ASSESSMENT OF SOCIO-CULTURAL AND ECONOMIC DETERMINANTS OF FOOD SELECTION AND CONSUMPTION AMONG NAIROBI HOUSEHOLDS: A CASE STUDY OF JERUSALEM, BURUBURU PHASE II AND AKIBA ESTATES.

BY

JERIA ATEBE

A Thesis submitted in fulfilment of the requirement for the degree of Master of Education in Home Economics at Kenyatta University.

Department of Home Economics
Kenyatta University
Nairobi, Kenya
1993

DECLARATION

This Thesis is my original work and has not been presented for a degree in any other University.

Jeria Atebe

The Thesis has been submitted for examination with our approval as University Supervisors:

Prof. Olive .M. Mugenda
Department of Home Economics
Kenyatta University.

Prof. Julia K. Gitobu
Department of Home Economics
Kenyatta University.

DEDICATION

To my father, Livingstone Atebe Marita,

My mother Jerusa Nyakerario,

My brothers and sisters and

My husband Mike

whose constant support and encouragement never cease to sustain me.

ACKNOWLEDGEMENTS.

This thesis is not a product of one person. It has developed into the planned product through the committed hands and hearts of many people. It would be impossible to name all the individuals involved, but several people deserve special recognition.

First and foremost, I am grateful to my supervisors Prof. Olive Mugenda and Prof. Julia Gitobu who gave their valuable time and skills to strengthen this thesis.

Second I am indebted to all the households in Jerusalem, Buruburu Phase II and Akiba (Langata) estates for their co-operation in responding to the questionnaires; to Peter Mongare for statistical assistance; to Isabella Okero and Samwel Onyambu for typing services; and to Charles Ayako for typing and photocopying services.

Special thanks go to my husband Michael and my daughter Mwango for their love, support and endurance, and to my brothers and sisters whose love and encouragement kept me going.

And finally, but most of all, I extend my sincere gratitude to my loving parents Mr. & Mrs. Livingstone Atebe Marita for supporting my post graduate studies financially. Thank you all.

ABSTRACT.

This was a survey research whose purpose was to assess determinants of food selection and consumption in selected Nairobi households. Among the variables considered were culture, attitude towards food, food preferences, price of food, nutritional knowledge and satisfaction with food selection and consumption.

The objectives of the study were to:- (1) investigate the effect of cultural factors on food selection and consumption among Nairobi households, (2) determine the attitudes of Nairobi households towards food selection and consumption, (3) determine the influence of food preferences on food selection and consumption among Nairobi households, (4) investigate the effect nutritional knowledge has on food selection among Nairobi households, (5) investigate the effect of price of certain food commodities on food selection and consumption among Nairobi households, and (6) assess Nairobi households' satisfaction with their food selection and consumption.

The data in the study was collected using a questionnaire. The questionnaire was filled by 163 respondents from Jerusalem, Buruburu phase II, and Akiba (Langata) estates. The respondent was the person in the household who was in charge of food selection. The research period was between June-August 1992. The data were analysed by the use of mean, frequencies and percentages, and presented by the use of tables and charts.

Results of the study showed that cultural factors did not influence food selection and consumption in Nairobi probably due to the town's cosmopolitan nature. The people from different cultural backgrounds have mingled and influenced each others' food selection and consumption practices. Households selected those foods they could afford and preferred. Most households in the study liked most of the foods that were provided on the food list. However, fish, coconut, coffee and cocoa were rated as disliked by some of the households. These foods tend to be unavailable both economically and physically, and are unfamiliar and therefore end up being disliked.

The price of food was found to be the greatest determinant of food selection and consumption as shown by the results. Most households rated most foods as expensive. Jerusalem households were most affected by price of food as compared to Buruburu and Akiba households. This was attributed to Jerusalem's low total family monthly income.

The study showed that nutritional knowledge did not influence food selection and consumption. Respondents were found to be nutritionally knowledgeable. However, most households especially in Jerusalem were found to select and consume foods that were nutritionally inferior. This was explained by the fact that, most of these households could not afford the more expensive foodstuffs which mostly comprised of proteinous foods.

It was evident from the study results that households did not regard cultural feelings towards food selection and consumption. Thus they did not advocate men getting served first with best parts of food, and women eating last. Most households believed in each family member getting equal attention in food service. Traditional foods were also regarded to have equal value to modern ones.

Study findings showed that there was general dissatisfaction with the quality and quantity of foods selected and consumed. Households were also dissatisfied with the cost of food. Jerusalem and Buruburu households indicated a dissatisfaction with the general appeal and variety of foods selected and consumed. However, most households were generally satisfied with the distribution of food amongst family members and also the availability of foods they selected. About half of the households were satisfied with the distance of the shopping centre from their houses.

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

CHAPTER 1

1.0 INTRODUCTION

1.1 Background information.

Individual progress and national development are dependent on good health the world over. Therefore, improved nutrition must be an important component of national development and is therefore, a matter of concern in all nations.

For good health, food is needed to supply nutrients for metabolic processes, growth and reproduction. Nutrients are the basic components of food which in their right amounts and proportion to each other in a meal make a balanced diet. However, poor nutrition may result in inadequate (under nutrition) or excessive intake (overnutrition) of these essential nutrients. The most common nutritional deficiency disease is protein-energy malnutrition (P.E.M), which may manifest as kwashiorkor or marasmus in children. Other common nutrition related diseases in various parts of the world include iodine deficiency goiter and iron deficiency anaemia.

Uncontrolled dietary habits may lead to overnutrition, caused by over consumption of nutrients. This is a condition usually attributed to the affluent. Diseases associated with overconsumption include atherosclerotic disease, diabetes, hypertension, liver disease, hepatitis B and obesity.

The dietary pattern of individuals determine their nutritional status and good nutrition results in a high nutritional status. Sanjur (1982) asserts that one's nutritional status is determined by the foods one selects and consumes. Therefore, selection and consumption of nutritionally adequate food results in one achieving a high nutritional status. However, various factors affect food habits leading to poor choice and consumption of foods. Some of these factors include culture, food preference, nutritional knowledge, economic constraints and attitude towards food.

The problem of food selection and consumption is common all over the world. However, its severity differs from place to place depending on people's socio-cultural and economic backgrounds. Studies on food selection and consumption are of utmost importance since they tend to unearth patterns and behaviours that people have developed with regard to food intake. These patterns directly dictate one's nutritional status.

Nutrition plays a primary role in national health and development. Yet nutritional deficiencies are a common occurrence in developing countries. The improvement of this state of affairs does not only require the knowledge of scientific facts of nutrition but also an interpretation of the socio-cultural and economic variables that affect food selection and consumption (Sanjur, 1982).

As early as 1940, the United states was concerned about people's food behaviour and its effect on nutrition. As a result of this, the National Research Council through a request from the National Advisory Commission in the United States started work on how to assist in studying nutrition related problems in November, 1940 (The Problem of Changing Food Habits. Report of The Committee on Food Habits, 1941 - 1943). It was generally realized, that a significant number of the American population suffered from malnutrition at this time. Therefore ways had to be sought to tackle this problem.

From this need, the Committee on Food Habits was established by the National Research Council in December, 1940 (The Problem of Changing Food Habits. Report of The Committee on Food Habits 1941 -1943). The major task of the committee was to identify weaknesses and deficiencies in the American dietary habits, target groups affected, what the causes of these deficiencies and weaknesses were, who was to reach the target group and finally by what means. Research was conducted under the auspices of the Committee with the intention of coming up with sound recommendations to the appropriate governmental agencies upon the characteristics of the variety of food habits throughout the American nation (The Problem of Changing Food Habits. Report of The Committee on Food Habits, 1941-1943). While this committee limited itself to cultural aspects of food behaviours, Sanjur (1982) and Jelliffe & Jelliffe (1989), point out the importance of the

inclusion of economic and political aspects.

Research on food habits by the Committee found out that dynamics of the food situation, food channels included, determined food behaviour, (Lewin, 1941). Koos (1941) established that, foods regarded as status symbols appeared to be universal among the low income group. However, Joffe (1941) reported that Italians adhered to their customary aspects of the diet despite unfavourable economic odds. African-Americans were found to be dictated by regional factors and economic conditions in their food selection, while dietary practices of the Polish people were determined by the Catholic religion and to some extent the paternal authority.

Many more studies on food selection and consumption have been conducted in America since 1940.A study by Gaskin (1973) on acceptance and selection of vegetables by pre-schoolers revealed that the method of preparation determined the level of acceptance of a vegetable. But Philip & Kolasa (1980) found that familiar foods were preferred to unfamiliar ones.

In developing countries, much has been done on food selection and consumption. Kashyap & Young (1989) in their case study of Parbhani India found that beliefs affected the food intake of pregnant women. In Sri-Lanka and Sudan, intrahousehold food distribution was dictated by traditional beliefs (Wandel & Ottesen, 1988; Holter, 1988) respectively. These findings are similar to those of Oniang'o (1987), in a study of women in selected Kenyan communities, whereby certain

foods were restricted for pregnant women in order to safeguard the health of the unborn child. A nutrition survey carried out in Murang'a, Kenya, by Hoorweg, Neimejer & Vansteenbergen (1984) established that food selection and consumption was greatly influenced by ones economic status. Children from rich households had a higher energy intake compared to those from middle and low income households.

1.2 Statement of the problem.

This study investigated socio-cultural and economic determinants of food selection and consumption among Nairobi households. Through various studies on food selection and consumption, it has been found that most people do not choose food on the basis of its nutritional composition or its biological importance. Cultural food restrictions especially those targeted at women during pregnancy and lactation affect protein intake which is crucial during these periods of foetal and infant growth and maternal replenishment.

Low income group earners tend to purchase food on the basis of what they can afford rather than its nutritional composition. Thus, their main goal is adequate quantity and satisfaction. This results in the overconsumption of starchy foods which are normally relatively cheap. In view of the current inflation in Kenya, essential food commodities are becoming more and more expensive and therefore worsening the situation. Sometimes one may possess adequate nutritional

knowledge to enable the selection of nutritionally adequate food but may be unable to do so due to financial constraints. However, nutritional knowledge coupled with financial ability is not synonymous with good nutrition.

Attitude towards food and food preferences are not based on the nutritional attributes of food. As a result of this, biases are created against certain foods which are otherwise nutritionally adequate.

In order to understand people's do's and don'ts with regard to food selection and consumption, we have to acquire knowledge on the various factors that determine selection and consumption of food. With this knowledge, change may be effected to improve nutrition and health. This knowledge may be acquired by conducting research on food selection and consumption. The need to conduct this study arose out of such consideration.

1.3 Purpose of the study.

The purpose of this study was to determine whether culture, food preferences, income, attitude towards food and nutritional knowledge have an influence on food selection and consumption among low, middle and high income households in Nairobi.

1.4 Objectives of the study.

The objectives of the study were to:-

1. Investigate whether cultural factors have an influence on food selection and consumption among Nairobi households.
2. Determine the attitude towards food selection and consumption among Nairobi households.
3. Determine whether food preferences have an influence on food selection and consumption among Nairobi households.
4. Investigate the effect of price of certain food commodities on food selection and consumption among Nairobi households.
5. Investigate whether nutritional knowledge has an influence on food selection among Nairobi households.
6. Assess how satisfied households in Nairobi are with their food selection and consumption.

1.5 Significance of the study

Information from this study will increase our knowledge on factors that influence food selection and consumption. Through this knowledge, the most amicable, effective and feasible changes may be effected on people's food behaviours. Study findings will aim at providing useful information in the formulation of supplementary feeding programmes to improve the nutritional status of vulnerable groups such as adolescent girls, pregnant and lactating mothers, infants under 1 year of age, children aged 1-2 years, pre-school and primary school

children and the elderly.

In connection with such information, the school feeding programme could be improved with a knowledge of food selection and consumption matters. The maternal and child health (M.C.H) clinics offer supplementary feeding and nutrition education which can be strengthened by the study findings. The study findings would also prove worthwhile to the nutrition rehabilitation centres in existence in Kenya.

The Ministry of Education could also use the information to improve and strengthen the food and nutrition curricula offered at all levels of the educational system in Kenya. All this will finally contribute to the elevation of the nutritional standards of all Kenyans and thus enhance national development.

1.6 Limitations of the study.

This study was carried out in the city of Nairobi only and therefore results will not be generalized to the rest of the country or other urban centres in the country due to differences in orientation.

1.7 Assumptions of the study.

It was assumed that the majority of Nairobi residents did not grow food and therefore purchased most of their foodstuffs.

It was assumed that, economic levels of households' in

the estates mentioned, represented the respective categories of income.

1.8 Definition of terms.

Cultural food habits.

Behaviour towards food influenced by peoples' backgrounds, orientation, characteristics and perception.

Food preference.

The degree of like or dislike for a food (Sanjur, 1982 p. 124).

Nutrition.

Nature of nutrients and their interactions, their chemistry, their occurrence in food, diseases caused by deficiency of them, and their digestion, absorption, transport and metabolism (Sanjur, 1982 p.5).

Nutritional status.

Some defined state of nutritional well-being (Sanjur, 1982 p. 10).

Culture.

The sum total of a group's learned, shared behaviour, unique in that it is shared through time. (Fieldhouse, 1986 p. 2).

Malnutrition.

A pathological state due to a deficient availability of essential nutrients at the cellular or basic level during a prolonged period; it manifests itself by physical, psychological and biological abnormalities (Jelliffe & Jelliffe, 1989). Undernutrition and overnutrition are forms of malnutrition. Undernutrition ascribes to inadequate intake of nutrients while overnutrition refers to overconsumption of nutrients.

Food consumption.

A behavioural act involving the acquisition of food. To the nutritionist, food consumption denotes the ingestion of food (Sanjur, 1982 p. 123).

Household

This consists of a person or group of persons who live together in the same dwelling unit or homestead and eat together. Members of a household are not necessarily related (by blood or marriage) (Kenya Population Census, 1989 app. 1-7).

CHAPTER 2

2.0 REVIEW OF LITERATURE

2.1 Nutrition and Nutritional Status

Nutrition has been recognized as a major contributor to national development the world over. People's health and their physical and mental development and their capacity to learn, to work and to play and their full role in society are wholly dependent on nutrition. It is therefore treated as a matter of utmost concern in every nation. Nutritionists tend to define nutrition as a science that deals with what we eat, our eating behaviours and the utilization by our bodies of what we eat. However, Sanjur (1982) argues that nutrition has no clear cut definition and cannot be confined within scientific boundaries. Though nutrition involves the study of required nutrients and their occurrence in foods, social, economic and cultural factors that influence food selection and consumption are also important aspects of nutrition. Sanjur (1982) therefore asserts that factors that influence food selection and consumption are also important aspects of nutrition.

> "Human nutrition must really be considered a broad field of study rather than a narrow, well defined biological science" (Sanjur, 1992 p.2).

Good nutrition results in a high nutritional status. Daily nutritional practices reflect unique regional, economic and cultural patterns and in turn determine one's nutritional

status. Nutrition related problems differ from country to country and even from community to community within a country. Nutritional health is thus multi-faceted and affects all aspects of human well-being (Contento & Morin, 1988). In a report by UNICEF (1991), it is disclosed that poor nutritional status is a major factor in almost one third of all child deaths globally. Also one child in every three in developing countries does not attain full mental and physical potential due to persistent malnutrition. Similarly, a report by FAO (1992) indicates that by the late 1980s about 60 percent of the world's population had more than 2600 kcal available per person per day. On the other hand, 123 million people received insufficient supplies at less than 2000 kcal per person per day. In sub-Saharan Africa due to severe drought coupled with civil unrest, supplies reached critical levels. Approximately 18 million people were affected and in urgent need of emergency assistance by 1990. The situation is not any better in Kenya. A study carried out by Central Bureau of Statistics (CBS, 1977) on 1,400 rural children aged 1-4 years revealed that 1.4% of the sampled children suffered from critical P.E.M. and 1/3 of the children sampled were affected by moderate P.E.M. Findings by CBS (1987) indicated that there was a decrease in prevalence of wasted children in 1987 (2.5%) compared to 3.0% in 1982. Despite this decrease nations must concern themselves with matters of nutrition in order to raise and maintain the nutritional status of all its individuals.

2.2 Malnutrition

Malnutrition is bad nutrition which may or may not be caused by inadequate food intake. Undernutrition and overnutrition are both forms of malnutrition. Overnurition refers to overconsumption of nutrients and is prevalent amongst the affluent. Diseases associated with overnutrition include: atherosclerotic disease, diabetes, hypertension, liver disease, hepatitis B and obesity. On the other hand, undernutrition ascribes to inadequate intake of nutrients. Other terms that are synonymous with undernutrition include: hunger, semi-starvation, total starvation, general malnutrition and underfeeding. All these are attributed to inadequate intake of essential nutrients. Undernutrition can retard growth and development, reduce physical activity, impair resistance to infection, increase morbidity and lead to disabilities and death. According to FAO (1992), people suffering from chronic malnutrition in developing countries had declined from 941 million to 786 million over the past two decades. The report revealed that Africa had the largest population (33%) affected by malnutrition.

Malnutrition is a common occurrence in the developing countries such as India, Ethiopia, Somalia, Ghana, Brazil, the Philippines among others (Hui, 1985). Kenya cannot be exempted as studies have shown that malnutrition does exist amongst us and that children happen to be the greatest victims

of malnutrition. Out of the 1,400 children sampled, 1.4% had severe P.E.M. and 1/3 suffered from moderate P.E.M. in Kenya (CBS 1977; 1979 & 1982). However, findings by CBS (1987) revealed that there was substantial decreases in prevalence of children both stunted and wasted whereby 24.0% were stunted in 1992 compared to 19.6% in 1987. Those wasted in 1982 were 3.0% as compared to 2.5% in 1987. As a result of malnutrition, the functioning and physiological turnover of organ tissues slow down. In severe cases, growth is retarded and there may be a risk of brain damage.

During the first World Summit for children on September 30th, 1990, it was disclosed that approximately 40,000 children die per day resulting from ordinary malnutrition and other diseases. According to these trends, it was approximated that, 130 million children would die of disease and malnutrition in the decade of the 1990s. It was specifically stated that 1 out of 3 children in the developing countries did not attain full mental and physical growth due to malnutrition and that, 20 million children are underweight and 350 million women suffer from nutritional anaemia (UNICEF, 1991).

Some of the factors that were noted as causes of malnutrition in developing countries include: war and famine, inadequate or lack of land to grow food, lack of jobs and income to buy food, illnesses and lack of knowledge about the special feeding needs of the young child, cultural influence,

among others. The UNICEF (1991) Report asserts that;

> "As a child grows older and for the adult population as a whole, an adequate diet is an obvious human priority" (p. 64).

These needs can be met by offering employment and income generating opportunities, dissemination of knowledge and supporting services to increase food production and distribution, maintaining a healthy environment and the control of infectious diseases. Meeting these needs will ensure that the lives of children and other people are protected and ultimately the economic and social development of all nations.

2.3 Food selection and consumption and their determinants.

While the report of the Committee on Food Habits (1941-1943) confines itself to cultural attributes of food behaviour, authors such as Sanjur (1982) emphasize the importance of economic, social, psychological and environmental attributes. The factors underlying food selection and consumption are numerous and thus hardly feasible to study them as a whole. In relation to this, Fieldhouse (1986) states;

> "Indeed, it seems unlikely that the plethora of factors which impinge on food choice can be codified in a single paradigm." (p.23).

For this same reason, Sanjur (1982) has proposed major theoretical frameworks which have been used in the study of food behaviours. In the multi-dimensional model, the dietary patterns of people are seen as functions of food consumption, preference and ideology, and of socio-cultural parameters. The environmentalists' approach describes peoples' dietary patterns as a function of the home and school environments. The major focus group in this model are children. The ecological model views peoples' dietary patterns as being the result of the interaction of two forces namely: physical and technological availability (objective force) and cultural and psycho-social factors (subjective force). The motivational model sees food behaviour as satisfying social needs. This model is commonly known as the channel theory, and was first propounded by Kurt Lewin in the 1940s. According to Lewin, food moves through channels until it ends up on the table. Each of these channels is controlled by a "gatekeeper" whom Lewis identifies as the housewife. However, Sanjur (1982) argues that with the change in family structures today, the channel theory does not apply with the exception of rural societies.

2.3.1 Cultural practices.

The discussion under cultural practices will include: attitude towards food and food restrictions. Attitude towards food is what people think of as food, what effect they think

food will have on their health, and what they think is suitable for different ages and groups.

Lewin (1941), found that food behaviour was largely determined by the gatekeeper's attitude towards food. The gatekeeper here refers to the person who directly determines what is to be eaten or not. In her study, Kibuga (1990) revealed that attitudinal variables were related to dietary adequacy of the diet of the child. The study further indicated that the mother's attitude did affect consumption. The mother served food she thought was good despite the food's nutritional quality. Thus if a mother felt that porridge was not good for her child, she would not serve it despite it's nutritional value. Whereas, Coale (1972) found that with increase in socio-economic status, items such as fruits and vegetables became relatively more important African American households. Concurrent with change were alterations in attitudes of the mothers which also influenced consumption. Thus it was probably the attitudes accompanying changes in social position rather than changes in social position perceived which altered food consumption behaviour.

A study by Oniang'o (1987) on women in selected communities in Kenya, revealed that, most of the respondents confirmed that there existed some kind of food restriction during the period of pregnancy for the following reasons: safeguarding the health of the unborn child and the mother's. Food restrictions were most common among the Luo, Maragoli,

Taita-Taveta and Machakos communities. These findings are similar to those of Annergers (1944); Acosta & Aranda (1972) and Kashyap & Young (1989). In their respective studies, they found that beliefs affected food intake during pregnancy, lactation, childhood and illnesses with special regard to proteinous food. Foods such as meat, eggs and milk were believed to be bad for both the mother's and child's health.

It was further stated by Kashyap & Young (1989) that beliefs were more strongly held by large landholders as opposed to the landless who, due to the pressures for survival, would break away from cultural beliefs.

2.3.2 Food preference.

Food preference is the degree of like or dislike for a food (Sanjur, 1982). Some factors that determine food preference include characteristics of food, the individual, and the environment.

2.3.2.1 Characteristics of food.

Cussler & De Give (1941) revealed that people tended to prefer foods that were rare, store-bought, urban, packaged, canned, light coloured, processed, refined and changed in appearance. The reason for this was due to the belief that these were prestige foods.

The method by which a vegetable was prepared determined its acceptability among preschool children. Fried vegetables

were preferred to boiled and simmered ones (Gaskin, 1973). Annergers (1944) found that familiar foods were better liked. Unfamiliar vegetables and fruits were therefore generally disliked. These findings concur with those of Smith (1973) whose study revealed that black women students at Howard University despite their nutritional knowledge disliked unfamiliar fruits and vegetables. Similarly, a study by Philips & Kolasa (1990) indicated that pre-schoolers rated as preferred, those vegetables which their mothers and the day care centre served frequently. A study by Eastman (1987) revealed that families were deficient of vitamin A despite green leafy vegetables being available in the majority of Indonesian families' kitchen pots. The most common reason given for non-consumption of vegetables was the child's dislike for them. Food colour influences food preference. Joffe (1941) found out that Italians were sensitive to food colours, and a study by Kihato (1987) revealed that adolescent girls in selected Nairobi schools liked most foods that fell within the basic three food groups, namely, body building, energy giving and protective foods.

2.3.2.2 Characteristics of the individual.

Individuals who handle food tend to be familiar with a variety of foodstuffs and consequently have longer food preference lists; this applies to women, (Sanjur, 1982). Nevertheless Joffe (1941) found that Italian men were quite

sensitive to food due to the fact that many of them worked in food industries then. This increased their familiarity of food and therefore approval and acceptance.

Age and sex tend to have an influence on food preference. A study by Navascone (1973) showed that, teenage girls tended to associate consumption of meat with men, salads with women, vegetables with adults and milk with babies. Studies have also shown that, peer pressure influences food preference. Peer groups develop their own culture of eating and therefore members of that group get into the habit of liking certain food groups as opposed to others, (Edema, 1985).

Murcott (1985), found that husbands influence the food preferences of their wives. Wives were inclined to serve foods prefered by their husbands because they felt that they were honouring their marital obligations by so doing. Findings by Ojofeitumi & Olufokumbi (1986) revealed that one's nutritional knowledge did not reflect his/her food preferences. Similarly, Kihato (1987) found that despite adolescent girls' nutritional knowledge, this knowledge was not applied in real practice.

2.3.2.3 Characteristics of the Environment.

Environmental factors have substantial significance in determining food preference. Williams (1972) and Swanson & Lewin (1991) indicated that some of the factors that influenced food preference included the quality of food and convenient location of the shopping centre. High quality

foods were preferred to foods that were inferior in quality and foods located in shopping centres that were within reach were preferred to those that were available in shopping centres that were out of the way. Studies by Annergers (1944), CBS (1977) and Rodriques (1972) established that there exists a relationship between climatic conditions and availability of foods. Different ecological zones will produce different foods. Thus foods available in a certain ecological zone will be familiar and therefore better liked by residents of that zone. According to a study by Annergers (1944), milk and meat consumption in West Africa was restricted to certain populations due to availability which was dictated by climatic conditions. A survey by CBS (1977) categorized zones into vegetable zone (Tea West of Rift Valley); bean, potato, cassava, and banana zone (Coffee West of Rift Valley, and upper cotton West of Rift Valley and tea East of Rift Valley); bean zone, (Lower Cotton, East of Rift Valley) vegetable and tuber zone, high altitude grasslands and the coastal zone where a lower frequency of all these food groups are found. Foods available in the different zones are more familiar to residents of that particular zone and are therefore better liked by those residents.

2.3.3 Nutritional knowledge.

Nutritional knowledge is significant as a determinant of food selection and consumption, whereas consumption patterns

are positively correlated with the level of the homemakers' nutritional knowledge (Pursell, 1972). However, in their findings, Kihato (1987) and Ojofeitumi & Olufokumbi (1986) revealed that the food intake and food preferences of the subjects in their studies did not reflect their nutritional knowledge in food selection. Despite the subjects' knowledge of nutrition, their food preferences were not for highly nutritious foods. But findings by Kibuga (1990) and Coale (1972) established that, personal experience of the mother played a bigger role in determining food selection and consumption compared to nutritional knowledge. Similarly, the mother's knowledge did not translate into practice if she could not afford the food. Her main concern was to satisfy hunger, rather than meet nutritional standards.

Sri-Lankan women from the lower socio-economic strata were unable to put nutritional knowledge into practice due to financial constraints (Wandel & Ottesen, 1988). Thus their main concern was to satisfy hunger as opposed to meeting nutritional needs. Hoorweg et al. (1984) reported that cultural patterns and availability of food were superior variables to nutritional knowledge in food selection. Thus child nutrition was not decided by individual cognition of the mother but rather by prevailing cultural patterns and the availability of resources. Interesting findings were brought forth by Chernichovsky & Mesook (1984) in their study which revealed that inadequate diets were prevalent among the better

off and better educated. This they attributed to the fact that some of this advantaged people consumed more expensive but not necessarily nutritious diets.

2.3.4 Income/Price.

Three socio-economic classes are distinguished in towns with their own characteristics of food selection and consumption patterns. These are high, middle and low (Den Hartog & Staveren, 1983). Studies by Hoorweg et al. (1984); Mbato (1988) and Williams (1972), found that income level was positively correlated with food selection and consumption. These studies concurred in that the most important single type of expense incurred by low and middle income urban households was food purchasing and that low and middle class earners spent a high proportion of their monthly income on food as compared to higher income earners. Findings by Chaudhury (1988) and Williams (1972) revealed that, price of food was a predominant factor in decision making with regard to food selection. These concur with those of Swanson & Lewis (1991) who found that 24% of the subjects in their study were influenced by the price of food in certain stores. Therefore, price did affect food choice especially among individuals of the lower income bracket. Similarly, Kibuga (1990) and an article of the Daily Nation of November 4th, 1992 agree that for the low income group, their greatest concern in food choice is the price of food. Therefore, this group will select

only those foods that their money can allow. Whereas Chernichovsky & Mesook (1984) found that inadequacies in diet existed even among better off people. This they attributed to the fact that, some of the rich people consumed expensive diets at the expense of nutritional quality.

Income influences the ability of households to obtain foods. Ngolo (1991) and UNICEF (1990) found that food consumption and nutritional status improves with an increase in income. However, income per se may not increase nutritional status. Other factors that may hinder improvement of nutritional status include cultural restrictions, food preference and poor health conditions.

CHAPTER 3

3.0 METHODOLOGY

3.1 Description of research design.

The research design used was a descriptive survey, to investigate socio-cultural and economic factors that determine food selection and consumption. This design was used because of its convenience in deriving extensive data from a large sample of respondents within a short period of time.

3.2 Study location.

The study was carried out in the city of Nairobi and covered the following estates: Jerusalem, BuruBuru Phase II and Akiba (Langata). Jerusalem estate was built in 1961 by the Nairobi city council. It has 500 housing units comprising of 2 rooms let out at Kshs. 287 per month. Buruburu estate was built in 1974, by commonwealth Developers. It comprises of 2 sectors, the northern and southern sectors. Each sector has 460 housing units making a total of 920 four roomed housing units which are let out at an average of Kshs. 6,000 per month. Akiba (Langata) estate was developed by Akiba Housing Developers and has 152 six roomed housing units let out at an average of Kshs. 10,000 per month.

Jerusalem, BuruBuru Phase II and Akiba (Langata) were chosen because they represented the low, middle and high income households respectively (CBS 1992). According to

Economic Survey by CBS (1992), low income households are those with a total monthly income of Kshs. 1,999 and below; middle income households, those that earn a total monthly income of Kshs. 2,000 - 7,999 ; high income households those that earn a total monthly income of Kshs. 8,000 and above. The three estates were also chosen purposefully for convenience of accessibility due to inadequate time and funds.

3.3 Sample Size and selection.

The target population was all residents belonging to Nairobi estates of low, middle and high socio-economic levels. The accessible population was residents of Jerusalem, BuruBuru Phase II and Akiba (Langata) estates respectively. A proportional sample was selected from each estate and the sample size was 222 households. This represented about 20% of the total population.

3.4 Sampling technique.

Systematic random sampling was used to obtain a representative study sample. This is a method whereby every Kth case in the sampling frame is selected for inclusion in the sample. Jerusalem estate has 500 housing units. Using this method every fifth household was picked to provide a total sample size of 100.

BuruBuru Phase II is comprised of 2 sectors, the northern and the southern. Each sector has 460 housing units. However,

only one sector was included in the study. The northern sector was selected randomly by balloting. By the same sampling design 92 households were selected for inclusion in the study.

Following the same procedure, 30 households in Akiba estate were selected for inclusion in the study. However, the response rate varied. In Jerusalem estate, out of 100 households selected only 74, (74%) responded. Out of the 92 households selected in Bururburu estate only 63 (69%) responded. Akiba estate had the highest response rate, whereby 26 households (87%) responded out of the 30 households selected. The total response rate was 163 households (73%) out of the 222 households selected.

3.5 Instrument.

The research instrument was a questionnaire. Due to the large sample size, a questionnaire was considered appropriate for convenient and quick collection of data. The length of the questionnaire and probable absence of respondents from home during the day necessitated the use of a questionnaire. Both closed and open- ended items were used in the questionnaire. Open- ended items enabled respondents to give in-depth responses to certain items.

The questionnaire comprised of the following parts:-

Section One - Socio-economic and demographic information.

Section Two - Cultural practices as related to food selection and consumption.

Section Three - Food preferences as related to food selection and consumption.

Section Four - Price of food as related to food selection.

Section Five - Nutritional Knowledge.

Section Six - Attitude towards food and satisfaction with food selection and consumption.

3.6 Pretesting the instrument.

A pre-test of the questionnaire was carried out on a few respondents prior to the research. Pre-testing was carried out to check on the questionnaire's clarity and consistency. Ten people were used in this exercise. The sample tested gave suggestions for improvement of the questionnaire and the suggestions were incorporated in the final draft of the questionnaire. The 10 respondents used in the pre-test were not included in the final study.

3.7 Data collection procedure.

The researcher personally delivered the questionnaire to the subjects. The questionnaire was filled by a member of the selected households who had the decision making power on matters of food selection and consumption.

The respondents were given a two- week period to fill the questionnaire after which the researcher collected them. However, to increase the response rate the researcher

revisited the households to remind those who had forgotten to fill the questionnaire.

The unit of analysis was the household, the unit of observation was the subject in the household who selected food or had the autonomy of decision making in regard to food selection and consumption.

3.8 Measurement of Variables

Attitude towards food.

This included determining the feelings people have towards certain statements regarding food. Responses were categorized into "agree", "disagree" or "don't know".

Food restrictions.

Food biases in pregnancy and lactation in relation to gender and age in the culture the respondent belonged to.

Special foods.

The additional foods recommended and specifically consumed during pregnancy and lactation in the culture the respondent belonged to.

Food preference.

The degree of like or dislike of certain selected foods. Responses were "dislike", "neutral" or "like".

Monthly income.

The total amount of money earned by all working household members per month.

Low income households.

Households with total monthly earnings below Kshs. 1,999.

Middle income households.

Households with total monthly earnings between Kshs. 2,000 - 7,999 .

High income households.

Households with total monthly earnings above Kshs. 8,000.

Educational status.

The level of education achieved by formal learning in an institution. Responses were: "university level and above", "A Level", "O Level", "A level plus training", "O level plus training" or "primary level".

Satisfaction with food selection and consumption.

The respondents contentedness with their food selection and consumption. Responses were: "satisfied", "neutral" or "dissatisfied".

Food selection.

The frequency with which households include certain selected food items in their menu.

Household

This consists of a person or group of persons who live together in the same dwelling unit and eat together. Members of a household are not necessarily related (by blood or marriage).

3.9 Methods of data analysis.

The data were coded and then analysed using frequencies and percentages. Descriptive statistics were used to describe the sample and these included mean, frequencies and percentages. Tables and a histogram were used to represent the data.

CHAPTER 4

4.0 FINDINGS AND DISCUSSION.

4.1 Introduction.

The purpose of this study was to determine whether culture, food preference, attitude towards food, educational status, income and nutritional knowledge have an influence on food selection and consumption among low, middle and high income households in Nairobi. This chapter presents statistical analysis of data that was collected. In this study frequency tables, percentages and means are used. Data has been presented using tables, and a histogram.

4.2 Important Variables.

The researcher intended to gather information from those individuals who determined the selection and consumption of food in the households visited. The purpose of this was to seek variables that explain some of the reasons why people eat the way they do. However, it should be borne in mind that there is no single factor that determines food selection and consumption. The main variables that were explored are cultural practices, food preferences, nutritional knowledge, income, satisfaction with food selection and consumption, and attitude towards food selection and consumption.

4.3 Characteristics of households.

4.3.1 Number of households.

Information presented in Table 1 shows that in this study 74 (45.0%) households belong to the low socio-economic group, 63 (39.0%) to the middle socio-economic group and 26 (16.0%) to the high socio-economic group.

Table 1: Number of households.

Variable	number	Percentage
Number of households		
Jerusalem	74	45.0
Buruburu	63	39.0
Akiba	26	16.0
Total	163	100

4.3.2 Response rate.

A total of 222 households were visited and issued with questionnaires by the researcher, but only 163 households responded (73.0%). It was interesting to find out the response rate by study area.

Table 2: Response rate by study area.

	Jerusalem		Buruburu		Akiba	
	No.	%	No.	%	No.	%
Responded	74	(74.0)	63	(69.0)	26	(87.0)
Did not respond	26	(26.0)	29	(31.0)	4	(13.0)
Total	100	100	92	100	30	100

Data presented in table 2, indicates that Akiba estate (Langata) had the highest response rate (87.0%) as compared to Buruburu (Phase II), (69.0%) and Jerusalem, (74.0%). The difference in response rate could be attributed to the fact that respondents from Akiba estate had the highest educational achievement.

According to results in Table 5, 35.0% of Akiba respondents had reached university level compared to Buruburu Phase II (14.0%), while Jerusalem had no university graduate. It is therefore assumed that more people in Akiba understood the importance of the research and were willing to participate. On the other hand, respondents of Jerusalem were more willing to participate than those of Buruburu Phase II because some believed that the study would help improve their economic status.

4.4 Socio-economic characteristics of respondents

4.4.1 Age

Food choices available to a young homemaker are not the same ones available to an older homemaker. The age of the homemaker may therefore influence the choice of food chosen for consumption at the household level.

Table 3: Respondents' age group.

Variable	number	Percentage
Respondent age group		
25 years and below	13	7.9
26-30 years	42	25.8
31-35 years	34	20.9
36-40 years	37	22.7
41-45 years	21	12.9
46-50 years	9	5.5
51-55 years	5	3.1
56 years and above	2	1.2
Total	163	100

Results in table 3 show that 25.8% of the respondents fell within the 26-30 years age group. Only 1.2% fell within the age group of 56 years and above. Age groups 31-35 years and 36-40 years had slightly lower percentages (20.9% and 22.7% respectively) than the most common age group (26-30 years). It is important to note that most respondents, (69.4%) fell within the age group 26-40 years. Nairobi being an urban area, it is expected that most of the respondents in the study would belong to the working population which is normally between the 26-55 years age group. This also explains why only 1.2% of the respondents fell within the age group of 56 years and above. At this age most people would have retired and gone back to settle in their rural homes.

Table 4: Respondents' age group by study area.

Variable	Jerusalem %	Buruburu (%)	Akiba (%)
Respondents age group			
25 years and below	16.0	2.0	0.0
26-30 years	46.0	9.0	8.0
31-35 years	11.0	27.0	35.0
36-40 years	16.0	32.0	19.0
41-45 years	7.0	17.0	19.0
46-50 years	3.0	5.0	15.0
51-55 years	1.0	5.0	4.0
56 years and above	0.0	3.0	0.0
Total	100	100	100

Respondents mean age: Jerusalem - 31 years
Buruburu - 38 Years
Akiba - 39 years

Information presented in table 4 shows that most of the respondents in Jerusalem were relatively young, falling within the age group of 30 years and below (62.0%). In comparison Buruburu and Akiba estates had more respondents who were aged more than 35 years. This could be attributed to the fact that Jerusalem is a low income estate and would therefore attract people with a low monthly income. Most people who are below 30 years of age are not likely to be well established and would therefore tend to live in cheaper neighbourhoods.

4.4.2 Educational status.

The homemaker's level of education is normally associated with improved family food consumption. However this

relationship is not always linear, because adequate food intake rarely results from knowledge alone. Normally education enables one to get a good paying job and consequently the ability to afford most foodstuffs.

Table 5: Educational status of respondents by study area.

N=163

Variable	Jerusalem (%)	Buruburu (%)	Akiba (%)	Overall (%)
Educational status				
Primary level	23.0	4.8	3.8	12.8
Secondary ('O')	45.8	17.4	7.7	28.8
Advanced level ('A')	4.1	6.3	0.0	4.3
'O'level+training	23.0	27.0	38.5	27.0
'A'level+training	4.1	30.2	15.4	16.0
University level and above	0.0	14.3	34.6	11.1
Total	100	100	100	100

Table 5 indicates that most respondents had attained secondary level education (28.8%) and secondary level education plus training (27.0%). Only 4.3% had attained advanced level education without training and 11.1% university education and above. Whereas, Jerusalem had the highest percentage (23.0%) of respondents who had reached primary level, Akiba ranks highest in the percentage of those respondents who attained secondary level plus training (38.5%) and university level and above (34.6%).

This finding was expected because those with a high educational status are normally associated with good living. Thus those with a higher educational level are likely to get better paying jobs and therefore a higher income. This high income would enable them, in the case of Akiba residents, to afford the high rent (an average of Kshs. 10,000 per month) or mortgage payment. As a result of their higher income, Akiba residents would also be expected to spend more money on food purchasing.

Jerusalem estate had the highest percentage of secondary level dropouts (45.8%) without any form of training. This may explain why most of the respondents in Jerusalem were casual workers (27.0%) and housewives (27.0%) (table 6). Due to their lack of training, these people are not likely to secure jobs or if they do, not well paying jobs that require skill. As a result cheaper foodstuffs may be chosen as opposed to more expensive ones which are normally nutritious.

4.4.3 Occupation.

The occupation of an individual is believed to influence his/her food choices. Individuals with better paying jobs are expected to select and consume better quality foods which are normally more expensive as compared to poor quality foods.

Table 6: Respondents' occupation by study area.

N=163

Variable	Jerusalem %	Buruburu (%)	Akiba (%)	Overall (%)
Occupation				
Nurse	4.1	1.6	11.5	4.3
Secretary	16.2	33.3	23.2	23.9
Lawyer	0.0	0.0	15.4	2.5
Doctor	0.0	1.6	11.5	2.5
Teacher	4.1	17.5	3.8	9.2
Casual worker	27.0	1.6	0.0	12.9
Housewife	27.0	17.5	15.4	21.5
Business	18.9	17.5	15.4	17.7
Banker	2.7	9.4	3.8	5.5
Total	100	100	100	100

Information in table 6 shows that 23.9% and 21.5% of the respondents were secretaries and housewives respectively. Very few respondents are Doctors (2.5%) and Lawyers (2.5%). However, results in the table indicate that Akiba had no casual workers as compared to Jerusalem which had the highest (27.0%) and Buruburu only 1.6%. Jerusalem had the highest percentage of housewives (27.0%). These findings could be attributed to the fact that Akiba residents had a higher educational status and therefore had more people employed and with better paying jobs as compared to Jerusalem and Buruburu. It is therefore expected that Akiba respondents will choose higher quality foods as compared to Buruburu and Jerusalem respondents who belong to lower paying occupations.

4.4.4 Marital status.

Marital status does influence one's food choices. A group of single ladies' or bachelors' food selection and consumption practices will differ from those of a family comprising of parents and children.

Table 7: Marital status by study area.

Variable	Jerusalem (%)	Buruburu (%)	Akiba(%)
Marital status			
Single	23.0	6.0	8.0
Married	72.0	92.0	88.0
Separated/divorced	5.0	2.0	4.0
Other	0.0	0.0	0.0
Total	100	100	100

Most of the respondents in the sample were married (82.0%), but only 14.0% were single and 4.0% separated/divorced according to data presented in Table 7. However the results indicated that Jerusalem estate had the highest percentage of single respondents, (23.0%). Nevertheless, the distribution of married respondents in the three estates was almost equal. However, it is believed that most of the single respondents in Jerusalem were relatively young (30 years and below) because they had just completed school or training and had not established themselves. They therefore chose Jerusalem estate as a residential area due to it's low rate of rent (Kshs. 287 per month).

4.4.5 Ethnic group.

Cultural tendencies towards food selection and consumption are normally as a result of one's ethnicity.

Table 8: Respondents by ethnic group.

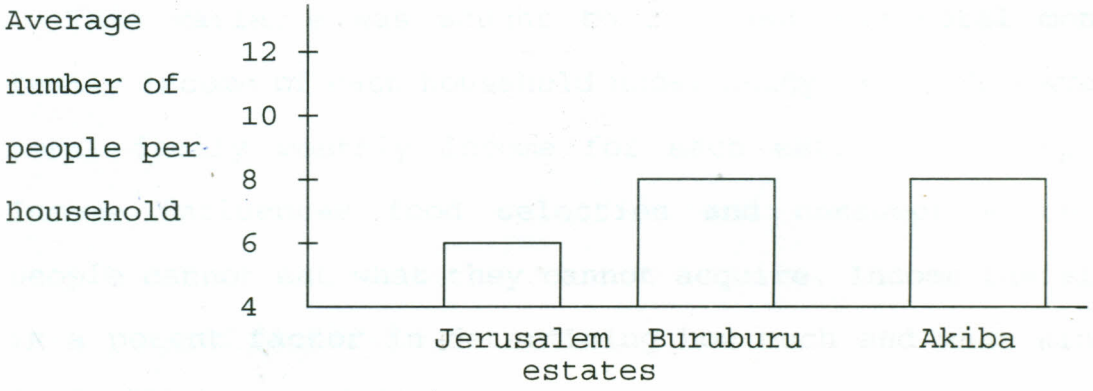
Variable	Number	Percentage
Ethnic group		
Luhya	29	17.8
Kikuyu	67	41.1
Kisii	12	7.4
Kamba	15	9.2
Kalenjin	5	3.0
Luo	22	13.5
Taita	8	4.9
Meru	4	2.5
Somali	1	0.6
Total	163	100

The most common ethnic group in the sample as shown by results in table 8 is Kikuyu (41.1%) and the least Somali (6.6%). This was expected because Kikuyu is the largest ethnic group in Kenya but also the prominent group in the environs of the city. It is believed that cultural tendencies toward food are determined by one's ethnic background. As found elsewhere in this thesis, cultural beliefs of some respondents did influence their food selection and consumption.

4.4.6 Number of people per household.

The following bar chart (Figure 1) shows the average number of people in households in the three estates studied. Household size is expected to influence food selection and consumption.

Figure 1. Average number of people per household.



Jerusalem, which is a low income estate has an average of 6 people per household. Both Buruburu (middle income) and Akiba (high income) have an average of 7 people per household. It is expected that household size may affect the type of food selected and consumed by households. The results in figure 1 were expected because many of the Jerusalem households comprised young single persons who had grouped together to share the housing units.

In such cases no extra people were employed to help with household chores as was the case with Buruburu and Akiba households who comprised older married persons with larger families and included househelp. Jerusalem households also had the highest percentage (27.0%) of housewives (Table 6). It is

assumed that in such households no extra person is needed to help around the house. This may therefore have contributed to Jerusalem households' having a lower average of people living in the households as compared to Buruburu and Akiba households.

4.4.7 Income.

This variable was sought to find out the total monthly family income of each household under study. From this average total family monthly income for each estate was computed. Income influences food selection and consumption because people cannot eat what they cannot acquire. Income therefore, is a potent factor in determining how much and what kind of food will be available.

Results in table 9 indicated that half of the respondents in the study sample (51.0%) had a total monthly family income of Kshs. 8,001 and above. This is almost an equal distribution between those who earned Kshs. 2,000 and below (15.0%) and Ksh 2,001-4,000 (17.0%) and also between those who earned Kshs. 4,001-6,000 (8.0%) and Kshs. 6,001-8,000 (9.0%). The mean total family income for Jerusalem households was Kshs. 3,298, Buruburu Kshs. 9,508 and Akiba households Kshs. 10,847. These means do not agree with those of CBS (1992). According to the economic survey conducted in 1992, low income households were found to have a total monthly family income of Ksh 1,999 and

below, middle and high income households, Kshs. 2,000-7,999, and Kshs. 8,000 and above respectively.

Table 9: Monthly family income by study area.

Variable	Jerusalem (%)	Buruburu (%)	Akiba (%)	Overall (%)
Monthly income(Kshs.)				
2,000, and below	33.8	0.0	0.0	15.0
2,001 - 4,000	36.5	0.0	0.0	17.0
4,001 - 6,000	16.2	2.0	0.0	8.0
6,001 - 8,000	8.1	14.0	0.0	9.0
8,001 -10,000	5.4	41.0	8.0	20.0
10,001 and above	0.0	43.0	92.0	31.0
Total	100	100	100	100

Mean total family income = Kshs. 6,902.

Data presented in Table 9 indicates that 70.3% of Jerusalem households, representing the low socio-economic group had the highest percentage of households that earned a total monthly income of Kshs. 4,000 and below. None of the households in Buruburu had a total monthly income below Kshs. 4,000. Similarly households in Akiba did not earn a total monthly income below Kshs. 8,000.

Akiba had the highest percentage of households earning a total monthly income of Kshs. 10,001 and above (92.0%) while Buruburu and Jerusalem had 43.0% and 0.0% respectively in the same category, Only 50.0% of the households in Jerusalem earned a total monthly income of Kshs. 8,001 and above as compared to Buruburu (84.0%) and Akiba (100.0%).

These findings could be explained by the fact that Akiba and Buruburu had a higher number of employed people with better paying jobs as compared to Jerusalem. On the other hand Jerusalem had the highest percentage of casuals (27.0%) and housewives (27.0%). Because of this, Akiba residents had a higher total mean monthly family income than Buruburu and Jerusalem the least. Those with a higher income are expected to spend more on food, while those from the low income group are expected to spend a higher percentage of their income on food as compared to high and middle income earners. This is in accordance with findings of CBS (1977) and (1992). The higher the total monthly family income the lower the percentage of this income spent on food and vice versa.

4.5 Food consumption and selection

4.5.1 Expenditure on food.

Food is one of the basic necessities of life and will be purchased at whatever cost for survival. The researcher was interested in finding out whether any differences in food expenditure existed amongst the three socio-economic levels.

As information in table 10 indicates, 34.0% of the households in the study sample spent Kshs. 1,500 and below on food each month, while 22.0% and 21.0% spent Kshs. 1,500-2,500 and Kshs. 2,501-3,500 respectively. However, only 3.0% of the households spent Kshs. 5,501 and above on food monthly, with none spending above Kshs. 7,500. The mean monthly expenditure

on food by all households was Kshs. 2,497. However the mean monthly expenditure on food by Jerusalem households was Kshs. 1,500, Buruburu Kshs. 2,778 and Akiba Kshs. 4,654. This concurs with CBS (1992) findings whereby households' with higher family income spend more on food as compared to households that earned lower family incomes.

Table 10: Households monthly expenditure on food by study area.

N=163

Variable	Jerusalem (%)	Buruburu (%)	Akiba (%)	Overall (%)
Monthly food expenditure (Kshs.)				
1,500 and below	70.0	6.0	0.0	34.4
1,501-2,500	14.0	41.0	0.0	22.0
2,501-3,500	12.0	30.0	27.0	21.5
3,501-4,500	4.0	13.0	19.0	9.8
4,501-5,500	0.0	10.0	31.0	9.6
5,501-6,500	0.0	0.0	8.0	1.2
6,501-,7500	0.0	0.0	15.0	2.5
7,501-8,500	0.0	0.0	0.0	0.0
8,501 and above	0.0	0.0	0.0	0.0
Total	100	100	100	100

Mean = Kshs. 2,497

Most of the households in Jerusalem spent Kshs. 1,500 and below (70.0%) on food each month as shown in Table 10. In Akiba, none of the households spent less than Kshs. 2,501 on food monthly. Most Buruburu households had a monthly food expenditure of between Kshs. 2,501-3,500 (41.0%) and Kshs. 3,501-4,500 (30.0%). Whereas most Akiba households spent Kshs. 4,501-5,500 (31.0%) on food per month

with 27.0% spending Kshs. 2,501-3,500 and 19.0%, Kshs. 3,501-4,500. However, none of the households in Jerusalem spent more than Kshs. 4,501 per month, Buruburu Kshs. 5,501 and Akiba, Kshs. 7,501.

These findings were expected because the higher the income, the more the money allocated for food expenditure. Thus, Akiba residents who had the highest total monthly income spent most on food followed by Buruburu households and last Jerusalem. However, Jerusalem households spent the highest percentage (45.0%) of their income on food. Contrary to what was expected, Buruburu spent 29.0% and Akiba households 43.0% of their income on food. This could be due to the fact that most Akiba respondents (93.0%) recorded a monthly income of Kshs. 10,000 and above and therefore a real average could not be computed.

4.6 Factors that determine food selection and consumption among Nairobi households.

4.6.1 Cultural restrictions.

This particular section sought to find out whether there were any cultural restrictions with regard to food practised by Nairobi respondents. Cultural restrictions held by respondents would affect the selection and consumption of food by households. Tables 11 and 12 provide information on cultural restrictions in regard to food of Nairobi households.

Table 11: Cultural restrictions with regard to food selection and Consumption among Nairobi households.

N=163

Variable	Yes (%)	No(%)	Don't know (%)
Food restrictions for pregnant women	7.0	61.0	32.0
Food restrictions for women during lactation	4.0	67.0	29.0
Special foods recommended during lactation and pregnancy	7.0	61.0	32.0
Food restrictions for boys and girls	4.0	67.0	29.0
Food restrictions for different age groups	1.0	69.0	29.0

Results in table 11 indicate that most of the households did not observe restrictions with regard to food selection and consumption. Only a few respondents answered in the affirmative when asked whether they observed cultural restrictions with regard to food selection and consumption. It is assumed that those who did not know whether there were cultural food restrictions observed by their ethnic groups did not practise these restrictions.

Table 12: Cultural restrictions with regard to food among Nairobi households by study area.

N=163

Variable	Estate	Yes (%)	No (%)	Don't Know (%)
Food restrictions for pregnant women	Jerusalem	12.0	58.0	30.0
	Buruburu	3.0	62.0	35.0
	Akiba	4.0	65.0	31.0
Food restrictions for women during lactation	Jerusalem	3.0	65.0	32.0
	Buruburu	3.0	65.0	32.0
	Akiba	8.0	77.0	15.0
Special foods recommended during lactation and pregnancy	Jerusalem	5.0	60.0	35.0
	Buruburu	8.0	63.0	29.0
	AKiba	8.0	61.0	31.0
Food restrictions for boys and girls	Jerusalem	3.0	66.0	31.0
	Buruburu	5.0	68.0	27.0
	Akiba	0.0	69.0	31.0
Food restrictions for different age groups	Jerusalem	3.0	69.0	28.0
	Buruburu	0.0	68.0	32.0
	Akiba	0.0	73.0	27.0

When the variable of cultural restrictions with regard to food was analysed by study area (Table 12), it was found that there wasn't much difference in response amongst the three socio-economic levels. Very few households were found to adhere to cultural restrictions with regard to food. This could be due to the Western influence through print and electronic media. Another explanation could be due to the high inflation rate and cost of living in Kenya, and especially in towns where people buy all or most of the foodstuffs. In such a situation people opt for what they can afford and disregard other restrictions. These findings are supported by those of Kashyap & Young (1989). In their study, they found that

large landholders strongly held beliefs with regard to food as opposed to the landless. The landless broke away from cultural beliefs because of the pressures for survival.

However, few respondents who confirmed that there existed some kind of food restrictions during pregnancy gave the following reasons for such restrictions: preventing the foetus from becoming too big and causing difficulties during childbirth, particularly in the case of consuming ripe bananas, eggs, meat, pork and groundnuts. Pepper was believed to burn the foetus and was therefore restricted during pregnancy.

Rabbit meat, seasoned foods and cowpea leaves were restricted during lactation because it was believed that these foods caused reduction of milk production by the mother. However, porridge, soup and pounded black beans were recommended during periods of pregnancy and lactation because they were believed to stimulate milk production and increase the mother's strength. This is a belief that was mainly held by Kikuyu households.

The gizzard was restricted in a few Kisii and Luhya households for girls and women because it was believed to be a delicacy for men. A few Luhya households also restricted the eating of eggs by children of age, birth to 5 years because it was believed that eggs would delay talking and teeth development. Food restrictions were most common among the luhya, Kikuyu, Kamba and Kisii households.

Though most households did not regard cultural beliefs in their food selection and consumption practices, the few who did, held similar beliefs to those found in studies by Oniang'o (1987)

and Kashyap & Young (1989). It is also interesting to note that the foods restricted mainly involved those that were proteinous in nature.

4.6.2 Food preference.

4.6.2.1 Food preference of Nairobi households.

This item is intended to find out the likes and dislikes of food of Nairobians. It is assumed that foods liked will be selected more often than those disliked. Food preference is therefore an important variable in determining why people eat the way they do. The researcher was also interested in comparing food preferences of low, middle and high income households in Nairobi.

Tables 13 to 17 contain illustrations of food preferences of Nairobi households. Some foods may be consumed without being selected by households. This item also established these foods and their sources.

Table 13: Likes and dislikes of selected foods among Nairobi households.

N=163

Variable	Like (%)	Neutral (%)	Dislike (%)	Total
Food preference				
Ugali	76.0	20.0	4.0	100
Rice	85.0	15.0	0.0	100
English potatoes	69.0	27.0	4.0	100
Chapati	87.0	12.0	1.0	100
Beans	63.0	29.0	8.0	100
Peas	75.0	24.0	1.0	100
Groundnuts	63.0	33.0	4.0	100
Coconut	42.0	42.0	16.0	100
Kale (Sukumawiki)	77.0	18.0	5.0	100
Cabbage	72.0	20.0	8.0	100
Oranges	91.0	9.0	1.0	100
Bananas	86.0	13.0	1.0	100
Beef	90.0	9.0	1.0	100
Chicken	94.0	5.0	1.0	100
Eggs	87.0	12.0	1.0	100
Fish	74.0	11.0	15.0	100
Milk	97.0	2.0	1.0	100
Tea	82.0	15.0	3.0	100
Coffee	49.0	36.0	15.0	100
Cocoa	52.0	36.0	12.0	100

Information in table 13 indicates that most of the foodstuffs listed were generally liked by most of Nairobi households. The foods that rated highest were Milk (97.0%), Chicken (94.0%), Oranges (91.0%), Beef (90.0%), Chapati (87.0%), Bananas (86.0%), Rice (85.0%), and Tea (82.0%). Coconut was rated as disliked by about 16.0% of the households which also happened to be the highest percentage in this category. Other foods that were rated as disliked by a considerable number of households are: Fish (15.0%), Coffee (15.0%) and Cocoa (12.0%).

Joffe (1941) found that familiar foods were better liked in comparison with unfamiliar foods. This could explain why a

relatively high percentage of respondents rated foods such as coconut, fish, cocoa and coffee as disliked. Unfamiliarity with these foods could be as a result of inaccessibility to the food due to purchasing power. Coffee and cocoa are quite expensive and therefore inaccessible to many people. Other reasons could be due to unavailability of the foods due to beliefs, or the food's characteristics such as its taste, texture, colour, odour etc. Many people from Central Province do not like fish because of its characteristics. However people from Mombasa and Kisumu have been found to like fish. This could be due to their familiarity with this food because of its availability in these regions. Coconut grows in the coastal region and is not familiar to most people in Kenya. It is, therefore, not surprising that it fell among the foods that most people rated as disliked.

Table 14: Likes and dislikes of food amongst Nairobi households by study area. N=163

Variable	Estate	like (%)	Neutral (%)	Dislike (%)	Total
Food preferences	Jerusalem	85.0	12.0	3.0	100
	Buruburu	68.0	24.0	8.0	100
Ugali	Akiba	69.0	31.0	0.0	100
Rice	Jerusalem	80.0	20.0	0.0	100
	Buruburu	92.0	6.0	2.0	100
	Akiba	81.0	19.0	0.0	100
English potatoes	Jerusalem	66.0	28.0	6.0	100
	Buruburu	67.0	30.0	3.0	100
	Akiba	85.0	15.0	0.0	100
Chapati	Jerusalem	87.0	12.0	1.0	100
	Buruburu	84.0	13.0	3.0	100
	Akiba	92.0	8.0	0.0	100
Beans	Jerusalem	72.0	24.0	4.0	100
	Buruburu	50.0	37.0	13.0	100
	Akiba	65.0	27.0	8.0	100
Peas	Jerusalem	76.0	23.0	1.0	100
	Buruburu	75.0	25.0	0.0	100
	Akiba	77.0	23.0	0.0	100
Groundnuts	Jerusalem	59.0	34.0	7.0	100
	Buruburu	71.0	25.0	4.0	100
	Akiba	50.0	46.0	4.0	100
Coconut	Jerusalem	42.0	34.0	24.0	100
	Buruburu	46.0	48.0	6.0	100
	Akiba	31.0	50.0	19.0	100
Sukumawiki(kale)	Jerusalem	78.0	16.0	6.0	100
	Buruburu	78.0	16.0	6.0	100
	Akiba	73.0	27.0	0.0	100
Cabbage	Jerusalem	70.0	22.0	8.0	100
	Buruburu	79.0	14.0	7.0	100
	Akiba	62.0	31.0	7.0	100
Oranges	Jerusalem	95.0	5.0	0.0	100
	Buruburu	91.0	8.0	1.0	100
	Akiba	81.0	19.0	0.0	100

Table 14: continued

Variable	Estate	like (%)	Neutral (%)	Dislike (%)	Total
Bananas	Jerusalem	88.0	11.0	1.0	100
	Buruburu	87.0	13.0	0.0	100
	Akiba	77.0	23.0	0.0	100
Beef	Jerusalem	88.0	12.0	0.0	100
	Buruburu	94.0	5.0	1.0	100
	Akiba	84.0	8.0	8.0	100
Chicken	Jerusalem	92.0	8.0	0.0	100
	Buruburu	97.0	2.0	1.0	100
	Akiba	96.0	4.0	0.0	100
Eggs	Jerusalem	89.0	11.0	0.0	100
	Buruburu	89.0	10.0	1.0	100
	Akiba	77.0	19.0	4.0	100
Fish	Jerusalem	63.0	18.0	19.0	100
	Buruburu	57.0	29.0	14.0	100
	Akiba	84.0	8.0	8.0	100
Milk	Jerusalem	99.0	1.0	0.0	100
	Buruburu	95.0	5.0	0.0	100
	Akiba	96.0	0.0	4.0	100

As shown in Table 14, there did not exist much difference in food preference amongst the three socio-economic levels. Households across all levels liked most of the foodstuffs on the list of food provided. Nevertheless, there was a slight drop in numbers in all the three levels of people who liked beans (Jerusalem 72.0%, Buruburu 50.0% and Akiba 65.0%), groundnuts (Jerusalem 59.0%, Buruburu 71.0%, and Akiba 50.0%), coconut (Jerusalem 42.0%, Buruburu 46.0%, AKiba 31.0%), fish (Jerusalem 63.0%, Buruburu 57.0% Akiba 84.0%) and cocoa (Jerusalem 57.0%, Buruburu 48.0% and Akiba 54.0%). These foods were also rated as disliked by the highest

percentage of households. Unfortunately, the responses in the section of "others" was poor and will therefore not be discussed. It was, however, noticed that the few who responded included mainly traditional foods such as a mixture of maize and beans commonly known as githeri, sweet potatoes, millet, porridge and green grams.

4.6.2.2 Food consumption frequency.

The frequency with which a food is consumed may directly or indirectly reveal the extent to which that food is liked or disliked. It is, therefore, assumed that the more frequently a food is consumed, the better its preference. However, this may not always be the case as sometimes, foods not liked may be consumed frequently. This is normally seen among the low income earners who despite their preferences for certain foods may not be able to afford them.

Table 15: Frequency of consumption of selected foods by Nairobi households.

Food	once a day or more than once a day (%)	Several times a week (%)	Once a week (%)	Once or twice a month (%)	Rarely or occasionally (%)
Ugali	44.0	39.0	11.0	3.0	3.0
Rice	6.0	48.0	37.0	8.0	1.0
English potatoes	6.0	29.0	28.0	17.0	20.0
Chapati	4.0	12.0	67.0	14.0	3.0
Beans	3.0	20.0	42.0	26.0	9.0
Peas	3.0	17.0	28.0	29.0	23.0
Groundnuts	1.0	6.0	12.0	23.0	58.0
Coconut	1.0	2.0	1.0	13.0	83.0
Sukumawiki (kale)	42.0	47.0	7.0	2.0	2.0
Cabbage	18.0	53.0	20.0	6.0	3.0
Oranges	7.0	28.0	29.0	24.0	12.0
Bananas	6.0	34.0	36.0	15.0	9.0
Beef	13.0	57.0	21.0	6.0	3.0
Chicken	1.0	6.0	21.0	30.0	42.0
Eggs	11.0	26.0	37.0	18.0	8.0
Fish	2.0	9.0	21.0	33.0	35.0
Milk	86.0	12.0	1.0	0.0	1.0
Tea	85.0	10.0	0.0	0.0	5.0
Coffee	12.0	13.0	13.0	13.0	49.0
Cocoa	18.0	11.0	10.0	14.0	47.0

Results in table 15 indicate that foods consumed once a day or more than once a day by most households include Milk (86.0%), Tea (85.0%), Sukuma- wiki (Kale) (42.0%) and Ugali (44.0%). Other foods eaten regularly (several times a week) included Rice (48.0%), Irish potatoes (29.0%), Beans (20.0%), Cabbage (53.0%), Oranges (28.0%), Bananas (34.0%), Beef (57.0%), and Eggs (26.0%). Most households rarely or occasionally consumed groundnuts (58.0%), Coconut (83.0%), Chicken (42.0%), Fish (35.0%), Coffee (49.0%) and Cocoa (47.0%). Data presented in table 13 indicates that a considerable percentage of people rated coconut, fish, coffee and cocoa as

disliked. Coconut and fish were found to be unfamiliar foods and therefore their dislike. As indicated in Table 18, Coffee and Cocoa are expensive beverages and are inaccessible to most Kenyans. This explains why most people (85.0%) consumed tea frequently (once a day or more than once a day). Chicken, though rated by most people (94.0%) as liked was consumed rarely or occasionally by a considerable number of people (42.0%). This could be explained by the fact that, chicken is very expensive in Kenya and cannot be afforded by most people.

Table 16: Frequency of consumption of selected foods by study area.

N=163

Food	Estate	Once a day or more than once a day (%)	Several times a week (%)	Once a week (%)	Once or twice a month (%)	Rarely or occasionally (%)
Ugali	Jerusalem	60.0	38.0	1.0	1.0	0.0
	Buruburu	38.0	35.0	19.0	5.0	3.0
	Akiba	15.0	50.0	19.0	4.0	12.0
Rice	Jerusalem	3.0	36.0	42.0	16.0	3.0
	Buruburu	5.0	53.0	40.0	2.0	0.0
	Akiba	15.0	70.0	15.0	0.0	0.0
English potatoes	Jerusalem	4.0	23.0	32.0	18.0	23.0
	Buruburu	5.0	28.0	24.0	24.0	19.0
	Akiba	15.0	33.0	33.0	7.0	12.0
Chapati	Jerusalem	2.0	5.0	61.0	27.0	5.0
	Buruburu	3.0	16.0	76.0	5.0	0.0
	Akiba	12.0	23.0	65.0	0.0	0.0
Beans	Jerusalem	3.0	23.0	43.0	24.0	7.0
	Buruburu	3.0	16.0	41.0	24.0	16.0
	Akiba	8.0	19.0	38.0	35.0	0.0
Peas	Jerusalem	3.0	9.0	30.0	28.0	30.0
	Buruburu	3.0	19.0	21.0	36.0	21.0
	Akiba	8.0	31.0	38.0	11.0	12.0
Ground-nuts	Jerusalem	3.0	3.0	13.0	23.0	58.0
	Buruburu	2.0	6.0	10.0	25.0	57.0
	Akiba	0.0	15.0	12.0	15.0	58.0
Coconut	Jerusalem	0.0	0.0	3.0	13.0	84.0
	Buruburu	0.0	2.0	2.0	11.0	85.0
	Akiba	0.0	12.0	0.0	15.0	73.0
Sukuma-wiki (kale)	Jerusalem	50.0	45.0	1.0	3.0	1.0
	Buruburu	43.0	44.0	10.0	3.0	0.0
	Akiba	19.0	58.0	19.0	0.0	4.0
Cabbage	Jerusalem	20.0	51.0	18.0	7.0	4.0
	Buruburu	21.0	52.0	22.0	3.0	2.0
	Akiba	8.0	62.0	19.0	11.0	0.0

Table 16: continued

Food	Estate	Once a day or more than once a day (%)	Several times a week (%)	Once a week (%)	Once or twice a month (%)	Rarely or occa sionally (%)
Oranges	Jerusalem	3.0	9.0	34.0	32.0	22.0
	Buruburu	8.0	33.0	30.0	24.0	5.0
	Akiba	19.0	65.0	16.0	0.0	0.0
Bananas	Jerusalem	2.0	19.0	37.0	26.0	16.0
	Buruburu	8.0	35.0	44.0	10.0	3.0
	Akiba	15.0	73.0	12.0	0.0	0.0
Beef	Jerusalem	3.0	47.0	35.0	10.0	5.0
	Buruburu	14.0	73.0	10.0	3.0	0.0
	Akiba	38.0	46.0	8.0	0.0	8.0
Chicken	Jerusalem	0.0	0.0	7.0	31.0	62.0
	Buruburu	0.0	3.0	30.0	35.0	32.0
	Akiba	4.0	27.0	42.0	15.0	12.0
Eggs	Jerusalem	5.0	15.0	42.0	30.0	8.0
	Buruburu	13.0	33.0	38.0	10.0	6.0
	Akiba	23.0	42.0	23.0	8.0	4.0
Fish	Jerusalem	0.0	3.0	16.0	38.0	43.0
	Buruburu	2.0	13.0	22.0	33.0	30.0
	Akiba	8.0	15.0	35.0	19.0	23.0
Milk	Jerusalem	89.0	10.0	0.0	0.0	1.0
	Buruburu	84.0	11.0	2.0	0.0	3.0
	Akiba	81.0	19.0	0.0	0.0	0.0

Jerusalem households (60.0%) tended to eat ugali more often than those of Buruburu (38.0%) and Akiba (15.0%) as shown in table 16. This trend was also similar to the consumption of sukuma-wiki (kale) whereby 50.0% of Jerusalem households ate it once or more than once a day. On the other hand 43.0% and 19.0% of Buruburu and Akiba households respectively consumed kale once or more than once a day. Rice was consumed more often by Akiba households, with 70.0%

eating it several times a week as compared to 53.0% in Buruburu and 36.0% in Jerusalem in the same category. This trend is also applicable in the consumption of English potatoes, chapati, peas, groundnuts, coconut, cabbage, oranges, bananas, chicken, beef, eggs, fish, coffee, milk, and cocoa. All the economic levels rarely or occasionally consumed groundnuts, coconut, coffee, and cocoa. Jerusalem residents also rarely or occasionally consumed fish (43.0%) and chicken (62.0%).

The low consumption rates of coffee, cocoa, groundnuts, coconut and fish could be explained by the fact that these foods were rated as disliked by the highest percentage of respondents in the three economic levels. However there was a general trend whereby Akiba households tended to consume the foods rated as expensive more often than Buruburu and Jerusalem households. These foods include rice, peas, oranges, bananas, beef, chicken, eggs, fish, coffee, and cocoa. On the other hand Jerusalem residents showed a higher consumption of the foods rated as cheap by most respondents. These foods are ugali, sukuma-wiki (kale) and beans. These differences in food consumption amongst the three socio-economic levels could be due to differences in total family monthly incomes. Akiba households have the highest purchasing power due to their high total family monthly incomes. Therefore Akiba households are able to apportion more money to food purchasing as compared to Buruburu and Jerusalem households.

4.6.2.3 Sources of foods consumed, but not bought by households.

There are foods that are consumed by households but may not be purchased. The sources of these foods are normally farms from upcountry, kitchen gardens or friends. Due to the current inflation in Kenya, people are finding it increasingly difficult to make ends meet. It is therefore common practice now to have foods sent from upcountry and to grow especially vegetables in kitchen gardens.

Table 17: Foods consumed but not bought by households.

n=163

Estate	Yes		No		Don't Know	
	No.	%	No.	%	No.	%
Jerusalem	20	(27.0)	49	(66.0)	5	(7.0)
Buruburu	39	(62.0)	24	(38.0)	0	(0.0)
Akiba	7	(27.0)	17	(65.0)	2	(8.0)

When asked the question "Are there foods you eat but do not buy?", the respondents' response was quite interesting as indicated in table 17. It was found that 40.0% of the households ate foods that they did not buy, 55.0% bought all the foods that they consumed and 40.0% did not know whether there were foods they ate but did not buy. Table 17 indicates that Buruburu had the highest percentage (62.0%) of households who ate the foods that were not bought. In comparison 27.0% of Jerusalem respondents, and 27.0% of Akiba respondents ate foods that they did not buy. Food is very expensive in Kenya and people living in urban centres normally offset this expense by obtaining food from upcountry or kitchen gardens.

4.6.2.4 Jerusalem households' food sources.

Foods eaten but not bought amongst Jerusalem households were mainly from upcountry and kitchen gardens. Maize and beans were obtained from upcountry by 26.0% and 18.0% of the households respectively. Other foods that came from the same source include plantains (1.0%), oranges (1.0%), cabbages (1.0%), lemons (1.0%), mangoes (1.0%), pawpaw (1.0%), chicken (1.0%) avocados (1.0%), carrots (1.0%), cassava (1.0%), pineapples (1.0%), and guavas (1.0%). A slightly higher percentage of households, got peas (3.0%), kale (3.0%) and potatoes (3.0%) from upcountry. Similarly millet flour was obtained from upcountry by 7.0% of the households while 16.0% households got sukumawiki (kale) from their kitchen gardens.

4.6.2.5 Buruburu households' food sources.

Foods that were obtained from upcountry by Buruburu households included beans (46.0%), sweet potatoes (10.0%), maize flour (14.0%), maize (33.0%), plantains (7.0%), English potatoes (6.0%), groundnuts (6.0%), onions (6.0%), millet flour (3.0%), kale (3.0%), cassava, oranges, pumpkins, tea leaves, sugarcane, tomatoes, lemons, pawpaws, yams and passion fruits (2.0% for each food). Some of the households had kitchen gardens where they got plantains, pumpkins, cabbage, English potatoes and carrots (2.0% for each food. 2.0% of the households kept a cow and another 2.0% chicken and managed to get milk and eggs this way.

4.6.2.6 Akiba households' foods sources.

Beans were obtained from upcountry by 46.0% of Akiba households. Spinach, kale, plantains, English potatoes, carrots, milk, eggs, peas, cabbage, broccoli, asparagus, brussels sprouts, yams and sweet potatoes (4.0% for each food) were also obtained from upcountry. However 23.0% of the households grew sukuma-wiki (kale) in their kitchen gardens and therefore did not need to buy it. In conclusion, it can be said that, most households got some foods from upcountry and kitchen gardens in order to cut down on money spent on food. This was the case because of the high cost of food in Kenya today, which has been brought about by high inflation.

4.6.3 Price of food

4.6.3.1 Price of food as a determinant of food selection and consumption among Nairobi households.

This item sought to find out how people rate selected foods in terms of expense. People will not normally eat what they cannot afford. It is therefore believed that households will only consume those foods that they can comfortably purchase. For this reason, price of food was considered an important variable with regard to selection and consumption of foods among Nairobi households. Tables 18, 19 and 20 present data on price of food in relation to food selection and consumption among Nairobi households.

Table 18: Price of foods in relation to food selection amongst Nairobi households.

N=163

Variable	Cheap (%)	Neutral (%)	Expensive (%)	Total
Price of food				
Ugali	30.0	33.0	37.0	100
Rice	9.0	33.0	58.0	100
English potatoes	16.0	36.0	48.0	100
Chapati	9.0	38.0	53.0	100
Beans	32.0	36.0	32.0	100
Peas	9.0	38.0	53.0	100
Groundnuts	9.0	38.0	53.0	100
Coconut	6.0	28.0	66.0	100
Sukumawiki (kale)	67.0	25.0	8.0	100
Cabbage	37.0	45.0	18.0	100
Oranges	6.0	23.0	71.0	100
Bananas	11.0	34.0	55.0	100
Beef	2.0	15.0	83.0	100
Chicken	1.0	2.0	97.0	100
Eggs	4.0	39.0	57.0	100
Fish	3.0	34.0	63.0	100
Milk	13.0	56.0	31.0	100
Tea	28.0	45.0	27.0	100
Coffee	5.0	25.0	70.0	100
Cocoa	4.0	32.0	64.0	100

When asked the question "How do you rate the following foods in terms of expense?", the respondents' answers showed interesting results as indicated in table 18. All households found most foodstuffs on the list of foods provided to be expensive. However, a good number found kale (sukuma-wiki) to be cheap (67%) and likewise cabbage (37.0%). Ugali and tea were thought to be cheap by about 30.0% and 28.0% of the households respectively. Beans were also rated as cheap by 32.0% of the households. Again the results above were expected because food is very expensive in Kenya.

Table 19 indicates that there was a general trend whereby most

households in Jerusalem had the highest percentage of rating foods as expensive, followed by Buruburu and last Akiba. Foods that were rated as expensive by the highest number of households include oranges, coconut, beef, chicken, fish, coffee and cocoa. All the households in both Jerusalem and Buruburu rated chicken as expensive (100.0%), compared to 85.0% in Akiba.

This trend was expected because of the differences in total family monthly income of the three estates. Jerusalem households have the lowest total monthly income and therefore the lowest purchasing power as compared to Buruburu and Akiba households. Jerusalem respondents therefore considered most of the foods to be expensive. Similarly, respondents from Buruburu rated most of the foods as expensive compared to Akiba residents.

Table 19: Price of food in relation to food selection by study area.

N=163

Food	Estate	Cheap (%)	Neutral (%)	Expensive (%)
Ugali	Jerusalem	18.0	35.0	47.0
	Buruburu	36.0	32.0	32.0
	Akiba	50.0	31.0	19.0
Rice	Jerusalem	5.0	31.0	64.0
	Buruburu	9.0	27.0	64.0
	Akiba	15.0	54.0	31.0
English potatoes	Jerusalem	11.0	32.0	57.0
	Buruburu	14.0	37.0	49.0
	Akiba	39.0	46.0	15.0
Chapati	Jerusalem	11.0	32.0	57.0
	Buruburu	3.0	41.0	56.0
	Akiba	15.0	46.0	39.0
Beans	Jerusalem	5.0	34.0	61.0
	Buruburu	51.0	43.0	6.0
	Akiba	62.0	23.0	15.0
Peas	Jerusalem	9.0	30.0	61.0
	Buruburu	1.0	40.0	59.0
	Akiba	23.0	58.0	19.0
Groundnuts	Jerusalem	7.0	32.0	61.0
	Buruburu	6.0	44.0	50.0
	Akiba	23.0	39.0	38.0
Coconut	Jerusalem	3.0	28.0	69.0
	Buruburu	1.0	24.0	75.0
	Akiba	27.0	38.0	35.0
Sukumawiki (kale)	Jerusalem	52.0	36.0	12.0
	Buruburu	79.0	16.0	5.0
	Akiba	81.0	11.0	8.0
Cabbage	Jerusalem	27.0	50.0	23.0
	Buruburu	41.0	48.0	11.0
	Akiba	58.0	27.0	15.0
Oranges	Jerusalem	1.0	21.0	78.0
	Buruburu	5.0	16.0	79.0
	Akiba	23.0	46.0	31.0

Table 19: continued.

Food	Estate	Cheap (%)	Neutral (%)	Expensive (%)
Bananas	Jerusalem	3.0	31.0	66.0
	Buruburu	13.0	32.0	55.0
	Akiba	31.0	50.0	19.0
Beef	Jerusalem	0.0	7.0	93.0
	Buruburu	0.0	17.0	83.0
	Akiba	8.0	34.0	58.0
Chicken	Jerusalem	0.0	0.0	100.0
	Buruburu	0.0	0.0	100.0
	Akiba	4.0	11.0	85.0
Eggs	Jerusalem	1.0	42.0	57.0
	Buruburu	3.0	30.0	67.0
	Akiba	15.0	50.0	35.0
Fish	Jerusalem	0.0	39.0	61.0
	Buruburu	2.0	27.0	71.0
	Akiba	15.0	39.0	46.0
Milk	Jerusalem	4.0	54.0	42.0
	Buruburu	18.0	60.0	22.0
	Akiba	31.0	50.0	19.0

4.6.3.2 Price of food and its effect on food selection and consumption.

The kind of foods purchased by a household are by far determined by the price. Foods that are unaffordable will obviously be left out. When respondents were asked the question "Does price of food determine the food that you buy?", the response was quite interesting as indicated in Table 20.

Table 20: Effect of price of food on food selection and consumption by study area.

N=163

Estate	Yes	%	No	%
Jerusalem	66	89.0	8	11.0
Buruburu	53	84.0	10	16.0
Akiba	13	50.0	13	50.0
Total	132	81.0	31	19.0

Out of total of 163 households visited, 132 (81.0%) had their food selection and consumption practices determined by the price of food as indicated by Table 20. When the effect of price on food selection was analysed by study area, it was found that Jerusalem had the highest percentage (89.0%) of households affected. Buruburu had a slightly lower percentage (84.0%) and Akiba had the least (50.0%), (Table 20).

Though the price of food affected most households across all socio-economic levels, those of Jerusalem were most affected. This was expected because Jerusalem had the highest percentage of young and single respondents who were not established economically. Jerusalem households therefore had a low purchasing power due to low total family monthly income.

Respondents were asked to explain how the price of food affected their food selection and consumption practices. Further, respondents listed foods that they would have liked to buy often but could not afford. In Jerusalem, 89.0% of the households reported that there were certain foods that they would have liked to eat more often but could not afford. These foods included beef

(58.0%), chicken (73.0%), pork and pork products (42.0%), fruits (30.0%), fish (19.0%), eggs (23.0%), peas (15.0%), groundnuts (10.0%), rice (8.0%), spaghetti (5.0%), chapati (4.0%), macaroni (3.0%), cocoa (1.0%), coconut (1.0%), prawns (1.0%), and liver (1.0%). Likewise, 84.0% of the households in Buruburu and 58.0% in Akiba also claimed that there were foods they desired to eat more frequently but couldn't because of the prices. In Buruburu some of the foods mentioned were pork and pork products (62.0%), chicken (73.0%), fruits (30.0%), fish (29.0%), lamb (18.0%), beef (16.0%), spaghetti (14.0%), breakfast cereal (5.0%), coconut (3.0%), rice, coffee, broccoli, brussels sprouts, zucchini, shrimps, turkey (2.0% for each food). Whereas, in Akiba, 27.0% of the households would have liked to eat chicken more often (19.0%), fish, pork and pork products (12.0%), peas, seafood, eggs, shrimps, fruits, lamb, oriental dishes, brussels sprouts, breakfast cereal (4.0% for each food).

These findings concur with those of Chaudhury (1988) and Williams (1972) that households cannot purchase what they cannot afford. Thus, these studies reveal that price of food was a predominant factor in decision making with regard to food selection and consumption. According to this study, Jerusalem estate which represents the low socio-economic group had the highest percentage (89.0%) of households who could not purchase certain foods as often as they would have liked due to their low purchasing power. Buruburu estate had a slightly lower percentage (84.0%) and Akiba had the least (58.0%).

4.6.4 Nutritional knowledge.

It is believed that an individual who is nutritionally knowledgeable will select nutritious foods as opposed to one who is not. This item sought to establish whether this was the case with Nairobi households. A total of 7 questions on nutrition were asked. Those who got 4 or more of the questions right were considered to be nutritionally knowledgeable.

Table 21: Nutritional knowledge by study area.

N=163

Estate	Knowledgeable (%)	Not knowledgeable (%)	Total (%)
Jerusalem	69.0	31.0	100
Buruburu	86.0	14.0	100
Akiba	92.0	8.0	100
Overall (%)	79.0	21.0	100

Data in table 21 indicates that 79% of the households under study had nutritionally knowledgeable respondents. However, Akiba had the highest percentage of nutritionally knowledgeable respondents (92.0%), Buruburu (86.0%) and Jerusalem (69.0%) (Table 21). These differences could be explained by the fact that Akiba estate had the highest percentage of repondents who had achieved high educational level. The researcher did not find out whether there were any respondents who had gone through a home economics course. However it is assumed that one who has gone up to the form four level has a basic knowledge of nutrition. This could explain why Jerusalem estate had the lowest percentage of nutritionally knowledgeable respondents.

However, nutritional knowledge did not seem to play a major role in food selection and consumption. It is evident from Table 16 that Jerusalem households did not consume animal proteins, fruits and the more expensive starches such as rice and chapati as often as Buruburu and Akiba households. This practice was not necessarily due to inadequate nutritional knowledge but due to financial constraints. This could be the case because respondents mentioned some of these foods as those that they would have liked to eat more often but could not afford. Thus financial ability played a greater role in determining food selection and consumption as opposed to nutritional knowledge. These findings agree with those of Wandel & Ottesen (1988). Chernichovsky & Mesook (1984) also came up with similar findings with a slight variation. In their study, the well off and more educated people were found to consume expensive diets at the expense of nutrition. Hence alleviating malnutrition amongst Indonesians would not only involve raising income levels alone but also nutrition education.

4.6.5 Attitude towards food and satisfaction with food selection and consumption.

Attitude towards food by the respondents may affect the foods selected and consumed by households. The researcher intended to find out the extent to which these attitudes towards food were held among Nairobi households. Information is presented in Tables 22 and 23. The researcher was also interested in finding out how satisfied households were with their food selection and consumption practices. This information is presented in tables 24 and 25.

Table 22: Attitude towards food selection and consumption among Nairobi households.

N=163

	Agree %	Disagree (%)	Don't know (%)
Men should be served the best parts of food in the household.	13.0	84.0	3.0
The father should be served first in the household.	26.0	71.0	3.0
All members of the household should get equal attention in food service in the household.	85.0	15.0	0.0
Cultural restrictions in regard to food should be strictly observed.	11.0	83.0	6.0
The cheaper the food, the poorer its nutritional quality.	9.0	90.0	1.0
Traditional foods (e.g millet, cassava, yams etc.) are inferior to modern foods (e.g rice, english potatoes).	4.0	94.0	2.0
Quantity of food is superior to quality of food.	1.0	97.0	2.0
The mother should eat last in the household.	15.0	84.0	1.0

Generally most households disagreed that men should be served the best parts of food in the household (84.0%). Likewise, a majority of households also disagreed with the following statements; the father should be served first in the household

(71.0%); cultural restrictions in regard to food should be strictly observed (83.0%); the cheaper the food the poorer its nutritional quality (90.0%), traditional foods are inferior to modern foods (94.0%) and that the mother should eat last in the household (84.0%), (Table 22). However, some households agreed that the father should be served first (26.0%), men should get the best parts of food (13.0%) and that the mother should eat last in the household (15.0%). It was also a general feeling that all household members should get equal attention in food service (85.0%).

Table 23 indicates that most of the households that felt that the father should be served first in the household were from Jerusalem (30.0%) and Buruburu (29.0%). Akiba had only 8.0% of the households agreeing to this statement. Once again Jerusalem and Buruburu had the highest percentage of households who felt that the mother should eat last in the household, 16.0% and 19.0% respectively. In comparison, Akiba had only 4.0% agreeing to this. Though these traditional beliefs were not widely held, it is important to note that Jerusalem and Buruburu had higher percentages than Akiba households. It is believed that those with a higher educational and economic status stand a better chance of being exposed to different cultures and modern methods of living. This could explain the relatively low percentage of Akiba households that still held traditional beliefs with regard to food consumption. This contradicts findings by Kibuga (1990) where a mother's attitude was found to be more important than her knowledge or practice in influencing her child's food habits.

Table 23: Attitude towards food selection and consumption by study area.

N-163

	Estate	Agree %	Disagree (%)	Don't know (%)
Men should be served the best parts of food in the household.	Jerusalem	14.0	81.0	5.0
	Buruburu	14.0	86.0	0.0
	Akiba	11.0	89.0	0.0
The father should be served first in the household.	Jerusalem	30.0	65.0	5.0
	Buruburu	29.0	71.0	0.0
	Akiba	8.0	84.0	8.0
All members of the household should get equal attention in food service in the household.	Jerusalem	81.0	19.0	0.0
	Buruburu	92.0	8.0	0.0
	Akiba	81.0	19.0	0.0
Cultural restrictions in regard to food should be strictly observed.	Jerusalem	19.0	78.0	3.0
	Buruburu	3.0	91.0	6.0
	AKiba	8.0	77.0	15.0
The cheaper the food, the poorer it's nutritional quality.	Jerusalem	10.0	89.0	1.0
	Buruburu	6.0	92.0	2.0
	Akiba	12.0	88.0	0.0
Traditional food (e.g millet, cassava, yams etc.) are inferior to modern foods (e.g rice, english potatoes).	Jerusalem	3.0	96.0	1.0
	Buruburu	3.0	94.0	3.0
	Akiba	8.0	88.0	4.0
Quantity of food is superior to quality of food.	Jerusalem	3.0	96.0	1.0
	Buruburu	0.0	97.0	3.0
	Akiba	0.0	100.0	0.0
The mother should eat last in the household	Jerusalem	16.0	84.0	0.0
	Buruburu	19.0	81.0	0.0
	Akiba	4.0	92.0	4.0

There were no households in both Akiba and Buruburu who felt that the quantity of food was superior to its quality. However Jerusalem had 3% of the households agreeing to this. It is interesting to note that Akiba had the highest ratings for those who agreed that, the cheaper the food the poorer its nutritional quality (12.0%) and that traditional foods were inferior to modern foods (8.0%).

These findings contradict the fact that Akiba estate had the highest percentage of respondents who were nutritionally knowledgeable. Probably these people fall within the category of those who were not nutritionally knowledgeable (8.0%). Another explanation could be that these people from the high socio-economic group have a bias against the cheaper foods and traditional foods. This bias is sometimes displayed by the better-off clique as also found by Chernichovsky & Mesook (1984). However, most respondents disagreed that quantity of food was superior to its quality (97.0%) therefore displaying their grasp of nutritional knowledge.

4.6.6 Satisfaction with food selection and consumption.

Having analyzed various variables that determine food selection and consumption amongst Nairobi households, the researcher thought it would be meaningful to establish whether Nairobi households were satisfied with these practices. Information on this is presented in tables 24 and 25.

Table 24. Satisfaction with food selection and consumption among Nairobi households.

N=163

	Satisfied (%)	Neutral (%)	Dissatisfied (%)
The quality of foods you choose in terms of nutritional quality.	72.0	23.0	5.0
The quantity of foods you select.	45.0	42.0	13.0
The cost of food you select.	8.0	14.0	78.0
The distance of the shopping centre from your house.	53.0	31.0	16.0
The availability of the foods you select.	71.0	25.0	4.0
The general appeal (appearance, texture, taste) of the foods you eat.	56.0	35.0	9.0
The variety of foods you select.	50.0	25.0	25.0
The distribution of food amongst household members during meal times.	86.0	9.0	5.0

Respondents were asked to state how satisfied they were with certain statements regarding food selection and consumption. Responses included satisfied, neutral and dissatisfied. Data on these responses is presented in table 24.

There was a general satisfaction amongst households with the quality of food that was selected (72.0%), availability of food

selected (71.0%) and the distribution of food amongst members of the household (86.0%), (Table 24). About half of the households under study were also satisfied with the quantity of foods selected (45.0%), distance of the shopping centre from the house (53.0%), the general appeal of food (56.0%) and the variety of foods chosen (50.0%). However there was a general dissatisfaction with the cost of foods selected (78.0%).

When satisfaction with food selection and consumption was studied by study area, it was found that Jerusalem households were the least satisfied with the quality of foods that they consumed (58.0%). In comparison, 79.0% and 92.0% in Buruburu and Akiba households respectively were satisfied with the quality of foods they consumed. Quantity of foods selected followed the same trend with 43.0% of the households in Jerusalem satisfied, 44.0% in Buruburu and 54.0% in Akiba. This trend could be attributed to the fact that, Akiba estate respondents, due to their higher total family income spent more on food per month and were therefore able to buy more foodstuffs in terms of quality and quantity. However, it is important to note that a good number across the socio-economic levels were not satisfied with the quantity of foods that they selected. Numbers differed, with Jerusalem households having the least percentage (43.0%) of respondents satisfied with quantity of food, most felt that they ought to increase the quantities of the foods they selected. Unfortunately most respondents could not fulfill this wish because of the high price of foods with special regard to proteinous foods.

Table 25. Satisfaction with food selection and consumption among Nairobi households by study area.

N=163

	Estate	Satisfied %	Neutral (%)	Dissatisfied
The quality of foods you choose in terms of nutritional quality.	Jerusalem Buruburu Akiba	58.0 79.0 92.0	32.0 18.0 8.0	10.0 3.0 0.0
The quantity of foods you select.	Jerusalem Buruburu Akiba	43.0 44.0 54.0	42.0 46.0 31.0	15.0 10.0 15.0
The cost of food you select.	Jerusalem Buruburu Akiba	8.0 3.0 19.0	3.0 13.0 50.0	89.0 84.0 31.0
The distance of the shopping centre from your house.	Jerusalem Buruburu Akiba	54.0 52.0 54.0	34.0 38.0 8.0	12.0 10.0 38.0
The availability of the foods you select.	Jerusalem Buruburu Akiba	77.0 63.0 69.0	16.0 25.0 23.0	7.0 12.0 8.0
The general appeal (appearance, texture, taste) of the foods you eat.	Jerusalem Buruburu Akiba	55.0 48.0 77.0	35.0 43.0 15.0	10.0 9.0 8.0
The variety of foods you select.	Jerusalem Buruburu Akiba	48.0 40.0 85.0	26.0 28.0 11.0	26.0 32.0 4.0
The distribution of food amongst household members during meal times.	Jerusalem Buruburu Akiba	81.0 91.0 88.0	14.0 6.0 4.0	5.0 3.0 8.0

Majority of respondents in the low and middle socio-economic levels were dissatisfied with the cost of foods, Jerusalem (89.0%), Buruburu (84.0%). In Akiba only (31.0%) were dissatisfied. The differences in satisfaction could once again be explained by the differences in total monthly incomes amongst the socio-economic levels. Jerusalem households having the lowest total monthly income per household spent the highest percentage of this income on food as compared to Buruburu and Akiba households. Jerusalem households would therefore feel the pinch more than Buruburu and Akiba households.

Age of the respondent indirectly affected satisfaction with food selection and consumption. Jerusalem households who had a mean age of 31 years tended to select and consume cheaper foods more often compared to Buruburu and Akiba households. According to data in table 25 Jerusalem households were most dissatisfied with the foods that they consumed. This was not directly due to age but due to the low total family monthly income earned at this age, which would not enable a varied selection of foods. The mean age of Buruburu and Akiba respondents was 38 and 39 years respectively. These results concur with Sanjur (1982) who claims that younger homemakers' food choice and consumption practices differ from those of older homemakers.

The distance of the food store from the house determines accessibility of the food and therefore availability. Akiba had the highest percentage of respondents dissatisfied with the distance of the food store (38.0%), in comparison to Buruburu (10.0%) and

Jerusalem

(12.0%). This could be due to the fact that both Buruburu and Jerusalem have shopping centres that are within walking distance from both estates. On the other hand Akiba's closest large shopping centre is Uchumi (Langata branch) which is not quite close to the estate. This explanation also applies to the trend that responses took in the availability of the foods selected.

Akiba households reported the highest percentage of those satisfied with appeal and variety of foods consumed (77.0% and 85.0% respectively). This finding could be explained by the Akiba households' respondents belonging to higher paying occupations and therefore having a higher purchasing power in comparison to Buruburu and Jerusalem households. Because of the financial ability it is believed that Akiba households were able to purchase more varied foods. Akiba households' economic advantage coupled with their exposure would therefore enable them to employ varied cooking methods and subsequently make their foods more appealing.

Most households were satisfied with the distribution of foods amongst household members. This indicates that respondents were quite satisfied with whatever method or order of food distribution that was used in the household.

CHAPTER 5

5.0 Summary, conclusions and recommendations.

5.1 Summary.

5.2 Purpose of the study.

The purpose of this study was to determine whether culture, food preferences, attitude towards food, income/price of food and nutritional knowledge have influence on food selection and consumption among Nairobi households. Households' satisfaction with food selection and consumption was also assessed.

5.3 Research objectives.

The study sought to achieve the following objectives:

1. Investigate whether cultural factors have an influence on food selection and consumption among Nairobi households.
2. Determine the attitude towards food selection and consumption among Nairobi households.
3. Determine whether food preferences have an influence on food selection and consumption among Nairobi households.
4. Investigate the effect of price of certain food commodities on food selection among Nairobi households.
5. Investigate whether nutritional knowledge has an influence on food selection among Nairobi households.
6. Assess how satisfied households in Nairobi are with their food selection and consumption.

5.4 Methods and material.

The study, using a sample of 163 households was conducted at Jerusalem, Buruburu Phase II and Akiba (Langata) estates. The period of study was June-August 1992. A prepared questionnaire was used to elicit information from respondents pertaining to the research objectives. The data were analysed by the use of descriptive statistics namely, mean, frequencies and percentages. Tables and histograms were used for data presentation.

5.5 Major findings, conclusions and implications.

From the findings of this study, it can be generally stated that Nairobi households' food selection and consumption is not influenced by cultural background. With the exception of a few, most households did not observe cultural food restrictions. This observation was thought to be due to Westernization. Another possible explanation could be due to the high cost of living in Nairobi. Households could, therefore, not afford to be selective but had to choose foods within their economic capability.

The age, occupation, educational and marital status of the respondent was found to influence a household's food selection and consumption patterns. Most Jerusalem respondents were found to be relatively young and unmarried. Likewise, they were found not to have attained a high educational status compared to Buruburu and Akiba residents. Due to this, most of the respondents in Jerusalem were found to occupy jobs that were low earning. As a result, the total family monthly income of Jerusalem households was low. Thus

the food selected by most Jerusalem households was relatively cheap and poorer in nutritional quality in comparison to those selected by Buruburu and Akiba households.

Most households in the study liked most of the foods provided in the list. However, foods such as fish, coconut, coffee and cocoa were generally disliked. These foods were found to be unfamiliar and therefore disliked due to their inaccessibility in terms of inadequate purchasing power and environmental reasons. According to this study, the price of food was generally found to affect Nairobi households food selection and consumption. Most households rated most of the foodstuffs on the list of foods provided as expensive. However, Jerusalem households were found to be most affected by price of food. This was attributed to their low purchasing power due to low family monthly income as compared to Buruburu and Akiba households. Generally most households' in Nairobi cannot select and consume certain foods as often as they would like due to inadequate finances. These foods mainly include proteinous foods such as chicken, beef, mutton, pork and pork products and fruits. Others include the expensive starchy foods such as rice, spaghetti and chapati.

Nutritional knowledge was not found to influence food selection and consumption. The respondents in the study could be said to be generally nutritionally knowledgeable. Foods selected by most of Jerusalem households were however found to be nutritionally inferior as compared to those selected by Buruburu and Akiba households. This practice was attributed to financial constraints

as opposed to nutritional knowledge. Most of the foodstuffs listed down by Jerusalem respondents as those they would have liked to eat more often but could not afford included highly nutritious foods such as chicken and beef. This showed that with financial ability, these households would put their nutritional knowledge into practice.

Generally, traditional beliefs such as men getting the best portions of food, getting served first and cultural food restrictions were not practised by most Nairobi households. Most households advocated equal attention in food service amongst family members. It is also important to note that households did not measure quality of food by price or quantity. Interestingly, though most households agreed that traditional foods were equal to modern foods, not many of them consumed these foods. This could probably be due to people acquiring modern consumption patterns or the inavailability of the foods in Nairobi.

There was a general dissatisfaction with the quality and quantity of foods selected and consumed by Nairobi households. Almost all the households under study were also dissatisfied with the cost of food. Thus the cost of food affected the quality and quantity of foods selected. Most of Akiba households were satisfied with the general appeal and variety of foods that they selected as compared to Buruburu and Jerusalem. On the other hand most of the households under study were satisfied with the distribution of food amongst family members and also the availability of the foods they

selected. However, only about half of the households were satisfied with the distance to the shopping centre from their houses.

Findings of this study are considered to serve as contributions to the area of foods and nutrition in Home Economics Education and general Home economics. Intervention programmes, supplementary and school feeding programmes would also benefit from this study's findings. Organizations such as United Nations Children Emergency Fund (UNICEF), Red Cross, World Health Organisation (WHO), Food Agricultural Organisation (FAO), etc. who are involved in the distribution of relief food would also find this study findings important in their selection of relief food. The food and nutrition curriculum at all levels of the Kenyan Education programme would also be strengthened by the findings of this study.

5.6 Recommendations.

Based on the findings of this study the following recommendations are made:

1) Households, especially those from the low socio-economic group should improve on their food selection and consumption practices. For them to do so, there is need for employers to raise employees' monthly earnings. Only then will people manage to meet the rising cost of foodstuffs.
2) Pricing of foodstuffs should be structured in such a way that households from the low socio-economic group are able to afford foods that will enable them to consume a balanced diet.

3) In order to enhance familiarity and therefore acceptance of certain foods such as coconut, groundnuts, beans, fish and coffee, there is need to physically avail these foods to people by marketing them at affordable prices.

4) There is need to create a positive attitude towards traditional foods which are normally cheaper and as nutritious as modern foods. This could be done by the use of commercials on both print and electronic media. Knowledge of the advantages of traditional foods could be disseminated through various fora such as; Ministry of Education through the Home Economics curriculum in schools; hospitals, supplementary feeding centres and maternal child health care clinics. Cultural restrictions with regard to food should be discouraged through the same channels.

5.7 Suggestions for further Research.

Further research could be carried out as follows;

1. Research on the same topic of this study could be replicated with inclusion of other variables such as; religion, family size and educational status as determinants of food selection and consumption.
2. A study could be carried out to determine why households do not consume most of the traditional foods.
3. A study on the same topic could be conducted using a larger sample by including households in other urban areas in kenya.
4. It would also be interesting to conduct a similar study in the rural areas of Kenya.

BIBLIOGRAPHY

Acosta, B.P., & Aranda, R.G.(1972): Cultural Determinants of Food Habits in Children of Mexican descent in California.

Annergers, J.F.(1944): Geographic patterns of Diet and Nutritional status in West Africa with special reference to calorie and protein deficiencies. Unpublished doctoral dissertation. Michigan State University 1972.

Central Bureau of Statistics (1977): Child Nutrition in Rural Kenya. Kenya: Government press.

Central Bureau of statistics (1977): Urban food purchasing survey 1977, Part I. Kenya: Government Press.

Central Bureau of Statistics (1978/79): Report of the Third Child Nutrition Survey. kenya: Government Press.

Central Bureau of Statistics (1982): Third Rural Child Nutrition Survey. Published by courtesy of UNICEF.

Central Bureau of Statistics (1987): Fourth Rural Child Nutrition Survey, 1987. Kenya: Government Press.

Central Bureau of Statistics (1989): Kenya Population Census 1989. Volume 1. Government Printer, Nairobi.

Central Bureau of Statistics (1992): Economic Survey 1992: Kenya: Government Press.

Chaudhury, R.H.(1988): Determinants of Nutrition Adequacy in a Rural area of Bangladesh. Food and Nutrition Bulletin Vol.8,No.4,December 1986 (pp.24-31).

Chernichovsky, D & Mesook, O.A (1984): Patterns of Food Consumption and Nutrition in Indonesia. An Analysis of the National Socio-economic survey 1978. World Bank Staff working papers No. 670.

Coale, M.S. (1972): Factors influencing the Food Habits of Negro preschool children in the Inner city. 1972 Home Economics Research Abstracts. Food and Nutrition 7 (pp.6). Published by AHEA. 2010 Massachusetts Ave.N.W, Washington D.C.20036.

Contento, I.R & Morin, K. (1988): Manual for Developing a Nutrition Education curriculum. Nutrition Education series, Issue 16. Paris: UNESCO.

Cussler, M.T. & De Give, M.L. (1941): Outline of studies on food habits in rural South East in, The problem of changing food habits. Report of the committee on Food Habits 1941-1943. (pp.82-96). University Microfilms, Michigan, U.S.A.

Den Hartog A.P. & Staveren, W.A.(1983): Manual for social survey on Food Habits and consumption in Developing countries. Wagenigen, (PUDOC).

Daily Nation, Wednesday, November 4 1992: "In the US it's all about 'good living'"

Daily Nation, Wednesday, November 18 1992: "Food culture: Getting back to roots."

Edema,J.M.P.(1985): Food Habits, their determinants and their malleability. In J.M.Diehl & C.Leitzmann (Eds.). Measurement and Determinants of Food Habits and Food Preferences. (pp.29-61) Euro NUT report 7.

Eastman, S.J.(1987): Assignment children. Vitamin A deficiency and Xerophthalmia. Recent findings and some programme implications. UNICEF 1987.

FAO (1992): Food Nutrition and Agriculture. Vol.2, No.4

FAO (1992): Food Nutrition and Agriculture. Vol.2, No.5/6.

Fieldhouse, P.(1986): Food and Nutrition: Customs and Culture. New York: Metheoum Inc.

Gaskin, P.A. (1973): Vegetables in the diet of preschool children. Titles of Dissertations and Thesis completed in Home Economics 1973 (pp.8) Published (1974) by AHEA, 2010 Massachusetts Ave. NW, Washington D.C. 20036.

Holter, U.(1988): Food habits of camel nomads in the North West Sudan. Food habits and Foodstuffs. Ecology of Food and Nutrition. Vol 21, (pp.1-15). U.K: Gordon and Breach Science Publishers Inc.

Hoorweg, J; Niemeijer, R & Van Steenbergen, W. (1984): Nutrition survey in Muranga District, Kenya. Part 2: Nutritional cognition and the food consumption of preschool children. Research Report No.21/1984. The Netherlands: African studies Centre Leiden.

Hui, Y.H. (1985): Principles and Issues in Nutrition. California Wadsworth Inc.

Jelliffe, D.B. & Jelliffe,E.F.P (1989): Community Nutritional Assessment with special reference to less technically developed countries. U.S.A Oxford University Press, New York.

Joffe, N.F. (1941): Food habits of selected subcultures in the United States in, The problems of changing Food habits.

Report of the committee on Food habits 1941-1943 (pp.97-103) University Microfilms Ltd, Michigan, U.S.A.

Kashyap, P.& Young, R.H. (1989): Rapid Assessment of Community Nutrition Problems. A case of Parbhani, India. International Development Research Centre. Canada: Ottawa.

Kibuga, J.M.(1990): Food Habits and Nutritional status of Preschoolers: A comparison between urban and rural Kikuyu households of Central Province, Kenya. Unpublished Master's thesis. Kenyatta University, Nairobi.

Kihato, M.W (1987): Knowledge, Practice and Preferences Regarding food intake among Adolescent girls in selected Nairobi high schools. Unpublished Master's thesis. Kenyatta University, Nairobi.

Koos, E.L. (1941): A study of the Friendship patterns in Nutrition Education in, The problems of changing food habits. Report of the Committee of Food habits 1941-1943. (pp.74-81) University Microfilms, Michigan, U.S.A.

Lewin, K. (1941): Forces behind food habits and methods of change in The Problems of changing food habits. Report of the Committee on food habits 1941-1943 (pp.35-65) University Microfilms, Michigan U.S.A.

Mbato G.M. (1988): Consumption patterns of Health Promoting Preparations in an Urban Area (Nairobi) and comparison of their cost to that of locally available natural foods. Unpublished Master's Thesis, Nairobi University.

Murcott, A. (1985): The study of Food Habits: Objectives, Methods and Consequences. In J.M.Diehl & C.Leitzmann (Eds.) Measurement and Determinants of Food Habits and Food Preferences. (pp.26) Euro NUT,report 7.

Ngolo, M.R. (1990): The consequences of an Irrigation settlement scheme on the expenditure, food consumption patterns and nutritional status of the tenants. The case of Mwea Tebere, Kenya. Unpublished Thesis, Nairobi University.

Novascone, M.A. (1973): Factors affecting food choices of teenage girls. Titles of Dissertations and Theses completed in Home Economics 1973. (pp.17) Published by AHEA 2010 Massachusetts Ave, NW, Washington D.C. 20036.

Ojofeitumi, E. & Olufokumbi, B. (1986): Food preferences: An implication for Nutrition Education and Agricultural Production. Food and Nutrition Bulletin Volume 8, (pp.11-13).

Oniang'o, R.K. (1987): Traditional care for pregnant women in selected communities in Kenya. Kenyatta University, Nairobi.

Philips, B.K. & Kolasa K.K. (1980): Vegetables preferences of preschoolers in Day Care. Journal of Nutrition Education Vol.12, No.4 (pp.192-195).

Pursell, C.B. (1972): Food acquisition and intake patterns of food stamp recipients in two North Louisiana Parishes. 1972 Home Economics Research Abstracts. Food and Nutrition, 7. (pp.12). Published by AHEA: 2010 Massachusetts Ave. NW, Washington D.C 20026.

Rodriques, V. (1972): Food production and Diet. A case study at Githunguri. Unpublished M.Sc Thesis University of Nairobi.

Sanjur, D. (1982): Social and Cultural Perspectives in Nutrition. Englewood Cliffs: Prentice - Hall, Inc.

Smith, O. (1973): A survey of food habits of a selected group of black women students at Howard University. Titles of Dissertations and Thesis in Home Economics 1973. (pp.14). Published (1974) by AHEA: 2010 Massachusetts Ave. Nw,Washington D.c. 20036.

Swanson, R.B. & Lewis, C.E. (1991): Food Acquisition, Availability and Allocation in Urban Alaska in, Home Economics Research Journal, June 1991, Vol.19 No.4 (pp.303-314). Minnesota, Minneapolis.

The Problem of changing food habits. Report of the Committee on Food Habits. (1941-1943) University Microfilms, U.S.A.

UNICEF, (1990): Households Health and Nutrition in Namibia. Report on a survey in Katutura and selected northern areas on Namibia in April - May 1990.

UNICEF, (1991): The state of the world's children 1991. U.K.P & L Adamson, Benson, Oxfordshire.

Wandel, M., & ottesen, G.H. (1988): Women as Nutrition mediators, A case study from Sri Lanka. Ecology of Food Nutrition Vol.21 (pp.117-130) U.K. Gordon and Breach Science Publishers Inc.

Williams, S.W. (1972): Food buying practices of selected low and middle income families in America, Georgia. 1972 Home Economics Research Abstracts. Food and nutrition. (pp.19). Published by AHEA: 2010 Massachusetts Ave.NW, Washington D.C. 20036.

APPENDIX A:

QUESTIONAIRE

Appendix

Questionaire

Hello,

My name is Jeria Atebe. I am a postgraduate student at Kenyatta university in the Department of Home Economics. I am Conducting this study on food selection and consumption as a partial requirement for a Master of Education degree. The success of this study will greatly be determined by your participation. I am therefore requesting you to respond positively. Your response will be treated with utmost confidentiality and will be used for the sole purpose of making recommendations of food selection and consumption. Results of the study will be shared with any interested respondent.

Please fill in this questionnaire if you are the member of the household who makes the decisions regarding the foods selected and consumed by the household. The questionnaire will be collected one week after the day of issue.

Thank you for your co-operation.

Yours sincerely,

JERIA ATEBE.

Questionnaire

Date ----------

Respondents No. --------(Do not fill)

Tick ( ) where appropriate in the boxes provided and write the information required in the spaces provided.

Section I

Socio-economic and Demographic Information.

1. Which estate do you reside in?

   1. Jerusalem ----------
   2. Buruburu phase II ----------
   3. Akiba (Langata) ----------

2. What is your occupation?

   ----

3. Which ethnic group do you belong to?

   ----

5. How many people live in your house/home?

   (Number of people living in your household with whom you share meals including relatives, workers etc). ----------

6. Indicate the age and occupation of each member of your household.

Relationship (eg. husband, wife, son etc).	Age	Occupation
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

7. What is your marital status?

1. Single ----------
2. Married ----------
3. Divorced/Separated ----------
4. Other ----------

Section II

Cultural practices as releted to food selection and consumption.

8. Are there food restrictions (foods that are avoided for pregnant women) in your culture?

   1. Yes ----------
   2. No ----------
   3. Don't know ----------

If yes, which foods are avoided during this period and why?

Food	Reason for restriction

9. Are there food restrictions for women during lactation (breast- feeding period) in your culture?

1. Yes ----------
2. No ----------
3. Don't know ----------

If yes, which foods are avoided during this period and why?

Food	Reason for avoidance

10. Are there special foods recommended for consumption during pregnancy and lactation and why?

Food	Reason for consumption
<u>Pregnancy</u>	
<u>Lactation</u>	

11. Are there food restrictions for boys and girls in your culture?

1. Yes ----------
2. No ----------
3. Don't know ----------

If yes, which foods are restricted for boys and girls and why?

Food	Reason for restriction
Boys	
Girls	

12. Are there food restrictions for different age group in your culture?

    1. Yes ----------
    2. No ----------
    3. Don't know ----------

If yes what foods are restricted for the following are groups and why?

Age group	Food restricted	Reasons for restriction
Children 0-5 years		
5 - 10 years		
Adolescents		
Middle aged		
Elderly		
Other		

Section III

Food preference as related to food selection and consumption.

13. How would you rate the following foods in terms of preference on the scale below? (Tick where appropriate)

Food Items	Like (1)	Neutral (2)	Dislike (3)
Ugali			
Rice			
English Potatoes			
Chapati			
Beans			
Peas			
Groundnuts			
coconut			
Sukuma wiki (Kale)			
Cabbage			
Oranges			
Bananas			
Beef			
Chicken			
Eggs			
Fish			
Milk			
Tea			
Coffee			
Cocoa			
Others			

14. How often do you eat the following foods?

Food Items	Once a day or more than once a day (1)	several times a week (2)	Once a week (3)	Once or twice a month (4)	Rarely or occass-ionally (5)
Ugali					
Rice					
English Potatoes					
Chapati					
Beans					
Peas					
Groundnuts					
coconut					
Sukuma wiki (Kale)					
Cabbage					
Oranges					
Bananas					
Beef					
Chicken					
Eggs					
Fish					
Milk					
Tea					
Coffee					
Cocoa					
Others					

15. Are there foods you eat but do not buy?

1. Yes ----------
2. No ----------
3. Don't know ----------

If yes, which are these foods and their source?

Food item	Source

Section IV

Price of food as related to food selection

16. How do you rate the following foods in terms of expense?

Food Items	Cheap(1)	Neutral (2)	Expensive (3)
Ugali			
Rice			
English Potatoes			
Chapati			
Beans			
Peas			
Groundnuts			
coconut			
Sukuma wiki (Kale)			
Cabbage			
Oranges			
Bananas			
Beef			
Chicken			
Eggs			
Fish			
Milk			
Tea			
Coffee			
Cocoa			
Others			

17. Does the price of food determine the type of foods you buy?

1. Yes ----------

2. No ----------

If yes, explain

---

18. Are there foods you would like to buy but cannot afford?

1. Yes ----------

2. No ----------

If yes, which foods

Section V

Nutritional knowledge

19. What are the functions of the following foods?

Food	Function
Green vegetables	
Meat	
Ugali	
Fruits	

20. Which of the following foods are a good source of Vitamin C?

    1. Milk and eggs ----------
    2. Oranges and spinach ----------
    3. Bananas and cassava ----------
    4. All the above ----------

21. What group of foods listed below make a balanced diet?

    1. Chapati, sukuma wiki, cabbage ----------
    2. Spinach, rice, beef stew ----------
    3. Ugali, chicken, milk ----------

22. Which of the following people would have their health greatly affected by inadequate protein in their diet?

    1. Young adults ----------
    2. Teenagers ----------
    3. Children ----------

Section VI

Attitude towards food and satisfaction with food selection and consumption.

23. What are your feelings towards the following statements?

	Agree(1)	Disagree (2)	Don't know (3)
Men should be served the best portion of food in the household.			
The father should be served first in the household.			
All members of the household should get equal attention in food service in the household.			
Cultural restrictions with regard to food should be strictly observed.			
The cheaper the food the poorer its nutritional quality.			
Traditional foods (eg. millet, cassava, yam etc) are inferior to modern foods (eg.rice, English potatoes).			
Quantity of food is superior to quality of food.			
The mother should eat last in the household.			

24. How satisfied are you with the following statements?

	Satisfied (1)	Neutral 2)	Dissatisfied (3)
The quality of foods you select in terms of nutritional adequacy.			
The quantity of foods you select.			
The cost of foods you select.			
The distance to the food store from your house.			
The availability of the foods you select.			
The general appeal (appearance, taste, texture) of the foods you eat.			
The variety of foods you select.			
The distribution of food amongst household members during meal times.			