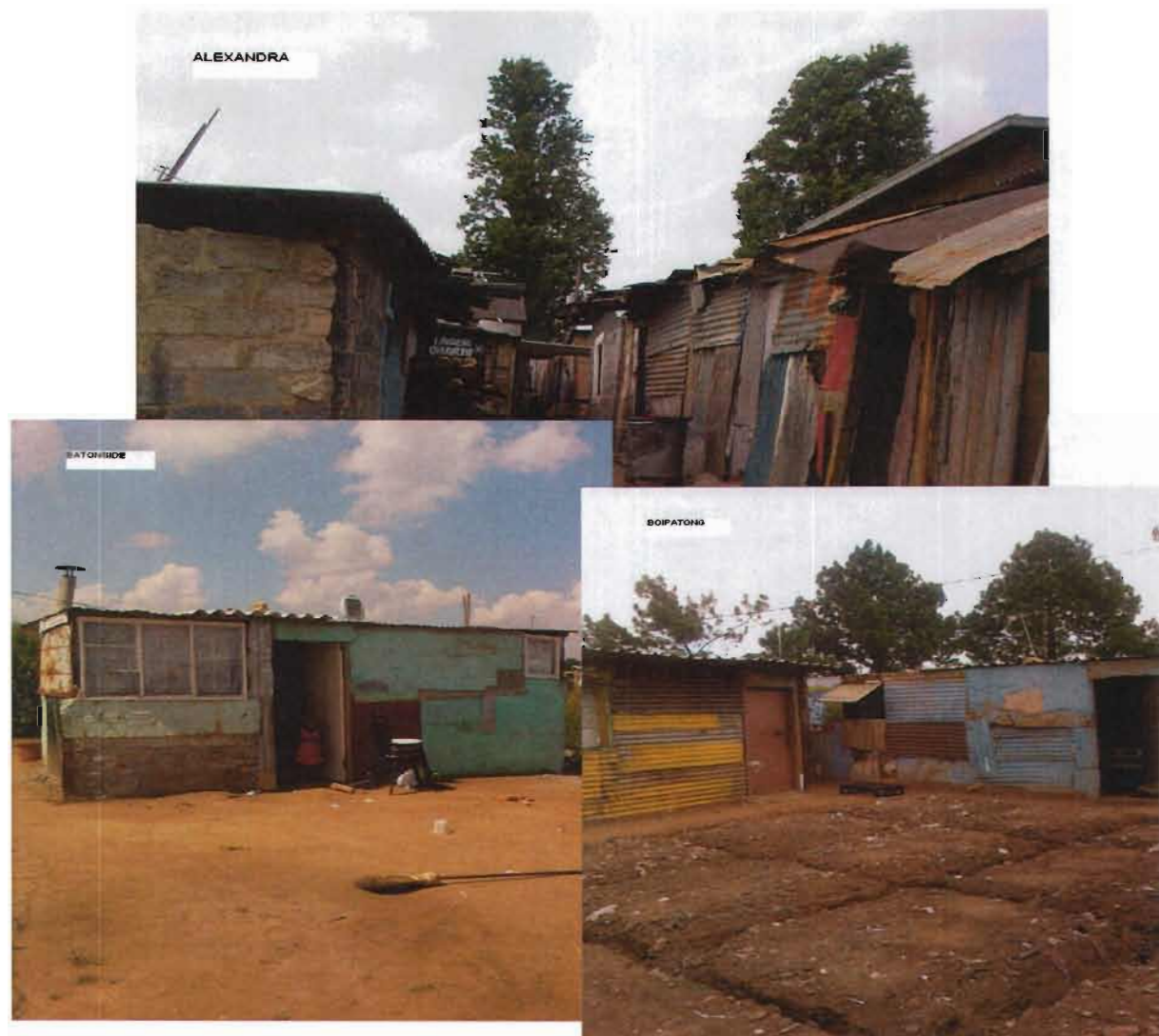
For the focus group discussions the respondents were gathered by purposive sampling, that is, selecting a sample based on the knowledge of a population, relating to the elements and the purpose of the study. Following this sampling technique, the researcher compiled criteria for inclusion and the respondents were chosen accordingly (Ritchie, Lewis & Elam 2003:78).

### **3.3.2 Basis for selection/ screening**

Respondents for the survey and focus group discussions (Phases 1 and 2) were screened/selected on the following basis:

- The respondents should have resided in the specific informal/formal settlement for more than five years.
- Maize meal should be the habitual staple food for the respondents (Amuli 2006:118; Oldewage-Theron *et al.* 2006:800).
- Respondents should be responsible for household food shopping.
- Should be living in a shack, (informal settlements) or being unemployed (formal settlement).
- Male or female low-income consumers (household income  $\leq$  R1003/month).
- Low literacy levels as indicated by SSA (2005).





**Figure 5** Shacks reporting the conditions in Eatonside, Boipatong and Alexandra

### 3.3.3 Study population size

#### Phase 1

Data was gathered from at least 101 respondents from each of the three informal and the single formal settlements, (Eatonside  $n=130$ , Boipatong  $n=140$ , Alexandra  $n=131$  and Tsutsumani  $n=101$ ). The total number of respondents for the survey was therefore

n=502. Every fourth household in each street was approached until sample size was reached.

## **Phase 2**

In each settlement a focus group discussion was conducted with approximately eight low-income consumers, giving Eatonside (n=8), Boipatong (n=8), Alexandra (n=10) and Tsutsumani (n=5). The total number of the respondents for the focus groups was n=31. One respondent from randomly selected street was interviewed according to the compiled criteria for inclusion and the respondents were chosen accordingly.

### **3.3.4 Geographical demarcation**

Within the Johannesburg-Vaal geographical area (located in the Gauteng province of South Africa) three informal settlements namely Eatonside, Boipatong and Alexandra were identified (SSA 2005). These settlements were selected owing to the fact that previous research has already been conducted in these areas by the Department Hospitality, Tourism and PR Management of the Vaal University of Technology. Collaboration was already established for certain initiatives, and was reconfirmed, expanded or new agreements were established according to needs. The criteria used to select the informal settlements included the location of the settlements on the outskirts of a town (Boipatong near Vanderbijlpark), a city (Eatonside near Vereeniging) and a metropolis (Alexandra near Johannesburg). Tsutsumani was selected owing to being located near Alexandra and a metropolis (Johannesburg).

The Vaal area is an industrial area situated approximately 70km south of Johannesburg with a population of about 1.5 million, of which 51 percent are unemployed and 46 percent of households live in poverty (Oldewage-Theron *et al.* 2005b:314). The Vaal area includes the Eatonside and Boipatong informal settlements (Figure 6 and Figure 7). Eatonside forms part of Sebokeng zone 6, as can be seen in Figure 6 as the area included by the black and red line. The majority of the respondents live in corrugated iron shacks, and overcrowding is experienced. The unemployment rate was 94 percent

for these respondents. The diets were poor consisting mainly of refined carbohydrates (Oldewage-Theron *et al.* 2005a:17). No further information regarding the situation is available at this stage for Boipatong. Therefore it can only be assumed that similar conditions to that of Eatonside are probably experienced since both are urbanised informal settlements within the Vaal region.



**Figure 6      Map of the Eatonside informal settlement (Reproduced with the permission of SSA 2006)**





**Figure 7      Map of Boipatong informal settlement (Reproduced with the permission of SSA 2006)**

Alexandra is the oldest township in Gauteng and one of the poorest in the Gauteng region (Figure 8). Alexandra falls within region 7 of the Municipality of the City of Johannesburg. It is located 3km from Sandton, borders the industrial areas of Wynberg and is close to the Limbro Business Park. Alexandra is also very near to the Bruma Commercial Park and the Eastgate Shopping Centre. The two main roads (N3 and M1) into Johannesburg pass through the vicinity of Alexandra. Alexandra covers an area of about 800 hectares or 7.6 square kilometres and is divided by the Jukskei River. Alexandra can be subdivided into three areas namely old Alexandra, Far East bank, now called Tsutsumani and East bank (Pro-Poor Tourism Pilots in South Africa (PPT)

2004:2). Data gathering was conducted in the old Alexandra (informal) and Tsutsumani (formal) areas.



**Figure 8      Map of the Alexandra (left) informal and Tsutsumani (right) formal settlements (Reproduced with the permission of SSA 2006)**

### **3.4 STUDY DESIGN**

In a baseline study conducted in an informal settlement, low-income consumers were sourced to establish the level of importance perceived for the different food product attributes during purchasing choice of the starch staple food mostly consumed, maize meal. Fourteen FPAs were identified, including satiety value, affordability, packaging size, value for money, taste, acceptability, appearance/colour, product quality,

convenience/ease of preparation, nutrient content of food, texture, product safety/shelf life, Brand loyalty/satisfaction and household influences in sequence of importance (Duvenage 2009).

An empirical comparative design was employed for the current MTech study. A multi-methodological mode of inquiry was followed (De Vos 2005:362).

### **Phase 1**

During this phase of the study a quantitative survey method was employed.

The purpose of this investigation was to identify and describe the food product attributes experienced as most important by low-income consumers in urbanised informal settlements within the Johannesburg-Vaal region.

### **Phase 2**

As qualitative methods are best suited to examine a participant's subjective experience, focus group discussions were utilised to accumulate direct evidence about similarities and differences in the respondents' opinions and experiences (Babbie & Mouton 2002:292). The results were presented to highlight correlations with the existing literature. Phase 2 included two sub-objectives:

- Describe the food product attributes reported as important in Phase 1 and identify the descriptive concept elements for each of the concepts.
- Validate results by comparing the differences in the understanding of the FPAs between the respondent groups with existing literature.

## **3.5 PROCEDURES FOR DATA GATHERING**

Different methods were applied to inform low-income consumers in the indicated settlements about the research project. In Eatonside, Alexandra and Tsutsumani the consumers were informed about the research project by the community leaders/representatives during informal community meetings. Notices, as prepared by



the researcher, were also distributed in the Eatonside and Boipatong informal settlements to inform the communities regarding the research project (Annexure B). The community leader of Boipatong issued the researcher with a permission letter to present to the concerned low-income consumers during data gathering (Annexure A). Data gathering was conducted during the October 2007 to February 2008 period.

The procedures for the two phases of the study are presented as follows:

### **3.6 PHASE 1: IMPORTANCE OF FOOD PRODUCT ATTRIBUTES**

#### **3.6.1 Development of a measuring instrument**

The survey questionnaire was compiled by the researcher based on the findings of the baseline study. The survey questionnaire was employed to identify the food product attributes experienced as most important by the low-income consumers. The instrument (refer to Annexure D) consisted of three sections:

Section A: Demographic profile of the low-income consumers

Information on age, home language and role of the main food purchaser in the household was gathered in this section.

Section B: Importance of food product attributes

In this section, the same format of questions was adopted. A six-point ordinal rating scale was used to report responses. This scale provides a better normal spread of observations (Vazquez, Ignacio, Del-Bostique, Diaz & Ruiz 2001). Face scales (Annexure E) which matched the six-point ordinal scale, were utilised to facilitate comprehension by the respondents (Heymann 1995:12).

Section C: Perceptions of certain food product attributes

Open-ended questions were used to obtain information in this regard.



The survey questionnaire was presented in three languages namely English, Sotho and Zulu. The language was standardised to ensure compatibility. The aim was to enhance clarity and consistency in explanation by the fieldworkers during completion of the questionnaires.

### **3.6.2 Recruitment and training of field workers**

#### **3.6.2.1 Recruitment of fieldworkers**

Twelve senior pre-graduate students from the Department Hospitality, Tourism and PR Management at the VUT were recruited by the researcher to act as fieldworkers for the project in Eatonside and Boipatong. These students were Sotho speakers and some were also fluent in Zulu. A precondition for gathering data in Alexandra and Tsutsumani as stated by the ward councillor, was that local inhabitants had to be involved in the process of data gathering (as a part time employment opportunity). A community facilitator assisted in recruiting twelve unemployed persons for this purpose. These persons had a matric certificate or higher qualification and had previously assisted in community development projects in Alexandra.

#### **3.6.2.2 Training of fieldworkers**

All the fieldworkers were trained by the researcher on issues related to the survey instrument (Annexure D) and were given detailed instructions on how to conduct fieldwork (Annexure C). Emphasis was placed on the objectives and importance of the project and the procedures to prevent bias.

### **3.6.3 Field data collection**

Data were gathered at the three informal settlements and the once formal settlement. The trained fieldworkers administered the questionnaires, going into each fourth house in each street completing the individual questionnaires through personal interviews with collaborating low-income consumers until sample size was reached. The purpose of the study was explained first to the low-income consumers during data gathering to elicit collaboration.

### 3.6.4 Data capturing and analysis

The primary data collected were captured onto a Microsoft Excel spreadsheet. The captured data were then screened to eliminate error entries.

#### Section A: Demographic profile of the low-income consumers

Percentages and averages were calculated for this section for each of the variables investigated for each of the participating settlements. The results were reported through the use of tables and discussions as reported in Chapter 4 of this study.

#### Section B: Importance of food product attributes

The analysis process for Section B of the survey questionnaire included the ranking of the importance perceived for the different food product attributes on a six-point hedonic rating scale. Data similar or close points on the rating scale were combined to provide three ranking categories to report results:

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't Know
6	5	4	3	2	1
1		2		3	

A frequency table was prepared from the responses gathered from the settlements using quantitative statistical procedures. Line graphs were developed to facilitate the comparison of the importance of the different food product attributes for each settlement. Owing to the explorative nature of this phase of the study, formal multiple comparison statistical procedures were not used. A lenient 10 percent level of significance was applied to identify possible trends (Duvenage 2009). Different groups were incorporated to confirm findings. The findings were then analysed to indicate the attributes of most importance to the low-income consumers. The results were reported

through the use of tables and discussions as reported in Chapter 4 of this study. This analysis was conducted by the PhD candidate and reported as part of the PhD study.

#### Section C: Perceptions of certain food product attributes

Since the data obtained in this section was qualitative, it was combined with the data for Phase 2. The analysis procedure for this section is described in Phase 2.

### **3.7 PHASE 2: DESCRIPTION AND COMPARISON OF FOOD PRODUCT ATTRIBUTES**

The application of focus groups represent a recognised approach to qualitative research and involve the bringing together of a small number of people to discuss a topic that is determined by the researcher (Morgan 1998a:130). For the purpose of this research four focus group discussions were conducted, one in each settlement.

#### **3.7.1 Development of the measuring instrument**

##### **3.7.1.1 Focus group guidelines**

The focus group guidelines (Annexure F) were written and implemented according to Gaede (2002). The guidelines included the introduction, the main purpose of the discussion, Moderator and participant role in the focus group, ground rules of the focus group, recording procedures and confidentiality of personal information.

##### **3.7.1.2 Pre-testing of focus group discussions**

A test focus group discussion session to obtain clarity (Krueger 1998a:58) on how the low-income consumers understand concepts, e.g. satiety value, was conducted with five randomly selected respondents meeting the criteria for habitual maize meal consumption. The education level of the respondents was also very low. No questions were formulated beforehand to structure the FGD's. The mind of the respondent was placed in a purchasing situation where they are busy making choices for maize meal household consumption. The respondents were requested to discuss the FPAs that are

important to them when purchasing maize meal. However, probing questions were utilised during the FGD's to encourage respondents to provide further information and explanations on issues raised during the discussion.

### **3.7.2 Field data collection**

Permission to use a house that had electricity to conduct and record the focus group discussions within each of the respective settlements was arranged with the community leaders/representatives. This was arranged in each community a week before the sessions commenced.

A total of four focus group discussions were conducted for the purpose of this study, one in each of the three informal settlements and one in the formal settlement. Each focus group consisted of not more than 10 respondents. This approach is supported by Morgan (1998b:71) as well as Finch and Lewis (2003:191-192) who stated that a focus group should consist of six to ten people who share common characteristics and experiences in relation to the topic of discussion. Refer to basis of selection of study population (§ 3.3.2).

To solve the problem of no-show rates, participants were informed during sampling about the token of appreciation that would be offered to people who attend the focus group discussion. All the targeted respondents attended the focus groups discussions in the respective areas. All the informal settlements used Sotho although respondents in some cases used other languages (Zulu) to express themselves on certain issues. English was used to conduct the discussions in the Tsutsumani formal settlement as preferred by the respondents. The targeted respondents from this formal settlement were more fluent in English as a common language.

The respective focus group discussions were in all instances held in an informal setting in a collaborating low-income consumer's house. These venues were easily accessible and had the advantage of being a familiar setting for the participants. This assisted in

making the participants more comfortable and at ease during the discussions (Finch & Lewis 2003:195).

The research team consisted of four members namely two researchers and two trained fieldworkers. The researcher of the current study, who was more familiar with the aim of the research and the purpose of the focus group discussion, acted as the moderator during the focus group discussions. The fieldworkers assisted in writing field note comments and observing body language (Finch & Lewis 2003:182). The notes assisted in transcribing the data. The notes also helped the researcher to link a voice (and its spatial location) with a number and other personal characteristics, on the recording tape. This is useful in the transcription process, particularly in research studies that require individual responses to be tracked as far as possible through the discussion (Finch & Lewis 2003:178). Just before the commencement of the session, the transcriber which was used for recording the discussions was tested to ensure that it would capture the discussions.

As people arrived they were greeted by one of the research team members and introduced to the rest of the research team and the group members. When all participants had arrived, the group was invited to sit around a table as indicated by Figure 9 which depicts the group arrangements in the Eatonside focus group. This arrangement facilitates ease of communication between the participants (Finch & Lewis 2003:195; Zikmund 2003:119).

The moderator initiated the discussion by giving a short overview of the objective of the research project and the role of the focus group within the project. A brief summary of how focus groups operate was given as group members were unfamiliar with the focus group technique. Confidentiality was assured and an explanation was given of how the captured data would be processed (Finch & Lewis 2003:176). The participants were given numbers (Figure 9) for identification to use during discussion and to reassure the participants regarding confidentiality of names. The use of numbers for identification



was a pre-planned strategy to employ if the data required individual responses to be tracked as far as possible through the discussion and analysis of individual information.



**Figure 9      Focus group discussion in Eatonside**

No questions were formulated beforehand to structure the FGD's. The minds of the respondents were placed in a purchasing situation where they are busy making choices for maize meal household consumption. The respondents were requested to discuss the FPAs that are important to them when purchasing maize meal. However, probing questions were utilised during the FGDs to encourage respondents to provide further information and explain on issues raised during the discussion. The procedure was applied in order to provide clarity and understanding.

Each group discussed the topic for approximately one to one and half hours until saturation was reached. Saturation is reached when a topic is no longer generating

fresh ideas during the discussion (Zikmund 2003:120). No new food product attributes not indicated by the respondents' groups were introduced. The discussions were conducted in the communal language to facilitate better understanding.

At the conclusion of a focus group discussion, a review of the key points of the discussion was given to provide a sense of completion and allowing respondents to clarify and correct as required. Group members thanked the respondents for taking time to attend and for their contributions. Each respondent was offered a nutritious snack after the session and received a token of appreciation. The research team members reviewed the proceedings within 4 hours after the specific FGD in order to recall the discussion clearly.

### **3.7.3 Data capturing and analysis**

The process of qualitative data analysis involves moving back and forth between the steps of the analysis (Miles & Huberman 1994:224 as quoted by Spencer, Ritchie & O'Connor 2005:213; Taylor-Powell & Renner 2003:2). In this study a content analysis approach was followed. The process examines the presence or repetition of certain words and phrases in the texts, enabling a researcher to make inferences on the philosophical assumptions. This process is theory driven; and the theory determines what the researcher looks for in the data (Babbie & Mouton 2002:491).

#### **3.7.3.1 Transcription of data**

The first step involved listening to the tape recordings several times and getting to understand the data before transcribing the entire interview. The data was transcribed manually and then captured into Microsoft Word format (Taylor-Powell & Renner 2003:2) separately for each of the focus groups conducted. The transcribed data for the respective FGDs was organised by grouping the respondents' answers according to the specific FPA. This assisted in reviewing all the respondents' answers in order to identify common responses for each FPA (Taylor-Powell & Renner 2003:2). Identification (ID) of each participant and group was assigned to the data, example B-1, where B refers to



the Boipatong informal settlement FGD and 1 refers to the participant who was allocated the number 1 as identification.

### **3.7.3.2 Coding of data**

The second step was the coding of the data. Coding is a process whereby certain segments of text are attached to certain meaningful key labels or codes (Babbie & Mouton 2002:493). Three types of coding are identified, namely open coding, axial coding and selective coding (Corbin & Strauss 2008:197-198). Open coding was applied in this study. Open coding is an inductive process, whereby the codes are selected according to what the data means to the researcher (Henning 2004:104). Data was coded by identifying the ideas, concepts, terminology and phrases used in each respondent group's answer (sentence or phrase) through highlighting with different coloured pens. This allowed assigning the codes into preset categories (food product attributes) (Ritchie *et al.* 2003:221; Taylor-Powell & Renner 2003:2). The recoding of the data was done twice and the results were compared. This process was applied for each of the focus groups. Table 3 provides an example for the allocation of codes in this study.

**Table 3 Coding of qualitative data**

ID	Participant answer	Code	Category
A 2	"I like Ace because its strong, you don't have to use more mealie meal. It also helps me to save because you don't have to use lots and lots of it when you cook. The texture is also nice and the taste is also nice."	-Its strong	Texture
		-Saving	Affordability
		-Tasty	Taste
A 3	"I like Shaya because it's tasty, and you do not have to use more mealie meal to cook. Even in the soft porridge with milk it's very nice, and it's a little bit coarse. You can make lovely pap for braai."	-Tasty	Taste
		-Saving	Affordability
		-Little bit coarse	Texture
		-Liking	Texture (Appearance of texture)

### 3.7.3.3 Categorising the data

Categorising the data involves sorting out of the data in a way that all the material with similar content or properties is grouped together (Annexure G) (Ritchie *et al.* 2003:228). In this study, a list of categories was preset in advance (Food product attributes). The FPAs were identified during Phase 1 of this study namely satiety value, affordability, packaging size, value for money, taste, acceptability, appearance/colour, product quality, convenience/ease of preparation, nutrient content, texture, product safety/shelf life, Brand loyalty/satisfaction and household influences. This provided direction for what the researcher should search for in the data (Taylor-Powell & Renner 2003:2). Some sections of data fitted into two or more categories (see Table 3) and the data was assembled as such.

#### **3.7.3.4 Identification of patterns and connections within and between categories**

This process involved the identification of the key aspects, the concept elements, describing each category. A list of key points or important findings (concept elements) which were revealed as a result of categorising and sorting data was developed to start the analysis and interpretation of the data (Taylor-Powell & Renner 2003:2). Feedback and inputs from colleagues also assisted in analysing and interpreting the data. The summarising of the key aspects of each data set was carried out, whilst retaining its context. Comments (quotes) made by the respondents were included in each summary to give an accurate reflection of the aspects indicated and opinions expressed. The food product attributes identified during Phase 1, served as the concepts for the categorisation, and further description of each of the concepts was indicated through the concept elements derived from the textual data (Annexure G).

In a further step, the richness of the data was further exploited through a horizontal comparison of emerging elements that described each of the specific FPAs according to the respective focus groups (Ritchie, Spencer & O'Connor 2003:233; Taylor-Powell & Renner 2003:2). The focus groups provided direct evidence about similarities and differences in the participants' opinions and experiences (Babbie & Mouton 2002:292). A comparison of the perceived meaning of FPAs by the groups and the existing literature was also conducted by bringing together all the data of a specific category so that it could be studied and synthesised across all cases (Ritchie *et al.* 2003:233).

### **3.8 RELIABILITY AND VALIDITY**

The concepts of reliability and validity were developed in the natural sciences.

#### **3.8.1 Phase 1: Importance of food product attributes**

According to Coertze (1999:57), Cooper and Schindler (2003:236), and Malhotra (2007:284), reliability refers to the extent to which a scale produces consistent results if repeated measurements are made on the characteristic. In this study internal consistency was assessed. Internal consistency assesses the correspondence among

the items written into the measuring instrument, for example questions in a questionnaire (Coertze 1999:58). To enhance reliability of the instrument (questionnaire) in this study, the following was applied:

- The conditions under which the measurement took place were standardised by only using well-trained fieldworkers to conduct data gathering.
- The food product attributes incorporated into the questionnaire were compiled based on the findings of the baseline study.
- The same format of questions was adopted (Annexure D section B) as for the baseline study.

Validity refers to the ability of a scale or measuring instrument to measure what the researcher intended to measure (Coertze 1999:59; Zikmund 2003:302). There are two major forms of validity, namely external and internal validity. External validity refers to when the casual relationship discovered can be generalised to other people, settings, time and contexts (Cooper & Schindler 2003:23). In this study three informal settlements and one formal settlement were used with known different socio-economic status.

Internal validity refers to the ability of a research instrument to measure what it is purported to measure. In this study content validity was addressed. Content validity of a measuring instrument is the extent to which it provides adequate coverage of the investigative questions guiding the study (Cooper & Schindler 2003:232). The following were applied to ensure content validity:

- The questions were compiled based on the baseline study.
- The researcher carefully defined the topics of concern, the items to be scaled and the scales to be used (Chapter 2 Literature review).
- The instrument was discussed with the supervisor to judge how well the instrument met the standards and the objectives of the study.
- The original measuring instrument was tested prior to the baseline study.

### **3.8.2 Phase 2: Description and comparison of food product attributes**

In most cases, qualitative research is evaluated for the worthiness or merit against criteria appropriate to quantitative research and is often found to be lacking. This is due to the nature and purpose of the two research processes being different. Terminology such as reliability and validity are relative to the quantitative view and do not fit the details of qualitative research. Frequently qualitative researchers when discussing reliability and validity, note the concept “trustworthiness” to be more precise in evaluating the merit of qualitative research (Krefting 1991:2; Babbie & Mouton 2002:276; Ritchie, Lewis & Elam 2003:271).

The term qualitative research is imprecise and refers to many dissimilar research methods. These approaches have different purposes and methods and therefore different ways of determining trustworthiness. In this study the researcher modified and applied methods described by Krefting (1991:7); Babbie and Mouton (2002:227) and De Vos (2005:346) to present the trustworthiness as applicable. The trustworthiness of the data is presented in four strategies namely; credibility, transferability, dependability and confirmability (see Table 4).

**Table 4 Strategies with which trustworthiness was established in this study**

Strategy	Criteria	Application in this study
<p><b>CREDIBILITY</b></p> <p>Credibility indicates the extent to which the researcher has established confidence that the findings are a true reflection of the participants' opinions/ experiences in the context in which the study was undertaken (De Vos 2005:346).</p>	<p><b>Prolonged engagement</b></p>	<ul style="list-style-type: none"> <li>- The concepts were derived from the baseline study (2006-2007), which were tested in four groups.</li> <li>- Data gathering was conducted during the October 2007-February 2008 period.</li> <li>- Each group discussed the topic for approximately one to one and half hour until saturation was reached (when no new fresh ideas arose).</li> </ul>
	<p><b>Triangulation</b></p> <p>This involves convergence of multiple perspectives for mutual confirmation of data to ensure that all aspects of a phenomenon have been investigated (Krefting 1991:10).</p>	<p><b>Triangulation of data methods</b></p> <ul style="list-style-type: none"> <li>- Two research approaches were applied for this study (Phase 1: quantitative and Phase 2: qualitative).</li> <li>- Literature was compared with respondents' understanding of terminology.</li> </ul> <p><b>Theoretical triangulation</b></p> <ul style="list-style-type: none"> <li>- A literature review on related aspects of the study was conducted. A comparison was drawn between information available in the literature and the findings from the respective respondent groups.</li> </ul> <p><b>Triangulation of data sources</b></p> <ul style="list-style-type: none"> <li>- Three focus groups normally required but did four (one in each area) not to compare areas as such, but to capture more all possible opinions. Data was individually described per area, but treated as one data set.</li> </ul>

		<b>Triangulation of investigators</b> <ul style="list-style-type: none"> <li>- Concepts (FPAs) and concept elements were identified and argued by the research team (Marumo &amp; Duvenage).</li> </ul>
	<b>Time-sampling</b> This is a strategy where flow charts are used to systematise informants' contacts and observations to determine if the researcher is sampling all the possible situations, including different social settings. This strategy emphasizes the importance of the environment in which the data are collected and established (Krefting 1991:9).	<ul style="list-style-type: none"> <li>- The discussions were held in a collaborating respondent's house (an informal setting which ensured comfortableness).</li> <li>- Respondent groups from different locations in the target geographical area:  Eatonside (near a city Vereeniging)  Boipatong (near a city Vanderbijlpark)  Alexandra and Tsutsumani (near a metropolis Johannesburg).</li> <li>- Three informal settlements and one formal settlement collaborated in the study.</li> <li>- All groups of low-income with recognised differences in household income acknowledged in data analysis.</li> </ul>
	<b>Reflexivity(field journal)</b> Refers to the assessment of the influence of the investigator's own background, perceptions, and interests on the qualitative research process (Krefting 1991:9).	<ul style="list-style-type: none"> <li>- Field notes were compared to audio recording and transcribed data.</li> <li>- Two researchers of different backgrounds analysed textual data independently and then compared it to control personal influences.</li> </ul>
	<b>Member checking</b> This involves going to the source of information and checking both the data and interpretation (Babbie & Mouton 2002:277).	<ul style="list-style-type: none"> <li>- A review of the key points of the discussions was given at the end to allow respondents to clarify and correct as required.</li> <li>- Team members reviewed the proceedings within four hours after the specific FGD in order to recall the discussion clearly.</li> </ul>



Strategy	Criteria	Application in this study
	<b>Peer examination/debriefing</b> This involves the researcher's discussion of the research process and findings with impartial colleagues who have experience in qualitative methods (Babbie & Mouton 2002:277).	<ul style="list-style-type: none"> <li>- Consultations with experts of qualitative data (Gaede and Dicks).</li> <li>- Discussions with another researcher (Duvenage)</li> <li>- The availability of the participants' verbatim accounts to assess the interpretation from direct quotes.</li> </ul>
	<b>Interview technique</b>	<ul style="list-style-type: none"> <li>- Pilot study on focus group discussions</li> <li>- Repetition of the same interview technique in the different groups.</li> </ul>
	<b>Establishing authority of researcher/field experience</b>	<ul style="list-style-type: none"> <li>- BTech pilot study "Perceived needs of low-income urbanised consumers for food product attributes that guide purchase choice" (Marumo 2006) was conducted to explore the setting.</li> <li>- A pilot focus group discussion was conducted to establish the degree of familiarity with the phenomenon and the setting under study.</li> <li>- Preparation: use of various sources of exploratory literature. Consultations with expert of research field (Schönfeldt).</li> </ul>
<b>TRANSFERABILITY/ APPLICABILITY</b>  This refers to the degree to which the findings can be applied to other contexts. As qualitative research projects	<b>Sample selection</b>	<ul style="list-style-type: none"> <li>- Purposive sampling was applied. That is selecting a sample based on the knowledge of a population, relating to the elements and the purpose of study.</li> <li>- The researcher compiled criteria for inclusion and the respondents were chosen accordingly.</li> <li>- Respondents were knowledgeable regarding the topic under discussion due to extensive prior experience.</li> </ul>

<p>are conducted in a naturalistic setting, each situation is unique and research findings therefore cannot be generalised (Babbie &amp; Mouton 2002:277).</p>	<p><b>Comparison of sample to demographic data</b></p>	<ul style="list-style-type: none"> <li>- Literacy level of the respondents was obtained from SSA (2005).</li> </ul>
	<p><b>Dense description</b></p>	<ul style="list-style-type: none"> <li>- Background information about the respondents was provided.</li> <li>-The methodology used was described and results accompanied by verbatim quotes were provided.</li> <li>-The findings of each focus group discussion were not generalised.</li> <li>- The food product attributes perceived as most important by the involved communities in Phase 1 established an understanding of the conditions or circumstances in the respective communities.</li> </ul>
<p><b>DEPENDABILITY</b></p> <p>Relates to the consistency of the findings (Krefting 1991:14).</p>	<p><b>Dependability audit</b></p>	<ul style="list-style-type: none"> <li>- Detailed analysis of the concepts, concept elements and comparison with literature was conducted.</li> <li>- The researcher conducted all the focus group discussions.</li> <li>- Independent analysis by the two researchers.</li> </ul>
	<p><b>Dense description of research methods</b></p>	<ul style="list-style-type: none"> <li>- Methods of gathering and analysis for the research were described.</li> </ul>
	<p><b>Stepwise replication</b></p>	<ul style="list-style-type: none"> <li>- Two research members dealt separately with data and the results were compared for the different respective groups.</li> </ul>
	<p><b>Triangulation</b></p>	<ul style="list-style-type: none"> <li>- A comparison of the data and results for three informal and one formal urbanised settlements together with the literature.</li> </ul>
	<p><b>Peer examination</b></p>	<ul style="list-style-type: none"> <li>- Use of colleagues to check the research plan.</li> </ul>
	<p><b>Code-recode procedure</b></p>	<ul style="list-style-type: none"> <li>- Recoding of the data was done twice and the results were compared.</li> </ul>

Strategy	Criteria	Application in this study
<b>CONFIRMABILITY</b>  Confirmability of neutrality indicates the extent to which the findings are a function of the participants' opinions and conditions of the research and not of other biases (Krefting 1991: 15; Babbie and Mouton 2002:278).	<b>Conformability audit</b>	- Availability of textual data (Annexure G), field notes and audio-recording are kept.
	<b>Triangulation</b>	<ul style="list-style-type: none"> <li>- A comparison of informal and formal urbanised settlements data and results. Formal settlement was included to prompt the identification of possible dissimilarities between groups.</li> <li>- Two research approaches were applied for this study (Phase1: quantitative and Phase 2: qualitative). Each approach was treated separately.</li> <li>- Literature review on related aspects of the study was conducted.</li> <li>-A comparison was drawn between the literature and findings from the respective respondent groups.</li> </ul>
	<b>Reflexivity</b>	- Field notes were compared to audiorecording and transcribed data.

### **3.9 SUMMARY**

Data were collected in two phases through the use of the following acknowledged market research methods: 1) consumer survey questionnaires and 2) focus group discussions (FGDs). The aim of combining the quantitative and qualitative methods was to obtain the facts and opinions from different viewpoints about a phenomenon from people who are informed on the particular issue (Delpont 2005:166).

The focus group discussions were used to gain in-depth understanding of the meaning of FPAs from the context of the low-income households. This allowed the researcher to gain a better insight of the perceptions of the low-income consumer groups regarding the meaning content allocated to the different food product attributes and the describing elements imbedded within each of these attributes for the respective participating groups. This facilitated comparison with available literature.

In the following chapter the results and discussions are presented.

#### 4.1 INTRODUCTION

The purpose of this study was to identify and describe the food product attributes experienced as most important by low-income consumers for their staple food, maize meal, during purchasing. The main focus of this study entailed the description and comparison of the meaning of the respective FPAs (concepts) as perceived by the low-income consumers in the different informal settlements. This involved the identification of the main concept elements describing each of the respective FPAs. Results are validated by comparing the understanding of the FPAs between the respondent groups and with existing literature.

The objective of this chapter is to present the results and discussions of this study. Three urbanised informal settlements, namely Eatonside, Boipatong, Alexandra, and one formal settlement, Tsutsumani (SSA 2005), all within the Johannesburg-Vaal geographical area, collaborated in this study. This area is located in the Gauteng province of South Africa. The formal settlement was incorporated as part of this study to support the identification of possible differences between the informal settlements and the formal settlement that could possibly have been overlooked and to enhance the understanding of the issues investigated. The low-income consumers who formed part of this study were screened, based on being residents in the specific informal/formal settlement for more than five years. Further criteria indicated that the respondents should be responsible for household food shopping, habitually consume maize meal as staple food, and should be living in a shack (for respondents in the informal settlements) or being unemployed (formal settlement). The literacy levels were quite low (SSA 2005).

The results for this study were collected and reported in two phases namely:

**Phase 1:** Identification of the importance of food product attributes needed by low-income consumers during purchasing choice of the starch staple food, maize meal.

In this phase the sub-objective was to identify the food product attributes (concepts) experienced as most important by the predicted category users. The situation analysis reported includes the socio-demographic and economic profile of the low-income consumers of the selected settlements.

**Phase 2:** Description and comparison of the meaning of the respective food product attributes identified as needed by the participating low-income consumer groups.

The purpose of Phase 1 was to create a clear understanding of the importance the target group attached to FPAs to create a point of departure for Phase 2. This latter phase constitutes the main focus of this study and reports the results of two further sub-objectives:

- The description of the FPAs reported as most important and the identification of the imbedded elements for each of the concepts.
- To validate results by comparing the understanding of the FPAs between the respondent groups and existing literature.

## **4.2 ANALYSIS OF THE SITUATION**

### **4.2.1 Socio-demographic profile**

To enhance the understanding of the context and reality of the respective participating groups, a descriptive summary of the socio-demographic profiles is presented. This includes the role of the main food purchaser in the household, average age, average household size, home language, maize meal consumption per day as well as education status. The economic profile of low-income consumers is also presented.

Table 5 shows that in the majority of cases (58 percent) the mother was the main food purchaser in the household. In 32 percent of the households other household members such as the daughter-in-law, brother, father, etc did the purchasing.

It is of interest to note that the average age reported for the respondent groups was very similar, namely Eatonside (39 years), Boipatong (40 years), Alexandra (39 years) and Tsutsumani (42 years). The average household size reported was also very similar, namely Tsutsumani (5), Alexandra (5), Boipatong (4) and Eatonside (5).



**Table 5**      **Socio-demographic characteristics of the low-income consumers**

SETTLEMENTS					
VARIABLES	Eatonside (n=130)	Boipatong (n=140)	Alexandra (n=131)	Tsutsumani (n=101)	All settlements (n=502)
<b>Role of the main food purchaser in the household (100%)<sup>1</sup></b>					
Mother	53	61	54	62	58
Grandmother	9	5	5	6	6
Caregiver	5	6	5	1	4
Others	33	27	37	31	32
<b>Age<sup>2</sup></b>	39±13 (17-79)	40±13 (15-78)	39±13 (17-68)	42±16 (17-78)	
<b>Average household size</b>	5	4	5	5	5
<b>Home language (n=11 official languages) (%)<sup>1</sup></b>					
Sotho	68	69	15	21	43
Tswana	2	2	5	24	8
Zulu	12	9	29	23	18
Afrikaans	3	0	0	0	1
Xhosa	15	14	19	10	15
Pedi	1	3	14	13	8
Tsonga	1	1	11	5	4
Swati	0	1	0	0	0
Venda	0	0	6	2	2
Ndebele	0	0	1	0	0
English	0	0	0	2	1
Unspecified	0	1	1	1	1
<b>Maize meal consumption times per day (%)<sup>1</sup></b>					
1	20	14	14	40	22
2	49	51	57	38	49
3	29	34	28	11	26
4 and more	2	1	2	12	4

<sup>1</sup> Rounded figures<sup>2</sup> Mean ± SD (min-max)

It is clear that all the settlements consisted of a mixture of race groups, with a pronounced majority group of Sotho speakers in two informal settlements (Eatonside 68 percent and Boipatong 69 percent). Alexandra indicated Zulu (29 percent) as the most

spoken language. In Tsutsumani, however, three main language groups were indicated of about equal importance namely Sotho (21 percent), Tswana (24 percent) and Zulu (23 percent). On average, the language most spoken between the groups was Sotho (43 percent), followed by Zulu (18 percent) and Xhosa (15 percent).

Of special interest to this study is that 79 percent of the respondents consumed maize meal at least twice per a day. The implied fact is that even if these respondents consume maize meal twice per day, it may be the only meals of the day. Further implication of this will be discussed later.

The majority of respondents in this category are from the informal settlements namely Eatonside, Boipatong and Alexandra. In Tsutsumani, which is a more affluent urban settlement, the single biggest category (40 percent) consumes maize meal once per day and other foods for any other meals in the day. It should be noted that these facts do not necessarily portray the whole picture. The application of coping strategies in situations of compromised food security is not unusual. Low-income consumers are said to employ coping strategies such as limiting portion sizes and skipping meals or not eating the whole day owing to financial constraints and unavailability of food in the household (Maxwell *et al.* 2003:5). According to Ballantine *et al.* (2008:5) low-income consumers sometimes eat small amounts owing to available food being inadequate to completely meet the needs of the household.

From the results displayed in Table 6 regarding educational status, it is confirmed that Eatonside, Alexandra and Tsutsumani have similar educational level (17 percent) for no schooling to grade 7 level. Boipatong reported the highest percentage (24 percent) for respondents with no schooling to grade 7. For high school grade 9 to post-matric qualification, Boipatong reported the lower percentage (15 percent), followed by Eatonside (21 percent), then Alexandra with 27 percent. Tsutsumani reported the highest percentage (32 percent) for high school grade 9 to post-matric qualification. The overall picture indicates that the target population is represented at the bottom end of

the education scale. Particularly if all communities reported 14 percent and less never received any schooling.

**Table 6 Educational status of the low-income consumers (SSA 2005 reporting Census 2001)**

VARIABLES	SETTLEMENTS			
	Eatonside	Boipatong	Alexandra	Tsutsumani
<b>Education level</b>	%	%	%	%
No schooling	10	14	10	12
Primary school grade 7	7	10	7	5
High school grade 9	6	8	8	6
High school grade 12	13	6	17	22
Post matric qualification	2	1	2	4

#### 4.2.2 Economic profile

During data gathering it was observed that information on household income was extremely difficult to obtain from the low-income respondents. It was therefore decided to rather use data reported by the Statistics South Africa (SSA) database (Census 2001, as reported in 2005) to obtain information for average household income

It is clear from Table 7 that the majority of households in Eatonside (58 percent) received a household income of R200.00 or less per capita per month to meet all the needs, followed by Boipatong (51 percent), Alexandra (33 percent) and Tsutsumani (22 percent) (SSA 2005). From this information it is clear that Tsutsumani, which is a formal and more affluent settlement, is experiencing the lowest level of poverty, followed by Alexandra, then Boipatong. Eatonside is experiencing the highest level of poverty of the informal settlements.

**Table 7      Monthly household income for the settlements (adapted from Measuring Poverty in South Africa 2000:6; SSA 2005; Oldewage-Theron *et al.* 2005b:317 as synthesised by Duvenage 2009:25)**

VARIABLES	SETTLEMENTS			
	Eatonside	Boipatong	Alexandra	Tsutsumani
<b>Approximate income/capita/month</b>	58 %< R200	51 %< R200	33 %< R200	22 %< R200

#### **4.3 PHASE 1: FOOD PRODUCT ATTRIBUTES OF IMPORTANCE**

The importance of food product attributes as reported by low-income consumers during purchasing choice of the starch staple food maize meal, is presented in Table 8. In sequence of importance to the informal settlements, the FPAs are reported as satiety value, affordability, taste, product acceptability, convenience/ease of preparation, household influence, appearance, value for money, product quality, packaging size, texture, product safety/shelf life and brand loyalty with nutrient content perceived as of least importance. It is of interest to note that no-significant differences were indicated for satiety value, acceptability, convenience and household influences between the three informal settlement respondent groups and the formal settlement group.

**Table 8      Ranked importance of food product attributes by low-income consumers (Duvenage 2009)**

Food product attributes	Score of food product attribute importance				
	Eatonside	Boipatong	Alexandra	Average* of informal settlements	Tsutsumani
	n=130 %	n=140 %	n=131 %	n=401 %	n=101 %
Satiety value	92*	94*	92*	93	90*
Affordability	78	86	76	86	82
Packaging size	72*	86	73*	73	88
Value for money	80*	73*	66	77	69
Taste	82*	84*	82*	83	91
Acceptability	83*	81*	78*	81	86*
Appearance/colour	76*	80*	90	78	89
Product quality	77*	73*	86	75	86
Convenience/ease of preparation	79*	80*	81*	80	87
Nutrient content	65*	59*	81	62	87*
Texture	72*	69*	89	71	83
Product safety/shelf life	62*	69*	86	66	80
Brand loyalty/satisfaction	61*	69*	74	65	82
Household influences	79*	76*	83*	79	82*

\*Only values not significantly different included from informal settlements

From Table 8, reporting ranked importance of food product attributes by low-income consumers, it is clear that three informal settlements (Eatonside, Boipatong and Alexandra), being all of lower income, reported satiety value as the most important food product attribute. In contradiction, Tsutsumani which is the more affluent formal settlement indicated taste as the FPA of primary importance (91 percent). It can be suggested that since the income distribution of this formal settlement is the highest among the settlements (see § 4.2.2), basic needs such as providing satiety value have already been met, and therefore nice to have attributes are becoming more important.

Differences indicated for affordability and packaging size between the poorest informal settlements can probably be attributed to a difference in the interpretation of terms between the two poorest respondent groups. A small packaging size can be purchased when less money is available, indicating a high importance attached to packaging size and lower importance to affordability as perceived by the consumers of Eatonside (as clarified in Phase 2 of this study).

Regarding value for money, Table 8 indicates that amongst the four settlements the poorest informal settlements namely Eatonside (80 percent) and Boipatong (73 percent) ranked the value for money more important than the slightly more affluent settlements.

The taste attribute was reported of similar importance to all of the informal settlements (Eatonside 82 percent, Boipatong 84 percent and Alexandra 82 percent) with Tsutsumani reporting this attribute of much higher importance (91 percent). This finding is supported by Painter (2007:14) who is of the view that as income rises, consumer demand for better quality food attributes grows. The consumer food preference model (Figure 1 on page 11) indicates a consumer choice process beginning with the basic needs which must be met before the individual moves on to the next level.

For product quality no significant difference was reported for the lowest income groups (Eatonside 77 percent and Boipatong 73 percent) and for the higher income groups (Alexandra 86 percent and Tsutsumani 86 percent). For product safety no significant difference was reported for the lowest income groups (Eatonside 62 percent and Boipatong 69 percent) and for the higher income groups (Alexandra 86 percent and Tsutsumani 80 percent). It can be suggested that as income level increases, consumer demand for various food attributes grows. This includes demand for more luxuries such as better quality foods (Figure 1 on page 11) (Painter 2007:14). EUFIC (2005:2) and Guthrie *et al.* (2005:38) also indicated that the income and socio-economic status of consumers influence food choice.



Nutrient content was ranked as least important to the informal settlements, reporting an average of 62 percent. These findings can probably be attributed to the fact that low-income consumers satisfy direct needs for survival (satiety value) first and therefore nutritional needs which is a long-term goal, is of very low immediate importance. In referring to Figure 1, it is noticeable that for this income group nutrition is not important for immediate importance.

The importance of Brand loyalty was ranked depending on the level of consumer poverty. Eatonside which experiences the highest level of poverty, ranked Brand loyalty as least important (61 percent), followed by Boipatong (69 percent), Alexandra (74 percent) while Tsutsumani which was experiencing the slightest level of poverty reported the highest ranking of importance (82 percent). It can be suggested that as the level of poverty decreases consumers are willing to pay a higher price for that product, therefore becoming truly brand loyal (Wikipedia 2008).

When incorporating only the data that did not differ significantly in the calculation of the weighted overall average for each of the respective FPAs for the different informal settlements respondent groups, the following picture as presented in Table 9 emerged:

**Table 9 Importance of the need of food product attributes as perceived by the low-income consumers (weighted) ( $p < 0.1$ ) (Duvenage 2009)**

Attributes	Boipatong n=140	Eatonside n=130	Alexandra n=131	Differences of scores vs norm %	Average* %
Satiety value	94*	92*	92*	2<5.094	<b>93</b>
Affordability	86	78	76		<b>86</b>
Taste	84*	82*	82*	2<7.491	<b>83</b>
Product acceptability	81*	83*	78*	5<8.026	<b>81</b>
Convenience/ease of preparation	80*	79*	81*	2<8.12	<b>80</b>
Household influences	76*	79*	83*	7<12.989	<b>79</b>
Appearance	80*	76*	90	4<9.028	<b>78</b>
Value for money	73*	80*	66	7<8.425	<b>77</b>
Product quality	73*	77*	86	4<8.631	<b>75</b>
Packaging size	86	72*	73*	1<9.066	<b>73</b>
Texture	69*	72*	89	3<9.1	<b>71</b>
Product safety/shelf life	69*	62*	86	7<9.479	<b>66</b>
Brand loyalty	69*	61*	74	8<9.504	<b>65</b>
Nutrient content	59*	65*	81	6<9.671	<b>62</b>

\*Only values not significantly different included from informal settlements

Satiety value was rated as the most important FPA by the informal settlements. Thereafter affordability, taste and product acceptability, convenience/ease of preparation, household influences, appearance, value for money, product quality, packaging size, texture, product safety, brand loyalty and nutrient content follow in sequence of importance.

From Table 9 it is clear that no significant differences were reported for the importance allocated to the FPAs perceived as most important by the informal settlements, including satiety value, affordability (see discourse), taste, product acceptability, convenience/ease of preparation and household influence. Thereafter a trend is reported indicating significant lower values for the importance allocated to appearance,

value for money, product quality, texture, product safety/ shelf life, brand loyalty and nutrient content by the two informal settlements with lower affluence.

#### **4.4 PHASE 2: DESCRIPTION AND COMPARISON OF FOOD PRODUCT ATTRIBUTES**

Phase 2 constitutes the main focus of this study. The objective of this phase was to gain in-depth insight into the meaning of the respective food product attributes identified as needed by the participating low-income consumer groups in Phase 1. Semi-structured focus group discussions were conducted to obtain data from the respective respondent groups.

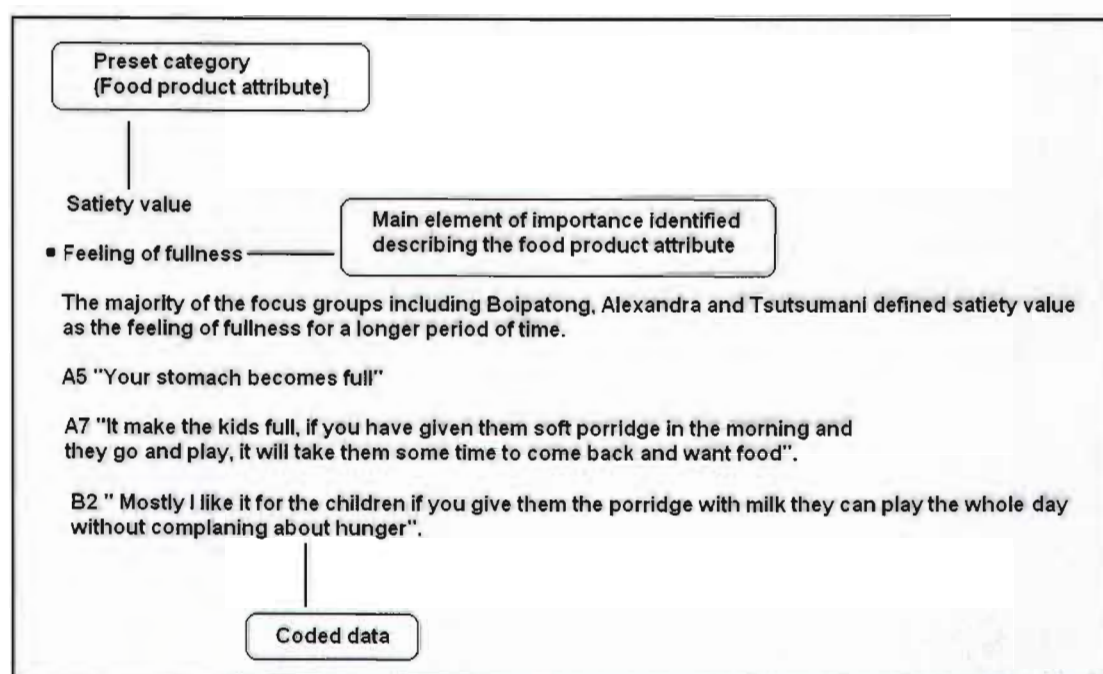
From the data obtained from the different focus groups, specific elements came to light which assisted in interpreting consumer perception and defining the food product attributes. To structure and validate the approach each participant and group was assigned an identification indicator during reporting, e.g. B-1, where B refers to the Boipatong informal settlement focus group discussion and 1 refers to the participant who was allocated this number as identification. The data captured and transcribed from the four focus group discussions are reported in Annexure G.

Results for phase 2 are reported in the following two sections:

**Section 1:** Description of FPAs for the respective respondent groups through identification of the main concept elements

The transcribed data for the respective focus groups were organised by grouping the respondents' answers according to the specific concepts. Data was then coded by identifying the ideas and phrases and highlighting with different coloured pens. This allowed assigning the codes into preset categories (food product attributes as identified in Phase 1). This process was applied for each of the respective focus groups.

The main elements of importance describing each of the FPAs for the respective respondent groups were then identified from the ideas and phrases in the organised data. Figure 10 provides an example of how the main elements of importance, describing the FPAs, were identified.



**Figure 10 Identification of main elements describing the respective food product attributes**

#### **4.4.1 Section 1: Main concept elements describing the respective food product attributes**

For the purpose of presentation, the FPAs are categorised as sensory, health, process and convenience attributes (Grunert 2003 as quoted by Codron *et al.* 2005:32).

##### **4.4.1.1 Sensory attributes**

Sensory attributes refer to aspects of food quality, namely, appearance, taste and smell, with taste being the dominant (Furst *et al.* 1996:257; Codron *et al.* 2005:33). In this

study the sensory attributes that are important to the low-income consumers are appearance, texture and taste.

#### 4.4.1.1.1 Appearance

From the textual data (Annexure G) it became clear that the concept appearance is described in terms of the elements whiteness of the product and colour as an inference to quality properties.

- **Whiteness of the product**

All the focus groups described appearance as the whiteness of the product. It is of interest that this characteristic was often further qualified by reference to the texture and the colour that the respondents are used to and prefer. This preference was indicated as a guideline in purchasing choice:

E 5-"At first I used Pride, but one day I bought Ideal and found a big difference between the two. Ideal was very white and I continued buying it."

B 4-"I like Iwisa because when I cook it, it becomes very white and thicken quickly..."

B 6-"I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the leftovers in the pot are still white with no discolouration."

A 7-"I like the white maize meal because it is the color that we are use to."

A 2-"Even me, I like the white maize meal because it's the one that we are use to and at home we eat the white maize meal."

T 1-"I like the Iwisa maize meal because of its whiteness and others are brownish and I like this one because it's white and soft."

- **Colour as an inference to quality properties**

Boipatong, Alexandra and Tsutsumani focus groups perceived the maize meal colour (white) as an inference to quality properties of the maize meal for example taste, texture or product safety:

B 5 -"In my household we like Iwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them."

A 1-“I like white maize meal because the yellow maize meal does not have a good taste like the white one.”

A 10-“I like white maize meal because it makes the relish look attractive in the plate and the white maize meal makes it easy for you to see if it is contaminated.”

A 5-“I like the white maize meal because it is easy for you to identify the texture.”

T 1-“I like the lwisa maize meal because of its whiteness and others are brownish and I like this one because it's white and soft.”

The perception of the Boipatong and Tsutsumani focus groups is that the whiter the maize meal product, the softer it is:

B 5 -“In my household we like lwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them.”

T 1-“I like the lwisa maize meal because of its whiteness and others are brownish and I like this one because it's white and soft.”

It seems as if the degree of whiteness and thickening ability of the maize meal product provide the consumer with a psychological feeling of satisfaction that promotes continuous buying of the product:

E 5-“At first I used Pride, but one day I bought Ideal and found a big difference between the two. Ideal was very white and I continued buying it.”

B 7-“...when cooking it I look at how easily it thickens and it gives me energy to be strong.”

B 5 -“In my household we like lwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them.”

A 7-“I get satisfied with a white maize meal.”

A 5-“I like the white maize meal.”

T 2-“I like Ace because its strong, you don't have to use more mealie meal and it also helps me to save because you don't have to use lots and lots of it when you cook, and the texture is also nice and the taste is also nice.”

The colour of the maize meal acts as a guideline for preferred taste and visual appearance:



A 1-"I like white maize meal because the yellow maize meal does not have a good taste like the white one."

A 10-"I like white maize meal because it makes the relish look attractive in the plate and the white maize meal makes it easy for you to see if it is contaminated."

#### 4.4.1.1.2 Texture

The concept texture was described in terms of the element's thickening ability, saving of maize meal and cooking fuel and familiarity of the product.

- **Thickening ability**

The thickening ability of maize meal was indicated as the most prominent aspect when the respondents discussed texture. Texture was qualified as the ability of the maize meal to thicken quickly during cooking:

E 8-"I use Ideal because it becomes thick quickly than the other maize meals."

E 6-..".Ideal becomes thick quickly when I cook it."

B 2-"I also like Iwisa because when I cook it, it becomes thick quickly and it also makes us full."

A 9-"From way back as I compare the thickening ability of Iwisa, currently it takes time to thicken and this does not make me change to another brand because I am so use to Iwisa."

A 9-"The texture is different from the one I was use to. The maize meal nowadays does not thicken quickly because of imitations produced..."

A 5-"The soft texture does not thicken quickly."

A 7-"The soft texture does not thicken quickly and medium texture will be fine."

The Boipatong and Tsutsumani focus groups expressed the perception that the thickening ability leads to a smooth and soft end product:

B 5 -"In my household we like Iwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them."

B 3-"I also like Iwisa, more especially that when you make soft porridge it becomes like Mageu drink."

T 3-"It's soft and smooth."

T 5-"It's soft and smooth."

The Boipatong and Alexandra focus groups reasoned that the degree of thickening of the maize meal leads to better satiety value:

B 2- "...it becomes thick quickly and it also makes us full."

A 1- "I also use Ace because it is good for me, it gives me energy and it last longer. When I cook it, it does not get finished faster like other maize meals."

A 1- "I am use to Ace but I grew up eating a different brand. Ace is much better than the brand I grew up eating. The one I grew up eating was too soft and weak; I had to eat a lot of it per day (5 times). With Ace I only eat once."

- **Saving of maize meal and cooking fuel**

Respondents in Boipatong, Alexandra and Tsutsumani linked the quick thickening ability of maize meal with saving. If the maize meal thickens quickly during cooking, it means less time will be required to cook the product, implying saving of fuel. A smaller quantity of maize meal is also used for cooking when the maize meal has a good thickening ability:

B 4- "We are three in the household and 5kg can last for three weeks because the maize meal is thick. When I use 2 cups or 2½ cups it becomes thick, therefore it can last for three weeks."

A 5- "The soft texture does not thicken quickly."

A 7- "The soft texture does not thicken quickly and medium texture will be fine."

T 2- "I like Ace because it's strong, you don't have to use more mealie meal and it also helps me to save because you don't have to use lots and lots of it when you cook..."

T 3- "I like Shaya because it's tasty, and you do not have to use more mealie meal to cook. Even in the soft porridge with milk it's very nice, and it's a little bit coarse. You can make lovely pap for braai."

- **Familiarity**

Tsutsumani respondents indicated that the familiarity of the texture of maize meal is important:

T 3- "...if you feel the texture is like the old Ace you know then it's ok and you continue using it."

T 3- "I can say the person who cooks everyday, is the one who knows all these things because if you put the pot there to boil and mix everything, then you will realize if this is a good maize meal, but some maize

meal when you put in the boiling water, it doesn't come a little bit harder, you keep on putting, putting it doesn't become hard and you will know which one is good for your family."

It is of interest to note that the respondents from Eatonside only mentioned the thickening ability of maize meal as important in relation to texture. This can most probably be due to the need to save and prolong the period for food availability:

E 8-"I use Ideal because it becomes thick quickly than the other maize meals."

E 6-"...Ideal becomes thick quickly when I cook it."

E 4-"I also use Ideal because it thickens quickly when I cook it."

E 1-"I use Ideal because it satisfies me and it thickens quicker when cooking it."

E 5-"...has a coarse texture and thickens easily when cooking..."

#### 4.4.1.1.3 Taste

From the textual data (Annexure G) the concept taste is described in terms of the element's familiarity, versatility of use of the maize meal, sensory qualities/stimulants and importance of taste.

- **Familiarity**

Familiarity with the maize meal product is an important aspect of taste acceptability:

B 4-"I will tell you about Iwisa maize meal, I like it and it's tasty. When I cook it I don't add salt, I just eat it the way it is and it's smooth. I just enjoy it like someone who adds salt to it."

B 2-"Iwisa is very tasty to me and it is like there is a little bit of butter added to it."

A 1-"I am so used to the maize meal that I buy, so I buy that one because other brands I don't know how they taste like. Sometimes you will find that the taste is worse with other brands."

T 3- "Its taste is not like the other maize meal that I used before, because it's nice in the mouth and even if you chew you smell that maize. So that is why I said it's tasty for me."

The 'used to' taste is indicated as a stimulus for purchase choice:

A 10-"...if the taste has changed I try another brand. I will look at price because it means the price I was paying for the old brand does not suit it because of the changed taste. If the price is high in the new one, it means it is a quality product."

A 9-“The price issue is confusing because you cannot follow the price whereas you don't get the taste that you like.”

A 1-“I like white maize meal because the yellow maize meal does not have a good taste like the white one.

Some of the respondents in Alexandra indicated that taste is enhanced through fermentation of the maize meal to create a sour taste. This can most probably be culturally linked:

A 3-“I fermentate the maize meal to prepare sour porridge.”

A 7-“I like the fermented maize meal porridge...”

Other taste related aspects were also indicated such as a buttery taste:

B 4-“I will tell you about lwisa maize meal, I like it and it's tasty. When I cook it I don't add salt, I just eat it the way it is and it's smooth. I just enjoy it like someone who adds salt to it.”

B 2-“lwisa is very tasty to me and it is like there is a little bit of butter added to it.”

- **Versatility of use of the maize meal**

Taste is also linked to the versatility of use of the maize meal product with or without different accompaniments, for example tea, soup, meat:

E 4, 7, 8, 1, 5 – “We can also have maize meal porridge with tea.”

E- “I can only have maize meal with soup and meat.”

B 5-“lwisa is tasty; we eat it with milk, spinach and meat.”

B 7-“lwisa is very tasty that you can just eat it without accompaniments.”

T 5-“I buy Papa maize meal because it has a nice taste, you can even eat it with milk. It's very nice with milk, meat everything.”

- **Sensory qualities (stimulants)**

The Tsutsumani focus group perceived taste as the aroma of the product. Taste was linked to texture through the feeling of the maize meal product in the mouth:

T 1-“It's flavourful like mealies.”

T 3- "Its taste is not like the other maize meal that I used before, because it's nice in the mouth and even if you chew you smell that maize. So that is why I said it's tasty for me."

One respondent in Alexandra indicated that colour (appearance) was used as a guideline for good maize meal taste:

A 1- "I like white maize meal because the yellow maize meal does not have a good taste like the white one."

- **Importance of taste**

In Alexandra and Tsutsumani taste is perceived as more important than price:

A 10- "As for me, if the taste has changed I try another brand. I will look at price because it means the price I was paying for the old brand does not suit it because of the changed taste. If the price is high in the new one, it means it is a quality product."

A 9- "The price issue is confusing because you can not follow the price whereas you don't get the taste that you like."

A 7- "You buy the maize meal that you are use to, whatever the price it may be, it does not matter."

T 3- "...I changed it last year because everyone in the house was complaining. "Why does the pap taste like it's raw?" I thought may be I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand."

Taste was perceived as more important than texture:

A 9- "From way back as I compare the thickening ability of lwisa, currently it takes time to thicken and this does not make me change to another brand because I am so use to lwisa. Changing to another brand you find that the taste is different from the one I am used to."

#### **4.4.1.2 Health attributes**

Health attributes relate to qualities of a product that are invisible to the consumers. Consumers do not expect the consumption of a particular product on a particular occasion to have a health implication that they can experience (Grunert 2003:2). In this study the health attributes identified are nutrient content and product safety.

#### 4.4.1.2.1 Nutrient content

The respondents described the concept nutrient content in terms of the element's energy and nutrient content.

- **Energy**

Respondents from all the settlements referred to nutrient content of food as the energy that is obtained from consuming the maize meal product. Energy is associated with being active and strong (see discussion following under nutrient content):

E 4-“I like maize meal that gives me energy and I am satisfied with that.”

B 7-“It gives you energy and you become active.”

B 5-“It gives you more energy than when you have eaten bread. It lasts longer in the stomach.”

A 1-“I also use Ace because it is good for me, it gives me energy and it last longer...”

A 1-“Ace gives me energy.”

A 5-“It gives you energy.”

T 2-“Satisfactory, you feel full and it's healthy, you feel energetic...”

- **Nutrient content**

The focus group from the more affluent urban settlement, Tsutsumani, was more specific regarding nutrient content of maize meal. The description indicated maize meal as healthy and as a carbohydrate. Maize meal was described as providing energy as well as vitamins and calcium that can boost someone's immune system when it is low. This is also indicated by the use of phrases such as “to grow big and strong.”

T 2-“...and it's healthy, you feel energetic and I grow up eating maize meal.”

T 5-“I eat Papa maize meal because it has calcium and iron and its can boost someone's immune system when it's low. There are all kinds of goodness in it.”

T 3-“As it is a carbohydrate by its self, it also has vitamins and calcium.”

T 3 -“To grow-up big and strong.”

T 2-“Calcium for the bone and iron for blood.”

T 1-“It also helps for their sight.”



#### 4.4.1.2.2 Product safety

The safety of the products was not a popular issue during the discussions. From the textual data (Annexure G) it became clear that the concept product safety is described in terms of the element's sensory qualities as indicator, usability of leftovers, packaging size and expiry date.

- **Sensory qualities as indicator**

The findings associated with describing product safety were linked to the ability of sensory qualities to detect quality properties of the maize meal product as related to shelf life:

B 5-"I once bought an Impala maize meal and a lot of it was left in the pot and it had a bad smell."

A 10-"I like white maize meal because it makes the relish look attractive in the plate and the white maize meal makes it easy for you to see if it is contaminated."

T 3-"...it tastes like it is old maize meal."

T 2 -"It's like the expired one, stored for ages."

T 3-"...when I taste Ace it has changed, it has a bad smell like it has expired even if it has not expired, does not go harder when cooking it. I changed it last year because everyone in the house was complaining. "Why does the pap taste like it's raw?..."

- **Usability of leftovers**

The Boipatong and Tsutsumani communities also commented that leftovers should be acceptable for consumption the following day. This aspect relates indirectly to product safety:

B 6-"...we still can have leftovers and we eat them the following day."

T 3-"...even if you don't have bread in the house, and the kids are crying, you just make tea and take the previous night stiff porridge and they drink tea with it and things go well."

- **Packaging size**

The packaging size purchased was seen as important in terms of product safety. The packaging size purchased had to cater for household consumption patterns within an expected period without spoilage owing to prolonged storage:

B 1-“I use 5kg because we are three in the household. I don't buy 12,5kg because I think it will get spoiled/rot because when maize meal stays for a long time it develops some moulds and that is why I buy smaller sizes. In the household we are not many.”

B 4-“...but I prefer buying small sizes to avoid spoilage.”

B 6-“The size I buy is influenced by the number of household members. We are not many; if I buy a larger size it will get spoiled.”

B 1-“I buy 5kg because we are not many and I don't want it to stay for a long time.”

A 7-“I buy the maize meal that does not stay for a long time. I want it to get finished and buy another one.”

- **Expiry date**

The Boipatong, Alexandra and Tsutsumani respondents indicated the lapsing of the expiry date of maize meal when discussing product safety:

B 4- “I once looked at the expiry date and the date was still new and I bought the maize meal but when I got home and used it, the maize meal was not fresh.”

A 7-“If the maize meal has expired we do not buy it.”

T 2 -“It's like the expired one, stored for ages.”

T 3-“...but now when I taste Ace it has changed, it has a bad smell like it has expired even if it has not expired...”

#### **4.4.1.3 Process attributes**

Process attributes relate to consumers' interest in the way a food product has been produced, even when this has no analysable impact on the final food product (Grunert 2003:3). From the Phase 1 of the study the process attribute which was identified was packaging size.

##### **4.4.1.3.1 Packaging size**

The concept packaging size from the textual data (Annexure G) is described in terms of the element's food provisioning for a specific period of time, prevention of wastage, money availability and household size as presented below:

- **Food provisioning for a specific period of time**

Most of the respondents commented that packaging size refers to the amount of maize meal that would be adequate to provide for household consumption for an expected period:

E 7-"12,5kg, I buy that size so that it can last the whole month."

E 5-"When I buy 12,5kg it can last the whole month and I can still top up on it."

E 8-"I buy 12,5kg and it lasts two weeks."

E 6-"I buy 12,5kg because I have many children, but the 12,5kg gets finished within a week."

B 4-"We are three in the household and 5kg can last for three weeks because the maize meal is thick. When I use 2 cups or 2½ cups it becomes thick therefore it can last for three weeks."

B 3-"We are nine in the household so 25kg is the only size which will manage the whole household for the month."

A 9-"I buy 12,5kg, it lasts for a month."

A 7-"I buy 5kg, I buy the maize meal that does not stay for a long time. I want it to get finished and buy another one."

A 2-"I buy 12,5kg, it last for a month."

T 2-"It is important because if I use two 12,5kg a month it's too much for me and then if I use one 12,5kg its ok."

T 3-"I buy 10kg for the whole month."

T 1-"I buy 25kg, so that it can last, may be three to four months in case I can't get it again in the store."

- **Prevention of wastage**

The fact that no wastage should take place was indicated as an important issue to these consumers. This is reflected by the need for usability of leftovers for consumption purposes. No deterioration in the quality of the maize meal should take place owing to prolonged storage that could cause losses:

B 7-"We buy 12,5kg because we are eight in the household and it lasts the whole month. Most of the time we eat it in the evening and the leftovers in the pot we eat them the following day in the afternoon."

B 1-"I use 5kg because we are three in the household, I don't buy 12,5kg because I think it will get spoiled/rot. You know that when maize meal stays for a long time it develops some moulds. That is why I buy smaller sizes and in the household we are not many."

- **Money available**

Respondents from the two poorest informal settlements, Eatonside and Boipatong, also indicated that the money available at the time of purchase determines the packaging size to be purchased:

E 2- "...25kg and it depends on the money I have."

E 4- "...12,5kg, but when I don't have enough money I buy 5kg"

B 4- "Sometimes I can buy looking at the size of the family and sometimes I compare prices and buy the large size if I find it cheap."

- **Household size**

Boipatong, Alexandra and Tsutsumani commented that packaging size purchased is influenced by household size. Only one respondent from Eatonside indicated the same approach:

E 6- "I buy 12,5kg because I have many children, but the 12,5kg gets finished within a week."

B 7- "We buy 12,5kg because we are eight in the household and it lasts the whole month."

B 1- "I use 5kg because we are three in the household, I don't buy 12,5kg because I think it will get spoiled/rot. You know that when maize meal stays for a long time it develops some moulds. That is why I buy smaller sizes and in the household we are not many."

A 5- "when you buy a particular size, you consider the size of the family and how long it will last."

A 7- "You look at the size of the family and buy that size."

T 2- "I use to buy 10kg so my younger brother moved in with me, so I changed from 10kg to 12,5kg. If I have an extra family member I always go for a larger size."

#### **4.4.1.4 Convenience attributes**

Convenience attributes refers to aspects of a food product that save time or energy household members spend on shopping, food storage, food preparation, eating and disposal (Furst *et al.* 1996:258; Grunert 2003:3; Codron *et al.* 2005:33-34).

##### **4.4.1.4.1 Convenience**

From the textual data (Annexure G) it became clear that the concept convenience is described in terms of the element's ease of preparation and usability of leftovers.

- **Ease of preparation**

Respondents from all the informal settlements regarded convenience as the ease of preparation, which involves a shorter time required for preparation of maize meal. The ability of the maize meal to thicken quickly was indicated as highly important. The interpretation of how quick and easy it thickens is also linked to affordability and ease of preparation. It is of interest that a distinction is made between the time that the maize meal takes to become cooked and the ability of the maize meal to thicken quickly:

E 8-“I use Ideal because it becomes thick quickly than the other maize meals.”

E 6-“The same with me Ideal becomes thick quickly when I cook it.”

E 4-“I also use Ideal because it thickens quickly when I cook it.”

E 1-“I use Ideal because it satisfies me and it thickens quicker when cooking it.”

B 4-“...it becomes very white and thickens quickly ...”

B 2-“...it becomes thick quickly...”

A 5-“Ace gets cooked easily ...”

A 4-“When it cooks easily”

A 5-“...and cooks easily.”

A 2-“It does form lumps when cooking.”

A 9-“I like Ace because its gets cooked easily unlike other maize meals.”

A 4-“When you cook it, it cooks easily.”

T 1-“It doesn’t take too long to cook.”

T 1-“20 to 30 minutes, but the other one that I use to cook it was 45 minutes.”

T 2-“Soft porridge is less in time length.”

T 3-“Soft porridge is less in time because with the stiff one you are still going to put in some more mealie meal on top of the soft porridge and then mix together. But if it’s soft porridge after 10 minute you can eat it.”

- **Usability of leftovers**

The focus groups from Boipatong and Tsutsumani linked convenience to use of leftovers at a later stage, implying that the leftovers should be acceptable for consumption the following day. This can most probably be due to the need to save time and energy (fuel) required to prepare fresh “pap”:

B 6-“We still can have leftovers and eat them the following day.”

B 6- "...in the morning the leftovers in the pot are still white no discolouration."

T 3- "...even if you don't have bread in the house, and the kids are crying, you just make tea and take the previous night stiff porridge and they drink tea with it and things go well."

The analysis revealed that additional categories including economic-linked attributes and other factors influencing purchase choice are needed. In literature attributes describing food quality are divided into four categories for the modern consumers, namely sensory attributes, health attributes, process attributes and convenience attributes (Codron *et al.* 2005:32).

#### **4.4.1.5 Economic-linked attributes**

Phase 1 of this study revealed that economic-linked attributes are satiety value, value for money and affordability.

##### **4.4.1.5.1 Satiety value**

The concept satiety value from the textual data (Annexure G) is described in terms of the element's providing a feeling of fullness, feeling of heaviness, provisioning of energy, absence of hunger and feeling of well-being.

- **Feeling of fullness**

The majority of the focus groups, including Boipatong, Alexandra and Tsutsumani, defined satiety value as the feeling of fullness for a longer period of time. This is indicated by the use of phrases such as "children can play the whole day without complaining about hunger" owing to consumption of the maize meal product as indicated by the following quotes:

B 6- "Once you are full you don't long for another meal."

B 2- "...it also makes us full."

B 2- "Mostly I like it for the children if you give them the porridge with milk they can play the whole day without complaining about hunger."

A 5- "Your stomach becomes full."

A 7- "It makes the kids full, if you have given them soft porridge in the morning and they go and play. It will take them some time to come back and want food."



T 3 -"You will feel full..."

T 1-"You feel full."

- **Feeling of heaviness**

One respondent noted that fullness creates a feeling of heaviness in the stomach:

T 3 -"You will feel full, it's heavy in the stomach."

- **Provisioning of energy**

The perception of the targeted population is that the feeling of a full stomach links to the provisioning of energy:

E 4-"I feel energetic."

E 5-"I feel energetic too."

B 6-"Once you are full you don't long for another meal."

B 4-"When you are full it's like this, for example you have eaten at 10:00hrs and you will eat again at 16:00hrs. It means you are full."

A 5-"Ace gets cooked easily, its tasty, fills you up, stays longer in the stomach."

- **Absence of Hunger**

Satiety value is also described as the absence of hunger:

B 4-"...for example you have eaten at 10:00hrs and you will eat again at 16:00hrs. It means you are full."

B 2-"Mostly I like it for the children if you give them the porridge with milk they can play the whole day without complaining about hunger."

A 2-"When I have eaten maize in the morning I can stay the whole day without wanting food, until my next meal at six o'clock in the afternoon."

A 7-"You will want food after a longer time when you have eaten maize meal."

A 10-"Most of the time they cook Ace maize meal for me because I am a sports man and it makes me stay full for a longer time..."

- **Feeling of well-being**

Eatonside, which is the poorest informal settlement, indicated a feeling of well-being when describing satiety value:



E 6-“I feel good.”

E 6-“I feel right.”

#### 4.4.1.5.2 Value for money

The focus groups associated value for money with a product that provides specific economic benefits but perceptions differed between the groups.

- **Thickening ability**

All focus groups clearly indicated a good thickening ability of the maize meal as important during cooking:

E 5-“I get satisfied with Ideal maize meal. It is always white. It has a coarse texture and thickens easily when cooking.”

B 4- “It’s white, smooth and thickens easily and less with price.”

B 2-“I also like Iwisa because when I cook it, it becomes thick quickly and it also makes us full.”

B 6-“I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the leftovers in the pot are still white with no discolouration.”

B 5 -“In my household we like Iwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them.”

A 10-“The maize meal should be thick when cooking pap.”

A 5-“The maize meal should cook the way I like it and I should enjoy it. In my culture (Sepedi) it is nice when it’s thick.”

T 3-“...does not go harder when cooking it. I changed it last year because everyone in the house was complaining...and I mixed like I usually do, but it was the same. So I changed to a new brand.”

- **Least quantity of maize meal**

Value for money was also linked to the use of the least quantity of maize meal to achieve a required product thickness:

B 6-“I also buy 5kg because 2 cups are enough to make it thick and we are three in the household, or I can say we are two because I have two kids and they eat small amounts.”

T 2-“Thickening is important because if I use two 12,5kg a month it’s too much for me and then if I use one 12,5kg its ok.”

T 3-“...some maize meal when you put in the boiling water, it doesn’t come a little bit harder, you keep on putting, putting it doesn’t became hard and you will know which one is good for your family.”

T 2-"I don't put too much and at the same time am saving and getting what I like."

- **Familiarity**

The maize meal product should be the one that the consumer is used to or familiar with:

E 5- My children are so used to Ideal maize meal; if I buy a different brand they will complain that this maize meal is not good."

B 5- "If it is not available I would rather buy bread because I know my children wont eat any other maize meal."

A 9-"I buy the one that I am use to."

A 7-"I buy the one that I am use to."

A 5-"I buy the one that I am use to."

T 5-"If I go to buy Papa and is not there I also buy Ace because I grew up eating Ace and the taste is similar."

- **Product qualities**

The maize meal purchased is expected to provide product qualities like satiety value, taste, colour and energy as required (refer to the previous discussions for the noted aspects):

E 4-"I like maize meal that gives me energy and I am satisfied with that."

B 6-"I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the leftovers in the pot are still white no discolouration."

B 5 -"In my household we like Iwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them."

A 5-"Ace gets cooked easily, it's tasty, fills you up, stays longer in the stomach."

A 1-"I also use Ace because it is better for me, it gives me energy and it last longer and when I cook it, it does not get finished faster like other maize meals."

A 2-"Ace, because it has a good taste than other maize meal."

T 2-"I don't put too much and at the same time am saving and getting what I like."

- **Quantity purchased**

The perception was also that the quantity purchased should last the expected period to support the consumption and financial needs of the household:

B 3-"I buy that size because we are many in the household and I get money per month and I buy once."

B 8-"I buy 12,5kg because I don't work and I want it to last."

T 2-"It is important because if I use two 12,5kg a month it's too much for me and then if I use one 12,5kg its ok."

T 3-"For me if the price is a bit higher, maybe I can't afford because I can say the price I am paying now is affordable for me because I still have one day job to buy if am not working."

#### 4.4.1.5.3 Affordability

The respondents described the concept affordability from the textual data (Annexure G) in terms of the element's availability of enough money, use of leftovers, cheapest product amongst favourable brands, cheapest product, product providing preferred qualities, price determines packaging size and price paid for maize meal is affordable.

- **Availability of enough money**

Affordability was linked to having enough money to buy the amount of maize meal needed. This involved paying the price needed to purchase the amount of maize meal just enough to last the expected period. For the majority of the groups a period of a month was indicated:

E 2-"... but mostly my purchases rely on the money available. That is why I buy the one on special price."

E 4-"... 12,5kg, but when I don't have enough money I buy 5kg."

E 7-"I buy that size so that it can last the whole month."

E 8-"I buy 12,5kg and it lasts two weeks."

E 4-"...sometimes when I don't have enough money for one of them, I just buy the one I find on special so that at least I can have something to eat for the day."

E 8-"I use Iwisa and Ideal but if Mamas is on special and I don't have enough money for Ideal or Iwisa I buy Mamas."

A 7-"You buy the maize meal that you are use to, whatever the price it may be, it does not matter."

A 9-"The price issue is confusing because you can not follow the price whereas you don't get the taste that you like."

T 5-"If I go to buy Papa and if it is not there, I also buy Ace because I grew up eating, Ace and Papa taste is similar."

Only the Eatonside focus group, which is the poorest informal settlement, indicated that if one does not have enough money, the cheapest brand available can be purchased in order to have something to eat for a stipulated period, e.g. a day or a week:

E 2-"I like Mamas, but mostly my purchases rely on the money available. That is why I buy the one on special price."

E 4-"... 12,5kg, but when I don't have enough money I buy 5kg."

E 4-"I like both of them but sometimes when I don't have enough money for one of them, I just buy the one I find on special so that at least I can have something to eat for the day."

E 8-"I use Iwisa and Ideal but if Mamas is on special and I don't have enough money for Ideal or Iwisa I buy Mamas."

- **Use of leftovers**

The use of leftovers by the target population indicates that the consumers cannot afford to waste. The decision to use leftovers is adopted owing to the need to save money e.g. through saving cooking fuel:

B 7-"...most of the time we eat pap in the evening and the leftovers in the pot we eat them the following day in the afternoon."

A 9-"The price issue is confusing because you can not follow the price whereas you don't get the taste that you like."

T 3-"...even if you don't have bread in the house, and the kids are crying, you just make tea and take the previous night stiff porridge and they drink tea with it and things go well."

- **Cheapest product amongst favorable brands**

The price is conditional: the consumer buys the cheapest product amongst consumers' favourite brands as long as required characteristics e.g. good thickening are provided:

B 7-"When I go into the shop and buy Iwisa, I look how cheap it is, when cooking it I look at how easily it thickens and it gives me energy to be strong. Even the children like Iwisa and Papa maize meal because these two are the same."

B 1-"I like Iwisa and Ideal maize meal. When I go into the shop I compare the prices for the two maize meals, because this month Iwisa will be cheap and the following month Ideal is the cheaper one. These two brands are the same to me."

B 4-“Sometimes I can buy looking at the size of the family and sometimes I compare prices and buy the large size if I find it cheap. But I prefer buying small sizes to avoid spoilage.”

- **Cheapest product**

Eatonside focus group indicated the purchasing of the cheapest maize meal what could be obtained as linked to special price as guided by the money available:

E 2- “I just buy any maize meal that is cheap, that I find in the shop.”

E 2-“I like Mamas, but mostly my purchases rely on the money available. That is why I buy the one on special price.”

E 2-“25kg and it depends on the money I have.”

E 4-“...but sometimes when I don’t have enough money for one of them, I just buy the one I find on special....”

E 6-“I look for Ideal because it’s cheaper.”

- **Product providing preferred qualities**

The focus group for Alexandra indicated that the amount of money is paid as needed to acquire the maize meal with preferred qualities like taste. High price is linked to the perception of good quality. For this group, taste and familiarity are more important than price:

A 9-“The price issue is confusing because you cannot follow the price whereas you don’t get the taste that you like.”

A 7-“You buy the maize meal that you are use to, whatever the price it may be, it does not matter.”

A 10-“As for me, If the taste has changed I try another brand. I will look at price because it means the price I was paying for the old brand does not suit it because of the changed taste. If the price is high in the new one, it means it is quality product.”

- **Price determines packaging size**

Respondents from the two poorest informal settlements, Eatonside and Boipatong, also indicated that the money available at the time of purchase determines the packaging size to be purchased. This concept can also be linked to affordability:

E 2-“...25kg and it depends on the money I have.”

E 4-“... 12,5kg, but when I don't have enough money I buy 5kg.”

B 4-“Sometimes I can buy looking at the size of the family and sometimes I compare prices and buy the large size if I find it cheap. But I prefer buying small sizes to avoid spoilage.”

- **Price paid for maize meal is affordable**

It is of interest to note that one of the respondents from Tsutsumani, which is the least poor settlement, indicated the price of the maize meal that they are paying is affordable:

T 3-“For me if the price is a bit higher, maybe I can't afford because I can say the price am paying now is affordable for me because I still have one day job to buy if I am not working.”

#### **4.4.1.6 Other factors influencing purchase choice**

Other factors influencing purchase choice in this study were identified as acceptability, brand loyalty, product quality and household influence. According to Imram (1999:226) sensory attributes have a significant role in the overall perception and acceptance of food products. Food acceptance refers to the attitude towards a product as expressed by a consumer, often indicating its actual use (Meiselman & MacFie 1996:2).

##### **4.4.1.6.1 Acceptability**

From the textual data (Annexure G) the concept acceptability is described in terms of the element's product familiarity, perception of household members, usability of leftovers, and economic attributes.

- **Product familiarity**

The participants in Alexandra and Tsutsumani linked acceptability of the maize meal with familiarity of the product as influenced by the household or family trends of using a particular brand. Sometimes this approach is carried over from generation to generation:

A 7-“I grew up eating Ace, and my children are also eating it and I would not listen to any complains about Ace.”

A 5-“If you have children in your household you raise them eating a certain brand and they get used to it, so there is no way that they will want a different brand.”

T 5-“If I go to buy Papa and it is not there I also buy Ace because I grew up eating Ace and the taste is similar.”

Familiarity of the maize meal product is linked to preferred characteristics like taste, colour and thickening ability. The consumer’s familiarity with the product owing to habitual use is seen as important:

E 5-“At first I used Pride, but one day I bought Ideal and found a big difference between the two. Ideal was very white and I continued buying it.”

E 7-“Mamas doesn’t become thick when cooking, so I take the one I am use to.”

B 5 -“In my household we like Iwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them.”

A 1-“I am so used to the maize meal that I buy, so I buy that one because other brands I don’t know how they taste like. Sometimes you will find that the taste is worse with other brands.”

T 3-“But sometimes it happens that the brand you were using has changed, like before I was using Ace. Ace was my favourite. But now when I taste Ace it has changed. It has a bad smell like it has expired even if it has not expired and does not go harder when cooking it. I changed it last year because everyone in the house was complaining. Why does the pap taste like it’s raw? I thought may be I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand.”

- **Perception of household members**

The opinion of the household members, especially the children and/or partners, is indicated as influencing the acceptability of the product:

E 5-“My children are so used to Ideal maize meal; if I buy a different brand they will complain that this maize meal is not good.”

E 7-“Even my children will tell me that.”

B 7- “I do ask them because children like pap and if you change they complain.”

B 6-“I do ask them how is the pap and they will tell me.”

B 5- “If it is not available I would rather buy bread because I know my children won’t eat any other maize meal.”

A 6-“I buy the maize meal that my husband likes and if I don’t like it, I just eat and I will get use to it.”

T 1-“I just buy according to my children, if they like it I buy it.”



- **Usability of leftovers**

In more restricted circumstances it seems that certain food product attributes such as usability of the leftovers are perceived as important for acceptability:

B 6-“I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the leftovers in the pot are still white no with discolouration”

T 1- “I can have it with tea and soup”

T 3- “... even if you don’t have bread in the house, and the kids are crying, you just make tea and take the previous night’s stiff porridge and they drink tea with it and things go well”

- **Economic attributes**

Economic attributes such as versatility of use of the maize meal product, satiety value, price, cooking quickly, good thickening ability so that smaller amounts can be used, provisioning of energy and no wastage were indicated as important criteria for acceptability of maize meal by all groups:

E 4-“I like maize meal that gives me energy and I am satisfied with that.”

B 7-“When I go into the shop and buy Iwisa, I look how cheap it is, when cooking it I look at how easily it thickens and it gives me energy to be strong.”

B 4- “I once bought Naledi maize meal small package size, but I realised I have wasted money, because it was not the maize meal am use to. It doesn’t get thick and I nearly used the whole package just cooking once.”

B ALL- “We can also have pap with tea.”

B 2-“I also like Iwisa because when I cook it, it becomes thick quickly and it also makes us full.”

A 1-“I am use to Ace but I grew up eating a different brand. Ace is much better than the brand I grew up eating. The one I grew up eating was too soft and weak; I had to eat a lot of it (5 times) per day, with Ace I only eat once.”

T 2-“...you feel full and it’s healthy, you feel energetic and I grow up eating maize meal.”

#### 4.4.1.6.2 Brand loyalty

The concept brand loyalty was described in terms of the element’s set of brands, repeated purchasing of one brand, postponing shopping and the use of a different staple food and leniency with brand choice.

- **Set of brands**

The majority of the respondents from the Boipatong, Alexandra and Tsutsumani focus groups regarded loyalty to the brand name as the ability to choose the most affordable brand amongst the consumer's own specific set of favourite brands. The qualities preferred and the amounts of money available were noted as factors considered during brand choice. Brand name was rarely the only consideration:

E 7-"It depends which maize meal is on special and which maize meal thickens quicker. For example Ideal is the same as Iwisa. So if Ideal is on special I take Ideal and leave Iwisa."

B 1-"I like Iwisa and Ideal maize meal. When I go into the shop I compare the prices for the two maize meals, because this month Iwisa will be cheap and the following month Ideal is the one cheaper and these two brands are the same to me."

A 7-"I buy the one I always buy."

A 9-"From way back as I compare the thickening ability of Iwisa, currently it takes time to thicken and this does not make me change to another brand because I am so use to Iwisa. Changing to another brand you find that the taste is different from the one I am used to."

T 2-"I look at the price first and my second choice is always White Star, it gets thick very easily and it's white."

T 3 -"Not exactly, because if I can check the prices I will choose the one I don't want. White Star maize meal I also like it, it's similar to Shaya maize meal, it's not so soft like the other ones."

- **Repeated purchasing of one brand**

The Alexandra focus group reported that loyalty to brand name links to the repeated purchasing of one brand in favour over other brands. This conduct leads to the habitual use of the specific brand of maize meal. This finding indicates that the Alexandra group is more brand loyal than the other groups:

A 5-"I don't change the brand if some characteristics of the product are different."

A 7-"I always stick with the brand I am use to, I don't change to a different brand."

A 9-"I buy the one that I am use to."

A 1-"I only buy Iwisa."

A 7-"I buy the one I always buy."

A 9-"If I do not find the brand I always buy I go to the next shop."

A 7-"I go to the next shop, if the brand I use is not available."

A 4-"I go to the next shop, if the brand I use is not available."

B 1 "...you can not buy a cheaper product which won't satisfy you."

T 1-"I buy 25kg, so that it can last, may be three to four months in case I can't get it again in the store."

Only a few respondents from the other focus groups indicated the same approach:

B 6-"...as for me, if maize meal is not available I wait until it's available. Mean while I use mabele (sorghum)."

B 8-"...if it's not available I cook rice."

B 7- "I do ask them because children like pap and if you change they complain."

B 5- "If it is not available I would rather buy bread because I know my children won't eat any other maize meal."

T 1-"I go to another shop if lwisa is not available."

- **Postponing shopping and the use of a different staple food**

The quotes in the previous section indicate a willingness to postpone shopping or to use a different staple food if the required maize meal brand is not available.

- **Leniency with brand choice**

The Tsutsumani focus group respondents revealed a leniency towards brand choice:

T 5-"If I go to buy Papa and if is not there I also buy Ace because I grew up eating Ace and the taste is similar."

T 3-"But sometimes it happens that the brand you were using has changed, like before I was using Ace, Ace was my favourite, but now when I taste Ace it has changed, it has a bad smell like it has expired even if it has not expired, does not go harder when cooking it. I changed it last year because everyone in the house was complaining. "Why does the pap taste like it's raw?" I thought may be I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand."

#### 4.4.1.6.3 Household influences

From the textual data (Annexure G) it became clear that the concept household influences is described in terms of the element's packaging size, household members who guide purchase choice, and financial status.

- **Packaging size**

Respondents described household influences as the household size or the total number of people in the household which influence the packaging size to be purchased to meet the consumption needs of the household:

E 6-"I buy 12,5kg because I have many children, but the 12,5kg gets finished within a week."

B 3-"We are nine in the household so 25kg is the only size which will manage the whole household for the month."

B 5-" I buy 5kg, we are five in the household and it lasts the whole month."

B 7-"We buy 12,5kg because we are eight in the household and it lasts the whole month. Most of the time we eat it in the evening and the leftovers in the pot we eat them the following day in the afternoon."

B 2-"I buy 12,5kg because we are four in the household and it last the whole month."

A 5-"when you buy a particular size, you consider the size of the family and how long it will last."

A 9-"I listen to what other house hold members want but the problem is we can not cook two pots of different maize meal."

A 6-"I buy the maize meal that my husband likes and if I don't like it, I just eat and I will get use to it."

T 1-"I just buy according to my children, if they like it I buy it."

T 1-"Most of the time I do it for the sake of the children."

T 2-"With me I always do things the way I see they will suit every one. Like my children they don't know the difference between Ace and whatever, and my husband as long as its pap, nicely done its ok. As the wife and mother I know what's right or wrong for my family."

One respondent from Alexandra stated a preference of a smaller packaging size of different brands so that all the household members can have an opportunity to consume their preferred brands:

A 10-"I prefer that we buy 5kg of Ace and 5kg of other brand that is liked by the household members and we can all have a share of the brands we like sometime."

- **Household members who guide purchase choice**

Alexandra and Tsutsumani noted that children and/or partners guide purchase choice of maize meal:

A 6-"I buy the maize meal that my husband likes and if I don't like it, I just eat and I will get use to it."

A 9-"I listen to what other house hold members want but the problem is we can not cook two pots of different maize meal."

A 5-"If you have children in your household you raise them eating a certain brand and they get used to it, so they is no way that they will want a different brand."

T 1-"I just buy according to my children, if they like it I buy it."

T 1-"Most of the time I buy it for the sake of the children."

T 3-"...I changed it last year because everyone in the house was complaining. Why does the pap taste like it's raw?.... So I changed to a new brand."

One respondent from the Tsutsumari focus group indicated that as the mother she was responsible for the choice of the maize meal for the household:

T 2-"With me I always do things the way I see they will suit every one. Like my children they don't know the difference between Ace and whatever, and my husband as long as its pap, nicely done it's ok. As the wife and mother I know what's right or wrong for my family. I use to buy 10kg so my younger brother moved in with me, so I changed from 10kg to 12,5kg. If I have an extra family member I always go for a larger size."

- **Financial status**

One respondent in Boipatong indicated that household financial status determines purchasing practices:

B 7- "We are influenced by our status, and the family size also has an impact on the packaging size purchased."

#### 4.4.1.6.4 Product quality

Only respondents from Alexandra directly discussed product quality. The study revealed the food product attributes (concept) and concept elements perceived as most important by the low-income consumers and quality for other settlements can be inferred from the most important FPAs. This reasoning is based on the perception that product quality is the reflection of the acceptance of the perceived characteristics of a product by the consumers who are the regular users of the product (Cardello 1995:164). The concept product quality is described in terms of the elements, preferred maize meal qualities, price as quality indicator and degree of whiteness.

- **Preferred maize meal qualities**

Product quality was defined as the ability of the maize meal product to be cooked easily and the availability of the preferred food product qualities per an individual consumer. The preferred qualities include taste, satiety value, cooking easily, thickening ability and appearance/colour:

A 2-“The maize meal should cook the way I like it.”

A 10-“The maize meal should be thick when cooking pap.”

A 5-“The maize meal should cook the way I like it and I should enjoy it. In my culture (Sepedi) it is nice when it's thick.”

A 4-“when you cook it, it cooks easily.”

A 1-“I am use to Ace but I grew up eating a different brand. Ace is much better than the brand I grew up eating. The one I grew up eating was too soft and weak; I had to eat a lot of it (5 times) per day, with Ace I only eat once.”

E 3-“I use Ideal because when I cook it, it doesn't form lumps like the other maize meals.”

E 4-“I buy Iwisa because it's similar to Ideal.”

B 4-“I like Iwisa because when I cook it, it becomes very white and thickens quickly and when we eat it in the household we really feel we have eaten a good maize meal.”

T 5-“I eat Papa maize meal because it has calcium and iron and its can boost someone's immune system when it's low. There are all kinds of goodness in it.”

T 2-“sometimes it doesn't taste nice, it has this funny taste like it's not done.”

T 2-“I don't put too much and at the same time am saving and getting what I like.”

T 3-“But sometimes it happens that the brand you were using has changed, like before I was using Ace, Ace was my favourite, but now when I taste Ace it has changed, it has a bad smell like it has expired even if it has not expired, does not go harder when cooking it. I changed it last year because everyone in the house was complaining. Why does the pap taste like it's raw? I thought maybe I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand.”

- **Price as quality indicator**

Alexandra focus groups also linked the product quality with the price of the product:

A 10-“As for me, If the taste has changed I try another brand. I will look at price because it means the price I was paying for the old brand does not suit it because of the changed taste. If the price is high in the new one, it means it is quality product.”



- **Degree of whiteness**

However, Boipatong focus group judged product quality based on the degree of whiteness of the maize meal, the leftovers and other uses of the product:

B 4-“I like Iwisa because when I cook it, it becomes very white and thickens quickly and when we eat it in the household we really feel we have eaten a good maize meal.”

B 6-“I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the leftovers in the pot are still white no discolouration.”

B 5 -“In my household we like Iwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them.”

B 3-“I also like Iwisa, more especially that when you make soft porridge it becomes like Mageu drink.”

#### **4.4.2 Section 2: Comparison of the description of the respective food product attributes between respondent groups and existing literature**

From the qualitative analysis of the data obtained from the different FGD's, specific concept elements describing the different FPAs have been identified (§4.4.1). The key elements of each concept (FPA) were summarised while retaining the context and language in which it was expressed.

For better comprehension of the meaning perceived for the respective FPAs between the responding groups, a horizontal comparison is drawn to further exploit the richness of the data. In so doing, the possibility was created to relate the findings from the qualitative data to literature. Discussion of the qualitative data is based on the food product attributes identified as important for low-income consumers (Phase 1). It is of interest that the financial situation of the respective groups as summarised in Table 6, could be related to the findings. The formal settlement Tsutsumani is reported as the settlement of highest affluence, followed by Alexandra and Boipatong. Eatonside is experiencing the highest level of poverty amongst the informal settlements.



During the analysis of the qualitative data an interlinking of the FPAs was observed, as became apparent during the description of the FPAs (concepts) through the revealed elements.

#### **4.4.2.1 Appearance**

Lawless and Heymann (1998:796) and Imram (1999:227) indicated that appearance refers to the visual properties of a product. These include product attributes such as size, shape, colour, visual texture, gloss, transparency, cloudiness and perceived flavour. Some of these visual properties were also stated by the participants of the focus groups. All the focus groups described appearance as the whiteness of the maize meal product.

It is of interest that appearance was often described by reference to the visual texture created by the thickening ability of the maize meal and as the colour that the participants are used to and prefer (§4.4.1.1.1 Appearance: whiteness of the product). This preference was indicated as a guideline in purchasing choice. It can be suggested that the application of colour by all FGs to infer the preferred texture, was linked to the product experience of the respondents. A certain colour of the maize meal is known to provide quick thickening ability (§4.4.1.1.1 Appearance: colour as an inference to quality properties). This ability is further linked to better provisioning of satiety value (most important FPA) and saving of maize meal (affordability) owing to smaller amounts that is used for every preparation occasion indicated by Boipatong and Alexandra informal settlements.

All the focus groups perceived the maize meal colour (white) as an inference to the quality properties of the maize meal. Human perception of quality is dependent on visual image. An appealing appearance attracts a consumer's attention and is used as a screening mechanism (Imram 1999:226). The quality properties that were inferred from the colour of the maize meal differed amongst the focus groups. Tsutsumani used colour of the maize meal as reference to texture. It can be suggested that the appealing

texture of the maize meal is seen as important for these consumers in providing the option for preparation of different dishes since it is a staple food.

It is of interest to note that Alexandra, which is the least poor of the informal settlements, used colour to detect quality properties such as product attractiveness, presence of contamination and taste. This can be linked to a slightly higher income which allows more preference for quality properties such as product attractiveness and taste as compared to the Boipatong and Eatonside informal settlements. These settlements used colour to detect factors linked only to economic characteristics such as thickening ability and acceptability of leftovers (§4.4.1.1.1 Appearance: colour as an inference to quality properties). Painter (2007:14) stated that as income rises, the demand for various attributes such as convenience, health-promotion and high quality grows. Alexandra also regarded appearance as indicative of taste of the maize meal. This perception is supported by literature indicating that colour and appearance can have a halo effect which modifies subsequent flavour perception (Imram 1999:226).

The perception of the Boipatong and Tsutsumani focus groups is that the whiter the maize meal product, the softer the texture. Accordingly it can be explained that these consumers purchase different types of maize meal that are expensive owing to being highly refined. The more a product is refined the whiter and softer the product becomes and the less nutritious. It seems as if the degree of whiteness and the thickening ability of the maize meal product provide the low-income consumers with a psychological feeling of satisfaction that promotes continuous buying of the product. A specific brand is purchased owing to a known appearance and texture.

#### **4.4.2.2 Texture**

According to Lawless and Heymann (1998:808) texture refers to characteristics of a product perceived by the visual or tactile senses. Visually perceived texture includes smooth, lumpy, rough, flaky, crystalline and viscose characteristics (Tuorila 2007:35). According to a pattern observed in the results of this study, it can be inferred that perception of texture by the FGs follows the definition provided by Lawless and

Heymann (1998:808). Texture was indicated by all the FGs as the thickening properties of the maize meal during cooking, highlighting the importance of this concept element (§4.4.1.1.2 Texture: thickening ability). The thickening properties indicate the visually perceived texture. Good thickening properties enabled the consumers to use small amounts of maize meal; therefore the packaging size lasted longer and accordingly impacts on the affordability (second most important FPA) of the product (§4.4.1.1.2 Texture: saving of maize meal and cooking fuel). The familiarity of texture was indicated as important by Tsutsumani. It can be suggested that familiarity of texture (§4.4.1.1.2 Texture: familiarity), owing to experience of use of a particular maize meal product, provides a perception of good value for money that promotes continuous use of the product. This supports the findings by Mojet and Köster (2005:251) that most people have a clear idea regarding the expected texture of the product. Expectations are based on previous encounters with the same food.

The Boipatong and Alexandra FGs also expressed that the thickening degree of the maize meal leads to better satiety value. The thickening ability is also linked to a smooth and soft end product. This may be linked to the perception about appearance by these respondents that the whiter the maize meal, the softer it is (§4.4.1.1.1 Appearance: colour as an inference to quality properties). In contradiction, Eatonside reported that a slightly coarse texture of the maize meal thickens quickly. This indicates the physical properties of the product such as particle size (Carpenter, Lyon & Hasdell 2002:22). It can be argued that the main reason for Eatonside to purchase maize meal with a slightly coarser texture is the cheaper price of the coarser product. Therefore, it can be suggested that the better the ability of the maize meal to thicken, (§4.4.1.4.1 Convenience: ease of preparation) the better value for money, since the element has more impact on the affordability aspect and satiety value. The respondents from Boipatong, Alexandra and Tsutsumani indicated that the texture of the maize meal should provide the option of preparing different products e.g. soft or stiff porridge with minimum cooking.

#### 4.4.2.3 Taste

The Boipatong, Alexandra and Tsutsumani FGs refer to taste as the familiar maize meal taste (§4.4.1.1.3 Taste: familiarity). Familiarity with the taste of a specific maize meal product was indicated as an important aspect of acceptability, which was applied as a guideline for purchasing choice by all groups but Eatonside. These views of the Boipatong, Alexandra and Tsutsumani FGs were supported by Bogue *et al.* (1999:313) who argue that taste is an important determinant of choice. Taste is further described as an experienced quality that can be evaluated only after product purchase. Memory plays an important role in the formation of food expectations (Harker 2001:2; Mojet & Köster 2005:251). Dobson *et al.* (1994:3) stated that low-income consumers regard taste as important during purchasing and consumption. It can therefore be suggested that purchasing choice is to a great extent determined by familiarity of taste. This approach is used to eliminate extra cost that would be incurred if food not liked by the household members is purchased, as they would then insist on something else to eat (JRF 1994:4).

EUFIC (2005:1) defined taste as the sum of all sensory stimulation such as smell, appearance and texture of food. Three of the focus groups namely Boipatong, Alexandra and Tsutsumani respectively noted different sensory stimulants when discussing taste (§4.4.1.1.3 Taste: sensory qualities). Boipatong indicated the familiarity of texture and taste as important in determining the preferred taste. Alexandra indicated that colour (appearance) was used as a guideline for good maize meal taste (for discussion see §4.4.2.1 Appearance). Only Tsutsumani linked taste with flavourful mealies (smell) which indicates the aroma of the maize meal. Taste was also linked to texture through the mouth feel of the maize meal product. “Nice” taste was indicated in various forms e.g. soft porridge and “pap” for braai with meat.

Alexandra and Tsutsumani, which are both more affluent groups, perceived taste as more important than price and texture. Tuorila (2007:35) supports these views by indicating that food taste (flavour) is traditionally considered more important than texture. When flavour is mild, texture is noticed. It can be suggested that the more



money the consumer has, the more the consumers are interested in better quality of food products. Von Alvensleben (1997:209) states that with rising consumer income, the relative influence of prices and income on food demand decreases while the influence of preference increases.

Some of the respondents in Alexandra indicated that the taste is enhanced through fermentation of the maize meal to create a sour taste. This preference can most probably be culturally linked. Boipatong respondents also indicated taste-related aspects, such as a buttery taste, in “good” maize meal.

Eatonside FGs linked taste with the versatility of maize meal product use with different accompaniments, as did the Boipatong and Tsutsumani focus groups (§4.4.1.1.3 Taste: versatility of use of the maize meal). It can be suggested that for Eatonside to relate taste to the versatility of product use, can be related to the purchasing of maize meal with a coarser texture. The type of maize meal purchased is not based on pure liking of the product. It is mostly influenced by the need to eat and stay alive. It is of interest to note that versatility of use of the product has not been mentioned in existing literature as linked to taste.

#### **4.4.2.4 Nutrient content**

All the focus groups referred to nutrient content as the energy that is obtained from consuming the maize meal product. Energy is associated with being active and strong (§4.4.1.2.1 Nutrient content: energy). It can be suggested that since maize meal is consumed on a daily basis by low-income consumers, the respondents are aware that maize meal provides energy as based on experience. It can also be suggested that low-income consumers tend to buy food considering provisioning of satiety value rather than nutritional value of food. Oldewage-Theron *et al.* (2006:798) and Sosa and Hough (2006: 591) indicated the main source of nutrition for low-income households as carbohydrate-rich food. Nutrient content was indicated as the least important FPA by the informal settlements. Of interest is that the importance of nutrient content (see § 4.3), and even the perceptions of the attribute, differed according to income distribution.

The focus group from the more affluent urban formal settlement, Tsutsumani, was more specific regarding the nutrient content of maize meal. The group described maize meal as healthy and as a carbohydrate (§4.4.1.2.1 Nutrient content: Nutrient content). Maize meal was described as providing energy as well as vitamins and calcium that can boost someone's immune system when it is low. This view is supported by United States Agency for International Development (USAID) (2000:1) who stated that whole maize meal is a good source of thiamin, pyridoxine and phosphorus, and a fair source of riboflavin, niacin, folate, biotin and zinc. Many of these nutrients are unfortunately lost during milling. Micronutrients specified as being not present in significant amounts are vitamin A and E and calcium. These nutrients are easily added to maize meal during the milling process. In fact, in SA fortification is mandatory and maize meal that reaches the market is fortified (DoH 2004-2007:16). Shelved maize meal in shops must have proper labeling on their packaging relating to fortification (DoH 2004-2007:5). Khumalo (2007:9) also indicated that maize meal is mainly composed of carbohydrates with lesser amounts of other chemical components. This group also indicated phrases such as "to grow big and strong" to highlight nutrient content. The probability exists that since the education level for Tsutsumani is slightly higher than that for the other groups (see § 4.2.2), a greater awareness about the nutrient content of food exists or they could have been exposed to the marketing of fortified maize meal. Guthrie *et al.* (2005:38) argue that a person's knowledge on nutrition influences food choice. The impact of the nutrient content of a food product on purchasing choice has not been investigated as part of this study.

#### **4.4.2.5 Product safety**

The findings from the Boipatong, Alexandra and Tsutsumani FGs associated product safety with shelf life, indicating the application of sensory properties to detect quality of maize meal products (§4.4.1.2.2 Product safety: sensory qualities as indicator). Boipatong indicated the smell and colour of the leftovers the following day was indicative of product safety. Alexandra indicated that the white colour of the maize meal enables the participants to see if the maize meal is contaminated. Tsutsumani indicated

poor taste as a guideline to indicate that the maize meal is old. It is of interest to note that the ability of sensory qualities to report quality properties has not been mentioned in existing literature as linked to product safety.

Both the Boipatong and Tsutsumani communities commented that leftovers of maize meal porridge should be acceptable for consumption the following day (§4.4.1.2.2 Product safety: usability of leftovers). This aspect relates indirectly with product safety. These perceptions are supported by ANHIE (2008:1) who stated that food safety refers to the conditions and practices that preserve the quality of food to prevent contamination and foodborne illness.

Both the Boipatong and Alexandra FGs perceived packaging size as important in terms of product safety. Although the packaging size purchased had to cater for household consumption patterns for an expected period of time without spoilage, small packaging sizes were purchased to avoid development of moulds owing to prolonged storage (§4.4.1.2.2 Product safety: packaging size). The Boipatong, Alexandra and Tsutsumani respondents indicated that a maize meal product will not be purchased after lapsing of the expiry date. Further steps were taken such as a willingness to go to another store to search for a “fresh” product (§4.4.1.2.2 Product safety: expiry date). Dobson *et al.* (1994:32) stated that low-income consumers view the food in shops to be of an acceptable standard, reasoning that if not, the shops would not have been able to sell the product or the government would not have allowed the food to be sold. Other consumers assume that food products reach the shops shelves via processing systems that are hygienic and ensure product safety. Food safety may therefore not have a major bearing on the daily food purchases of average consumers (Codron *et al.* 2005:34).

Only Eatonside, one of the informal settlements of lowest income, did not indicate product safety as an important issue. It can be suggested that food spoilage is rarely experienced by this group owing to the quick turn-over rate of maize meal in the household. The participants only purchase a packaging size large enough to



accommodate household consumption needs, as governed by the money available at the time. The maize meal therefore gets used within the expected period of time.

#### **4.4.2.6 Packaging size**

All the focus groups commented that packaging size refers to the amount of maize meal that would be adequate to provide for household consumption for an expected time period (§4.4.1.3.1 Packaging size: food provisioning for a specific period of time). The provisioning period covered by the packaging size differed amongst the respective groups. A period of a month was mentioned by all groups, but the poorest informal settlements also indicated provisioning periods of three weeks (Boipatong) and two weeks or a single day (Eatonside) as determined by the packaging size that could be bought with the money available. It can be suggested that as income levels decrease, the provisioning period also decreases owing to less money being available to purchase larger quantities. Dobson *et al.* (1994:13) is of the same view, stating that when money is not available, householders shop daily, usually only buying what would be eaten that day.

Three focus groups, namely Boipatong, Alexandra and Tsutsumani commented that the packaging size purchased is influenced by household size (§4.4.1.3.1 Packaging size: household size). Guthrie *et al.* (2005:38) have also mentioned that household size influences food product purchase. The amount of a food product purchased varies according to household size, with larger households purchasing more. When household size increases, the variety of food purchased begins to decline. It can be suggested that there is no additional money reserved for maize meal purchasing during the month, therefore there is a need for the packaging size to provide the household for the expected period to ensure the availability of food. One respondent from this group indicated that the household size influences the packaging size even though the size purchased does not meet the needs of the household "E 6- I buy 12,5kg because I have many children but the 12,5kg gets finished within a week." The packaging size purchased is determined by the money available.

Tsutsumani indicated that a large packaging size (25kg) can be purchased to provide maize meal for a longer period of time (2-3 months). A possible explanation for this may be that more money is available, creating flexibility for stocking up on food products. The Boipatong group indicated that a larger size can be purchased if it is cheaper. On the other hand, Eatonside commented that larger packaging sizes are preferred but if enough money is not available, smaller sizes are purchased to accommodate household needs. These findings are supported by Leibtag and Kaufman (2003:2) indicating that low-income consumers pursue volume discounts and may take advantage of these volume discounts by purchasing larger sizes which often have lower per-unit prices than smaller packages. The applicability of this outcome in SA is not clear, as it is generally experienced that the benefit of a possible cheaper price/unit for larger sizes is not forwarded to the consumers but absorbed by retailers. Kunreuther (1973:377) has shown that low-income consumers buy smaller sizes on a more frequent basis. This situation is influenced by the fact that low-income consumers purchase in shops located in their neighbourhoods which stock up on relatively fewer large sizes than is the case in chain stores. Boipatong and Tsutsumani indicated that the choice of packaging size should accommodate household eating patterns.

It is of interest to note that the respondents participating in this study omitted issues such as information and visual elements on the packaging material when discussing packaging size.

#### **4.4.2.7 Convenience**

All the groups indicated convenience as the preference for a shorter cooking time required to prepare maize meal, linked with a quicker and easy thickening ability. The quick and easy thickening ability of the maize meal suggests the need to save by using small amounts of maize meal as well as less consumption of cooking fuel (§4.4.1.4.1 convenience: ease of preparation). Quick and easy thickening ability can be linked with ease of preparation that saves time and energy spent on food preparation (Furst *et al.* 1996:258; Grunert 2003:3; Codron *et al.* 2005:33-34). These concept elements relate to a period for as long as possible of food availability for the low-income households. In the

application of Jaeger (2006:133) and BFAP (2007:52) convenience aspects relate to the ease of preparation of food, portable food products, convenience of the location for purchasing and availability of a wide product range, as well as ready-to-eat products. Most of the findings from the low-income FGs came very close in defining these aspects.

Boipatong and Tsutsumani indicated that leftovers of porridge can be used the following day. This reflects the need for usability of leftovers to save on preparing a fresh meal (§4.4.1.4.1 Convenience: usability of leftovers). The use of leftovers at a later stage can be viewed as availability of a ready-to-eat product, which also saves time and energy for preparing food (Grunert 2003:3; Codron *et al.* 2005:33-34; Furst *et al.* 1996:258). However, accordingly it can be argued that the main issues regarding convenience in low-income households relate to the costs attached to the food (short cooking time, use of a smaller quantity of maize meal, good and quick thickening ability and quality of leftovers).

#### **4.4.2.8 Satiety value**

All the focus groups defined satiety value as the feeling of fullness for a prolonged period of time, as related to the absence of hunger. The thickening ability of the maize meal was indicated as highly important by all the focus groups in terms of providing satiety value (§4.4.1.5.1 Satiety value: feeling of fullness). The findings were supported by EUFIC (2005:1) and OSAD (1929:1) that satiety value is the state of no hunger between two eating occasions. The longer period of not wanting to have another meal can suggest a need by the low-income consumers to reduce meals consumed per day in order to save and have food available for a longer period of time.

Tsutsumani, which is the low-income settlement of highest affluence, indicated that fullness creates a feeling of heaviness in the stomach (§4.4.1.5.1 Satiety value: feeling of heaviness). This view is confirmed by EUFIC (2005:1) which indicated the volume of food or portion size consumed as an important satiety signal. Many people are unaware of what constitutes an appropriate portion size and thus inadvertently consume excess

energy. It can be suggested that owing to the differences in income levels between the settlements, Tsutsumani has the means to purchase and consume more maize meal for each meal, therefore experiencing a feeling of heaviness in the stomach.

All the focus groups noted that the feeling of a full stomach created by consumption of maize meal, links to the provisioning of energy (§4.4.1.5.1 Satiety value: provisioning of energy). It can accordingly be assumed that the provisioning of energy is an expected benefit of a full stomach. Similar to the present study, Drewnowski and Darmon (2005:1) and Oldewage-Theron *et al.* (2006:798), indicated that maize meal, which is the most consumed food product by low-income consumers is an energy-dense food item high in refined grains (Oldewage-Theron *et al.* 2005a:23). Therefore energy will be one of the benefits from consuming maize meal.

It is of interest that only Eatonside, which is the poorest informal settlement, participating in this study, defined satiety value as an emotion indicating a feeling of well-being e.g. “I feel good” and “I feel right” (§4.4.1.5.1 Satiety value: feeling of well-being). This clearly suggests the importance of this attribute to this group as related to the need to survive. EUFIC (2005:1) provided similar sentiments, indicating that food gives a sense of well-being or satisfies appetite. Based on the facts identified by the present study, it can be suggested that satiety value is linked to the thickening ability of the maize meal. This thickening ability of the maize meal is discussed under the texture attribute (§4.4.2.2 Texture).

#### **4.4.2.9 Value for money**

All the FGs associated value for money with a product that provides specific economic benefits, although the benefits indicated differed between the respective groups (§4.4.1.5.2 Value for money). Tsutsumani indicated a need for a maize meal product which provides a quick thickening ability which enables use of the least quantity of maize meal to achieve the desired end product. The packaging size purchased should last for the expected period. Acceptability of leftovers the following day was also indicated as value for money. This finding is supported by Dobson *et al.* (1994:13-14)

indicating that low-income consumers regard foods which are less likely to deteriorate quickly as offering better value for their money. Alexandra indicated the choice of a familiar maize meal product with preferred economic benefits such as a quick thickening ability that provides satiety value and energy as preferable. The maize meal should also provide ease of preparation (convenience).

Eatonside indicated a need for maize meal that provides energy, easy thickening ability (economic benefits) and that the quantity purchased should last for the expected period of time. Boipatong indicated a need for a cheaper maize meal product that specifically provides easy thickening benefits. These thickening benefits include good and quick thickening properties in combination with a good texture which is associated with a white and soft product.

It can be suggested that value for money for the target population is linked to the quality aspects of texture (thickness and experienced attributes of convenience) as suggested by the reference to the thickening ability of the maize meal and the convenience of a shorter cooking time owing to a quick thickening ability. It seems that affordability is an overriding factor, as indicated by the use of a smaller amount of maize meal and the shorter period of cooking time.

#### **4.4.2.10 Affordability**

Affordability was linked to having enough money to buy the amount of maize meal needed by all the FGs. This involved payment of the price needed to purchase just enough maize meal to last the expected period (§ 4.4.1.5.3 Affordability: availability of enough money). This is similar to the definition provided by Wiktionary (2007) which describes affordability as the extent to which something is affordable as measured by its cost relative to the amount that the purchaser is able to pay. For the majority of the groups, including Boipatong, Alexandra and Tsutsumani, a period of a month was indicated.



For Tsutsumani, the brand purchased was linked to meeting specific consumer needs. This study revealed that these needs are directly linked to affordability, namely use of small amounts of maize meal and less time for cooking which saves cooking fuel. The respondents also indicated a willingness to pay for preferred taste. Alexandra indicated that money is paid as needed to acquire the maize meal with preferred qualities like taste. This means that the group is willing to pay for good taste. Taste and familiarity are more important than price to this group. From the willingness to pay for preferred taste by these slightly more affluent low-income groups, it can be argued that availability of money gives quality (taste) priority over quantity. Dobson *et al.* (1994:31) has shown that low-income consumers purchase the best food that can be afforded. This is an indication that availability of additional income to the low-income consumers gives priority to quality over quantity.

According to EUFIC (2005:2) and Guthrie *et al.* (2005:38) the cost of food is a primary determinant of food choice that is directly influenced by a consumer's income and socio-economic status. This view is supported by the results from the current study as Boipatong respondents linked affordability with the ability to buy the cheapest maize meal amongst the consumers' favourite set of brands with preferred attributes. Eatonside, which is the poorest informal settlement, also linked affordability with buying the most affordable option of brands available at a special price. Both the poorest informal settlements indicated that the quantity purchased should be enough for a specific period as determined by the money available.

Only the Eatonside focus group respondents indicated that if one does not have enough money, the cheapest brand available can be purchased in order to have something to eat for a stipulated period, e.g. a day. Accordingly, it can be argued that for these groups of very low household income, the choice of maize meal product or brand name is overridden by the money available in the household for maize meal purchasing. If the price of the preferred brand is higher or increases, consumers tend to substitute the purchase of the preferred brand by purchasing another brand with qualities close to those preferred but at a cheaper price.



Boipatong apply saving techniques such as the purchasing of a small packaging size that lasts for a specific period to prevent wastage. A larger packaging size available at a cheaper price can also be purchased. Research by Lin and Guthrie (2007:1) indicated that low-income consumers are more responsive to price changes than high-income consumers. The use of leftovers by Tsutsumani and Boipatong indicates that the target population cannot afford to waste. The decision to use leftovers is adopted owing also to the need to save cooking fuel.

#### **4.4.2.11 Acceptability**

According to Tuorila (2007:35) food acceptance refers to emotional responses to food. The initial impressions that a person has regarding a particular food product creates an expectation that either has to be confirmed or disconfirmed through consumption of the product. All the focus groups linked acceptability of the maize meal product with product familiarity based on the different aspects perceived as important. The Boipatong and Tsutsumani focus groups indicated that familiarity of the maize meal is linked to taste of the product. Alexandra and Tsutsumani perceived familiarity of the FPAs as linked to a specific brand (§4.4.1.6.1 Acceptability: product familiarity). It can be suggested that the familiarity of maize meal product properties from childhood has an influence on the acceptability and choice of the product in adulthood due to household trends of using a particular brand from generation to generation. These views are supported by Imram (1999:226) stating that sensory attributes fulfil a significant role in overall perception and acceptance of food products. Dobson *et al.* (1994:32) indicated that taste of food is important to low-income households owing to the need to accommodate the taste preference of all members of the household to avoid wastage.

Only Eatonside indicated that familiarity was based on the thickening ability and colour of the product. Taste was not mentioned as linked to acceptability by this group (§4.4.1.6.1 Acceptability: product familiarity). It can be suggested that since purchasing of maize meal is determined by the available money in this community, low quality maize meal of poor taste can be purchased in order to have food available. Therefore

taste will not be of major concern when purchasing although the best that can be afforded will be purchased. Dobson *et al.* (1994:32) support this perception by stating that food of very low status, which is not acceptable in terms of taste, is only eaten by low-income consumers when there are no other foods affordable or available.

Economic attributes such as satiety value, price, affordability (cooking quickly, use of smaller amounts), provisioning of energy, versatility of use of the maize meal product and no wastage were indicated as important criteria for acceptability of maize meal by all groups (§4.4.1.6.1 Acceptability: economic attributes). Only Boipatong and Tsutsumani indicated that usability of leftovers is important in terms of acceptability of the maize meal product. There is sufficient evidence to indicate that the perceptions reported by the respective participant groups of the current study are in concurrence with Dobson *et al.* (1994:31) indicating that the major factors determining acceptability of food in low-income households are foods which are filling or regarded as being good value for money. It can be suggested that availability of money in low-income households governs the acceptability criteria during purchasing choice of maize meal.

The opinion of the household members, especially the children's, was indicated by Eatonside, Boipatong and Tsutsumani as influencing the acceptability of the maize meal product. Only Alexandra indicated the preference of the husband as important in acceptance of the product (§4.4.1.6.1 Acceptability: perceptions of household members).

Cardello (1995:164) indicates that food acceptability is referred to by such terms as palatability, pleasant or unpleasant tone, liking/disliking, food preference and pleasantness/ unpleasantness. These terms link to the terminology indicated by household members in describing FPA preferences.

#### **4.4.2.12 Brand loyalty**

Brand loyalty was regarded by the participants from Eatonside, Boipatong and Tsutsumani FGs as the option to choose the cheapest brand available amongst a set of

predetermined favourite brands (§4.4.1.6.2 Brand loyalty: set of brands). The choice was made between the brands considering the preferred qualities such as taste and quick thickening ability. These results concur with findings that emerged in the study by Silayoi and Speece (2004:609) indicating that consumers are loyal to a small number of brands. From the current study it can be suggested that the main factors that determine the loyalty of Eatonside, Boipatong and Tsutsumani FGs to brand names are related to economic and sensory factors. These factors include the price of the maize meal, the thickening ability which enables the use of smaller amounts of maize meal to obtain satiety value and preferred taste.

In contrast, Alexandra regarded loyalty to brand name as the repeated purchasing of one brand in favour over other brands in order to ensure a product with a specific taste. A willingness was indicated to pay a higher price to obtain the specific brand (§4.4.1.6.2 Brand loyalty: repeated purchase). These findings indicated that the Alexandra group is more brand loyal than the other groups. Brand loyalty is reported by Wikipedia (2008a) as a consumer's commitment to repurchase the specific brand. This also involves a consumer's willingness to pay a higher price for that particular brand. It can be suggested that the reason for Alexandra to be brand loyal is due to a learned taste that leads to the habitual use of one particular maize meal brand, which may be carried over from generation to generation. It may also be linked to the ease to obtain a specific brand owing to more retail outlets available in and around this settlement offering the same brand.

Boipatong, Alexandra and Tsutsumani FGs indicated willingness to postpone shopping or to shop around until the preferred brand is obtained (§4.4.1.6.2 Brand loyalty: postponing shopping and the use of a different staple food). Wikipedia (2008a) highlighted that loyalty to brand name involves willingness to postpone or travel to another store to search for that particular brand. Only the Boipatong informal settlement indicated that an alternative food e.g. bread or rice can be used if the preferred brand is not available. It can be suggested that the use of the alternative products is to avoid wastage owing to purchasing a product that the household members would not accept.

This also indicates the willingness to postpone shopping until the required product is available. It can be concluded that in the Eatonside informal settlement, which is the poorest, aspects of affordability are more pronounced as related to the need to purchase the cheapest brand with good thickening ability. It can therefore be inferred that for the very low-income consumers to be loyal to the brand, the brand should offer the preferred FPAs at the most affordable price.

#### **4.4.2.13 Household influences**

All the groups described household influence as related to the household size or total number of people in the household who determine the packaging size to be purchased to meet the consumption needs of the household. Children were stated as having more influence on the brand to be purchased. Only Alexandra indicated that the husband's preference was important for purchase choice (§4.4.1.6.3 Household influences: household members who guide purchase choice). These views are supported by Dobson *et al.* (1994:31) who stated that the factors that influence food purchase in low-income households include household size and presence or absence of a male partner. Women were also stated to give priority to the food preferences of other members of the household, especially children and/or partners by allowing the taking of turns to decide food choice (Dobson *et al.* 1994:31). This finding that children have more influence on the brand to be purchased suggests that children are given what they like to avoid waste. A possible explanation for giving preference to the choice of a husband may be that the husband is the only financial provider for the household. The husband therefore has more control on food purchases and his preference counts. The absence of a partner/father in influencing purchase choice of maize meal has not been investigated in this study.

Boipatong indicated that the financial status of the household determines purchasing practices (§4.4.1.6.3 Household influences: financial status). One respondent from Alexandra stated a preference for purchasing of a smaller packaging size of different brands so that all the household members can have a share of brands preferred over time (§4.4.1.6.3 Household influences: packaging size). A possible explanation for this

may be that since Alexandra is a more affluent informal settlement, additional income provides the flexibility to purchase different brands to suit household members' preference. This can also mean then that it is affordable to buy the food preferred, therefore choosing quality over quantity. Dobson *et al.* (1994:31) indicated that availability of additional income influences food purchases in low-income households.

#### **4.4.2.14 Product quality**

The quality of the product is a subjective evaluation criterion for the consumer. Quality is the sum of the product characteristics comprising the product, referring to the nature of the product, the packaging, the labeling and branding, as well as the warranties and legal protection (Altmann 1997:286).

As only Alexandra focus group mentioned product quality during the discussion, it is recommended that this term be interpreted to link with the respective FPAs indicated as most important during Phase 1 of this study. This reasoning is based on the perception that product quality is the reflection of the acceptance of the perceived characteristics of a product by the consumers who are the regular users of the product category or those who comprise the target market (Cardello 1995:164). Both Altmann (1997:286) and Cardello (1995:164) stated that product quality is the sum of the product characteristics.

Based on this approach the Tsutsumani formal settlement described product quality as the nutrient content of the product, good taste which is brand-linked and ease of preparation of the maize meal product to achieve the desired end product (§4.4.1.6.4 Product quality: preferred maize meal qualities). Alexandra linked product quality with the price of the product as indicated by the respondents' willingness to pay for preferred taste: A10- "...if the taste has changed I try another brand. I will look at price because it means the price I was paying for the old brand does not suit it because of the changed taste. If the price is high in the new one, it means it is quality product." Attributes such as the obtaining of high satiety value, texture (thickening of the product) and convenience (cooking easily) were indicated by this group as aspects of product quality (§4.4.1.6.4 Product quality: preferred maize meal qualities).

The Boipatong focus group described a good maize meal product as being white and able to thicken quickly and provide a feeling of fullness. These elements (whiteness and thickening ability) are indicated as desired quality of the maize meal. The respondents also highlighted that the acceptability and use of leftovers, as well as the versatility of use of the product, indicates the quality of the product (§4.4.1.6.4 Product quality: degree of whiteness).

However, from the Eatonside focus group product quality was interpreted as including the quick and easy thickening of the maize meal product (affordability and convenience) which are more related to economic benefits (§4.4.1.6.4 Product quality: preferred maize meal qualities).

Therefore it can be concluded that perception of quality aspects depends on the dominant buying motives of the consumer under a certain situation (Codron *et al.* 2005:34).

#### **4.5 SUMMARY**

In conclusion, it is clear that the most important FPAs (Phase 1) namely satiety value, affordability, taste and acceptability are influenced by the economic aspects rated as most important by the low-income consumers. In overview no distinctive differences in the perceived meaning of FPAs between the settlements were reported, but difference in income levels relate to different depths of perception in the FPAs leading to purchase choice. The lower the household income level the more important the price of the product (staple food) becomes.



**5.1 INTRODUCTION**

The overall objective of this study was to identify and describe the food product attributes experienced as most important by low-income consumers in urbanised informal settlements within the Johannesburg-Vaal region. The aim was to contribute to an understanding of the food product attributes guiding purchase choice of low-income consumers for their staple food, maize meal. In order to address the objective of this study, a two-phased approach was followed:

Phase 1 included an investigative survey to identify the importance of food product attributes needed by low-income consumers during purchasing of staple food. The first sub-objective of the study was:

- (1) To identify the food product attributes (concepts) experienced as most important by the predicted category users was addressed in this phase.

Phase 2 entailed a description and comparison of the meaning of the respective FPAs to the low-income consumers in the different settlements. This phase covered two further sub-objectives of the study namely:

- (2) To describe the FPAs reported as most important through the identification of the descriptive concept elements for each of the concepts.
- (3) To validate results by comparing the understanding for the FPAs between the respondents, groups and existing literature.

This chapter consists of a summary of the findings reported for Phase 1 and Phase 2 of this study, as well as the conclusions and recommendations for further research.

## **5.2 FINDINGS**

A comprehensive discussion of the findings of this study was presented in Chapter 4. To enhance the understanding of the context and reality of the respective participating groups, a descriptive summary of the situation analysis is presented.

### **5.2.1 Analysis of the situation**

The study reveals that the mother (58 percent) was the main food purchaser in the low-income households. The average age (Eatonside 39, Boipatong 40, Alexandra 39 and Tsutsumani 42) and household size (Eatonside 5, Boipatong 4, Alexandra 5 and Tsutsumani 5) reported was very similar between the low-income settlements. On average, the language most spoken by the target population was Sotho (43 percent). The majority of the respondents (79 percent) from the informal settlements (Eatonside 80 percent, Boipatong 86 percent and Alexandra 86 percent) consumed maize meal at least twice per day. These respondents experience higher but different levels of poverty. From the Tsutsumani respondents, the group experiencing a lesser impact of poverty, 60 percent consumed maize meal at least twice per day. Most of the respondents from each of the target groups indicated a lower level of education, with Boipatong the worst off and Tsutsumani the best off (Table 6 page 77). The overall picture indicated that the target population is represented at the bottom end of the education scale. Particularly if all communities reported 14 percent and less never received any schooling.

### **5.2.2 Phase 1: Food product attributes of importance**

The most important food product attributes in sequence of importance to the informal settlements (but not the formal settlement, Tsutsumani) are satiety value (93 percent), affordability (86 percent), taste (83 percent), product acceptability (81 percent), convenience/ease of preparation (80 percent), household influences (79 percent), appearance (78 percent), value for money (77 percent), product quality (75 percent), packaging size (73 percent), texture (71 percent), product safety/shelf life (66 percent), brand loyalty (65 percent), and nutrient content (62 percent), being the least important.

### **5.2.3 Phase 2: Description and comparison of the respective food product attributes between groups and with literature**

A better understanding of the meaning for the respective FPAs (concept) has been derived as applicable to low-income consumers. From the findings of the study it was clear that there were no distinctive differences in the perceptions of the concepts between the four settlements.

Appearance was described in terms of the concept elements whiteness of the product and colour as an inference to quality properties. The concept texture was described in terms of the elements thickening ability, saving of maize meal and cooking fuel as well as familiarity of the product. It was identified that the thickening ability of the maize meal product leads to better satiety value (most important FPA) and is of the highest importance to the low-income consumers.

The concept taste was described in terms of the elements familiarity, versatility of use of the maize meal, sensory qualities and importance of taste. Familiarity of the maize meal product was indicated as highly important to taste acceptability. The respondents described the concept nutrient content in terms of the elements energy and nutrient content. The more affluent group (Tsutsumani) was more specific regarding nutrient content.

The safety of the products was not a popular issue during the discussions. From the textual data it was clear that the concept product safety is described in terms of the elements sensory qualities as indicator, usability of leftovers, packaging size and expiry date.

When describing packaging size, most of the respondents commented in terms of the elements food provisioning for a specific period of time, prevention of wastage, money availability and household size. All the respondents regarded convenience as the ease of preparation, which involves a shorter time required for preparation of maize meal.

Satiety value was defined as the feeling of fullness for a longer period of time. The poorest informal settlement indicated a feeling of well-being when defining satiety value.

The focus groups associated value for money with the product that provides specific economic benefits which differed between the groups. Affordability was described in terms of the elements availability of enough money, use of leftovers, cheapest product amongst favourable brands, cheapest product, product providing preferred qualities, price determines packaging size and price paid for maize meal is affordable.

Acceptability of the maize meal was linked with familiarity of the maize meal product. Economic attributes such as versatility of use of the maize meal product, satiety value, price, cooking quickly, use of smaller amounts, provisioning of energy and no wastage were indicated as important criteria for acceptability of maize meal by all groups.

The majority of the respondents from Boipatong, Alexandra and Tsutsumani focus groups regarded loyalty to the brand name as the option to choose the most affordable brand amongst the consumer's own specific set of predetermined favourite brands. The qualities preferred and the amounts of money available were noted as factors considered. Repeated purchasing of one brand was also stated as related to Brand loyalty.

The respondents described household influences as the household size or the total number of people in the household who determine the packaging size to be purchased to meet the consumption needs of the household.

Product quality was described as the sum of the product characteristics.

There was no major difference in the understanding of food product attributes between the respondents groups and existing literature. The versatility of use of the product has not been mentioned by the literature as linked to the taste of the product. The ability of

sensory qualities to report quality of maize meal has not been mentioned in the existing literature as linked to product safety and yet it has been revealed by the current study.

#### **5.2.4 Implications of the study**

In the result chapter, the interlinking of food product attributes was detected during the analysis of the qualitative data. These links were of interest and value in understanding the perceptions (and expectations) of low-income consumers for their staple food, maize meal. The interlinking of food product attributes will be presented in this section.

- **Appearance**

Appearance was linked to texture. The colour of the product was often further qualified by the reference to texture. Appearance is also linked to product qualities such as taste and product safety.

- **Texture**

Texture was linked to convenience (quick thickening ability of the maize meal during cooking). The thickening ability leads to a smooth and soft end product. This indicates the links between texture and appearance. The degree of thickening (texture) of the maize meal was linked with better satiety value, while the quick thickening ability of maize meal was linked with saving (affordability). A smaller quantity of maize meal is used for cooking when the maize meal has a good thickening ability.

- **Taste**

Taste is linked to product acceptability. The familiarity of a specific brand based on taste is an important aspect for product acceptability. Willingness to pay for good taste indicates the link between taste and affordability. Appearance and texture of the product was used as indicative of good taste. A link is therefore indicated between taste, appearance and texture.

- **Product safety**

Product safety was linked to sensory qualities such as smell, appearance, taste and usability of leftovers to detect quality properties of the maize meal product with regard to

shelf life. The packaging size is linked to product safety owing to the need of the packaging size purchased to cater for household consumption patterns within an expected period without spoilage owing to prolonged storage.

- **Packaging size**

Avoiding wasting maize meal was indicated as an important issue by these consumers. This indicates that packaging size is linked to affordability. Money available at the point of purchase determined packaging size. Household influence is also linked to packaging size (see discussion in household influences below).

- **Convenience/ease of preparation**

Convenience is linked to texture (easy thickening ability) and affordability (shorter cooking time with less fuel, good thickening ability) and usability of leftovers (product safety/shelf life).

- **Satiety value**

Thickening ability (texture) is linked to satiety value. The thickening ability creates a thicker porridge which, when consumed, provides quick and prolonged satiety value. The thicker the porridge consumed, the less the amount that needs to be consumed to obtain satiety value and the longer the period of not wanting to have another meal. The longer period of not wanting to have another meal reduces the number of meals consumed per day. The period that food is available as linked to amount used per day is therefore extended, which links to affordability. A full stomach owing to the consumption of maize meal provides energy as expected benefit.

- **Value for money**

Value for money was linked to economic benefits such as good thickening ability, use of the least quantity of maize meal and being familiar with the maize meal product (brand loyalty). Value for money is experienced when the maize meal purchased provides product qualities such as satiety value, affordability, taste, colour, and energy as required as well as lasting for the expected period per packaging size.



- **Affordability**

The ability to purchase, as related to the amount of money available (affordability), is linked to packaging size and brand name. The quick thickening of a maize meal product (convenience) leads to shorter cooking time which saves fuel and implies that smaller amounts of maize meal are used for cooking (value for money). Accordingly these aspects impact on affordability of the product. Willingness to pay for good taste indicates the link between taste and affordability.

- **Product acceptability**

Product acceptability was linked to product familiarity owing to using a particular brand (brand loyalty). Familiarity of the maize meal product is linked to preferred characteristics like taste, colour (appearance) and thickening ability (texture). Acceptance of maize meal is linked to household influences owing to the opinion held by the household members on the brand to be consumed (imbedding preferred FPAs). The use of leftovers was perceived as important for acceptability as related to the shelf life of the product. Economic attributes such as versatility of use of maize meal, satiety value, price, cooking quickly (convenience), use of smaller amounts (affordability), provisioning of energy and no wastage was indicated as important criteria for acceptability of the maize meal product.

- **Brand loyalty**

Brand loyalty is linked to affordability. The most affordable brand amongst the consumer's own specific set of favourite brands is purchased. Qualities preferred such as quick thickening (convenience), taste and appearance are factors considered in terms of being brand loyal by the target population.

- **Household influences**

Household influence was linked to the packaging size that needs to be purchased. A specific brand was considered owing to experiences of providing satiety value. A link is therefore indicated between household influence, brand loyalty and satiety value.

Household size determines the packaging size to be purchased to meet the consumption needs of the household.

- **Product quality**

Product quality was linked to the availability of qualities such as satiety value, good taste, cooking easily (convenience), thickening ability, appearance, price, standard of the leftovers (product safety) of the maize meal per an individual.

Of interest is that no interlinking was revealed for nutrient content, which was perceived as the FPA of least importance by the low-income consumers of the informal settlements.

## **5.3 CONCLUSIONS**

### **5.3.1 Importance of food product attributes**

From Phase 1 it was evident that income level defined the boundaries within which low-income consumers perceived the importance of FPAs during purchasing of the staple food, maize meal. The area where the settlements are situated did not have an influence on the perceived importance of attributes by the informal settlements (as confirmed by the differences in the perceptions reported between Alexandra and Tsutsumani). In conclusion it is clear that the satiety value and the affordability of food products, as directly related to the economic reality of the target market (low-income), overrides sensory attributes as the main decision choice whereas sensory attributes are usually applicable to higher income groups. The FPAs related to economic parameters are followed by sensory and convenience attributes in terms of importance. This stands in contrast with the perceptions of high income groups which stipulate convenience, health, attractive food, value for money, ethical/environmental eating and simplicity as the main influence in purchasing choice (BFAP 2007:52-53). This also confirms the difference in categorisation of FPAs (concept) and elements (product characteristics) between low and high income groups. Nutrient content was ranked the least important food product attribute for the informal settlements. These findings can probably be

allocated to the fact that low-income consumers need to satisfy direct needs for survival (satiety value) first and nutritional needs, which are a long term goal, are not so urgent.

### **5.3.2 Description and comparison of the respective food product attributes**

There were no distinctive differences in the meaning of terms between the four settlements. However, it was clear that a further difference exists between the low-income consumers in the perception for the in-depth meaning of the concept elements describing the different concepts e.g. in §4.4.1.5.1 feeling of well-being which was only reported by the poorest informal settlement, Eatonside as of importance to satiety value. It is important to recognise from the results in Phase 2 that the majority of concept elements describing the different FPAs (concepts) as perceived by low-income consumers, are embedded in the attributes tied to economic factors. This implies that economic attributes are of high importance to low-income consumers during food purchasing choice.

Overall, it can be concluded that the sub-objectives and main objective of this study have been obtained. Food product attributes guiding purchase choice by low-income households have been identified and an understanding of the meaning of the food product attributes experienced as most important by low-income consumers in urbanised informal settlements has been established.

## **5.4 VALUE OF THE STUDY**

- This study has contributed to scientific knowledge regarding the understanding of the meaning of the food product attributes experienced as most important by low-income consumers in urbanised informal settlements.
- Knowledge about FPAs experienced as most important by low-income consumers is necessary for developing effective food products which can maximise in-store consumer choice and market share for the producers.

- This study contributes to the main PhD study focused on the “Development of a product concept formulation framework for low-income consumers in urbanised informal settlements in Gauteng, South Africa.” The objective of the stated study is to develop food product formulation guidelines for industry to direct food product development for improved compatibility with low-income consumer needs and preferences to enhance consumer satisfaction.
- Government could apply the information when making decisions on food product regulations, such as pricing policies, to benefit low-income consumers and not necessarily the producers.
- The strong cross-links between attributes were not previously investigated, but were revealed through this study.
- The meaning of the terminology was the same for the different informal settlement groups, although difference existed between the low-income consumers and their respective income level regarding the perception of the in-depth meaning of the concept elements describing the different concepts.
- A gap has been bridged between the understanding of concepts between low-income consumers and industry. Therefore the process of meeting the needs of low-income consumers has been enhanced.

## **5.5 RECOMMENDATIONS**

- Identification and description of the food product attributes experienced as most important by low-income consumers should be investigated further in other urbanised informal settlements in SA for comparison purposes to enhance national compatibility of findings.
- Application of the findings of this study by the food industry can ensure that the interests of both the consumers and food producers are safeguarded by

evaluating and providing the appropriate type of maize meal that will meet the needs of the low-income consumers.

- More attention should be allocated to the concept element of the thickening ability of maize meal during product development for low-income consumers by the industry to promote repeated purchasing of the product by the low-income consumers.
- Further research should include studies on the influence of the location of the informal settlement and availability of certain brands in retail outlets patronised during purchasing choice.

## **5.6 STUDY LIMITATIONS**

- Language barrier: the researcher could not speak some of the local languages such as Zulu. The use of trained field workers who were fluent in Sotho, Zulu and English, assisted with the translation and clarifications.
- The geographical focus of the study only includes low-income consumers in urbanised informal settlements within the Johannesburg-Vaal region. No other urbanised low-income consumers from other geographical parts of SA were included, therefore the results might not be representative of all urbanised informal settlements in South Africa.

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**ANNEXURE A      Permission letter**



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**OFFICE OF THE SPEAKER.**

---

✉ 3  
VANDERBIJLPARK  
1900

☎ (016) 950-5074  
☎ (016) 950- 5106  
mabandlar@emfuleni.gov.za

Ref:

16 October 2007

**TO WHOM IT MAY CONCERN**

This serves to confirm that Ms. Kuda Marumo is an M Tech student at the Vaal University of Technology and has been granted permission to perform a Research study in Boipatong.

I request that she be assisted in any form that you may afford.

Yours faithfully

A handwritten signature in black ink, appearing to read "Mabandla Ronyuza".

---

Mabandla Ronyuza  
Ward Councillor

**ANNEXURE B      Notice for research project**



AS FROM THE 19 OCTOBER 2007 FOOD RESEARCH WILL BE CONDUCTED IN BOIPATONG. PLEASE ASSIST THE STUDENTS FROM THE VAAL UNIVERSITY.

**THANK YOU**

HOTLOHA KA DI 19 MPHALANE 2007, HOTLABA LE DIPATLISISO KA DIJO MO BOIPATONG. KA KOPO LE THUSANE LE BAITHUTI BATSWANG VAAL UNIVERSITY OF TECHNOLOGY.

**REALEBOHA**

## **ANNEXURE C      Training material for fieldworkers**

### **TRAINING MATERIAL FOR FIELDWORKERS**

1 Greet the respondents

2 Introduce your self

- Name
- Institution

3 Ask for permission to have an interview with the respondents regarding the project.

4 Explain the purpose of this study

5 Explain the confidentiality clause

6 Ask the respondents if maize meal is their habitual staple food. Only interview those who say **YES**.

7 Explain how they will indicate their answers using the faces.

8 Gather the data

The mind of the respondent should be situated in the shopping situation.

9 With open ended questions write the answer the way the respondent responds. **DO NOT TRY TO CORRECT.**

10 Make sure all the questions are answered.

11 At the end thank the respondent and give him/her a token of appreciation.

**ANNEXURE D      Questionnaire**

**QUESTIONNAIRE**

**IMPORTANCE OF STAPLE FOOD PRODUCT ATTRIBUTES TO  
URBANISED CONSUMERS**

Community Name: **EATON**SIDE

**CONFIDENTIALITY CLAUSE**

**TO WHOM IT MAY CONCERN**

All data gathered from you as the respondent during this study will be treated with respect and confidentiality. Anonymity will be maintained regarding personal and sensitive information.

Yours Faithfully

.....

Kuda Marumo  
(MTech student)  
Vaal University of Technology

Household number.....

Section A

OBSERVE Household appears to be very low-income? YES..... NO.....

Is maize meal your habitual staple food? YES..... NO.....

1. When were you born? Year: ..... Month: ..... Day:.....

2. How old are you?.....Years

3. How many are you in the household?.....

4. What is the household home language?.....

5. Your role in the family?

Mother	1	
Grandmother	2	
Caregiver	3	
Other, specify.....	4	

6. How many times do you eat maize meal per day?

1	2	3	4
---	---	---	---

## Section B

Please mark the face which best describes the important of the indicated food product attributes to you when purchasing maize meal?

1. Satiety value/ Kgora e e bakwang ke hojewa ha phofo/ Ukusutha okwenziwa yimpuphu

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

2. Affordability/ Bokgoni ba ho reka/ Ukukhona ko kuthenga

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

3. Packaging size/ Boholo ba pakana ya phofo/ Ubukhulu besaka lwe mpuphu

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

4. Value for money/ Kgotsotfalo ya boleng jwa chelete/ Izinga le mali

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

5. Taste/ Tatso/ Ukunambitheka

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

6. Acceptability/ Kamohelo/ Ukwamukela

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1



7. Appearance (colour)/ Tebello ya mmala/ Ukubukeka kombala

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

8. Product quality/ Boleng ba phofo (pakana) Izinga eliphezulu

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

9. Convenience (ease of preparation) / Bobebe ba ho phehwa ha phofo/ Ubulula ko kupheka

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

10. Nutrient content / Boleng ba diaha-mmele/

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

11.Texture/ Bobebe jwa phofo/ oboshelelezi be mpuphu

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

12. Product safety (Shelf life)/ phofo e bolokehileng/ ukukhusileka kwe mpuphu

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

13. Brand loyalty (Satisfaction)/ Tshephahalo ha phofo ho bareking/ ukuthembeka kwe mpuphu

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

14 How important is composite family structure (Boholo ba lelwapa) when purchasing maize meal?

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
6	5	4	3	2	1

### Section C

15 What do you perceive as value for money when purchasing maize meal?

Phofo ya boleng ba chelete ya gago ke e jwang fa oe reka?

.....

.....

.....

16 What do you perceive as product quality when purchasing maize meal?

Phofo e boleng ke e jwang fa o reka phofo?

.....

.....

.....

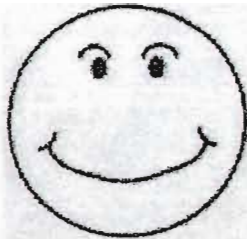
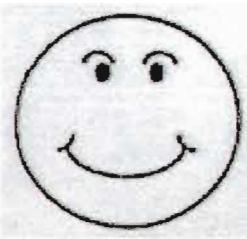

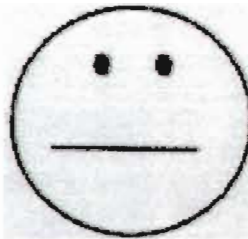

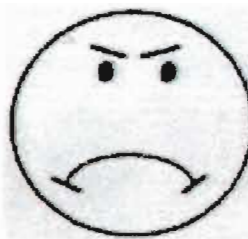
17 How much is your monthly income for the household?.....

**Thank you for sharing your perceptions and other pertinent information with us. Your views are deeply appreciated.**

ANNEXURE E Hedonic scales for importance of staple food product attributes to urbanised consumers



# IMPORTANCE OF STAPLE FOOD PRODUCT ATTRIBUTES TO URBANISED CONSUMERS

Extremely important	Very important	Fairly important	Slightly important	Not important	Don't know
					
Bohlokwa haholo haholo	Bohlokwa haholo	Bohlokwa	Bohlokwanyana	Hae bohlokwa	Hake tsebe
6	5	4	3	2	1

## **ANNEXURE F      Focus group discussion guidelines script**

### **FOCUS GROUP DISCUSSION SCRIPT**

#### **INTRODUCTION**

I want to welcome you to this focus group discussion. I know how busy you are and I really appreciate your willingness to help us with this focus group.

#### **PURPOSE OF THE FOCUS GROUP**

The main reason we invited you here is to bring a whole group of people together to discuss, share different ideas and experiences about the food products attributes that guide your purchasing when buying maize meal.

#### **MODERATOR/PARTICIPANTS ROLE**

You as the participants will be discussing the points which will be pointed out to you and the research team members will be listening. Please feel free to share information, remember there is no right or wrong answers. I will have some questions that I will need to ask, you will discuss the questions with us until all information have been sourced. My duty is to see to it that everyone gets a fair chance to speak.

#### **GROUND RULES**

The following are the ground rules that will apply for this focus group discussion:

- Everyone is invited to participate
- Turns will be given to everyone and we will listen to one another
- Keep your cell phones on silent
- Respect other people's point of view, its ok to disagree but be polite.
- The discussion will last for approximately an hour.

## **TAPING PROCEDURES**

We are going to tape record the discussion, this will be analysed to derive conclusions. Therefore we request that you speak loud and clear and take turns when discussing.

## **CONFIDENTIALITY**

Any comments you make will be confidential. Your names or any identifying information will not be included in our report. Like I have already stated for the purpose of this discussion, we are only interested in your views. Now the session is ready to begin.

\*\*\*\*\*

Tell us your name and the brand name of maize meal that you buy.

## ANNEXURE G Focus group discussion responses

INFORMAL SETTLEMENTS			
ALEXANDRA	TSUTSUMANI	BOIPATONG	EATONSIDE
<b>Affordability</b>			
<p><b>A 9-</b>"The price issue is confusing because you can not follow the price whereas you don't get the taste that you like."</p> <p><b>A 7-</b>"You buy the maize meal that you are use to, whatever the price it may be, it does not matter."</p> <p><b>A 10-</b>"As for me, If the taste has changed I try another brand. I will look at price because it means the price I was paying for the old brand does not suit it because of the changed taste. If the price is high in the new one, it means it is quality product."</p> <p><b>A 9-</b>"The price issue is confusing because you can not follow the price whereas you don't get the taste that you like."</p>	<p><b>T 2-</b>"I like Ace because its strong, you don't have to use more mealie meal and it also helps me to save because you don't have to use lots and lots of it when you cook, and the texture is also nice and the taste is also nice."</p> <p><b>T 3-</b>"I like Shaya because it's tasty, and you do not have to use more mealie meal to cook and even in the soft porridge with milk it's very nice, and it's a little bit coarse. You can make lovely pap for braai."</p> <p><b>T 4-</b>"Also Papa its only 15 minutes to cook and it saves electricity."</p>	<p><b>B 7-</b>"When I go into the shop and buy lwisa, I look how cheap it is, when cooking it I look at how easily it thickens and it gives me energy to be strong. Even the children like lwisa and Papa maize meal because these two are the same."</p> <p><b>B 1-</b>"I like lwisa and Ideal maize meal. When I go into the shop I compare the prices for the two maize meals, because this month lwisa will be cheap and the following month Ideal is the one cheaper and to me these two brands are the same to me."</p> <p><b>B 4-</b>"Sometimes I can buy looking at the size of the family and sometimes I compare prices and buy the large size if I find it cheap. But I prefer buying small sizes to avoid spoilage."</p>	<p><b>E 2-</b>"I just buy any maize meal that is cheap, that I find in the shop."</p> <p><b>E 2-</b>"I like Mamas, but mostly my purchases rely on the money available. That is why I buy the one on special price."</p> <p><b>E 2-</b>"25kg and it depends on the money I have."</p> <p><b>E 4-</b>"I like both of them but sometimes when I don't have enough money for one of them, I just buy the one I find on special so that at least I can have something to eat for the day."</p> <p><b>E 6-</b>"I look for Ideal because it's cheaper."</p>

ALEXANDRA	TSUTSUMANI	BOIPATONG	EATONside
<p><b>A 9</b>-"I listen to what other house hold members want but the problem is we can not cook two pots of different maize meal."</p> <p><b>A 7</b>-"You buy the maize meal that you are use to, whatever the price it may be, it does not matter."</p> <p><b>A 9</b>-"The price issue is confusing because you can not follow the price whereas you don't get the taste that you like."</p> <p><b>A 5</b>-"when you buy a particular size, you consider the size of the family and how long it will last."</p>	<p><b>T 2</b>-"It is important because if I use two 12,5kg a month it's too much for me and then if I use one 12,5kg its ok."</p> <p><b>T 3</b>-"For me if the price is a bit higher, may be I cant afford because I can say the price am paying now is affordable for me because I still have one day job to buy if am not working."</p> <p><b>T 5</b>-"If I go to buy Papa and if is not there I also buy Ace because I grew up eating Ace and the taste is similar."</p> <p><b>T 3</b>-"But sometimes it happens that the brand you were using has changed, like before I was using Ace, Ace was my favourite, but now when I taste Ace it has changed, it has a bad smell like it has expired even if it has not expired, does not go harder when cooking it. I changed it last year because everyone in the house was complaining. "Why does the pap taste like its raw?" I thought may be I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand."</p>	<p><b>B 5</b>-"As for me it depends on the money I have for that month."</p> <p><b>B 3</b>-"I buy that size because we are many in the household and I get money per month and I buy once."</p> <p><b>B 8</b>-"I buy 12,5kg because I don't work and I want it to last."</p> <p><b>B 1</b>-"I use 5kg because we are 3 in the household, I don't buy 12,5kg because I think it will get spoiled/rot because you know that when maize meal stays for a long time it develops some moulds and that is why I buy smaller sizes and in the household we are not many."</p> <p><b>B 4</b>-"Sometimes I can buy looking at the size of the family and sometimes I compare prices and buy the large size if I find it cheap. But I prefer buying small sizes to avoid spoilage."</p> <p><b>B 6</b>-"I also buy 5kg because 2 cups are enough to make it thick and we are three in the household, or I can say we are two because I have two kids and they eat small amounts. We</p>	<p><b>E 2</b>-"I like Mamas, but mostly my purchases rely on the money available. That is why I buy the one on special price."</p> <p><b>E 4</b>-"12,5kg, but when I don't have enough money I buy 5kg."</p> <p><b>E 7</b>-"I buy that size so that it can last the whole month."</p> <p><b>E 8</b>-"I buy 12,5kg and it lasts two weeks."</p> <p><b>E 4</b>-"I like both of them but sometimes when I don't have enough money for one of them, I just buy the one I find on special so that at least I can have something to eat for the day."</p> <p><b>E 8</b>-"I use Iwisa and Ideal but if mamas is on special and I don't have enough money for Ideal or Iwisa I buy mamas."</p>



	<p><b>T 3-</b>"I second him because even if you don't have bread in the house, and the kids are crying, you just make tea and take the previous night stiff porridge and they drink tea with it and things go well."</p>	<p>still can have leftovers and eat them the following day."</p> <p><b>B 7-</b>"When I go into the shop and buy lwisa, I look how cheap it is, when cooking it I look at how easily it thickens and it gives me energy to be strong. Even the children like lwisa and Papa maize meal because these two are the same."</p>	
<p><b>Value for money</b></p> <p><b>A 5-</b>"Ace gets cooked easily, its tasty, feels you up, stays longer in the stomach."</p> <p><b>A 1-</b>"I also use Ace because it is good for me, it gives me energy and it last longer and when I cook it, it does not get finished faster like other maize meals."</p> <p><b>A 2-</b>"Ace, because it has a good taste than other maize meal."</p> <p><b>A 7-</b>"I also use Ace but it does not get thick easily you pour maize meal so many times, I don't know why. But it gets cooked and it tastes good and it feels you up."</p> <p><b>A 10-</b>"The maize meal should be thick when cooking pap."</p> <p><b>A 5-</b>"The maize meal should cook the way I</p>	<p><b>T 3-</b>"I can say the person who cooks everyday, is the one who knows all these things because if you put the pot there to boil and mix everything, then you will realize if this is a good maize meal, but some maize meal when you put in the boiling water, it doesn't come a little bit harder, you keep on putting, putting it doesn't became hard and you will know which one is good for your family."</p> <p><b>T 2-</b>"i don't put too much and at the same time am saving and getting what I like."</p> <p><b>T 2-</b>"It is important because if I use two 12,5kg a month it's too much for me and then if I use one 12,5kg its ok."</p> <p><b>T 3-</b>"I buy 10kg for the whole month."</p>	<p><b>B 4-</b> "it's white, smooth and thickens easily and less with price."</p> <p><b>B 6-</b>"I also buy 5kg because 2 cups are enough to make it thick and we are three in the household, or I can say we are two because I have two kids and they eat small amounts. We still can have leftovers and eat them the following day."</p> <p><b>B 1-</b>"good texture"</p> <p><b>B 7-</b>"I also say good texture."</p> <p><b>B 2-</b>"I also like lwisa because when I cook it, it becomes thick quickly and it also makes us full."</p> <p><b>B 6-</b>"I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the leftovers in the pot are still</p>	<p><b>E 5-</b>"I get satisfied with ideal maize meal. It is always white. It has a coarse texture and thickens easily when cooking. Other maize meal have yellow colour."</p> <p><b>E 7-</b>"I buy that size so that it can last the whole month."</p> <p><b>E 5-</b>"when I buy 12,5kg it can last the whole month and I can still top Up on it."</p> <p><b>E 8-</b>"I get satisfied if the maize meal lasts two weeks, because I know it should last us two weeks because we are many in the household."</p> <p><b>E 4-</b>"I like maize meal that gives me energy and I am satisfied with that."</p>

<p>like it and I should enjoy it. In my culture (sepedi) it is nice when it's thick."</p> <p><b>A 9</b>-"I buy the one that I am use to."</p> <p><b>A 7</b>-"I buy the one that I am use to."</p> <p><b>A 5</b>-"I buy the one that I am use to."</p> <p><b>A 1</b>-"I buy the one that I am use to."</p> <p><b>A 2</b>-"I buy the one that I am use to."</p> <p><b>A 3</b>-"I buy the one that I am use to."</p> <p><b>A 4</b>-"I buy the one that I am use to."</p> <p><b>A 5</b>-"I like Ace because it is tasty and cooks easily."</p> <p><b>A 9</b>-"it gets cooked faster."</p> <p><b>A 2</b>-"it does not form lumps when cooking"</p>		<p>white no discolouration.</p> <p><b>B 5</b> -"In my household we like Iwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them."</p>	
<b>ALEXANDRA</b>	<b>TSUTSUMANI</b>	<b>BOIPATONG</b>	<b>EATONSIDE</b>
<p><b>Satiety value</b></p> <p><b>A 5</b>-"Your stomach becomes full."</p> <p><b>A 7</b>-"You will want food after a longer time when you have eaten maize meal."</p> <p><b>A 10</b>-"Most of the time they cook Ace maize meal for me because I am a sports man and it makes me stay full for a longer time and the price is reasonable."</p> <p><b>A 1</b>-"I am use to Ace but I grew up eating a</p>	<p><b>T 3</b> -"You will feel full, it's heavy in the stomach."</p> <p><b>T 2</b>-"Satisfactory, You feel full and it's healthy, you feel energetic and I grow up eating maize meal."</p> <p><b>T 1</b>-"You feel full."</p>	<p><b>B 6</b>-"Once you are full you don't long for another meal."</p> <p><b>B 2</b>-"I also like Iwisa because when I cook it, it becomes thick quickly and it also makes us full."</p> <p><b>B 6</b>-"I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full."</p> <p><b>B 4</b>-"When you are full it like this, for example you have eaten at 10:00hrs and you will eat again at</p>	<p><b>E 4</b>-"I feel energetic."</p> <p><b>E 5</b>-"I feel energetic too."</p> <p><b>E 6</b>-"I feel good."</p> <p><b>E 6</b>-"I feel right."</p>

<p>different brand. Ace is much better than the brand I grew up eating. The one I grew up eating was too soft and weak; I had to eat a lot of it (5 times) per day, with Ace I only eat once."</p> <p><b>A 2-</b>"When I have eaten maize in the morning I can stay the whole day without wanting food, until my next meal at six o'clock in the afternoon.</p> <p><b>A 5-</b>"Ace gets cooked easily, its tasty, fills you up, stays longer in the stomach."</p> <p><b>A 1-</b>"After school children only want maize meal because they say it keeps them full they don't want beans."</p> <p><b>A 7-</b>"It makes the kids full, if you have given them soft porridge in the morning and they go and play, it will take them some time to come back and want food."</p> <p><b>A 9-</b>"It gives energy, after eating maize meal you feel you can work."</p> <p><b>A 1-</b>"Ace gives me energy."</p> <p><b>A 1-</b>"I also use Ace because it is good for me, it gives me energy</p>		<p>16:00hrs. It means you are full."</p> <p><b>B 2-</b>"Mostly I like it for the children if you give them the porridge with milk they can play the whole day without complaining about hunger."</p> <p><b>B 7-</b>"It gives you energy and you become active."</p> <p><b>B 5-</b>"It gives you more energy than when you have eaten bread. It lasts longer in the stomach."</p>	
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and it last longer and when I cook it, it does not get finished faster like other maize meals."			
<b>ALEXANDRA</b>	<b>TSUTSUMANI</b>	<b>BOIPATONG</b>	<b>EATONside</b>
<p><b>Acceptability</b></p> <p><b>A 7-</b>"I grew up eating Ace, and my Children are also eating it and I would not listen to any complains about Ace."</p> <p><b>A 5-</b>"If you have children in your household you raise them eating a certain brand and they get used to it, so they is no way that they will want a different brand."</p> <p><b>A 1-</b>"I am so used to the maize meal that I buy, so I buy that one because other brands I don't know how they taste like. Sometimes you will find that the taste is worse with other brands."</p> <p><b>A 9-</b>"From way back as I compare the thickening ability of lwisa, currently it takes time to thicken and this does not make me change to another brand because I am so use to lwisa. Changing to another brand you find that the taste is different from the one I am used to."</p> <p><b>A 9-</b>"I buy the one that I am use to."</p>	<p><b>T 3-</b>"Its taste is not like the other maize meal that I used before, because it's nice in the mouth and even if you chew you smell that maize. So that is why I said it's tasty for me."</p> <p><b>T 1-</b>"I just buy according to my children, if they like it I buy it."</p> <p><b>T 3-</b>"But sometimes it happens that the brand you were using has changed, like before I was using Ace, Ace was my favourite, but now when I taste Ace it has changed, it has a bad smell like it has expired even if it has not expired, does not go harder when cooking it. I changed it last year because everyone in the house was complaining. "Why does the pap taste like its raw?" I thought may be I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand."</p> <p><b>T 5-</b>"If I go to buy Papa and is not there I also buy Ace because I grew up eating</p>	<p><b>B 7-</b> "I do ask them because children like pap and if you change they complain."</p> <p><b>B 6-</b>"I do ask them how is the pap and they will tell me."</p> <p><b>B 5-</b> "If it is not available I would rather buy bread because I know my children wont eat any other maize meal."</p> <p><b>B 4-</b> "I once bought Naledi maize meal small package size, but I realised I have wasted money, because it was not the maize meal am use to. It doesn't get thick and I nearly used the whole package just cooking once."</p> <p><b>B 5 -</b>"In my household we like lwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them."</p> <p><b>B 7-</b>"When I go into the shop and buy lwisa, I look how cheap it is, when cooking it I look at how easily it thickens and it gives me energy to be strong. Even the children</p>	<p><b>E 5-</b>"At first I used Pride, but one day I bought ideal and found a big difference between the two. Ideal was very white and continued buying it."</p> <p><b>E 7-</b>"Mamas doesn't become thick when cooking, so I take the one I am use to."</p> <p><b>E 4, 7, 8, 1, 5-</b> "We can also have maize meal porridge with tea."</p> <p><b>E 2-</b> "No! I can only have maize meal with soup and meat."</p> <p><b>E 5-</b> "My children are so used to Ideal maize meal; if I buy a different brand they will complain that this maize meal is not good."</p> <p><b>E 6-</b> "same applies to my children."</p> <p><b>E 7-</b> "Even my children will tell me that."</p>

<p><b>A 7-</b>"I buy the one that I am use to."</p> <p><b>A 5-</b>"I buy the one that I am use to."</p> <p><b>A 1-</b>"I buy the one that I am use to."</p> <p><b>A 2-</b>"I buy the one that I am use to."</p> <p><b>A 3-</b>"I buy the one that I am use to."</p> <p><b>A 4-</b>"I buy the one that I am use to."</p> <p><b>A 6-</b>"I buy the maize meal that my husband likes and if I don't like it, I just eat and I will get use to it."</p>	<p>Ace and the taste is similar."</p> <p><b>T 2-</b>"Satisfactory, You feel full and it's healthy, you feel energetic and I grow up eating maize meal."</p> <p><b>T 1-</b> "I can have it with tea and soup."</p> <p><b>T 3-</b> " I second him because even if you don't have bread in the house, and the kids are crying, you just make tea and take the previous night stiff porridge and they drink tea with it and things go well."</p> <p><b>T 2-</b> "We have maize meal throughout the day, breakfast, lunch and super."</p>	<p>like lwisa and Papa maize meal because these two are the same."</p> <p><b>B ALL-</b> We can also have pap with tea.</p> <p><b>B 5 -</b>"In my household we like lwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them."</p> <p><b>B 6-</b>"I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the leftovers in the pot are still white no discolouration."</p>	
<p><b>Nutrient content</b></p> <p><b>A 1-</b>"I also use Ace because it is good for me, it gives me energy and it last longer and when I cook it, it does not get finished faster like other maize meals."</p> <p><b>A 1-</b>"Ace gives me energy."</p> <p><b>A 5-</b>"it gives you energy."</p> <p><b>A 1-</b>"it gives you energy."</p> <p><b>A 7-</b>"it gives you energy and we can have our medication."</p> <p><b>A 9-</b>"it gives you energy."</p> <p><b>A5-</b>"The maize meal gives children energy."</p>	<p><b>T 5-</b>"I eat papa maize meal because it has calcium and iron and its can boost someone's immune system when it's low. There are all kinds of goodness in it."</p> <p><b>T 3-</b>"As it is a carbohydrate by its self, it also has vitamins and calcium."</p> <p><b>T 3 -</b>"To grow-up big and strong."</p> <p><b>T 2-</b>"Calcium for the bone and iron for blood."</p> <p><b>T 1-</b>"It also helps for their sight"</p> <p><b>T 2-</b>"Satisfactory, You feel full and it's healthy, you feel energetic and I grow up eating maize meal."</p>	<p><b>B 7-</b>"It gives you energy and you become active."</p> <p><b>B 5-</b>"It gives you more energy than when you have eaten bread. It lasts longer in the stomach."</p> <p><b>B 7-</b>"When I go into the shop and buy lwisa, I look how cheap it is, when cooking it I look at how easily it thickens and it gives me energy to be strong. Even the children like lwisa and Papa maize meal because these two are the same."</p> <p><b>B 4-</b> "My child is diabetic if the maize meal is not available she eats sorghum (mabele)."</p>	<p><b>E 4-</b>"I like maize meal that gives me energy and I am satisfied with that."</p>

ALEXANDRA	TSUTSUMANI	BOIPATONG	EATONside
<p><b>Taste</b></p> <p><b>A 10-</b>"As for me, If the taste has changed I try another brand. I will look at price because it means the price I was paying for the old brand does not suit it because of the changed taste. If the price is high in the new one, it means it is quality product."</p> <p><b>A 9-</b>"The price issue is confusing because you can not follow the price whereas you don't get the taste that you like."</p> <p><b>A 1-</b>"I like white maize meal because the yellow maize meal does not have a good taste like the white one."</p> <p><b>A 10-</b>"I like white maize meal because it makes the relish look attractive in the plate and the white maize meal makes it easy for you to see if it is contaminated."</p> <p><b>A 3-</b> "I fermentate the maize meal to prepare sour porridge."</p> <p><b>A 7-</b>"I like the fermented maize meal porridge because it gives me energy."</p>	<p><b>T 1-</b>"it's flavourful like mealies."</p> <p><b>T 2-</b>"I like Ace because its strong, you don't have to use more mealie meal and it also helps me to save because you don't have to use lots and lots of it when you cook, and the texture is also nice and the taste is also nice."</p> <p><b>T 3-</b> "I like Shaya because it's tasty, and you do not have to use more mealie meal to cook and even in the soft porridge with milk it's very nice, and it's a little bit coarse. You can make lovely pap for braai."</p> <p><b>T 3-</b> "Its taste is not like the other maize meal that I used before, because it's nice in the mouth and even if you chew you smell that maize. So that is why I said it's tasty for me."</p> <p><b>T 1-</b>"I like the lwisa maize meal because of its whiteness and others are brownish and I like this one because it's white and soft."</p> <p><b>T 2-</b>"sometimes it doesn't taste nice, it has this funny taste like it's not done."</p> <p><b>T 3-</b>"But sometimes it happens that the brand you were using has changed, like before I was using Ace,</p>	<p><b>B 4-</b>"I will tell you about lwisa maize meal, I like it and it's tasty. When I cook it I don't add salt, I just eat it the way it is and it's smooth. I just enjoy it like someone who adds salt to it."</p> <p><b>B 2-</b>"lwisa is very tasty to me and it is like there is a little bit of butter added to it."</p> <p><b>B 7-</b>"lwisa is very tasty that you can just eat it without accompaniments."</p> <p><b>B 5-</b>"lwisa is tasty; we eat it with milk, spinach and meat."</p>	<p><b>E 4, 7, 8, 1, 5-</b> "We can also have maize meal porridge with tea".</p> <p><b>E-</b> "No! I can only have maize meal with soup and meat."</p>

	<p>Ace was my favourite, but now when I taste Ace it has changed, it has a bad smell like it has expired even if it has not expired, does not go harder when cooking it. I changed it last year because everyone in the house was complaining. "Why does the pap taste like its raw?" I thought may be I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand."</p> <p><b>T 5</b>-"If I go to buy Papa and is not there I also buy Ace because I grew up eating Ace and the taste is similar."</p> <p><b>T 5</b>-"I buy papa maize meal because it has a nice taste, you can even eat it with milk, its very nice with milk, meat everything."</p>		
<p><b>Appearance/ colour</b></p> <p><b>A 10</b>-"I like white maize meal because it makes the relish look attractive in the plate and the white maize meal makes it easy for you to see if it is contaminated."</p> <p><b>A 5</b>-"I like the white maize meal because it is easy for you to</p>	<p><b>T 3</b>- "I like Shaya because it's tasty, and you do not have to use more mealie meal to cook and even in the soft porridge with milk it's very nice, and it's a little bit coarse. You can make lovely pap for braai."</p> <p><b>T 1</b>-"I like the lwisa maize meal because of its whiteness and others are brownish and I like this one</p>	<p><b>B 4</b>-"I like lwisa because when I cook it, it becomes very white and thickens quickly and when we eat it in the household we really feel we have eaten a good maize meal."</p> <p><b>B 6</b>-"I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the</p>	<p><b>E 5</b>-"At first I used Pride, but one day I bought ideal and found a big difference between the two. Ideal was very white and continued buying it.</p> <p><b>E 5</b>-"I get satisfied with ideal maize meal. It is always white It has a coarse texture and thickens easily when cooking. Other maize</p>



<p>identify the texture."</p> <p><b>A 1</b>-"I like white maize meal because the yellow maize meal does not have a good taste like the white one."</p> <p><b>A 7</b>-"I like the white maize meal because it is the color that we are use to."</p> <p><b>A 2</b>-"Even me I like the white maize meal because it's the one that we are use to and at home we eat the white maize meal."</p> <p><b>A 7</b>-"I get satisfied with a white maize meal."</p> <p><b>A 5</b>-"I like the white maize meal."</p>	<p>because it's white and soft."</p> <p><b>T 2</b>-"I look at the price first and my second choice is always white star, it gets thick very easily and it's white."</p>	<p>leftovers in the pot are still white no discolouration.</p> <p><b>B 5</b>-"In my household we like lwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them."</p> <p><b>B 3</b>-"I also like lwisa, more especially that when you make soft porridge it becomes like Mageu drink."</p>	<p>meal have yellow colour."</p>
<p><b>Product quality</b></p> <p><b>A 2</b>-"The maize meal should cook the way I like it."</p> <p><b>A 10</b>-"The maize meal should be thick when cooking pap."</p> <p><b>A 5</b>-"The maize meal should cook the way I like it and I should enjoy it. In my culture (sepedi) it is nice when it's thick."</p> <p><b>A 4</b>-"when you cook it, it cooks easily."</p> <p><b>A 1</b>-"I am use to Ace but I grew up eating a different brand. Ace is much better than the brand I grew up eating. The one I grew up eating was too soft and</p>	<p><b>T 5</b>-"I eat papa maize meal because it has calcium and iron and its can boost someone's immune system when it's low. There are all kinds of goodness in it."</p> <p><b>T 2</b>-"sometimes it doesn't taste nice, it has this funny taste like it's not done."</p> <p><b>T 2</b>-"i don't put too much and at the same time am saving and getting what I like."</p> <p><b>T 3</b>-"But sometimes it happens that the brand you were using has changed, like before I was using Ace, Ace was my favourite, but now when I taste Ace it has changed, it has a bad smell</p>	<p><b>B 4</b>-"I like lwisa because when I cook it, it becomes very white and thickens quickly and when we eat it in the household we really feel we have eaten a good maize meal."</p> <p><b>B 6</b>-"I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the leftovers in the pot are still white no discolouration."</p> <p><b>B 5</b>-"In my household we like lwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft</p>	<p><b>E 3</b>-"I use Ideal because when I cook it, it doesn't form lumps like the other maize meals."</p> <p><b>E 4</b>-"I buy lwisa because it's similar to Ideal."</p> <p><b>E 7</b>-"It depends which maize meal is on special and which maize Meal thickens quicker. For example Ideal is the same as lwisa. So if Ideal is on special I take ideal and leave lwisa."</p>

<p>weak; I had to eat a lot of it (5 times) per day, with Ace I only eat once."</p> <p><b>A 7-</b>"If the maize meal has expired we do not buy it."</p> <p><b>A 10-</b>"As for me, If the taste has changed I try another brand. I will look at price because it means the price I was paying for the old brand does not suit it because of the changed taste. If the price is high in the new one, it means it is quality product."</p>	<p>like it has expired even if it has not expired, does not go harder when cooking it. I changed it last year because everyone in the house was complaining. "Why does the pap taste like its raw?" I thought may be I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand."</p>	<p>porridge with them."</p> <p><b>B 3-</b>"I also like lwisa, more especially that when you make soft porridge it becomes like Mageu drink."</p>	
<p><b>Texture</b></p> <p><b>A 9-</b>"From way back as I compare the thickening ability of lwisa, currently it takes time to thicken and this does not make me change to another brand because I am so use to lwisa. Changing to another brand you find that the taste is different from the one I am used to."</p> <p><b>A 9-</b>"The texture is different from the one I was use to, the maize meal nowadays does not thicken quickly because of imitations produced. Despite these changes I will always buy that brand because I am use to it."</p>	<p><b>T 1-</b>"It's because I like the texture and the softness of the maize meal."</p> <p><b>T 2-</b>"I like Ace because its strong, you don't have to use more mealie meal and it also helps me to save because you don't have to use lots and lots of it when you cook, and the texture is also nice and the taste is also nice."</p> <p><b>T 3-</b>"I like Shaya because it's tasty, and you do not have to use more mealie meal to cook and even in the soft porridge with milk it's very nice, and it's a little bit coarse. You can make lovely pap for braai."</p> <p><b>T 3-</b>"It's soft and smooth."</p> <p><b>T 5-</b>"It's soft and smooth."</p>	<p><b>B 2-</b>"I also like lwisa because when I cook it, it becomes thick quickly and it also makes us full."</p> <p><b>B 6-</b>"I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the leftovers in the pot are still white no discolouration."</p> <p><b>B 5 -</b>"In my household we like lwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them."</p> <p><b>B 3-</b>"I also like lwisa, more especially that when you make soft porridge it becomes like Mageu</p>	<p><b>E 8-</b>"I use ideal because it becomes thick quickly than the other maize meals"</p> <p><b>E 6-</b>"The same with me ideal becomes thick quickly when I cook it."</p> <p><b>E 4-</b>"I also use Ideal because it thickens quickly when I cook it."</p> <p><b>E 1-</b>"I use Ideal because it satisfies me and it thickens quicker when cooking it."</p> <p><b>E 5-</b>"I get satisfied with ideal maize meal. It is always white It has a coarse texture and thickens easily when cooking. Other maize meal have yellow colour."</p>

<p><b>A 10-</b>"The maize meal should be thick when cooking pap."</p> <p><b>A 5-</b>"The maize meal should cook the way I like it and I should enjoy it. In my culture (Sepedi) it is nice when its thick."</p> <p><b>A 5-</b>"The soft texture does not thicken quickly."</p> <p><b>A 7-</b>"The soft texture does not thicken quickly and medium texture will be fine."</p> <p><b>A 1-</b>"I also use Ace because it is good for me, it gives me energy and it last longer and when I cook it, it does not get finished faster like other maize meals."</p> <p><b>A 5-</b>"I like the white maize meal because it is easy for you to identify the texture."</p>	<p><b>T 3-</b>"I can say the person who cooks everyday, is the one who knows all these things because if you put the pot there to boil and mix everything, then you will realize if this is a good maize meal, but some maize meal when you put in the boiling water, it doesn't come a little bit harder, you keep on putting, putting it doesn't became hard and you will know which one is good for your family."</p> <p><b>T 3-</b>"But sometimes it happens that the brand you were using has changed, like before I was using Ace, Ace was my favourite, but now when I taste Ace it has changed, it has a bad smell like it has expired even if it has not expired, does not go harder when cooking it. I changed it last year because everyone in the house was complaining. "Why does the pap taste like its raw?" I thought may be I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand."</p> <p><b>T 3-</b>"Yes, you try and if you feel the texture is like the old Ace you know then its</p>	<p>drink."</p> <p><b>B 6-</b>"I also buy 5kg because 2 cups are enough to make it thick and we are three in the household, or I can say we are two because I have two kids and they eat small amounts. We still can have leftovers and eat them the following day."</p> <p><b>B 4-</b>"I will tell you about lwisa maize meal, I like it and it's tasty. When I cook it I don't add salt, I just eat it the way it is and it's smooth. I just enjoy it like someone who adds salt to it."</p> <p><b>B 2-</b>"I also like lwisa because when I cook it, it becomes thick quickly and it also makes us full."</p> <p><b>B 4-</b>"We are three in the household and 5kg can last for 3 weeks because the maize meal is thick. When I use 2 cups or 2½ cups it becomes thick therefore it can last for 3 weeks."</p>	
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	<p>ok and you continue using it."</p> <p>T 3-"The taste, the texture the smoothness."</p> <p>T 2-"I like Ace because its strong, you don't have to use more mealie meal and it also helps me to save because you don't have to use lots and lots of it when you cook, and the texture is also nice and the taste is also nice."</p> <p>T 3-"I can say the person who cooks everyday, is the one who knows all these things because if you put the pot there to boil and mix everything, then you will realize if this is a good maize meal, but some maize meal when you put in the boiling water, it doesn't come a little bit harder, you keep on putting, putting it doesn't became hard and you will know which one is good for your family."</p> <p>T 2-"Soft porridge is less in time length."</p> <p>T 3-"Soft porridge is less because with the stiff one you are still going to put in some more mealie meal on top of the soft porridge and then mix together. But if it's soft porridge after 10 minute you can eat it."</p>		
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ALEXANDRA	TSUTSUMANI	BOIPATONG	EATON SIDE
<p><b>Convenience/ ease of preparation</b></p> <p><b>A 5-</b>"Ace gets cooked easily, its tasty, feels you up, stays longer in the stomach."</p> <p><b>A 4-</b>"when it cooks easily."</p> <p><b>A 5-</b>"I like Ace because it is tasty and cooks easily."</p> <p><b>A 2-</b>"it does form lumps when cooking."</p> <p><b>A 9-</b>"I like Ace because its gets cooked easily unlike other maize meals."</p> <p><b>A 4-</b>"when you cook it, it cooks easily."</p> <p><b>A 9-</b>"it gets cooked faster."</p> <p><b>A 7-</b>"I also use Ace but it does not get thick easily you pour maize meal so many times, I don't know why. But it gets cooked and it tastes good and it feels you up."</p> <p><b>A 10-</b>"The maize meal should be thick when cooking pap."</p> <p><b>A 5-</b>"The soft texture does not thicken quickly."</p> <p><b>A 7-</b>"The soft texture does not thicken quickly and medium texture will be fine."</p> <p><b>A 9-</b>"The texture is</p>	<p><b>T 1-</b>"It doesn't take too long to cook."</p> <p><b>T 1-</b>"20 to 30 minutes, but the other one that I use to cook it was 45 minutes."</p> <p><b>T 2-</b>"Soft porridge is less in time length."</p> <p><b>T 3-</b>"Soft porridge is less because with the stiff one you are still going to put in some more mealie meal on top of the soft porridge and then mix together. But if it's soft porridge after 10 minute you can eat it."</p> <p><b>T 3-</b>"I second him because even if you don't have bread in the house, and the kids are crying, you just make tea and take the previous night stiff porridge and they drink tea with it and things go well."</p>	<p><b>B 4-</b>"I like lwisa because when I cook it, it becomes very white and thickens quickly and when we eat it in the household we really feel we have eaten a good maize meal."</p> <p><b>B 2-</b>"I also like lwisa because when I cook it, it becomes thick quickly and it also makes us full."</p> <p><b>B 7-</b>"When I go into the shop and buy lwisa, I look how cheap it is, when cooking it I look at how easily it thickens and it gives me energy to be strong. Even the children like lwisa and Papa maize meal because these two are the same."</p> <p><b>B 5 -</b>"In my household we like lwisa and Papa maize meal because they are white and soft. They become thick easily and we like cooking soft porridge with them."</p> <p><b>B 6-</b>"I like Papa because looking at it, it is white, when I cook it, it becomes thick and makes me full. In the morning the leftovers in the pot are still white no discolouration</p> <p><b>B 6-</b>"I also buy 5kg because 2 cups are enough to make it thick and we are three in the</p>	<p><b>E 8-</b>"I use ideal because it becomes thick quickly than the other maize meals"</p> <p><b>E 6-</b>"The same with me ideal becomes thick quickly when I cook it."</p> <p><b>E 4-</b>"I also use Ideal because it thickens quickly when I cook it."</p> <p><b>E 1-</b>"I use Ideal because it satisfies me and it thickens quicker when cooking it."</p> <p><b>E 5-</b>"I get satisfied with ideal maize meal. It is always white. It has a coarse texture and thickens easily when cooking. Other maize meal have yellow colour."</p> <p><b>E 7-</b>"45 minutes."</p> <p><b>E 5-</b>"I only stir it three times and it's done, with moderate heat so that it does not burn."</p> <p><b>E 7-</b>"It depends which maize meal is on special and which maize Meal thickens quicker. For example Ideal is the same as lwisa. So if Ideal is on special I take ideal and leave lwisa.</p>

<p>different from the one I was use to, the maize meal nowadays does not thicken quickly because of imitations produced. Despite these changes I will always buy that brand because I am use to it."</p> <p><b>A 5-</b>"The maize meal should cook the way I like it and I should enjoy it. In my culture (Sepedi) it is nice when it's thick."</p>		<p>household, or I can say we are two because I have two kids and they eat small amounts. We still can have leftovers and eat them the following day."</p>	
<p><b>Packaging size</b></p> <p><b>A 9-</b>"I buy 12,5kg. It lasts for a month."</p> <p><b>A 7-</b>"I buy 5kg, I buy the maize meal that does not stay for a long time. I want it to get finished and buy another one."</p> <p><b>A 2-</b>"I buy 12,5kg. It last for a month."</p> <p><b>A 5-</b>"I buy 12,5kg, It last for a month."</p> <p><b>A 1-</b>"I buy 5kg, It last for a month."</p> <p><b>A 10-</b>"I buy 12,5kg."</p> <p><b>A 3-</b>"I buy 12,5kg, It last for a month."</p> <p><b>A 8-</b>"I buy 5kg."</p> <p><b>A 4-</b>"I buy 12,5kg, It last for a month."</p> <p><b>A 7- N 2-</b>"It last for a month."</p> <p><b>A 6-</b>"It last for a month."</p> <p><b>A 5-</b>"when you buy a particular size, you consider the size of the family and how long it</p>	<p><b>T 2-</b>"It is important because if I use two 12,5kg a month it's too much for me and then if I use one 12,5kg its ok."</p> <p><b>T 3-</b>"I buy 10kg for the whole month."</p> <p><b>T 2-</b>"I use to buy 10kg so my younger brother moved in with me, so I changed from 10kg to 12,5kg. If I have an extra family member I always go for a larger size."</p> <p><b>T 5-</b>"I buy 10kg because I make soft porridge for my child very day in the morning."</p> <p><b>T 1-</b>"I buy 25kg, so that it can last, may be three to four months in case I can't get it again in the store."</p> <p><b>T 3-</b>"I visited the other family and they gave me pap and it was so nice to me and I asked what type</p>	<p><b>B 7-</b>"We buy 12,5kg because we are 8 in the household and it lasts the whole month. Most of the time we eat it in the evening and the leftovers in the pot we eat them the following day in the afternoon."</p> <p><b>B 1-</b>"I use 5kg because we are 3 in the household, I don't buy 12,5kg because I think it will get spoiled/rot because you know that when maize meal stays for a long time it develops some moulds and that is why I buy smaller sizes and in the household we are not many."</p> <p><b>ALL B5-</b>"12,5kg", <b>B7-</b>"12,5kg", <b>B8-</b>"12,5kg", <b>B 3-</b>"25kg", <b>B 4-</b>"5kg" <b>B 2-</b>"12,5kg", <b>B 1-</b>"5kg", <b>B 6-</b>"5kg"</p>	<p><b>E 2-</b>"25kg and it depends on the money I have."</p> <p><b>E 1-</b>"12,5kg."</p> <p><b>E 3-</b>"12,5kg."</p> <p><b>E 7-</b>"12,5kg I buy that size so that it can last the whole month."</p> <p><b>E 4-</b>"12,5kg, but when I don't have enough money I buy 5kg."</p> <p><b>E 5-</b>"when I buy 12,5kg it can last the whole month and I can still top Up on it."</p> <p><b>E 8-</b>"I buy 12,5kg and it lasts two weeks."</p> <p><b>E 6-</b>"I buy 12,5kg because I have many children, but the 12,5kg gets finished within a week."</p>

<p>will last."</p> <p><b>A 7</b>-"You look at the size of the family and buy that size."</p>	<p>of maize meal is it, then they said Shaya. Then I tried it and the following month I bought the 10kg for the whole month."</p>	<p><b>B 4</b>-"We are three in the household and 5kg can last for 3 weeks because the maize meal is thick. When I use 2 cups or 2½ cups it becomes thick therefore it can last for 3 weeks."</p> <p><b>B 6</b>-"I also buy 5kg because 2 cups are enough to make it thick and we are three in the household, or I can say we are two because I have two kids and they eat small amounts. We still can have leftovers and eat them the following day."</p> <p><b>B 3</b>-"We are 9 in the household so 25kg is the only size which will manage the whole household for the month."</p> <p><b>B 5</b>-"I buy 5kg, we are 5 in the household and it lasts the whole month."</p> <p><b>B 2</b>-"I buy 12,5kg because we are 4 in the household and it last the whole month."</p> <p><b>B 4</b>-"Sometimes I can buy looking at the size of the family and sometimes I compare prices and buy the large size if I find it cheap. But I prefer buying small sizes to avoid spoilage."</p> <p><b>B 8</b>-"I buy 12,5kg because I don't work and I want it</p>	
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		to last." <b>B 1</b> -"I buy 5kg because we are not many and I don't want it to stay for a long time."	
<b>ALEXANDRA</b>	<b>TSUTSUMANI</b>	<b>BOIPATONG</b>	<b>EATONSIDE</b>
<p><b>Product safety</b></p> <p><b>A 10</b>-"I like white maize meal because it makes the relish look attractive in the plate and the white maize meal makes it easy for you to see if it is contaminated."</p> <p><b>A 7</b>-"I buy the maize meal that does not stay for a long time. I want it to get finished and buy another one."</p> <p><b>A 7</b>-"If the maize meal has expired we do not buy it."</p> <p><b>A 9</b>-"I go to another shop to look for a fresh one."</p>	<p><b>T 3</b>-"it tastes like it is old maize meal."</p> <p><b>T 2</b> -"It's like the expired one, stored for ages."</p> <p><b>T 3</b>-"But sometimes it happens that the brand you were using has changed, like before I was using Ace, Ace was my favourite, but now when I taste Ace it has changed, it has a bad smell like it has expired even if it has not expired, does not go harder when cooking it. I changed it last year because everyone in the house was complaining. "Why does the pap taste like its raw?" I thought may be I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand."</p> <p><b>T 3</b>-"I second him because even if you don't have bread in the house, and the kids are crying, you just make tea and take the previous night stiff porridge and they drink tea with it and things go well."</p>	<p><b>B 1</b>-"I use 5kg because we are 3 in the household, I don't buy 12,5kg because I think it will get spoiled/rot because you know that when maize meal stays for a long time it develops some moulds and that is why I buy smaller sizes and in the household we are not many."</p> <p><b>B 4</b>-"Sometimes I can buy looking at the size of the family and sometimes I compare prices and buy the large size if I find it cheap. But I prefer buying small sizes to avoid spoilage."</p> <p><b>B 6</b>-"The size I buy is influenced by the number of household members. We are not many; if I buy a larger size it will get spoiled."</p> <p><b>B 1</b>-"I buy 5kg because we are not many and I don't want it to stay for a long time."</p> <p><b>B 5</b>- "I once bought an impala maize meal and a lot of it was left in the pot and it had a bad smell."</p>	

		<p><b>B 4-</b> "I once looked at the expiry date and the date was still new and I bought the maize meal but when I got home and used it, the maize meal was not fresh."</p> <p><b>B 7-</b> "The same thing also happened to me."</p> <p><b>B 6-</b> "I also buy 5kg because 2 cups are enough to make it thick and we are three in the household, or I can say we are two because I have two kids and they eat small amounts. We still can have leftovers and eat them the following day."</p>	
<p><b>Brand loyalty</b></p> <p><b>A 9-</b> "If I do not find the brand I always buy I go to the next shop."</p> <p><b>A 7-</b> "I go to the next shop, if the brand I use is not available."</p> <p><b>A 4-</b> "I go to the next shop, if the brand I use is not available."</p> <p><b>A 5-</b> "I go to the next shop, if the brand I use is not available."</p> <p><b>A 2-</b> "I go to the next shop, if the brand I use is not available."</p> <p><b>A 1-</b> "I go to the next shop, if the brand I use is not available."</p> <p><b>A 7-</b> "You buy the maize meal that you are use</p>	<p><b>T 2-</b> "I look at the price first and my second choice is always white star, it gets thick very easily and it's white."</p> <p><b>T 3 -</b> "Not exactly. Because if I can check the prices I will choose the one I don't want, because White star maize meal I also like it, It's similar to Shaya maize meal, it's not so soft like the other ones."</p> <p><b>T 2-</b> "The difference is the price, that's why am saying between Ace and White Star I would choose Ace maize meal because there are nearly the same to me."</p> <p><b>T 2-</b> "Yes, especially when</p>	<p><b>B 1-</b> "I like Iwisa and Ideal maize meal. When I go into the shop I Compare the prices for the two maize meals, because this month Iwisa will be cheap and the following month Ideal is the one cheaper and to me these two brands are the same to me."</p> <p><b>B 4-</b> "I will tell you about Iwisa maize meal, I like it and it's tasty. When I cook it I don't add salt, I just eat it the way it is and it's smooth. I just enjoy it like someone who adds salt to it."</p> <p><b>B 2-</b> I go to the next shop</p>	<p><b>E 5-</b> "I buy Iwisa maize meal."</p> <p><b>E 1-</b> "I am satisfied with ideal maize meal."</p> <p><b>E 5-</b> "My children are so used to Ideal maize meal, if I buy a different brand they will complain that this maize meal is not good."</p> <p><b>E 6-</b> "Same applies to my children"</p> <p><b>E 7-</b> "Even my children will tell me that."</p> <p><b>E 7-</b> "It depends which maize meal is on special and which maize Meal thickens quicker. For example Ideal is the same as Iwisa. So if</p>

<p>to, whatever the price it may be, it does not matter."</p> <p><b>A 5-</b>"If you have children in your household you raise them eating a certain brand and they get used to it, so they is no way that they will want a different brand."</p> <p><b>A 9-</b>"I buy the one that I am use to."</p> <p><b>A 7-</b>"I buy the one that I am use to."</p> <p><b>A 5-</b>"I buy the one that I am use to."</p> <p><b>A 1-</b>"I buy the one that I am use to."</p> <p><b>A 2-</b>"I buy the one that I am use to."</p> <p><b>A 3-</b>"I buy the one that I am use to."</p> <p><b>A 4-</b>"I buy the one that I am use to."</p> <p><b>A 9-</b>"I go to another shop to look for a fresh one."</p> <p><b>A 1-</b>"I only buy Iwisa."</p> <p><b>A 7-</b>"I buy the one I always buy."</p> <p><b>A 9-</b>"From way back as I compare the thickening ability of Iwisa, currently it takes time to thicken and this does not make me change to another brand because I am so use to Iwisa. Changing to another brand you find that the taste is different from the one I</p>	<p>the maize meals are the same. It's like buying fridges and they have similar features but the difference is the price, not the design, so to me is the same."</p> <p><b>T 1-</b>"I go to another shop if Iwisa is not available."</p> <p><b>T 1-</b>"I buy 25kg, so that it can last, may be three to four months in case I can't get it again in the store."</p> <p><b>T 1-</b>"I look at the brand name."</p> <p><b>T 4-</b>"For me it's the brand name because I buy the one that I get satisfied with when I am using it."</p> <p><b>T 3-</b>"It's the brand but if it happens that that brand is not available I buy the other brand but just 1kg for that night. The next day I will go and search for Shaya maize meal."</p> <p><b>T 3-</b>"But sometimes it happens that the brand you were using has changed, like before I was using Ace, Ace was my favourite, but now when I taste Ace it has changed, it has a bad smell like it has expired even if it has not expired, does not go harder when cooking it. I changed it last year because everyone in the house was complaining. "Why does the pap taste like its raw?" I thought may</p>	<p>to look for it.</p> <p><b>B 6-</b> "as for me if maize meal is not available I wait until it's available and mean while I use mabele.</p> <p><b>B 8-</b> "if its not available I cook rice."</p> <p><b>B 7-</b> "I do ask them because children like pap and if you change they complain."</p> <p><b>B 5-</b> "If it is not available I would rather buy bread because I know my children wont eat any other maize meal.</p> <p><b>B 1</b> "I would say both of them, you can not buy a cheaper product which won't satisfy you."</p>	<p>Ideal is on special I take ideal and leave Iwisa."</p> <p><b>E 7-</b>"Mamas doesn't become thick when cooking, so I take the One I am use to."</p> <p><b>E 5-</b>"when Ideal is not available I buy Iwisa."</p> <p><b>E 6-</b>"I look for Ideal because it's cheaper."</p> <p><b>E 2-</b>"I buy Mamas because it's the cheapest."</p> <p><b>E 1-</b>"I only buy either Ideal or Iwisa maize meal."</p> <p><b>E 5-</b> "My children are so used to <b>Ideal maize</b> meal; if I buy a different brand they will complain that this maize meal is not good."</p> <p><b>E 6-</b> "same applies to my children."</p> <p><b>E 7-</b> "Even my children will tell me that."</p>
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<p>am used to."</p> <p><b>A 1-</b>"I am so used to the maize meal that I buy, so I buy that one because other brands I don't know how they taste like. Sometimes you will find that the taste is worse with other brands."</p> <p><b>A 5-</b>"I don't change the brand if some characteristics of the product are different."</p> <p><b>A 7-</b>"I always stick with the brand I am use to, I don't changed to a different brand."</p>	<p>be I did not switch the stove ok and the other day I put the stove temperature high and I mixed like I usually do, but it was the same. So I changed to a new brand."</p>		
<p><b>Household influences</b></p> <p><b>A 5-</b>"when you buy a particular size, you consider the size of the family and how long it will last."</p> <p><b>A 9-</b>"I listen to what other house hold members want but the problem is we can not cook two pots of different maize meal."</p> <p><b>A 6-</b>"I buy the maize meal that my husband likes and if I don't like it, I just eat and I will get use to it."</p> <p><b>A 10-</b>"I prefer that we buy 5kg of Ace and 5kg of other brand that is liked by the household members and we can all have a share of the</p>	<p><b>T 1-</b>"I just buy according to my children, if they like it I buy it."</p> <p><b>T 1-</b>"Most of the time I do it for the sake of the children."</p> <p><b>T 2-</b>"With me I always do things the way I see they will suit every one. Like my children they don't know the difference between Ace and whatever, and my husband as long as its pap, nicely done its ok. As the wife and mother I know what's right or wrong for my family."</p> <p><b>T 2-</b>"It is important because if I use two 12,5kg a month it's too much for me and then if I use one 12,5kg its ok."</p>	<p><b>B 4-</b>"We are three in the household and 5kg can last for 3 weeks because the maize meal is thick. When I use 2 cups or 2½ cups it becomes thick therefore it can last for 3 weeks"</p> <p><b>B 6-</b> "I also buy 5kg because 2 cups are enough to make it thick and we are three in the household, or I can say we are two because I have two kids and they eat small amounts. We still can have leftovers and eat them the following day."</p> <p><b>B 3-</b>"We are 9 in the household so 25kg is the only size which will</p>	<p><b>E 6-</b>"I buy 12,5kg because I have many children, but the 12,5kg gets finished within a week."</p>

<p>brands we like sometime."</p> <p><b>A 5-</b>"If you have children in your household you raise them eating a certain brand and they get used to it, so they is no way that they will want a different brand."</p>	<p><b>T 3-</b>"I buy 10kg for the whole month."</p> <p><b>T 2-</b>"I use to buy 10kg so my younger brother moved in with me, so I changed from 10kg to 12,5kg. If I have an extra family member I always go for a larger size."</p>	<p>manage the whole household for the month."</p> <p><b>B 5-</b>"I buy 5kg, we are 5 in the household and it lasts the whole month."</p> <p><b>B 7-</b>"We buy 12,5kg because we are 8 in the household and it lasts the whole month. Most of the time we eat it in the evening and the leftovers in the pot we eat them the following day in the afternoon."</p> <p><b>B 2-</b>"I buy 12,5kg because we are 4 in the household and it last the whole month."</p> <p><b>B 1-</b>"I use 5kg because we are 3 in the household, I don't buy 12,5kg because I think it will get spoiled/rot because you know that when maize meal stays for a long time it develops some moulds and that is why I buy smaller sizes and in the household we are not many."</p> <p><b>B 4-</b>"Sometimes I can buy looking at the size of the family and sometimes I compare prices and buy the large size if I find it cheap. But I prefer buying small sizes to avoid spoilage."</p> <p><b>B 7-</b>"We are influenced by our status and the family size also has an impact."</p>	
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