

# Identifying food consumption patterns in Lusaka

A perception survey



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CUTS International, Lusaka  
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Email: [lusaka@cuts.org](mailto:lusaka@cuts.org)

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## Executive Summary

This report presents the findings of a household survey on food consumption patterns conducted in Lusaka district in October 2017. The aim of the survey is to understand food consumption patterns of urban households in Lusaka including the frequency of households' consumption of various foods as well as test the Knowledge, Attitudes and Practices towards food consumption. The survey uses a representative survey of 1,000 households drawn from low, medium and high cost residential areas of Lusaka city using the 2010 Census of Population and Housing as the sampling frame. The survey employs a combination of 24-hour dietary recall and Food Frequency Questionnaires to interview households. The study is part of a larger project whose objective is to promote the consumption of food that is safe, diverse, nutritious and affordable for consumers in Lusaka through the use of evidence-based advocacy and behavior change interventions.

Some key findings from the survey include:

- Households in Lusaka regard three meals of the day as important. These are breakfast, lunch and dinner or supper. Poor households eat breakfast to a less extent compared to richer households for reasons of affordability. Wheat products such as bread eaten with tea or other hot beverage is the most common food for breakfast. Lunch and dinner are dominated by Nshima eaten with relish as the most common food for these particular meals.
- Consumption of protein foods, dairy products and fruits remain quite low in terms of the number of households who eat them and the frequency with which they are eaten. Lack of affordability in most cases and availability in some cases are some of the major reasons for the low consumption of these food types.
- Vegetable consumption on the other hand is much higher and eaten more frequently. This is likely because vegetables are relatively more accessible as they can be easily grown in Lusaka. There is also an abundance of traditional and locally grown vegetables such as Kalembula, Chibwabwa, Katapa; and many more.
- Nshima was found to be the most predominant source of carbohydrates for most households regardless of socio-economic status. Although only 20 percent of households eat rice as their preferred carbohydrate, almost 60 per cent eat rice as their second preferred carbohydrate. Only a limited proportion of households said they eat rice as their first source of carbohydrates. Findings indicate that most households in Lusaka rely on Nshima almost exclusively.
- Lack of affordability and the difficulty to identifying healthy foods are some of the main reasons why some households do not eat healthy foods. Making healthy foods affordable as well as available and easily accessible would thus trigger their consumption habit.
- Households in Lusaka purchase their foods from various markets but the most common are local markets located within their localities. However, relatively richer households tend to rely more on super market chains such as Shoprite located in modern shopping malls.

In light of the above findings of the research a number of recommendations can be made to be able to use this research evidence to inform policy advocacy. The recommendations have been divided into two categories namely, short and long term.

### Short Term

- i. Sensitization campaigns should be carried out to educate the general public on the existence of alternative foods and the importance of eating a varied diet. For example, instead of just eating Nshima all the time the public can be educated on availability of rice, sweet potatoes, Irish potatoes and other sources of carbohydrates with emphasis on the nutritional value of these alternative carbohydrates.

- ii. Sensitization campaigns can also be carried out to educate the general public on the value of eating proteins, dairy products and fruits. Low consumption of these food types is not entirely because they are not available but also because households may not be aware of their nutritional value. This can help raise desire for these particular food types.
- iii. The research demonstrates that local markets are an important source of foods for households in Lusaka. The Government, through local councils should ensure that markets are easily accessible and are kept clean and sanitary so that households are not discouraged from visiting them to obtain their foods.

## Long Term

- iv. Reducing reliance on certain foods such as Nshima can be done by promoting production of alternative foods. Thus, the Government should promote production of other crops such as rice, wheat, sorghum and many other foods as a practical way of reducing reliance on Nshima.
- v. The low consumption of protein foods, dairy products and fruits is partly due to lack of availability and accessibility. Both of these can be mitigated through increased production of these foods locally. The Government should create incentives or an enabling environment for the production of these foods. Animal proteins for example can be enhanced by promoting livestock rearing throughout the whole country.
- vi. Affordability is another reason for household's failure to eat important foods. However, some of the reasons why some of the foods are expensive is because they are usually imported from outside the country. This would be different if they were produced locally. Again Government should provide incentives for production of these important foods locally.
- vii. The Government should engage food producers to highlight opportunities in terms of potential demand and market for alternative and new foods that they are not producing currently so they can start producing them.
- viii. The Government, through the local councils should expand markets and improve their conditions such as power supply and build storage facilities for traders to be able to store different food stuffs.

## 1. Introduction

Over the years, the Government of Zambia has undertaken various policy decisions in the agricultural sector to ensure food security. These policies have included, for example, the Farm Input Support Programme (FISP), through which the Government provides subsidized inputs to smallholder farmers. Evidence has shown, however, that despite these efforts, Zambia's food and agriculture system is providing neither food security nor adequate nutrition. This situation is largely as a result of the major focus of Zambia's agriculture sector being national food security through staple food production. Zambia's agricultural sector has also tended to have a very strong bias towards maize (Mwanamwenge & Harris, 2017).

Food consumption data vary from country to country due to various reasons such as ethnicity, geographical areas, age and sex. The World Health Organization (WHO) recommends that individual countries should estimate their own food consumption pattern. This is because data collected from the food consumption pattern can be used for a variety of purposes such as examining the dietary pattern, assessing adequacy of nutrient intake, evaluating the intake and exposure of various contaminants and additives through food as well as establishing policies in agriculture, food production, trade and health. For the case of Zambia, as a result of different factors over a period of years, maize meal has been the predominant cereal.

While maize is not indigenous to Zambia, today it is recognized as the country's staple food. The predominance of maize within the Zambian diet has resulted in the development of a mono-diet culture in Zambia. The implications of Zambia's mono-diet culture have included unacceptably high levels of undernourishment, particularly in children where 40% of children under five years are suffering from stunted growth in height. The problem of undernourishment is not limited to Zambia, chronic under-nutrition affects some 220 million people in sub-Saharan Africa, which caters for 43% of the continent's population (FAO, 2015). The focus on maize by the Government through its agricultural policies has further worked to emphasize the country's mono-diet culture. Indeed, monocropping has as such resulted in very limited diverse and nutritious food options available to the population.

Government has in the recent past acknowledged the need to diversify and promote the production of other cereals through programs like the e-voucher scheme to encourage agricultural diversification through encouraging farmers to grow a combination of crops away from maize. Indeed, the automating of the Farming Input Support Programme (FISP) has provided farmers with increased options for agricultural inputs resulting in diversification. Though this may not automatically translate into diet diversification, farming systems based on mixed cropping can extend the harvesting period and help to alleviate seasonal food shortages, thus enhancing the stability of household food access. They can also reduce erosion risks by providing increased soil cover and additional crop residues for use as green manure and mulch. Such characteristics offer gains in sustainability and in stability for the food supply system.

Agricultural diversification is, however, driven by both the demand and supply side. On the supply side, producers should be actively involved so that they produce diverse foods deliberately. On the demand side consumers must be engaged actively so that they consciously consume diverse foods as long as they are available on the market. Regardless of this, recent discussions pertaining to crop diversity in Zambia has remained predominantly supply-sided. However, it is important to start appreciating the role of consumers by beginning to involve them in conversations. It is true that farmers can be promoted to produce diverse foods. However, real change can only take place if consumers are knowledgeable about new sources and types of food and encouraged to diversify their consumption. Similarly, undertaking interventions to increase consumer demand for alternative agricultural products such as cassava, millet, sorghum and beans could have an influence on farming preferences.

This report provides the findings of a survey on food consumption patterns that was conducted in Lusaka. The report provides insights on food consumption patterns in Lusaka, which are critical for any efforts to influence households' food consumption patterns in the future. The report covers a number of issues including the various types of foods households eat, where they obtain them and whether or not they are able to distinguish between healthy and unhealthy foods. The report also highlights some of the media channels through which households learn about food information to mention a few. In general, the information contained in this report can be used as a basis for formulating of advocacy messages and strategies for promoting healthy living by encouraging



households to consume diverse and healthier foods.

## **1.1. Objectives**

This survey was a component of a larger project whose objective is to promote the consumption of food that is safe, diverse, nutritious and affordable for consumers in Lusaka through the use of evidence-based advocacy and behavior change interventions.

As such, the specific research objectives of this perception survey were:

1. To understand the frequency of consumption of various foods
2. To test household Knowledge, Attitudes and Practices towards food consumption

The rest of the report is arranged as follows: Section 2 provides past and existing literature on food consumption patterns in Zambia generally, followed by an outline of the methodology in Section 3. Section 4 provides the results and the conclusion is made in Section 5.

## 2. Literature on Food Consumption Patterns in Zambia

Literature on food consumption patterns in Zambia is limited. Nonetheless, a number of publications related to the subject exist and raise important questions that justify the need for a comprehensive survey to be able to establish empirical evidence on a number of unclear issues. The need to influence people's food choices has never been more urgent than it is now due to fast changing food consumption patterns that may have undesirable nutrition outcomes on populations. Policy on not only food production but also food consumption needs to change but this can only take place amidst empirical evidence.

In 2007, the National Food and Nutrition Commission (NFNC) produced a report based on a survey of selected common Zambian foodstuffs and their nutrient composition (National Food and Nutrition Commission, 2007). This report culminated in the updating of the food composition tables<sup>1</sup> which were last revised in 1987. While no known revision has been done in recent years, the 2007 food composition tables are useful in how they display the diverse local foods rich in various nutrients. A total of 93 local food stuffs were analyzed making the report an important starting point for any food consumption analysis such as this one.

According to the report, food choices in Zambia are usually influenced by availability rather than tastes or nutrition content. This observation is very important as it begins to point to some of the underlying factors behind the current food consumption patterns. Interestingly, the report also notes that food processing was almost limited to pestle and mortar, and grinding stone. Hammer mills were only available for maize and sorghum. For millet, the processing is exclusively stone ground. Food processing methods in general are highly labour intensive exercises and need to be done on a daily basis for the desired fineness and fresh flavor. This to a large extent can affect, which foods can be consumed and which ones cannot.

The report further outlines that the staples are made into hard (Nshima) or soft porridge and eaten with relishes of different kind. Leafy relishes are usually ground and salt, soda/potash and/or groundnuts added if available. At the time of the report very little oil was used due to non-availability, expense and access especially in the rural areas. This may not be the case in urban areas where access to goods and services is relatively better and especially now that markets have expanded making it possible for previously rare goods and services to be available.

A more recent study, though only among farmers show that majority of households surveyed in a number of Zambian districts were consuming maize, cassava, millet and sorghum as the main staples (IFAD, 2015). The evaluation of household dietary diversity in the same report revealed the consumption of mainly vegetables and staples. Eggs, all dairy and fleshy foods were poorly consumed. As these food consumption patterns were observed among farming households in more rural settings, it remains unclear if similar findings can hold in urban areas such as Lusaka or Kitwe. This is one of the gaps this survey sought to fill.

In terms of the underlying factors affecting diverse food consumption, the survey found that most farmers did not know what constitutes food groups and nutritious diets. Only 27% and 34% of farmers knew about food groups respectively. Growing a variety of crops as a means for supporting a diversified food consumption was only appreciated by 45 % of the farmers (IFAD, 2015). Again, these were farmers in rural areas. It is still unclear if households in the urban areas where there are more diverse information channels will display the same level of knowledge.

The survey also found that having correct knowledge on foods, food processing and consumption was an important predictor for food processing and consumption behavior. Other factors that influenced food preservation and consumption were the traditional norms and the attitude towards food and nutrition. Again, it should be noted that these findings are based on a survey of farmers. Thus, the underlying factors affecting diverse food consumption are not yet clear for urban areas especially for households who do not grow their own food for consumption.

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<sup>1</sup> Food Composition Tables or databases are used by researchers, health care workers, education personnel, community nutritionists, and persons in charge of food service in hotels, restaurants, hospitals, schools, prisons, rehabilitation and drop-in-centers. It is used to assess nutrient content of the diet in relation to daily requirements and improving the dietary and consequently the nutrition status of those consuming them.

An earlier study in 2009 in Lusaka, Kitwe, Mansa, and Kasama on *Staple Food Consumption Patterns in Urban Zambia* concluded that in terms of expenditure value, wheat had at the time overtaken maize as the most important staple (Mason & Jayne, 2009). The report further shows that maize was no longer the dominant staple food in terms of household expenditure in urban Zambia, except among the poor. This points to the fact that while maize remains the staple food, trends have slowly started changing with households, especially wealthy ones beginning to spend more on wheat products compared to maize. All things being equal it can be expected that more households are now spending and consuming wheat products compared to maize as markets have expanded compared to 10 years ago.

The study further postulates that this type of finding is consistent with broader regional trends toward declining dependence on maize for urban staple food needs. The study added that in Kasama and Mansa, and particularly among relatively poor households, cassava is an important consumption item and serves as a buffer against high maize prices and poor maize grain availability during the lean season (Mason & Jayne, 2009). This finding is worth revisiting especially now that maize production has increased due to more farmers participating in farming as a result of increased subsidy provision by the Government. It would be important to observe if a stronger maize policy has influenced maize consumption even in areas which relied on cassava as their traditional crop.

Lastly, the survey also found that at the time supermarkets had only 5-17% of the market share for staple foods and were frequented mainly by wealthier households. Urban consumers were heavily dependent upon non-supermarket, informal retail outlets such as public markets and grocers for their staple food purchases. This finding should also be tested now that there has been an influx of supermarkets in Zambia and it is not clear to what extent they are being utilized as sources of staple foods. Informal markets especially in urban areas have also visibly expanded nowadays not only in terms of size but also in terms of variety of food products sold.

Nonetheless, a new 2017 paper on *Agriculture, food systems, diets and nutrition in Zambia* reveals interesting findings. Contrary to claims in the above study that maize has been overtaken by wheat as a staple food, the paper maintains that diets in Zambia are heavily reliant on maize, and are known to be monotonous and lacking in diversity (Mwanamwenge & Harris, 2017).

However, the paper is quick to acknowledge the little current dietary data available there to make some of the conclusions. The report further observes that agricultural production in Zambia has been heading away from making diverse and healthy diets available. Available calories from legumes, fish, eggs, and milk reduced from already low levels between 1971 and 2011; there is no change in the very low availability of calories from fruit and vegetables or meat; and the availability of fats, oils and starchy foods has doubled. Although food prices have fallen for almost all major food groups over the past two decades, high and worsening inequality mean many households cannot access diverse foods.

It cannot be easily claimed that Zambia is a mono-diet culture based on the different views outlined above. There is an apparent abundance of local foods as can be seen from food tables produced by the Food and Nutrition Commission. The growth of markets of all kinds have also made more foods available increasing food options for households. Nonetheless, Zambia's agriculture, which is focused on maize as reflected by the fact that policies are bent on promoting maize consumption.

### 3. Methodology

#### 3.1. Study Design

The study design was a representative of cross sectional household-based survey that targeted all non-institutionalized private households within the boundaries of Lusaka district.

#### 3.2. Sampling

A total of 1,000 households were sampled using the 2010 Census of Population and Housing sampling frame. According to this frame, the country is demarcated into provinces which are further sub-divided into districts, constituencies, and wards. For the purposes of conducting population-based surveys, the wards are further divided into Census Supervisory Areas (CSA) and Enumeration Areas (EAs). The EAs which constitute the primary sampling units (PSUs) were demarcated in such a way as to have between 60 to 100 households for rural areas and 120 to 150 households for urban areas (Central Statistical Office, 2012).

##### 3.2.1. Stratification

The stratification used in this study was based on one which the Central Statistical Office uses in the Living Conditions Monitoring Survey for Urban Areas (Central Statistical Office, 2006). All the PSUs were stratified into three strata namely Low Cost, Medium Cost and High Cost residential areas. Low cost households are usually characterized by having little access to amenities such as water and usually have a high population density. In Lusaka some of these areas include Kanyama, Chawama, Chainda and Kalingalinga. High cost households have access to amenities and have low population density. These include areas such as Kabulonga, Roma and Olympia. Medium Cost falls in between low and high cost. They have high population density but not as much as Low Cost areas. They also have better amenities. These include areas such as Kabwata, Emmasdale, Chelstone and Libala.

##### 3.2.2. Sample Allocation

Sample allocation to the 3 strata was done using square-root allocation with number of households per EA being the measure of size.

**Table 1: Sample Allocation**

Stratum	Number of EAs	Number of Households
Low Cost	28	560
Medium Cost	12	240
High Cost	10	200
<b>TOTAL</b>	<b>50</b>	<b>1,000</b>

##### 3.2.3. Sampling Method

The sample selection was a two-stage stratified sample design where 50 PSUs were selected from the three strata in the first stage. Twenty (20) Households were then sampled from the selected PSUs at the second stage. Within the selected EAs, systematic random sampling technique was used to select households.

##### 3.2.4. Identifying the main respondent

Once the household was identified, the next important step was to identify the appropriate respondent to be interviewed within the household. The traditional practice for many household surveys is to interview the most knowledgeable person about the household who happens to be the household head in most cases. However, since this survey was more about food consumption patterns than other household issues, it was important that the

primary respondent should be the person in charge of preparing or planning meals for the household. Thus, in households where the one in charge of deciding and planning meals was different from the household head, the former became the primary respondent while the household head was consulted on matters that this person did not understand.

### **3.2.5. Weights**

Due to the disproportional allocation of the sample to the different strata as earlier demonstrated, sampling weights were required to ensure actual representativeness of the sample at district level. The sampling probabilities of the EAs in the first-stage of selection and probabilities of selecting the households in the second stage of selection were obtained to calculate the weights. The weights of the sample are equal to the inverse of the probability of selection.

## **3.3. Data Management and Analysis**

Data was collected using a structured questionnaire. For improved quality control, an electronic device was used to collect data rather than paper questionnaires. The electronic device was designed such that enumerators were able to deposit data to a central depository so that it could be viewed as interviews continued taking place. This is to ensure that any issues being raised in terms of the coherence and consistence of tools can be amended if necessary.

Data was then exported to STATA upon completion of collection where it was analyzed in readiness for the final report.

## **3.4. Measuring Food Consumption Patterns**

To measure food consumption patterns of households in Lusaka, the survey used a combination of a 24-hour dietary recall and Food Frequency Questionnaires (FFQ). A 24-hour dietary recall method is a quantitative approach which asks individuals to recall foods and beverages they consumed in the 24 hours prior to the interview (Fergusson & Gibson, 1999; Cuenca, 2015). It may be self-administered or administered by a trained individual. FFQs on the other hand are designed to assess usual intakes of food and beverages. These tools have also been recommended by the Food and Agriculture Organisation (FAO) as appropriate for household food consumption assessments (FAO, 2017).

Cuenca (2015) further points out the challenges researchers often face as they speculate as to what is the best way to gather information about people's food intake. This is because there are many factors intertwined regarding food consumption some of which include: low or high income, nutrition knowledge, food availability and access to food. This survey followed this pattern to analyse information provided by households.

## **3.5. Measuring Socio-economic Status**

Local and international literature has shown that food consumption patterns are largely influenced by the households' socio-economic status (Deshpande, et al., 2009; Mason & Jayne, 2009). This understanding is important in influencing household consumption patterns. Based on this the report, households were divided into different socio-economic groups to be able to compare food consumption patterns across different wealth groups. This is common in many other household surveys (Central Statistical Office, 2014) (Central Statistical Office, 2006).

Since households were drawn from three strata namely low, medium and high cost residential areas, these already represent three different socio-economic groups. Nonetheless, the strata are not adequate as it is not obvious that all households in the low cost residential areas for example are poor compared to those in the high cost residential areas. It is in fact true that some households in low residential areas could belong to a higher socio-economic status if another measure is used different from their residency.

In light of the above the survey used an alternative measure of economic status based on the households' ownership of assets to generate a wealth index. This type of wealth index has been used in many household surveys

to indicate inequalities in various household characteristics. It serves as an indicator of the level of wealth that is consistent with expenditure and income measures (Staveteig & Rutstein, 2013).

The wealth index is created by first transforming categorical variables to be used into separate dichotomous (0-1) indicators. These indicators are then examined using a Principal Components Analysis (PCA) to produce a common factor score for each household (Fry, et al., 2014). The wealth index has a mean of zero and a standard deviation of one. Once the index is computed, wealth quintiles (from lowest to highest) are obtained by assigning a score and ranking each household in Lusaka accordingly. The rankings are then divided into five categories, with the first being one with the poorest households and the fifth one being one with the richest households.

Table 3 presents distributions across the five wealth quintiles by strata. These distributions indicate the degree to which wealth is evenly (or unevenly) distributed, according to geographic area. About 71% of households in the richest quintile are from the high cost residential areas while a much lower proportion of households from low cost residential areas (9%) fall in the same category. Households from low cost residential areas are mostly distributed in the lowest, second, and middle wealth quintiles (25%, 34% and 23%, respectively). One in two households (50%) in the medium cost residential areas are in the richest wealth quintile. As said earlier table 3 shows that one can belonging to high residential area but still fall in the poorest quintile.

**Table 2: Percent distribution of households by wealth quintiles according to strata in Lusaka**

Strata	Wealth Quintile					Total	Number of Households
	Poorest	Second	Third	Fourth	Richest		
Low Cost	25%	34%	23%	9%	9%	100%	578
Medium Cost	1%	12%	21%	16%	50%	100%	208
High Cost	4%	7%	6%	12%	71%	100%	212
Total	20%	28%	21%	11%	20%	100%	998

## 4. Results

A total sample of 1,000 households was targeted initially. Only two did not respond to the survey, representing almost a 100% response rate. The design of the survey was not without limitations: the major limitation was that the sampling was based on the 2010 Census of Population and Housing frame. Thus, households or residential areas which emerged after the census were not captured in the survey. Given that Lusaka is growing and urbanizing very fast, these areas are quite significant and represent Low, Medium and High costs. In a nutshell, it is important to note, therefore that this survey is representative of households living in Lusaka in geographical areas that existed during the 2010 Census of Population and Housing.

### 4.1. Summary Statistics and Household Characteristics

Table 1 presents some of the summary statistics and household characteristics of households who participated in the survey. The mean age of the household heads for Lusaka was estimated at 46 for males and 47 for females. In the 2015 Living Conditions Survey majority of household heads fell in the age group 35-39 years for the whole country. This means the average age of household heads in Lusaka is higher than the national average. Approximately 29% of households were headed by females while the rest by males. Compared to national estimates which stood at 23% in 2015, there are more female headed households in Lusaka compared to the national average (Central Statistical Office, 2016).

**Table 3: Summary Statistics of Selected Ratios**

Household Characteristics	Male	Female	Total
Mean age of household head	46	47	47
Proportion of household heads by sex	71%	29%	100%
Proportion of single headed households	10%	20%	30%
Proportion of household heads with tertiary education	18%	6%	24%
Proportion of household heads in wage employment	34%	9%	42%
Mean household size	5	5	5

The survey found that 30% of households in Lusaka (20% female and 10% male) were single headed households while the rest were headed by married people as shown in Table 1. More male households (18%) had tertiary education compared to only 6% of female household heads bringing the total proportion of household heads with tertiary education to 24%. Compared with the 2010 Census for which similar estimates are available, approximately 17% of household heads had tertiary education (Central Statistical Office, 2012).

Approximately 42% of household heads said they were in wage employment while the rest were in non-wage employment or not employed at all. Of these, male household heads accounted for the larger proportion (35%) compared to female household heads at 9%. In Zambia wage employment is usually more desirable as it is more likely to be formal and more rewarding than other types of employment. Due to high informality, majority of the people work in informal sector which lack decent wages and other conditions of service. Those in wage employment could generally be looked at as earning a stable income though not necessarily high income.

### 4.2. Food Consumption Patterns in Lusaka

This section provides the findings on food consumption patterns in Lusaka based on households' responses.

#### 4.2.1. Usual meals consumed by Households

No literature exists that discusses the usual meals that households in Lusaka eat. However, Zambian households usually have three major meals in a day if they can afford. These are breakfast, lunch and dinner which is commonly referred to as supper.

Figure 1 shows the frequency of each of the three meals compared between the poorest and richest 20% of the population in Lusaka. The difference between the breakfast-eating habits of low income and high-income households is particularly striking. While breakfast is eaten on a daily basis by a large number of households in the richest quintile (88%), only 29% of households in the poorest quintile eat breakfast. This is attributed to the need for low-income households to ration meal intake; breakfast therefore tends to be most sidelined in favor of lunch and dinner. Indeed, when asked why they do not eat breakfast, 78% of these households said it was because they could not afford it. A significant proportion of households (55%) in the poorest quintile said they eat breakfast only sometimes while 17% said they do not eat breakfast at all.

**Figure 1: Usual meals consumed by households**

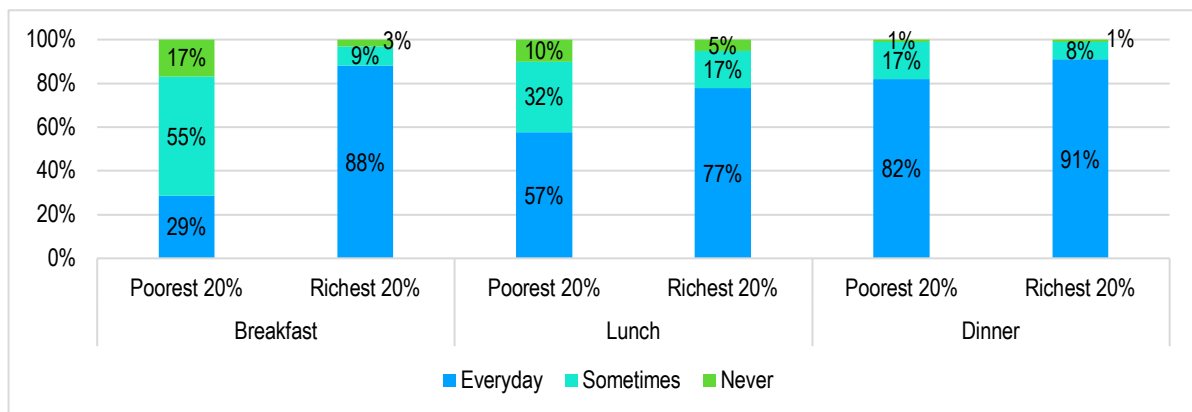


Figure 1 also shows the frequency of eating lunch. The richest quintile had 77% of the households saying they eat lunch everyday compared to 57% of households in the poorest quintile. Only 5% of households in the richest quintile and 10% in the poorest quintile said they never eat lunch. The common reason for those who do not eat lunch especially in the poorer quintiles was lack of affordability.

When respondents were asked what foods they tended to eat during each meal, about 75% of households said they eat bread/buns/fritters or scones with tea<sup>2</sup> as their usual food for breakfast. In the poorest households, 57% said they eat bread/buns/fritters or scones for breakfast compared to 76% in the richest quintile. Cereals and rice are the most common options for high income households which are both eaten by 7% of households. Compared to the poor households, meal samp or porridge<sup>3</sup> is the second most eaten food for breakfast at 30% of households.

Approximately 86% of households said they eat Nshima with relish for lunch. Similarly, 91% of households said they also eat Nshima and relish for dinner. There were no significant differences between richer and poorer households in terms of the number of households who eat Nshima predominantly.

For the foods eaten for breakfast, affordability was cited by both low and high-income households as a major reason for selecting them with 62% and 56% of low and high-income respondents indicating so respectively. The other factors show much more divergences between types of households. Richer households cited healthiness as the second most important reason for eating their selected foods (42%) which, most interestingly, received the least responses (9%) from low income households. Ease of access was the third most important factor for both low-income (22%) and high-income (33%) households.

<sup>2</sup> According to the locals, tea here may refer to all other hot beverages such as coffee and the like

<sup>3</sup> Meal samp/porridge are maize products.



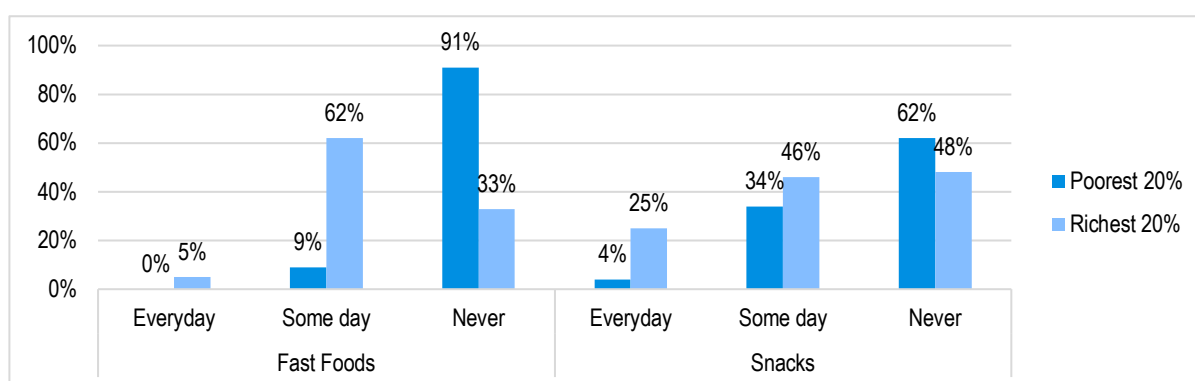
## 4.2.2. Snacks and Fast Foods

Zambia is one of the countries in Africa that has been mentioned as hosting a growing number of international fast food restaurants in recent years<sup>4</sup>. According to the CNN, the growing palate for fast food in Africa and Zambia is attributed in part to the continent's growing middle class whose disposable income and changing lifestyle has left them with an appetite for quick food on the go. Our findings also identified a similar trend.

The survey assessed the fast food consumption patterns of households. Particularly the survey wanted to establish whether households consume fast foods, and the frequency of consumption. The same assessment was made for snacks.

Figure 4 shows the proportions of households who eat snacks and fast foods. There are no households in the poorest quintile who eat fast foods every day and 9% said they eat on 'someday'. The rest (91%) do not eat any fast foods at all. Among the richest quintile 5% said they eat fast foods everyday while 62% said they eat fast foods 'someday'. Only 33% of households in the richest quintile said they never eat fast foods.

**Figure 2: Frequency of eating Fast Foods and Snacks**



In figure 2, it is clear that though not eaten every day, the consumption of fast foods in Zambia is quite significant especially among the affluent. In table 4 below we demonstrate some of the factors determining whether a household eats fast foods or not.

Households, which are relatively wealthier and with households who are in wage employment are more likely to eat fast foods. This is expected as such households tend to have incomes from employment allowing them to be able to buy different foods. On the contrary households which have relatively more members and live in low income residential areas are less likely to eat fast foods. These findings are valid. As indicated earlier, low-income residential areas host some of the poorest people in Lusaka to whom fast foods especially those sold in modern shops are considered luxuries.

**Table 4: Regression analysis of the determinants of eating fast foods in Lusaka**

Household characteristics	Coefficients	P-Value
Wage employment (base category: in wage employment)	0.344	0.039**
Sex of household head (base category: male)	0.348	0.177
Marital status of household head	-0.227	0.378

<sup>4</sup> Other countries are South Africa, Kenya, Mozambique and Zimbabwe. This is based on report by the CNN on 'Rising incomes, changing lifestyles.'

(base category: married)		
Residential area (base category: low cost residential area)	-0.363	0.063***
Education of household head (base category: has tertiary education)	0.131	0.466
Wealth (continuous)	1.037	0.000*
Household size (continuous)	-0.079	0.024**
Age of household head (continuous)	0.000	0.578

N=390, 720, Prob > F = 0.000

\*1% level of significance; \*\*5% level of significance; \*\*\*10% level of significance

The most common types of snacks eaten include bread, scones or fritters which are eaten by 24% of households. This was followed by cookies such as biscuits which were eaten by 19% of households. Maize snacks such as Yoyo foods were eaten by 11% of households. The rest of the snacks households eat include groundnuts, cassava, sweet potatoes, cakes, maize corn and many more.

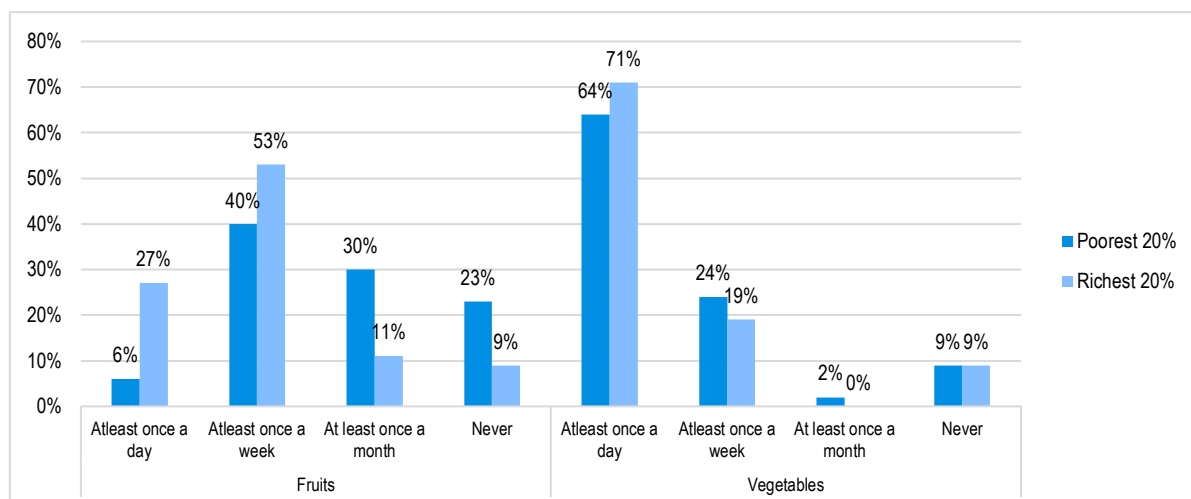
Chicken or sausage and chips are the common fast foods eaten by 77% of households from fast food restaurants such as Hungry Lion. This was followed by Pizza or Shawarma which are eaten by 15% of households. More households in the richer quintiles tend to eat Pizza or Shawarma compared households in the poorer quintiles.

### 4.3. Main food groups

#### 4.3.1. Fruits and Vegetables

Fruits and vegetables are an important part of everyday diet. Fruits may be eaten separately on their own while vegetables are mostly eaten along with meals such as lunch or dinner. A 2017 discussion paper shows that due to a mono-diet culture, fruits are being consumed to a lesser extent than starchy foods and the availability of calories from fruits and vegetables remain low (Mwanamwenge and Harris, 2017). This could have implications for the health and nutrition of the population.

**Figure 3: Frequency of eating fruits and vegetables**



Households in Lusaka eat a combination of different fruits. The survey asked each household to indicate the type of fruits that they eat from a list of a combination of different fruits. Overall, 84% of households said they eat citrus fruits, such as oranges, tangerine and lemons. Similarly, 66% of households said they eat locally produced fruits such as avocado, guava and water melons. About 40% said they eat indigenous fruits including amasuku, amabuyu and a lot other local fruits most of which are wild. Only 25% of households said they eat exotic or imported fruits such as grapes and strawberry among others.

Nearly all households interviewed said they eat at least one type of vegetable. The common ones include garden vegetables such as rape and Chinese cabbage reported by 97% of households. Indigenous vegetables such as Chibwabwa, Kalembula and Katapa are also available and consumed by approximately 90% of households. Others are exotic or imported vegetables such as broccoli, though only 36% of households said they eat these kinds of vegetables.

What is of most importance about fruits and vegetables is how often a household eats them. For health and nutrition reasons it is recommended that one eats vegetables and fruits at least once a day. Therefore, the survey asked respondent to state the frequency of eating vegetables and fruits.

Figure 3 shows that only 6% of the households in the poorest quintile said they eat a fruit once a day compared to 27% of the households in the richest quintile. Approximately 53% of households in the richest quintile said they eat fruits at least once a week compared to 40% of households in the poorest quintile. A significant proportion of poor households (30%) said they eat fruits only once a month and 23% never eat fruits at all. Those who did not eat fruits mainly said they could not afford especially those which are not wild fruits.

Unlike fruits the frequency of eating vegetables is higher. Approximately 71% and 64% of households in the richest and poorest quintiles respectively said they eat vegetables every day. Unlike fruits where the difference in low and high-income consumption is strikingly different, the distribution of vegetable consumption is similar for both low and high-income households.

In terms of the reasons why households eat fruits and vegetables, 70% of households in the poorest quintile said it was because they were affordable compared to 45% of households in the poorest quintile. On the contrary, 69% of households from the richest quintile said they eat vegetables for health reasons compared to 36% of households in the poorest quintile.

Indeed, an important distinction that seems to appear with regards to reasons for consumers' choices is that affordability is an important factor for both groups. However, between low and high-income households, affordability seems to be an important factor more for low income households while among high income household health is a similarly (if not at times, more) important factor than affordability.

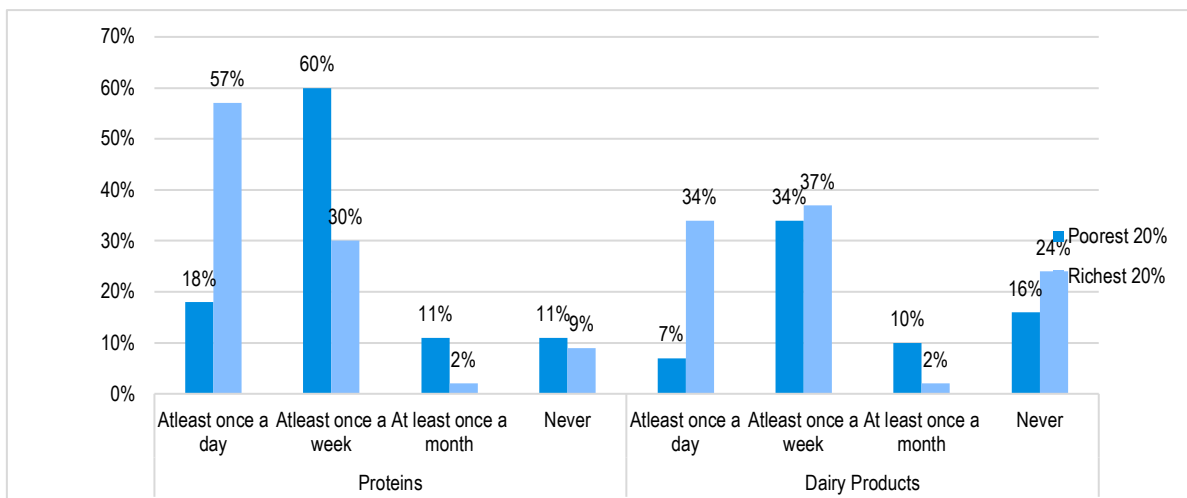
#### **4.3.2. Proteins**

Proteins are important in every diet. However, literature reviewed in earlier sections noted that intake of proteins in Zambia is very low (Mwanamwenge & Harris, 2017). This remains true even in this study as evidenced by the low frequency of eating proteins by households (Figure 4).

Only 18% and 57% of poor and rich households said they eat proteins at least once a day. The majority of poor households (60%) said they eat proteins at least once a week. Proteins are expected to be part of every meal in order to make a balanced diet. The current frequencies are concerning as they prove that households are not eating proteins as much as they should.

The study further shows that households have access to diverse sources of protein. Among them are beans and groundnuts, which are eaten by 87% of households. This is followed by fish which is eaten by approximately 83% of households. Poultry products such as chicken are the third most common proteins eaten by approximately 80% of households. Other sources of protein are eggs eaten by 79% of households; beef eaten by 72% of households and Soya eaten by 50% of households. Goat meat is eaten by the least number of households at 34%.

**Figure 4: Frequency of eating Proteins and Dairy Products**



### 4.3.3. Dairy Products

Consumption of dairy products is said to be very low in Zambia. As of 2012, the gross domestic consumption of dairy products stood at 15 liters per capita compared to the recommended 45 liters. During the same year a total of 190 million liters of milk were being produced each year compared to the required 253 million liters (Simbaya et al. 2012). Since these statistics are outdated, it is not clear where current consumption trends stand.

The survey, therefore, asked respondents to state the dairy products that they consume and at what frequency. While the survey did not measure the actual quantities, the frequency of eating this food type is an indication of the extent of consumption.

The common dairy products households consume are milk, cheese and yoghurt. Milk is the dairy product consumed by the largest proportion of households (71%) compared to other dairy products. This is followed by Yoghurt at 33% and Cheese at 11%. Cream is the dairy product eaten by the least number of households at 6%.

With reference to Figure 4, approximately 34% of households in the richest quintile said they eat/drink dairy products at least once a day while 37% said they eat dairy products at least once a week. Among poor households a paltry 7% of the households said they consume dairy products at least once a day while 34% eat at least once a week. Surprisingly there are more households (24%) from the richest quintile who said they never eat dairy products compared to 16% of the poorer households.

The low frequency of eating proteins and dairy products confirms the fears of earlier literature that consumption of proteins and dairy products has been very low in Zambia. Majority of respondents gave lack of affordability as the main reason for not eating these important foods. The main reasons given by most households for eating both proteins and dairy products is that they are healthy.

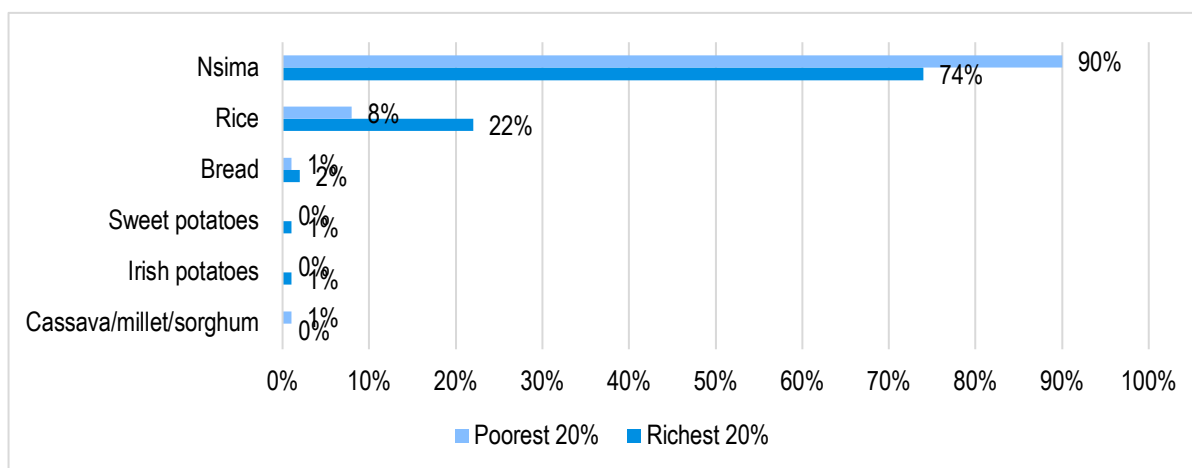
### 4.3.4. Carbohydrates

Similar to the previous sections, this section aims to assess the frequency of carbohydrates eaten by households in Lusaka and the common sources.

Literature suggests that Zambian diets are characterized by a reliance on carbohydrates from maize staple as the main source of carbohydrates (National Food and Nutrition Commission, 2007). and Jayne had earlier made a similar observation but noted that in terms of expenditure values wheat products are slowly taking over from maize especially among the poor. This section sought to provide more recent consumption patterns of these sources of carbohydrates by households in Lusaka.

Figure 5 shows that most households in Lusaka have Nshima as their main source of carbohydrates. Among households from low income households, 90% said they eat Nshima as their main source of carbohydrates compared to 74% of households from high income households. This confirms what has been said by many authors<sup>5</sup> concerning the reliance on Nshima by many Zambian households.

**Figure 5: Common sources of Carbohydrates in Lusaka**



Approximately 8% of poorest households and 22% of richest households said they eat rice as the other source of carbohydrate respectively. Other carbohydrates are bread, eaten by 1% of households in the poorest quintile and 2% in the richest quintile; sweet and Irish potatoes, eaten by 1% of households from the richest quintile only. Cassava, millet or sorghum are eaten by 1% of households from the poorest quintile compared to none in the richest quintile.

#### 4.3.4.1. Nshima

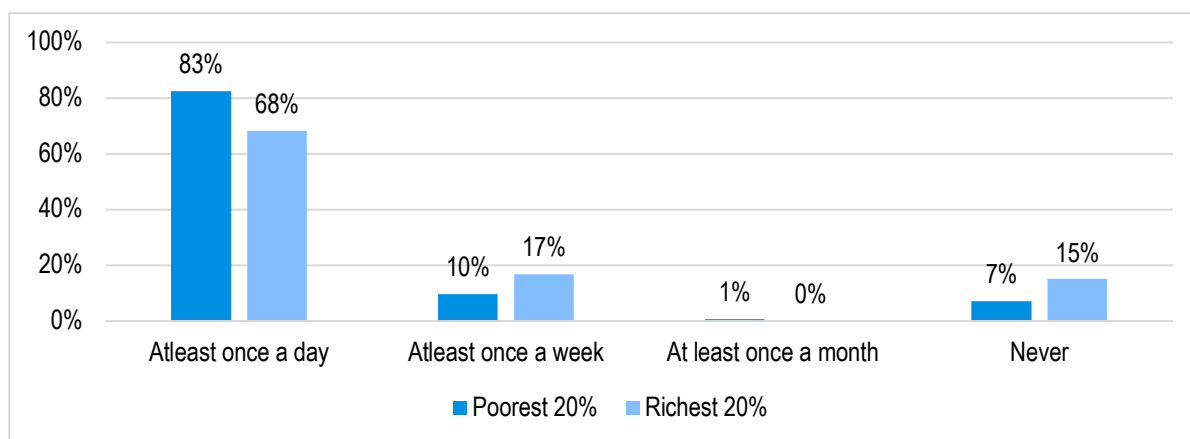
Nshima is the main energy supplier in the Zambian diet and is made from a range of staples (maize, sorghum, millet and cassava), with some variations in terms of preference and alternatives among ethnic groups (National Food and Nutrition Commission, 2007). However, in recent years, maize has tended to dominate as the main source of mealie meal for most Zambians. The mealie meal can either be roller or breakfast meal. Breakfast meal is the more refined one than roller meal. Households who are health and nutrition conscious tend to prefer roller meal to the fine breakfast meal as the former is believed to be more nutritious. Nonetheless in terms of price fine breakfast costs higher than roller.

Because of the high level of consumption of Nshima indicated in previous sections, the survey sought to establish which type of mealie meal households prefer to eat. About 70% of households in both richest and poorest households said they eat breakfast meal. The rest eat roller meal. While roller meal is healthier, these findings show that people still want breakfast meal. This means that the high cost of breakfast meal compared to breakfast is not an important factor in choosing between these two types of mealie meal.

Figure 6 further shows the frequency of eating Nshima by households in Lusaka. As can be seen, Nshima is eaten very frequently with 83% of households from the poorest quintile saying they eat it at least once a day. Similarly, almost 70% of households in the richest quintile said they eat Nshima at least once a day. Only very few households, 7% among poor households and 15% among rich households said they never eat Nshima.

<sup>5</sup>

**Figure 6: Frequency of eating Nshima in Lusaka**

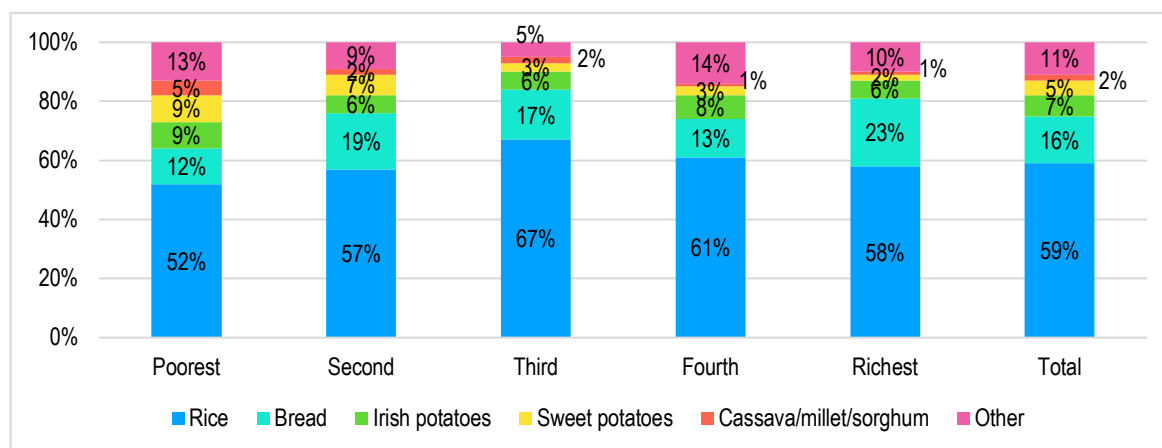


#### 4.3.4.2. Rice

Rice is another important source of carbohydrates for households in Lusaka. An earlier study showed that rice is consumed regularly at breakfast, lunch and dinner. In 2007, rice consumption was estimated at 35,000 MT, while per capita consumption was estimated at 3 kg per year (CUTS International, 2009). No recent estimates exist but consumption has increased for a number of reasons including population growth.

According to the findings of this survey, after Nshima, rice is the most important source of carbohydrates for households in Lusaka. This is evidenced by 59% of households who indicated that rice was the second most important food they eat whenever they are not eating Nshima. This makes rice very important as long as diet diversification is concerned as households are able to switch from Nshima at some point.

**Figure 7: The Second most eaten Carbohydrate in Lusaka apart from Nshima**



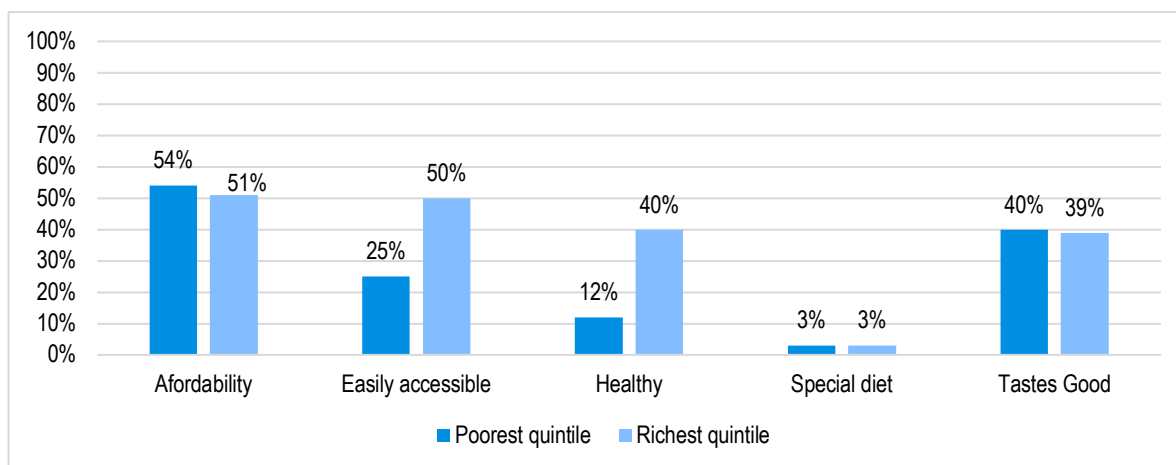
When broken down by quintile of socio-economic status, 52% of poorest households said they eat rice compared to 58% among the richest. The third and fourth quintile eat rice the most at 67% and 61% of households respectively. Bread is eaten by 12% of the poorest households compared to 23% of the richest households.

Other sources of carbohydrates, include bread or wheat products consumed by 17% of households, followed by Irish potatoes consumed by 7% of households and sweet potatoes consumed by 5% of households.

Households who said they consumed other carbohydrates other than Nshima were further asked to state some of the reasons for doing so. Figure 8 shows the responses. Affordability is the reason given by most households

both in the poorest and richest quintiles at 54% and 51% respectively. The richest households also felt that they eat these alternatives because they are easily accessible (50% of households) followed by 40% of households from the same income group who said these foods were healthy. Taste is the second most important reason among poor households cited by 40% of them followed by ease of accessibility cited by 25% of poor households.

**Figure 8: Reason for eating other carbohydrates apart from nshima**



#### 4.4. Households' Knowledge, Attitudes and Practices Towards Foods

The survey also sought to establish the perceptions that households have about foods in general. This includes testing households' knowledge, assessing attitudes and observing practices around foods. The importance of this is that until one understands the level of knowledge, attitudes and practices of households, it is difficult to influence them. This is very important for any policy intervention that intends to change food consumption patterns.

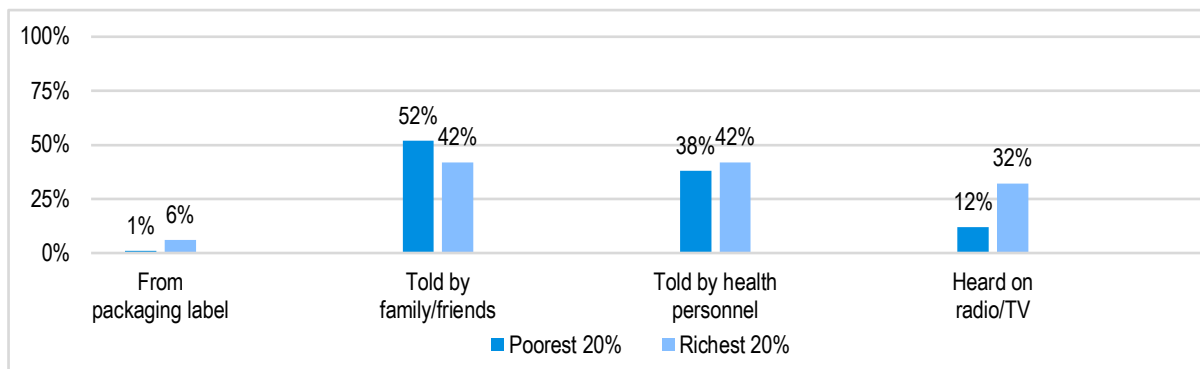
##### 4.4.1. Knowledge of healthy and unhealthy foods

Respondents were asked to list three foods that they thought were unhealthy and three others that they thought were healthy. In asking them this question, a clear definition of healthy or unhealthy foods was given. As the design of this question was open, respondents gave hundreds and hundreds of food combinations that they thought were healthy or unhealthy but difficult to capture in terms of proportions. Nonetheless, based on knowledge on healthy and unhealthy foods, most households were able to clearly distinguish between healthy and unhealthy foods. In cases where they were not sure about specific foods, they were still able to describe a combination of foods that they consider healthy. Similarly, for unhealthy foods some would describe eating habits that they thought were unhealthy. In summary there is sufficient knowledge among households of healthy and unhealthy foods.

Respondents were then asked where they learn about healthy and unhealthy foods. The importance of this question is that it provides insights into food information channels, which is useful in order to design effective and practical ways of communicating various food information to consumers.

According to figure 11, most respondents, 52% and 42% of households in the rich and poor quintiles respectively said they got information from family and friends. On the other hand, the least respondents, less than 10 % of both rich and poor households alike said they got the health information about food from food packaging labels.

**Figure 9: Households' source of knowledge about foods**



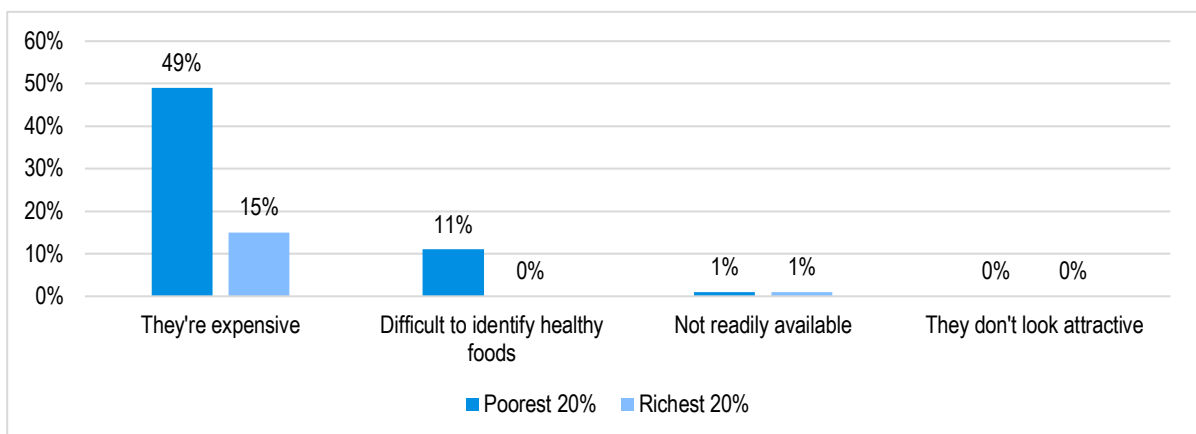
This is very interesting as it shows that while food packages have information about foods contained in them, this is not the main source of food information, at least for households in Lusaka.

About 38% of poor households and 42% of rich households said they got information from health personnel. A significant proportion of the rich (32%) also said they got information from radio or TV. Only 12% of households from the poorest quintile cited radio and TV as their sources of information on foods. In short, family or friends and health personnel are used as sources of information by more households in Lusaka compared to radio and TV.

#### 4.4.2. Barriers to purchasing healthier foods

International literature shows that the main barriers to purchasing healthy foods include that healthy foods are expensive. Other reasons are taste, time sufficiency and convenience (Ref). The most common barrier to purchasing healthy foods according to households in Lusaka is that they are expensive as shown in Figure 12. This is in line with international literature as indicated above. However, there were more households (49%) in the poorest quintile citing this reason compared to only 15% of households in the richest quintile. More poor households (11%) also said healthy foods were difficult to identify compared to none in the richest quintile. More poor households (11%) also said healthy foods were difficult to identify compared to none in the richest quintile.

**Figure 10: Barriers to Purchasing Healthy Foods in Lusaka**



Other reasons such as healthy foods not being available were not strong reasons as only 1% in both the poor and rich quintiles said so. The survey probed further to check if not being attractive (as some healthy foods may be) was a barrier to purchasing but none said so. In a nutshell being expensive is the strongest barrier to buying healthy foods in Lusaka but more so among poor than rich households.

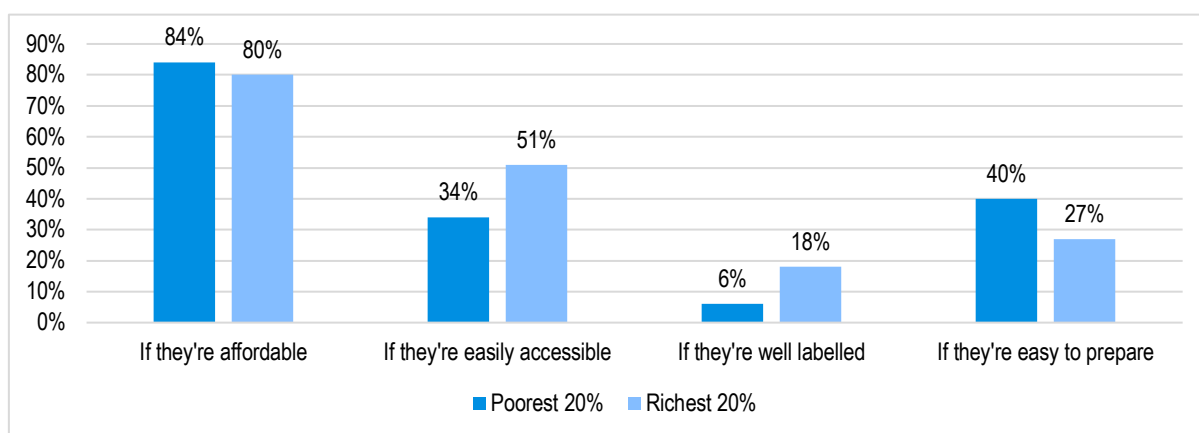
#### 4.4.3. Triggers for the consumption of healthy foods



To be able to influence the consumption of healthy foods, it is important to firstly understand the possible triggers from the perspective of the households. Though there is no related literature regarding this in Zambia, studies in other countries such as the United States of America indicate that availability and access to healthy foods as some of the most important triggers of healthy foods consumption (Basil et al 2009). Other literature shows that the food price or affordability, food taste and ease of preparation can also trigger consumption of healthy foods (Guenther et al. 2009).

Figure 14 shows the findings of the survey in this regard. About 84% of poor households and 80% of rich households said they could eat healthier foods if they were affordable. This confirms the claims of already existing literature indicated above. Furthermore, about half of households from the richest quintile said they could eat healthier foods if they were easily accessible. This was also pointed out by 34% of households in the richest quintile. Again, this confirms the role that accessibility can play in triggering healthy eating habits.

**Figure 11: Factors that would make households eat healthy foods**



The third important reason provided by households is that of ease of food preparation. About 40% of households from the richest quintile and 27% from the poorest quintile said they would eat healthier foods if they were easy to prepare. The labelling of foods was the least reason thought to trigger consumption of healthier foods. This is because only 6% and 18% of poor and rich households provided this as a reason.

#### 4.4.4. Households perceptions on oil, salt and sugar intake

Evidence on the consumption patterns of oils, sugar and salt does not exist in Zambia. Nonetheless, Mwanamwenge and Harris have pointed out that the dietary energy supply from oils doubled between 1991 and 2001; it declined for sugar and sweeteners over the same period (Ref). Nothing has been said about salt. This section was, therefore, intended to test the consumption patterns of households regarding these important food additives. Respondents were thus asked what they thought about the quantity of oil, sugar or salt that they consume by stating whether it was 'too little,' 'too much' or 'just enough'. Though the survey did not define what was meant by 'enough', this response was based on respondents' 'perception.'

Approximately 70% of households said they consumed or added to their food just enough oil, sugar and salt. About 13% of households admitted to consuming too much salt compared to 1% for oil. Further, 15% of households admitted to taking too little salt compared to 11% and 10% for sugar and oil respectively.

Respondents were further asked whether they knew about the implications of too much salt, sugar and oil in the food. Approximately 51% of households said too much salt is likely to increase their blood pressure while the rest said it would not. Additionally, 27% said it would increase the risk of heart attack compared to 73% who said it would not. About 35% of households said too much sugar is likely to increase their blood pressure compared to the rest said it would not. Similarly, 26% of households said too much sugar would increase the risks of heart attack compared to 74% who said it would not. Further, approximately 60% of households said too much oil would

increase blood pressure while 30% said it would not. Approximately, 43% said too much oil would increase the risk of heart attack while the rest said it would not.

The key message from the intake of salt, sugar and oil is that most households do not perceive themselves as taking too much of these food additives. Since the survey did not employ any strategy to measure the quantities households take, it is difficult to confirm nor dispute their perceptions. Interestingly, the findings show that a significant number of households know the implications of excessive consumption of salt, sugars and oil.

## 4.5. Food Markets in Lusaka

Households in Lusaka buy their foods from different types of markets. Because of the importance of food markets in determining access to foods by households, the survey asked households to indicate the type of markets from which they obtained most of their foods. The common markets or sources of foods for households surveyed are Kantemba or Tuntemba for plural, local shops, local markets, large markets such as Soweto in Lusaka and supermarkets such as Shoprite, Game or Pick n Pay.

Tuntemba is a name given to small shops found within most Zambian localities which tend to stock the small and basic household needs such as groceries, vegetables and many other small things. Local shops on the other hand refer to shops that are also found within localities but are bigger than Tuntemba and can stock more and larger items. A local shop can stock everything that can be found in a Kantemba but not the other way round. Local markets refer to markets found within the locality. These tend to accommodate various stalls that sell food stuffs among other things. They also host a mix of Tuntemba and local shops within one place. Examples of local markets in Lusaka include Chelstone market, Kabwata market and Kaunda square market. In most cases these types of markets tend to be found more in low and medium cost residential areas compared to high cost residential areas.

The last but not least form of markets for foods are the supermarkets such as Shoprite, Pick n Pay and Game. Supermarkets in Zambia are usually found in modern shopping malls and tend to stock a variety of products. Supermarkets tend to be very convenient as one can obtain almost everything they want under one roof without having to go from shop to shop or market to market. Earlier, in 2007, Marson and Jayne had observed that supermarkets had only 5-17% of the market share for staple foods and were frequented mainly by wealthier households. Nonetheless, Zambia has experienced an influx of supermarkets<sup>6</sup> in recent years especially in urban areas making it unclear whether only the wealthier households are accessing them.

### 4.5.1. Markets for Carbohydrates

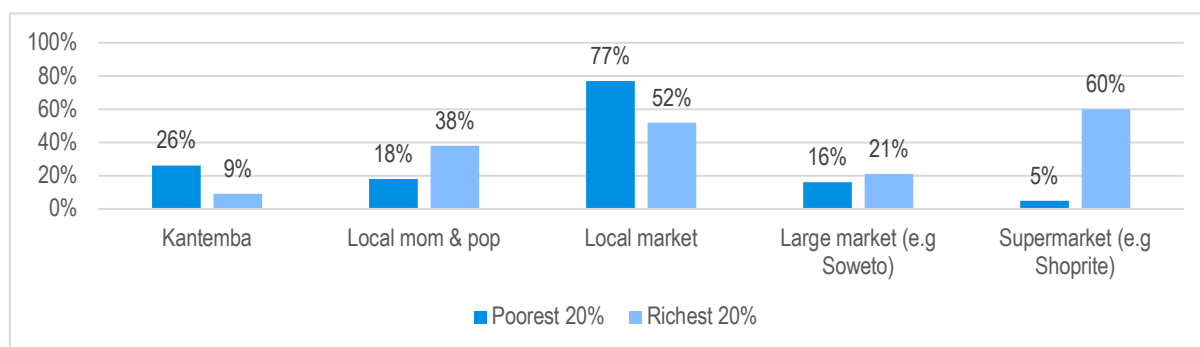
Figure 15 shows the main markets for households, from which they purchase carbohydrates such as mealie meal, rice and bread. Among the poorest households, local markets are the most common used by approximately 77% of households followed by Tuntemba which are a source of starch foods to 26% of households. Only 5% of households from the poorest 20% of households said they use supermarkets as sources of purchasing starch foods. For households of higher socio-economic status, supermarkets are the commonly used markets indicated by 60% of households. This is followed by local markets indicated by 52% of households. Approximately 38% of households from the richest quintile also use local shops as the source for their starch foods.

In summary, supermarkets remain more accessible to wealthier households as far as starch foods are concerned while the poor rely on local markets and Tuntemba.

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<sup>6</sup> According to a study by Zambia Institute for Policy Analysis and Research on Super Market Chains in Zambia, there are currently about 66 supermarkets in Zambia owned by supermarket chains mainly South Africa.

**Figure 12: Common markets for Carbohydrates in Lusaka**

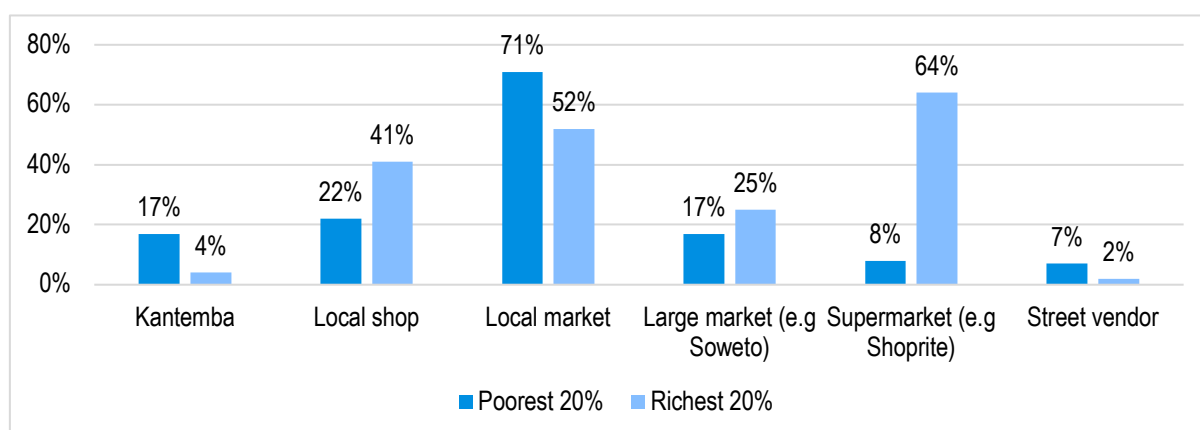


#### 4.5.2. Markets for Proteins

Households said they obtain protein foods from different types of markets. The most common markets used by 64% of households from the richest quintile are supermarkets followed by local shops used by 52% of households from richer households. Poorer households obtain their protein foods mainly from the local markets as indicated by 71% of households. This is followed by local shops indicated by 22% of households from the poorest quintile. Only 8% of households from the poorest quintile obtain protein foods from supermarkets. A small proportion of households 7% from the poorest quintile and 2% from the richest quintile said they buy proteins from street vendors.

It is clear from this that even for protein foods as for starch, the rich and poor are relying on different markets with the rich relying more on supermarkets while the poor on local markets. It is also interesting to note that after supermarkets, the rich will obtain their protein foods from the local market though these are mainly located in medium and low cost residential areas.

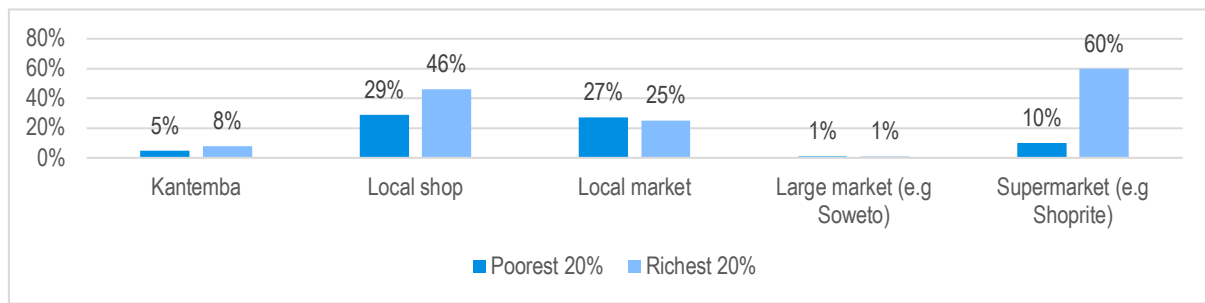
**Figure 13: Common Markets for Proteins in Lusaka**



#### 4.5.3. Markets for Dairy Products

Like carbohydrates and proteins, dairy products are sourced from a number of markets within Lusaka city. Local shops are the common sources for 29% of poor households followed by local markets at 27%. Among the richest households, supermarkets remain the sources preferred by majority of households (60%) followed by local shops at 46%. Tuntemba are only sources of dairy products to 5% and 8% of households from the poorest and richest quintile respectively.

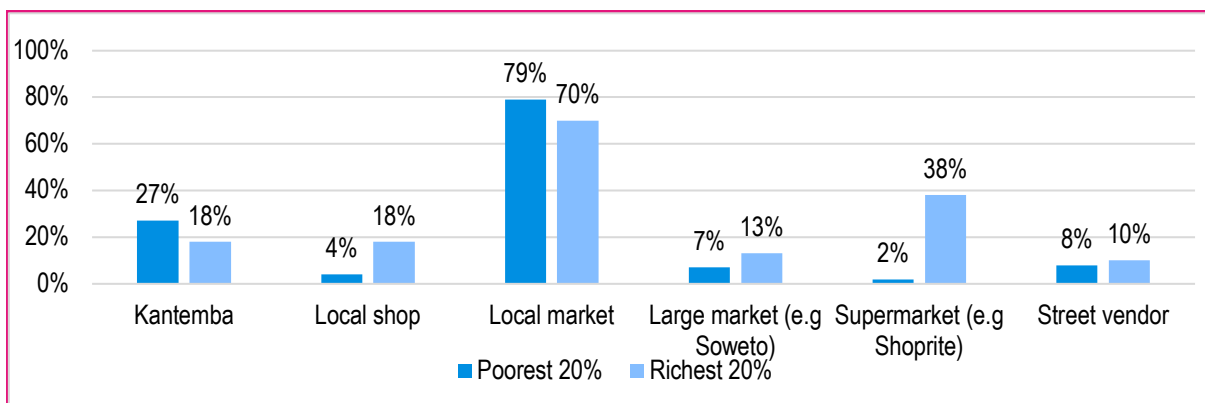
**Figure 14: Common Markets for Dairy Products in Lusaka**



#### 4.5.4. Markets for Fruits and Vegetables

Fruits and vegetables, unlike the other foods already discussed so far are mainly obtained from local markets as indicated by 79% and 70% of households from the poorest and richest quintile respectively. For the richer households, supermarkets are the second mostly used by 38% of households. A significant share of households, 27% from poor households and 18% from rich households buy vegetables and fruits from Tuntemba. Overall these results show that local markets stock fruits and vegetables making it a preferred source both rich and poor households.

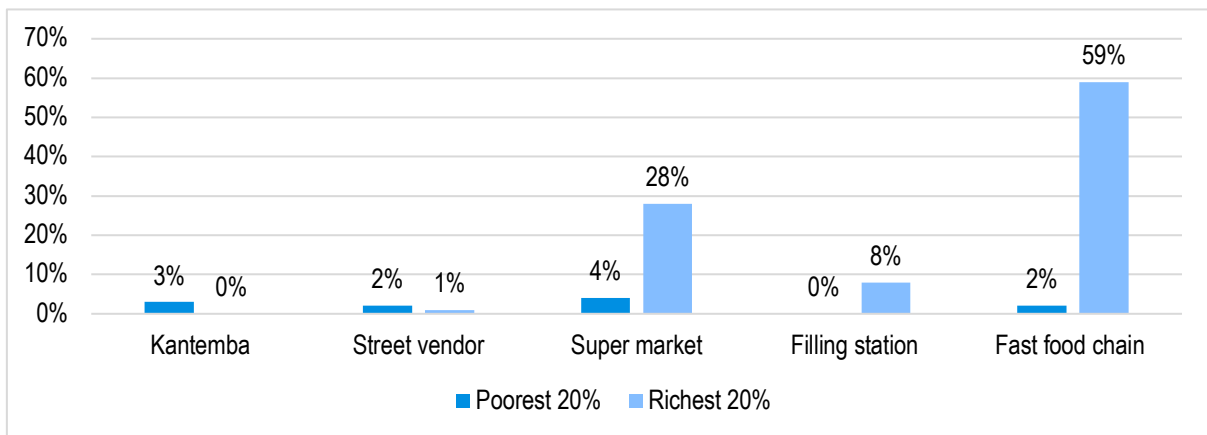
**Figure 15: Commonly used markets for Fruits and Vegetables in Lusaka**



#### 4.5.5. Markets for Fast Foods

Approximately 59% of households from the richest quintile said they buy fast foods from fast food chains such as Hungry Lion. This is followed by 28% who said they buy fast foods from supermarkets. For supermarkets fast foods are usually prepared and sold in a specialized department within the shop. For poorer households only 2% said they buy fast foods from fast food chains compared to 4% who said they buy from supermarkets. This trend could be because fast foods sold inside the supermarket tend to be cheaper compared to those sold in fast food chains. Thus, the poor may gravitate towards supermarkets.

**Figure 16: Commonly used markets for Fast Foods in Lusaka**

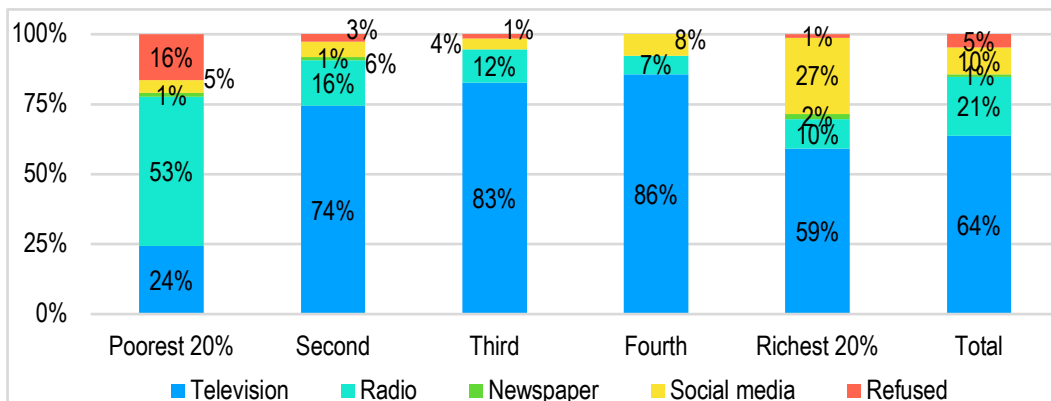


#### 4.6. Households' access to media

This section summarizes the responses we received pertaining to which key media channels households access. As shown in figure 16, the majority of households in Lusaka (64%) said they access the television followed 21% who said they access the radio. Comparing across wealth quintiles, only 24% of households said they access televisions compared to 83% and 86% in the third and fourth quintiles respectively. Interestingly increasing trend when it comes to household access to television by quintile drops significantly to 59% in the richest quintile.

More than half (53%) of households in the poorest quintile said they access radio for information compared to 10% in the richest quintile. After television, social media is the most accessed media by households in the richest quintile.

**Figure 17: Main media channels accessed by households**



To further understand the use of media among households, a multinomial logistic regression was run. This type of regression was used to explain the factors that determine the choices households make in terms of which media to use among a combination of options. Since descriptive statistics show that television is the most used media, we tested to see the household characteristics that would make households chose something else over television. The results are detailed below:

#### 4.6.1. Radio vs Television

**Table 4: Determinants of choosing radio over television**

Television (base)	Odds Ratios	P value
<b>Radio</b>		
Wage employment (base category: in wage employment)	-0.709	0.000*
Sex of household head (base category: male)	0.543	0.056**
Marital status of household head (base category: married)	-0.526	0.060
Residential area (base category: low cost residential area)	-0.082	0.36
Education of household head (base category: has tertiary education)	-0.962	0.000*
Wealth (continuous)	0.006	0.392
Household size (continuous)	-0.075	0.073**

\*1% level of significance; \*\* 10% level of significance

According to table 4, households where the head is married, has wage employment and finished grade 12 are less likely to choose radio over television as a source of information. At the same time households headed by a male are more likely to use a radio over television. Further, as the age of the household head increases, households are less likely to use a radio over television as a source of information. The residential area of the households as well as the size does not affect the households' choice between using radio and television.

Table 5 shows the factors that determine whether a household chooses social media over television as a source of information.

**Table 5: Determinants of choosing social media over television**

Television (base)	Odds Ratios	P value
<b>Social media</b>		
Wage employment (base category: in wage employment)	-0.704	0.721
Sex of household head (base category: male)	0.507	0.074***
Marital status of household head (base category: married)	-1.155	0.000*
Residential area (base category: low cost residential area)	-1.284	0.000*
Education of household head	0.213	0.0361

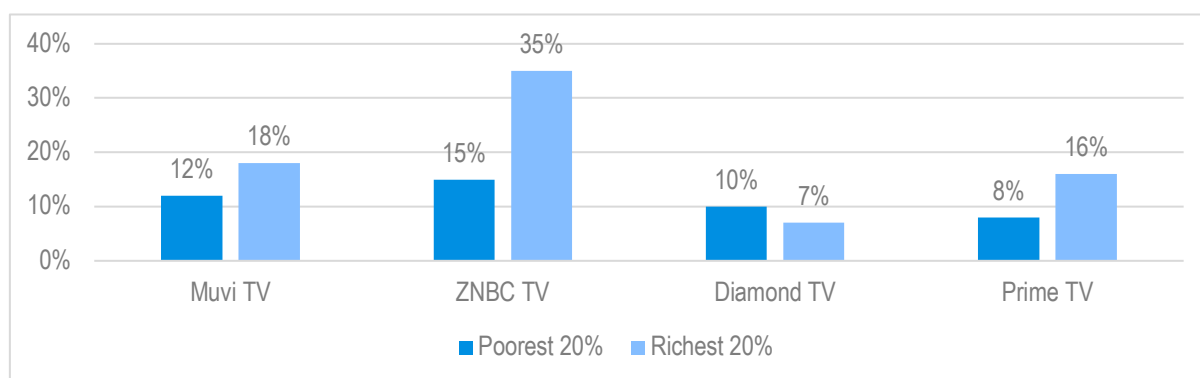
(base category: has tertiary education)		
Wealth (continuous)	0.020	0.017**
Household size (continuous)	-0.001	0.971

\*1% level of significance; \*\*5% level of significance; \*\*\*10% level of significance.

According to table 5, households where the head is male and has finished grade 12 are more likely to choose social media over television as the main source of information. Similarly, as household size increases, households are more likely to use social media over television. On the contrary, households where the head is married and lives in a low income residential area are less likely to use social media over television.

The survey also sought to establish the most common local channels watched by households. Figure 16 shows the most watched TV channels in Lusaka by households. Many households watch different TV channels but ZNBC is the most watched channel indicated by 35% of households from the richest quintile and 15% from the poorest quintile. The second most watched TV channels by richer households is MUVI TV (18%) followed by Prime TV (16%). Among the poorest quintile the second most watched TV channel is also MUVI TV (12%) followed by Diamond TV (10%).

**Figure 18: Most watched local TV channels by households in Lusaka**

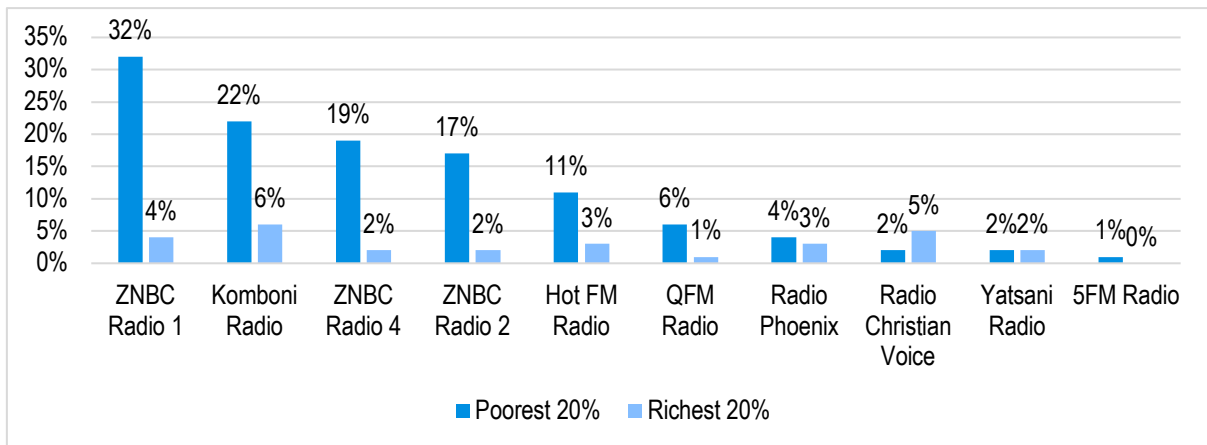


In a nutshell, more households tend to watch ZNBC because it is a public broadcaster whose services may be cheaper and have a wider reach not only in Lusaka but the rest of the country.

In terms of the times of the day for watching TV, households said they watch TV at different times of the day depending on their schedules. However, the majority (about 60%) said they do so in the evening. This is expected as many people tend to be busy during the day and only get to rest during the evening time which makes it convenient for them to watch TV.

For radio, it is important to note that households listen to different radio stations. However, the single most listened to radio station is ZNBC Radio 1, by 32% of poor households and 4% of rich households. This is followed by Komboni radio, listened to approximately by 22% of poor households and 6% of rich households. Other radio stations are ZNBC radios 4 and 2, listened to by 19% and 17% of poor households respectively. Hot FM radio is the 5<sup>th</sup> most listened with 11% of poor households and 3% of rich households. The least listened radio station is 5FM Radio with only 1% of households.

**Figure 19: Most Listened to Radio Stations in Lusaka**





## 5. Conclusion

This study was part of a larger project whose objective is to promote the consumption of food that is safe, diverse, nutritious and affordable for consumers in Lusaka through the use of evidence-based advocacy and behavior change interventions. Specifically, the study aimed at understanding the frequency of consumption of various foods as well as test household Knowledge, Attitudes and Practices towards food consumption. The study is one of the very few that have been done in this particular area and especially in recent years. The findings are insightful but also raise important questions which form the basis for future research.

The study finds that households in Lusaka usually have three important meals in a day namely Breakfast, Lunch and Dinner. However, Breakfast is a meal less eaten by households of low socio-economic status compared to wealthier ones for obvious reasons of lack of affordability. Of particular interest is the types of foods that households eat at each of these meals. Wheat products such as bread tend to dominate the food options, households in Lusaka usually have for breakfast. For lunch and dinner, Nshima eaten with relish is the main food eaten by most households.

The study also assessed household consumption of various food types. Consumption of protein foods, dairy products and fruits remain quite low in terms of frequency. Again, supporting findings of earlier studies which showed concern for the low consumption of these types of foods in Zambia. Affordability and availability are some of the major reasons for the demonstrated low consumption of these food types. Vegetable consumption on the other hand is much higher. This is likely because vegetables are relatively more available than other food types. There is also an abundance of traditional and locally grown vegetables such as Kalembula, Chibwa, Katapa; and many more.

Nshima was found to be the most predominant source of carbohydrates for most households regardless of socio-economic status. Only a limited proportion of households said they eat rice as their second source of carbohydrates. This conclusion is in line with earlier studies referenced in this report which point out the fact that most Zambians consume Nshima solely as the main source of carbohydrates justifying grounds for a mono-diet culture.

Households were also able to identify barriers as well as triggers to eating healthy foods. Among the main barriers are lack of affordability and the difficulty of identifying healthy foods. Other barriers include that healthy foods are not readily available. All these confirm findings of international studies concerning factors that hinder households from consuming healthier foods. On the other hand households said they would be able to eat healthier foods if they were affordable. For other households, availability and accessibility of healthier foods would improve their consumption. This conclusion is also consistent with findings of similar research at international level.

Food markets are another important aspect of food consumption. Households in Lusaka stated the various markets from which they purchase their foods. Understanding of markets is important in influencing food diets. It can be concluded that most of the households in Lusaka actually rely on local markets for most food purchases. However, relatively richer households tend to rely more on super market chains such as Shoprite located in modern shopping malls.

## 6. Recommendations

The ultimate aim of this project is to use research evidence to inform policy advocacy. Based on the insights that have been highlighted in this study the following long and short-term recommendations can provide action points for the Government and other stakeholders:

### In the long term

- i. One way to reduce reliance on Nshima as the main source of carbohydrates as shown in this study is to encourage production of other carbohydrates. Currently the Government has focused on promoting maize growing. The Government should promote production of other crops such as rice, wheat, sorghum and many other foods as a practical way of reducing reliance on Nshima.
- ii. The low consumption of protein foods, dairy products and fruits is a function of lack of availability and accessibility among other things. Both of these can be mitigated through increased production of these foods locally. The Government should create incentives or an enabling environment for production of these foods. Animal proteins for example can be enhanced by promoting livestock rearing throughout the whole country.
- iii. Other than availability and accessibility, affordability is another reason for household's failure to eat important foods. However, some of the reasons why some of the foods are expensive is because they are usually imported from outside the country. This would be different if they were produced locally. Again, Government should provide incentives for production of these important foods.
- iv. Food producers should be engaged to highlight opportunities in terms of potential demand and market for alternative and new foods that they are not producing currently, so that they can start producing them.

### In the short term

- ix. Sensitization campaigns should be carried out to educate the general public on the existence of alternative foods. For example, instead of just eating Nshima all the time, the public can be educated on the fact that all they need from Nshima are carbohydrates which can also be gotten from other foods such as sweet potatoes and the like.
- x. Sensitization campaigns can also be carried out to educate the general public on the value of eating proteins, dairy products and fruits. This can help raise desire for these particular food types.
- xi. Local markets are an important source of foods for households in Lusaka. The Government through local councils should make efforts to improve market spaces to allow as many traders as possible.

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