Ministry of Economic Affairs, Agriculture and Innovation

Research Solutions Africa

REPORT OF A MARKET STUDY ON FRESH VEGETABLES MARKET IN KENYA

CONSUMER'S SURVEY

By

Research Solutions Africa (RSA) Ltd

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1 Objectives of the study

1.1 Objective of the Consumer's study

The **main objective** of the household consumer study was to establish consumer trend in the fresh vegetables sector

The **specific** study objective was;

- To establish consumer spending on unprocessed fresh vegetables in Kenyan supermarkets?
- To establish consumer spending on processed fresh vegetables in Kenyan supermarkets?
- To establish what new niche is markets (e.g. pre-packaged food / ready meals / organically produced fresh vegetables)?

2 Research method

2.1 Study approach and design

The approach used in carrying out the *'Vegetables household consumer study'* was quantitative in nature. This involved face to face interviews at household level using pen and paper with randomly selected consumers. We targeted a total of 1,004 households distributed in urban areas in Kenya over a total of three counties namely Nairobi, Nakuru and Mombasa. Each household represented one consumer interview since the questionnaire had some household questions. Data used in this study were largely from primary sources.

2.2 Scope of the household consumer study

The study covered three counties in Kenya (Nairobi, Nakuru and Mombasa) in scope and focused on respondents at the household level. Important was the respondents' role in purchasing/sourcing for vegetables with the said outlet. Within the outlets the choice of key individuals to be interviewed was based on their role/mandate in purchasing/sourcing for vegetables that contribute to the movement of vegetables within outlets in the main urban cities of three counties in Kenya.

2.3 Consumer Study Population

Respondents in the sampled households included decision makers based on their role/mandate in sourcing for vegetables for household consumption. Respondents included individuals involved in sourcing, purchasing and decision making on vegetables to be consumed at a household level. As with the retailers, where more than one respondent was interviewed within the household, the gathered data was triangulated to reflect the household position.

2.4 Sampling

We used the systematic random sampling approach to identify the targeted 1,004 consumers at the household level. An eligible respondent was by the time of interview at least 20 years old and responsible for the purchase and/or consumption of vegetables. Enumeration areas were defined as residential locations of high end and middle income earners.

Once an enumeration area (EA) was been identified, the interviewer was instructed to find a fixed landmark within the boundaries of the selected enumeration area. Landmarks were established by the field supervisors within each selected sampling point. The criteria for a landmark were as follows; they should be permanent, easily identifiable and visible. Typical landmarks are physical structures such as churches/mosques, schools, hospitals/clinics etc. From each landmark, (following the left hand rule) the interviewer proceeded to the starting household which was determined by the date (i.e. on 28th of the month the starting household will be house number 10 [2+8] from the fixed starting point). This household formed the first household at which an interview can be conducted; the interviewer then skipped 3 houses before selecting the next household for an interview. We used the following NBS definition of a household. ***According to the NBS a household is a unit of people that eat from the same pot, share a roof, pool resources together and report to one household head. This is verified by the interviewers asking the***

questions about the number of people who live under the same roof, eat together, pool resources together and report to one head of the household.

2.5 Data Collection

A comprehensive semi-structured questionnaire/data gathering tool was developed to facilitate interviewing of identified respondents at the sampled outlets. The content of the questionnaire was developed in answer to the specific objectives set for the retail study in the provided TORs further discussion with team members from RSA/The Dutch Embassy and local market context. The pilot testing of the draft semi-structured questionnaire done in Nairobi before start of the exercise informed the development of the final copy.

A copy of the semi-structured data gathering consumer's questionnaire used is attached as Annex 1.

2.6 Quality assurance

To ensure that good quality data was collected, the study team had data collection tools designed and shared with The Dutch Embassy, Ministry of Economic affairs for a thorough review and feedback. Before the actual implementation of the study started, data collection tools were pre-tested and findings of the pre-test were utilized to finalize the questionnaire before printing. The field work was done by a skilled and experienced team with close supervision and oversight by both the study manager and supervisor. This minimized errors and guaranteed the data gathered was of acceptable quality.

2.7 Data Entry, Analysis and Report Writing

Editing for completeness and accuracy of the questionnaires, coding of the dully filled questionnaires, data entry, its cleaning and analysis was done after the fieldwork was completed, as necessary. The coded data was entered into QPSMR (Questionnaire Processing Software for Market Research) in double entry and cleaning up and verification was done using paper copies/questionnaires to verify consistency of data entered. A series of consistency and range checks was also done to help identify any illogical responses and to verify that responses adhered to skip patterns. The data was then transferred to Statistical Package for Social Sciences (SPSS) for analysis.

2.8 Ethical considerations

Voluntary participation was sought from the identified respondents at the household level. The individuals/respondents the survey team interviewed were assured that confidentiality would be maintained and therefore they could answer the questions posed to them freely. The objectives of the study were explained to the respondents and why their participation was important. Verbal consent was sought to proceed with the study, and when given, the survey team went on to administer the questionnaire/tool to the respondents.

2.9 Limitations of the survey

The main limitation of this survey was in relation to obtaining interviews. Getting appointments with and undertaking actual interviews especially with high end consumers needed a lot of flexibility on the part of the study team members. The working class were often found in the evenings and over the weekend limiting the set quotas of interviews achievable per day.

3 Survey Findings

3.1 Sample Characteristics

This survey had a sample of 1,004 households from Nairobi, Nakuru and Mombasa cities in Kenya. The target sample was from social class A, B and C1 the high end and middle income consumers.

3.2 Average Household Monthly Income and expenditures

This study targeted middle and high income groups. The results revealed that the majority (over 60%) of the sampled households have an average income within a range of Kshs 50,001 to Kshs 250,000.

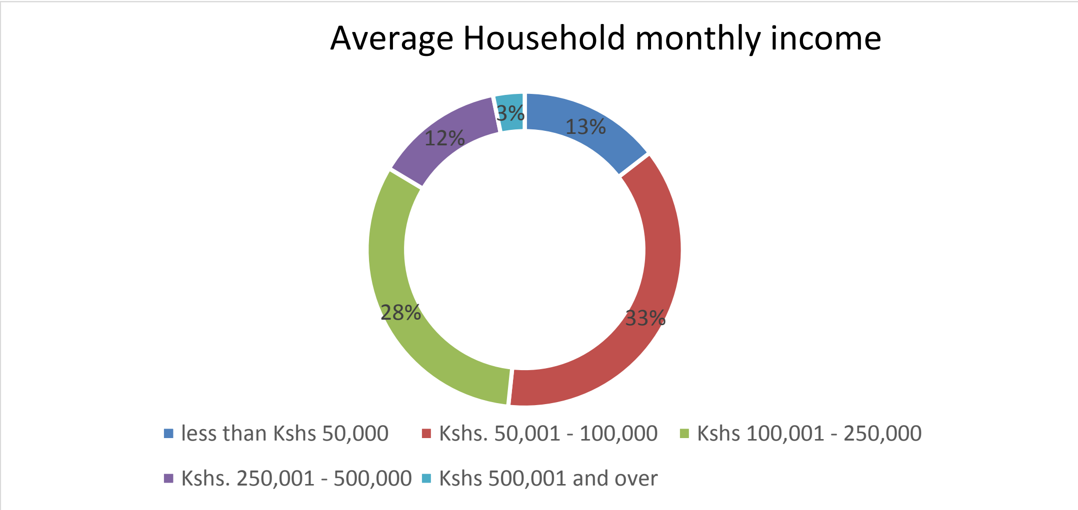

Figure 1: Average household monthly income

On average the sampled households spent 1,400 KES on vegetables per shopping trip. Figure 2 below illustrates the distribution of expenditure on vegetables per shopping trip. An analysis of the average expenditure per shopping show that as average household monthly income increases expenditure on vegetables continues to rise, though very gradually.

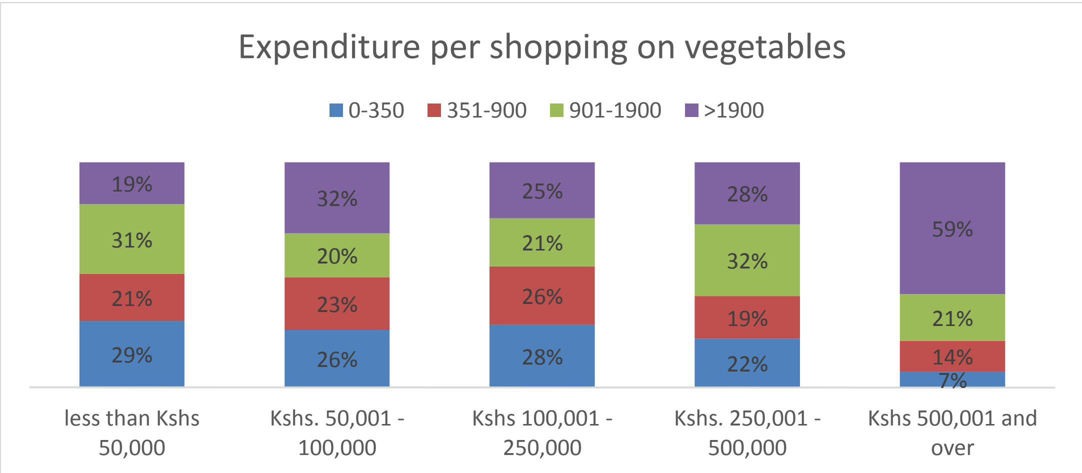

Figure 2: Average household expenditure per shopping on vegetables

The chart below illustrates the absolute expenditures on vegetables per shopping trip range from 1,100 KES for households with incomes below 50,000 KES to 2,100 KES for households with incomes over KES 500,000. In general expenditures on both food and non-food go up as income rises. However, expenditures on food tend to rise less significantly than non-food items.

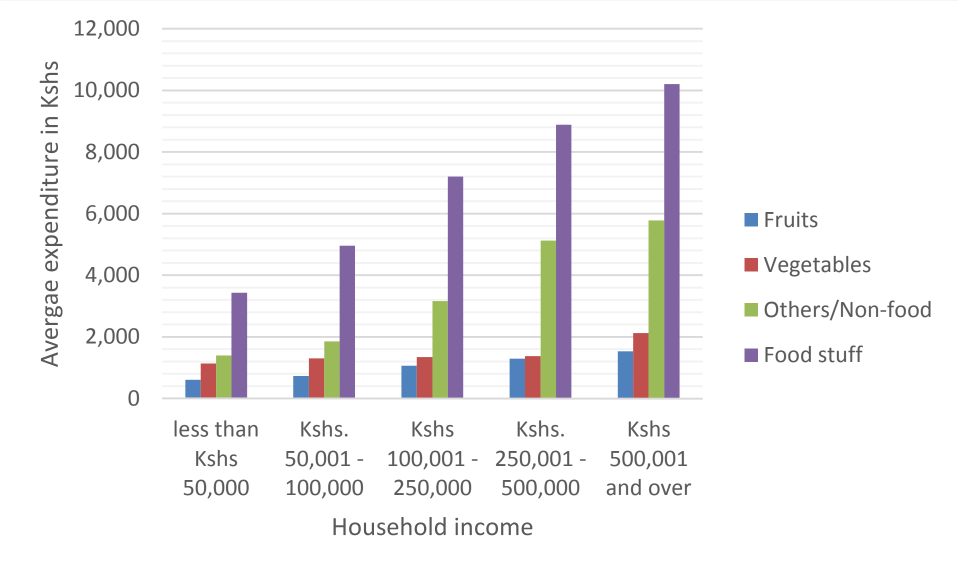

Figure 3: Average expenditure on food and non-food per shopping trip by income group

3.3 Consumer's purchase outlets

Not untypical for a developing country (*Siamee 1993, Sternquist 1998*), Kenya's traditional retail systems (formal constructed public markets, small shops, street hawkers) are characterized by fragmentation, single units (rather than chains), market power with wholesalers, long channels, direct payment to suppliers, a strong presence of women traders, little quality control, little grading, few standards and small inventories. Urban consumers used to buy their produce either directly from farmers or via collecting wholesalers ('middlemen') and distributing wholesalers and/or urban retailers (1). However, with recent development in the vegetable supply chain, advancements in retail outlets and increase in demand for the vegetables have fueled the evolution of these outlets. Outlets like supermarkets, convenience stores have emerged as worthy retailers to fulfill the need of the ever growing vegetable market.

This study therefore sought to establish the various consumer purchase outlets for vegetables, other foodstuff and items purchased in these outlets. It also analyzed key factors considered by consumers when choosing an outlet where they purchase these vegetables. The section below presents these study findings.

Food stuff purchase outlets

Supermarkets were indicated by consumers as the main outlet for purchase of food stuffs, majority of the survey respondents indicated that, they purchase food stuff from supermarkets (95%) even though households visit several outlets to purchase food stuff. Other sources included Duka's (50%), convenience stores (19%), Kiosks (19%), street vendors (4%) and petty traders (2%). Few survey respondents have their own shamba/kitchen garden.

Vegetables purchase outlets

Traditionally, most households purchase their vegetables from the kiosks and duka's. An analysis of this survey finding indicates a shift towards the supermarkets. Consumers show more interest in supermarkets with household items under one roof including vegetables. Among the target groups in this study, supermarkets (45%) are the most popular purchase channel for vegetables. Convenience stores (5%) are not a common place to get vegetables from.

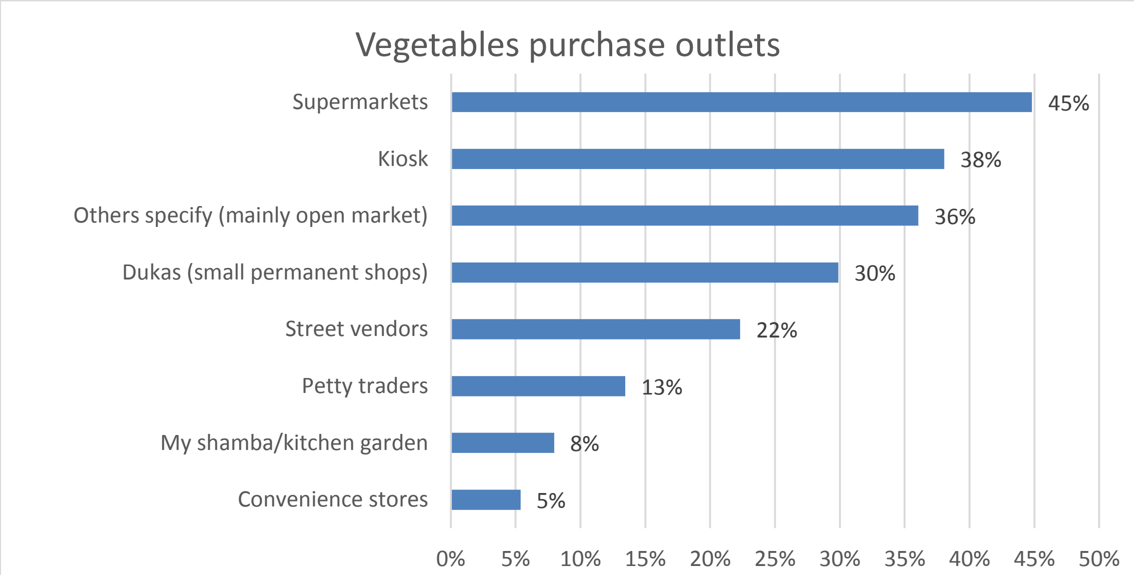

Figure 4: Outlets where vegetables are purchased

Purchase outlets for other items apart from vegetables and foodstuff

When asked where households purchase other items (non-food) apart from vegetables and food stuff, again, supermarkets (96%), was the most popular outlet. All in all it is evident that supermarkets are the ultimate places where households generally purchase most of their food items and other goods.

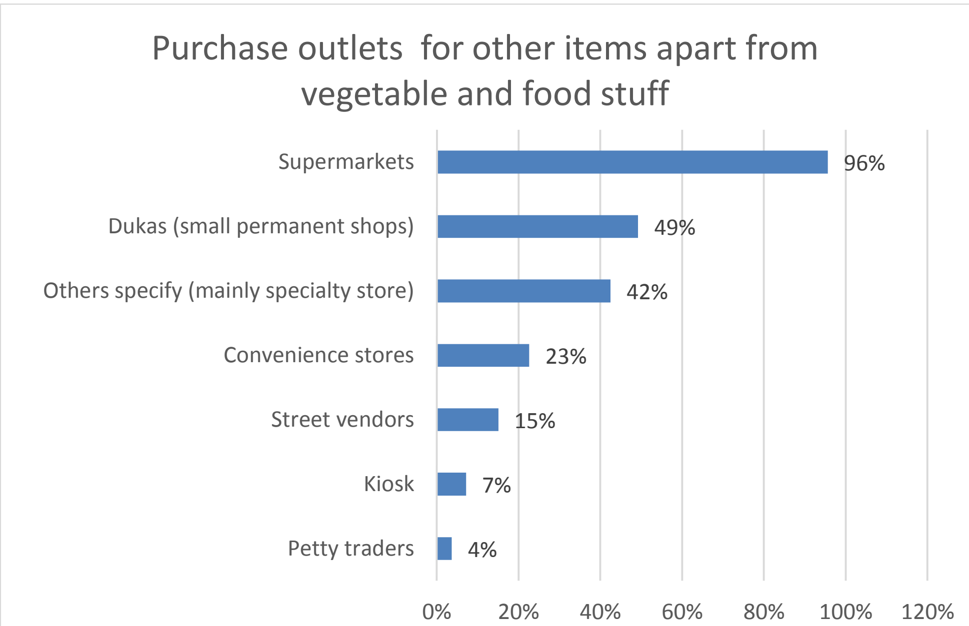

Figure 5: Outlets where other items (non-food) are purchased

3.4 Other Items purchased apart from vegetables and food stuff

The study looked at other items that were commonly purchased other than vegetables and food stuff. These included clothing, toiletries, cosmetics, stationery and electrical appliances. In addition, beverages, cutlery, fuel and upholstery are also generally used and bought by respondents.

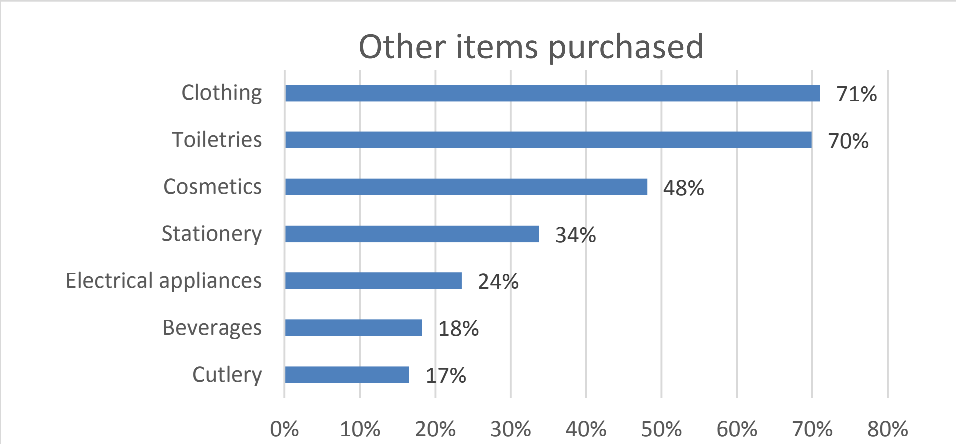

Figure 6: Outlets where other items (non-food) are purchased

3.5 Quality testing of vegetables

Various methods were listed as to how consumers test for quality when picking their vegetables for purchasing and consumption. The three most used methods of testing of quality is by looking at the product either for freshness as was mentioned by 94% of the respondents, colour (74%) and ripeness (55%). Other methods for testing of quality of vegetables included product uniformity (26%), observing the packaging, either by looking at the brand reputation (16%) or production techniques as indicated in the packaging (14%). Also, suppliers' image contributes to assessment of quality of a product capturing (8%).

3.6 Key factors considered in determining purchase outlets

Various factors were considered by consumers when choosing an outlet to buy vegetables from. The most significant aspects in the decision where to buy vegetables are quality of the products, convenience (proximity, accessibility) and availability. All these aspects are considered more important than price.

Key Factors	Total (N)	Percent
Quality products	689	69%
Proximity: Close distance to home/office etc.	689	69%
Accessibility (easily accessible)	688	69%
Availability	644	64%
Low prices	584	58%
Trusted source	511	51%
All under one roof (convenience)	481	48%
Others (other quality aspects incl. organically produced vegetables)	158	16%
Credit facilities offered	139	14%
Total	**1,004**	**100%**

Table 1: Key factors considered in determining outlets for vegetables purchase (multi response)

Looking at the factors that influence the choice which outlet to visit, quality of the products produced is the most considered factor in choosing a supermarket, as well as the convenience of having a wide variety of goods under one roof. Main assets of duka's and kiosks are proximity and accessibility. Street vendors and petty traders mainly compete on price

	Supermarkets (n=450)	Convenient stores (n=54)	Dukas (n=299)	Kiosk (n=380)	Street vendors (n=226)	Petty traders (n=143)	My shamba/kitchen garden (n=81)
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Low prices	5%	33%	36%	54%	59%	65%	16%
Credit facilities offered	2%	15%	25%	20%	5%	6%	1%
All under one roof (convenience)	76%	19%	28%	10%	9%	2%	5%
Proximity: Close distance to home/office	27%	43%	72%	72%	56%	55%	47%
Easily accessible	39%	52%	70%	65%	50%	38%	44%
Trusted source	63%	20%	36%	18%	12%	17%	78%
Quality products	84%	22%	36%	18%	31%	19%	62%
Availability	45%	39%	51%	42%	53%	46%	49%
Total	100%	100%	100%	100%	100%	100%	100%

Table 2: Key factors considered in choosing purchase outlet for vegetables purchase

3.7 Consumers consumption patterns

Vegetables usually consumed at household level

Most consumed vegetables (multi-response) were reported to be tomatoes, potatoes, onions, carrots, cabbage, spinach and kale. Other popular vegetables and spices are coriander, garlic and sweet paper.

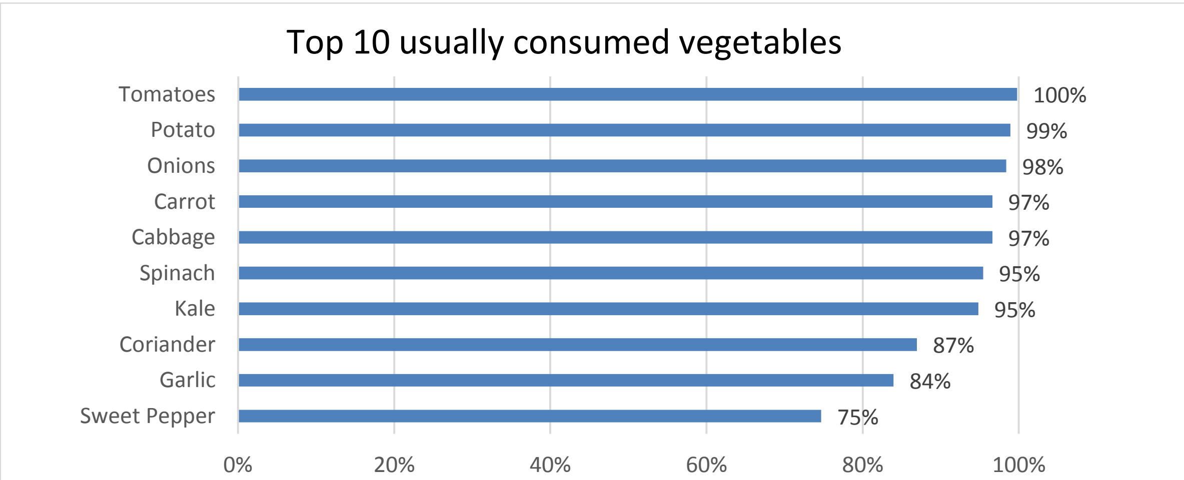

Figure 7: Vegetables usually consumed at the household level (top 10)

In terms of category; 'main vegetables' were the most consumed by the survey respondents at 40% closely followed by African Leafy Vegetables (37%). Asian Vegetables followed with 23%.

Most consumed vegetables

The most consumed vegetable by high end and middle class consumers in Kenya's three main urban cities Nairobi, Nakuru and Mombasa is the tomato as is evidenced by (82%) of the survey respondents. The second is the onions (69%) followed by sukumawiki (kales) and spinach at 42%. A list of the most consumed vegetables is as illustrated in the chart below. The list is compiled from the top 3-5 most consumed vegetables per household.

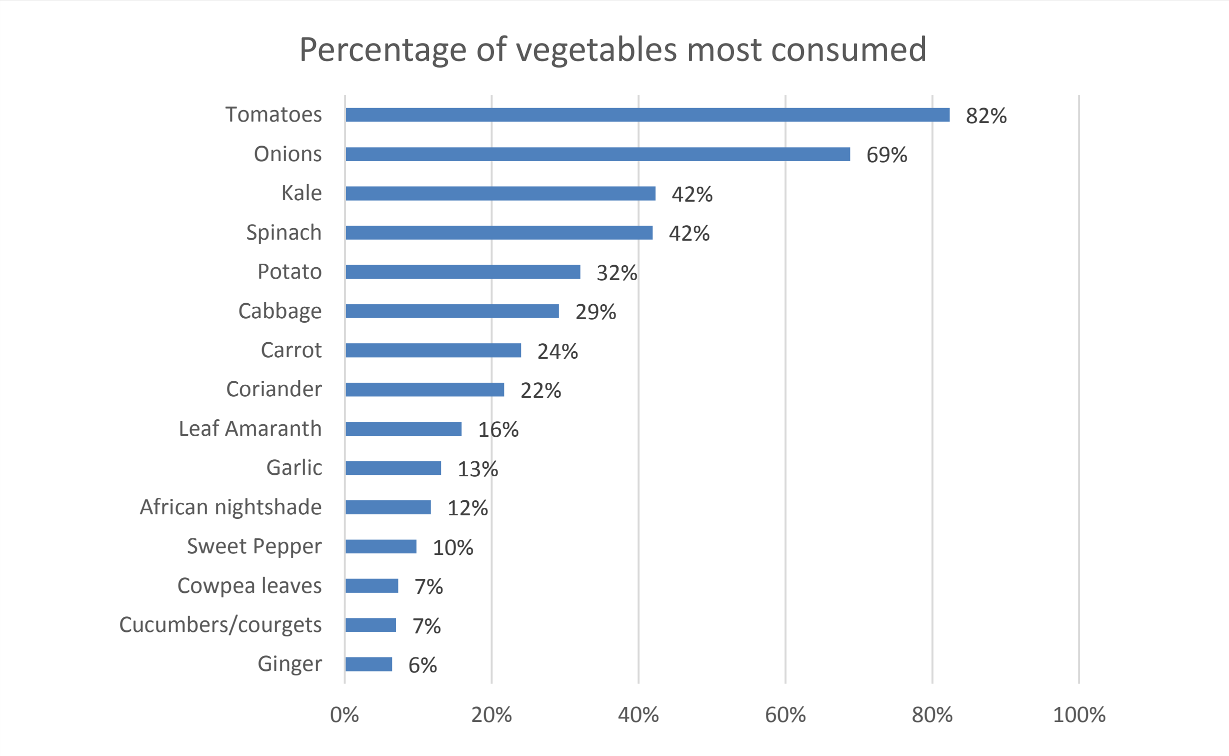

Figure 8: Vegetables most consumed at the household level

Ways of consuming vegetables

How vegetables are prepared and consumed differs per vegetable. It is very common for some vegetables to be eaten raw, while others are cooked. According to the respondents some vegetables are best consumed mixed with other vegetables while other are singly consumed.

The results exhibited that lettuce was the most consumed vegetable while raw (77%); pumpkin is the vegetable mostly cooked single (61%) while garlic, tomatoes and coriander mostly mixed cooked vegetables (99%). In general, the two main vegetables consumed processed included; tomatoes as a taste enhancer (*paste and jam*) and potatoes (*Crisps, French fries*). Frozen vegetables are seen as unhealthy.

Times of consumption

The time of consumption of vegetables was investigated at the three timings of meals at each household namely breakfast, lunch and dinner. It also went further to discover the type of vegetables that are mostly eaten out. Looking at the top 5 vegetables at each meal time and capturing the multi responses of the respondents, the finding of the survey was able to reveal that pumpkin was the main vegetable that is being consumed at breakfast (37%) whereas tomatoes being the main vegetable consumed at lunch time and at dinner (91% and 98% respectively). A different set of vegetable was seen being eaten out. Radish (29%) was the main vegetable usually eaten out.

3.8 Challenges in sourcing most consumed vegetables

Challenges consumers face while sourcing for vegetables included;

- Perishability: Because of high perishability, quality fresh vegetables can only be stored for a short period of time
- Availability of seasonal products: When in seasons products tend to be plenty and cheap but they tend to be expensive when off season
- Price: Closely interlinked with seasonality as explained above
- Accessing fresh organically produced vegetables at affordable rates

3.9 Reasons for non-consumption of vegetables

The study established reasons for non-consumption of vegetables. The main reason is bad taste/tastelessness (45%). Almost a similar number of respondents were not familiar with the vegetables (44%), which could have been due to very many factors. Taking a case of African Leafy vegetables as an example, studies have recognized that although these vegetables are culturally known and acceptable to local tastes, households in Kenya access only a few of them and are therefore not able to make maximum use of them (2). This is because their availability at the local market is very low and majority of the community members are not growing these indigenous food items in their farms.

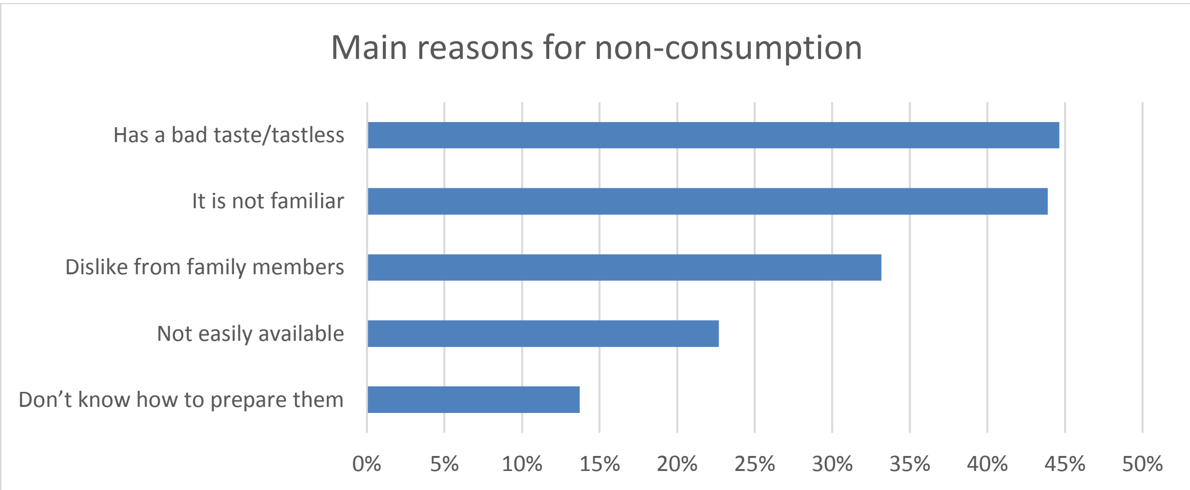

Figure 9: Main reasons for non-consumption

3.10 Consumer perception of vegetables

Vegetables are important items in the diet of urban consumers in Kenya. In general, consumers perceived vegetables to be a nutritious meal as is evidenced by 75% of the survey respondents. Further 69% of consumers surveyed perceived vegetables as meal for all while 42% of the consumers identified with vegetables as a meal that would be ideal for them. Respondents did not consider vegetables as an expensive meal as is evidenced by a paltry 4% that perceived vegetables as expensive.

Respondent's strongest agreeable perception that vegetables are nutritious, a meal for all which is easy to cook/prepare suggests there is value in recommendations in messages to encourage increased consumption.

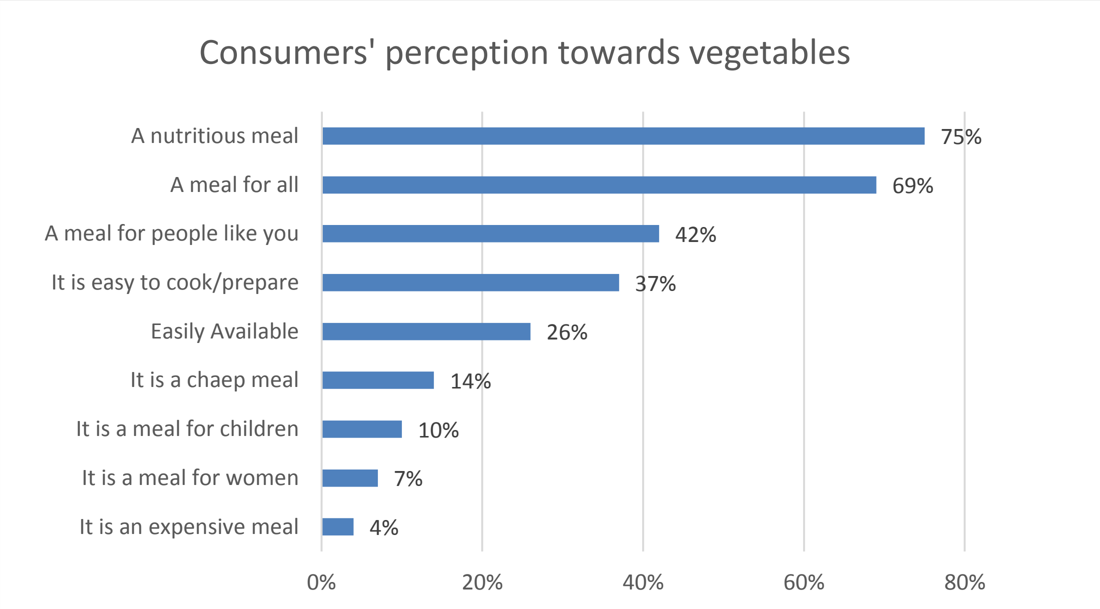

Figure 10: Consumers’ perception towards vegetables

3.11 Media consumption

Seemingly TV and internet are the best platforms to reach potential household consumers. Asked what sources of information they relied on for information about vegetables, majority mentioned referrals/word of mouth (41%) TV (27%) and internet (13 %).

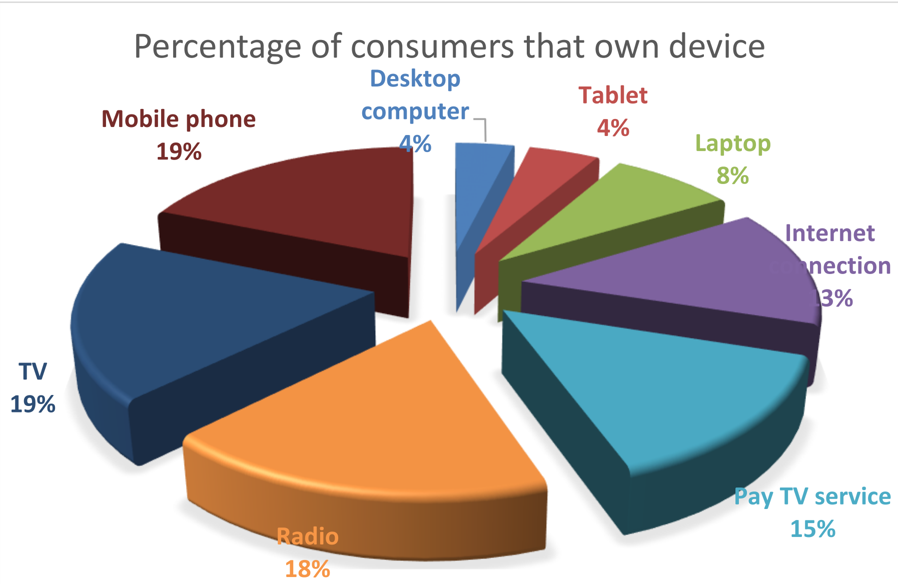

Figure 11: Devices owned by respondents

Households own multiple devices. Mobile phones are exclusively owned devices, while shared devices included desktop computers, laptops, tablets and internet connection. TV, pay TV and radio are commonly used as a household source. The figure below illustrates the percentage of consumers who owned the listed devices.

4 Conclusions

Overall, the following conclusions can be made based on the findings of the consumers' study:

- Expenditures on vegetables: In general expenditures on both food and non-food go up as income rises. However, as expected, expenditures on food tend to rise less significantly than non-food items. Looking at the consumer spending on unprocessed fresh vegetables, the expenditures on vegetables in general per shopping trip range from 1,100 KES for households with incomes below 50,000 KES to 2,100 KES for households with incomes over KES 500,000.

- Consumer's purchase outlets: Supermarkets are the most popular channel for the purchase of both food (incl. vegetables) as well as non-food among high end and middle income earners. However, whereas over 90% of the respondents go to supermarkets to purchase food and non-food (95% for food and 96%), for vegetables only 45% go to supermarkets. Other purchase channels to source for vegetables are kiosks (38%), open market (36%) and duka's (30%). Respondents also buy vegetables from street vendors (22%) and petty traders (13%).

- Factors considered when choosing purchase outlets: Looking at the factors that influence the outlet choice, quality of the products produced is the most considered factor in choosing a supermarket, as well as the convenience of having a wide variety of goods under one roof. Main assets of dukas and kiosks are proximity and accessibility. Street vendors and petty traders mainly compete on price

- Usually and most consumed vegetables: Vegetables (and herbs) usually consumed by the vast majority of respondents (>75%) are tomatoes, potatoes, onions, carrots, cabbage, spinach, kale (sukomawiki), coriander, garlic and sweet pepper. Most consumed vegetables (compiled from the top 3-5 most consumed vegetables per respondent) are tomatoes (82%), onions (69%), kale (42%), spinach (42%) and potato (29%). Other vegetables most consumed are cabbage, carrot, coriander, leaf Amaranth, African nightshade and sweet pepper.

- Challenges in sourcing most consumed vegetables: Most mentioned challenges in sourcing vegetables are perishability (fresh vegetables can only be stored for a short period of time), availability of seasonal products (expensive and hard to come by off season) and availability of fresh organically produced vegetables at affordable prices.

- Market potential for processed vegetables: Kenya enjoys tropical and temperate climate conditions making it a suitable environment to grow a wide variety of horticulture products such as snow peas, sugar snaps, baby vegetables, beans and potatoes. Kenya has been very successful in developing and pushing exports of horticulture products. A number of other countries across Africa have moved aggressively in recent years in effort to duplicate Kenya's success story and several have achieved some notable success in diversifying their production and accessing export markets (3).

  Kenya seems to have potential for expansion of local vegetable production and processing. In general, there seems to exist opportunities for value added horticultural exports, which have been on the increase. This is as a result of increasing demand for natural foods as health consciousness increases among the consumers both in Kenya and the region. Opportunities exist in canning, freezing and drying (sun) and/or roasting. Another area in value addition that has seen significant growth is the pre-packs (consumer packs) for fresh produce meant for supermarkets (4). An initiative that underlines this opportunity is the plan for a special economic zone in Dongo Kundu (Mombasa), where an area of about 300 acres will be designated for agro-processing of oil, rice, cotton, fruits and vegetables. The zone will also house a food packaging production plant (5).

Though it is impossible to give a comprehensive breakdown of potential for processed vegetables in Kenya within in the scope of this study, we have outlined a few examples that might be of interest to further explore.

- <u>Tomatoes</u>: There seems to be an opportunity in producing enough most consumed products such as tomato in sufficient quantities to ensure around the year excess supply of fresh and processor-quality tomatoes. Tomato is one of the most highly consumed vegetable in Kenya. It is grown for fresh market, processing and export market. During peak seasons most farmers sell their tomatoes at a throw away price while a substantial quantity also goes to waste because it is highly perishable. There is therefore an opportunity in processing tomatoes as a value added product such as tomato jam or tomato ketchup. Can and dried tomatoes can be economically important tomato processed products.

- <u>Potatoes</u>: Another opportunity might lie in the processing of <u>potatoes</u>. Storage of potatoes has remained a challenge in Kenya due to the seasonality of production. Farmers are exploited by brokers during excess while consumers pay high at off peak. Cold storage gives the crop a 24-moth shelf-life and stabilizes prices by releasing the produce year-round. Kenya Potato Processor Midlands Limited peels, chops and packages potatoes for individuals, eateries and supermarkets. The factory is also planning to process long-life fries, crisps, pringles and potato flour using potatoes that normally go to waste during glut. The idea is that processed potato product of good quality can compete with imports (6).

- <u>Pulses, beans</u>: Kenya produces a wide variety of beans and pulses, both for export and domestic consumption. The <u>French bean</u> processing subsector is one of the most rapidly growing subsectors, after cut flowers, in Kenya's agriculture sector (7). One of Kenya's competitive advantages are low wages, since production of French beans is highly intensive in terms of labour. Kenya only has a few processing firms, e.g. Njoro Canning Factory and Frig-O-Ken. The establishment of contract-farming arrangements by these processors that often includes provision of input credit is a major factor in motivating smallholders to concentrate on French beans for the processing market. Another interesting subsector is the production of <u>navy beans</u> that are grown almost exclusively for the canning industry. There is growing demand for canned neavy beans from cities both locally but moreover globally. Major local processors are Njoro Canners, Kabazi Canners and Premier Foods. Consumption of canned navy beans is common in the upper income market segment. Retail outlets located in the upper markets of Westlands, Karen and Ngong and the Nairobi City Centre stock a variety of canned beans brands. Consumers prefer the pre-cooked and canned beans due to their quick preparation for the meal. Both French beans and navy beans subsectors cope with various constraints to production. One of the constraints is the limited capacity of the canning the industry, the lack of producerprocessor contractual agreements, lack of extension services offered to farmers and post-harvest handling. Another challenge is the availability of (certified quality) seeds that are resistant to pest and diseases, which requires increased research capacity and seed multiplication (8).

- Value added products: Since the sector is so well developed, value added products can also be developed to such as high quality packaging material. The Food Processing and Packaging Exposyum is held in Nairobi every year. The FPPE confirms the potential for suppliers in process and packaging technology as enormous quantities of locally produced food are lost before they reach the consumer. This is due to faulty processing and packaging as well as inadequate infrastructure (9).

More information on packaged food (frozen vegetables etc.) such as brand market shares, market trends, volumes, market size are published by a.o. Euromonitor (10) and Research and Markets (11).

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6 Annexes

Annex 1 – A copy of the semi-structured data gathering questionnaire used

Consumer's Questionnaire
ADMINISTRATIVE INFORMATION

Questionnaire number			
Date of interview:			
Time of interview: (*24 hr clock*)	**Start**	**Stop**	
Name of interviewer:			
Place of interview:			
City	**Nairobi**	**Mombasa**	**Nakuru**
	1	**2**	**3**
Number of visits *(max. of 3)*			
Reason for call back	**Number of visits**		
	1	**2**	**3**
Refused to be interviewed	**1**	**1**	**1**
Did not meet the gender quota	2	2	2
No one in the household	3	3	3
Respondent not able to be interviewed	4	4	4
No adult member in the household	5	5	5
Not applicable	99	99	99
Outcome of final visit	**1.Successful**	**2.Incomplete**	**3.Replaced**
Field quality control checks *(sign as appropriate)*			
Activity	**Activity undertaken by**		
	Interviewer	**Team leader**	**Supervisor**
Edited			
Reviewed			
Accompanied			
Back checked			
Called back			

Introduction: Good morning/afternoon/evening, my name is ……………. From Research Solutions, an independent market research company based in Nairobi. We are currently conducting a survey on vegetables in Kenya. We are interested in consumer's opinions around some or all of fresh vegetable. We would be grateful if you could answer a few questions for us. Any information you give us will not be disclosed to any third party at all. Your information will be collated together with others and none of your answers will be traced back to you. There is no right or wrong answers. It is your candid opinion that we are interested in. This interview will take 30-45 minutes.

To be eligible for the survey we looking to talk to people who have certain responsibilities. Who makes decision in regards to vegetable sourcing, purchasing or consumption in your household.

Self	Continue
Others	Ask to talk to the person responsible for making purchase/sourcing decisions
None of the above	

By signing below, you agree that you have been told about the study and agree to take part. If there is any part of this explanation that you do not understand, please ask before signing.

Respondent: ____________Signature: ___________________Date: .___________

SCREENER

SC1. What is your occupation?

SC2. How old are you?

19 and below	STOP
20-35	CONTINUE
35-45	CONTINUE
46 AND ABOVE	CONTINUE

SC3. Do you purchase/consume vegetables in your household?

Yes	1	CONTINUE
No	2	STOP

SC5. LSM- Which of the following things do you have in your household?

Item or service title	STEP 1 – Score Circle all that apply
Do you have a Colour TV	18
Did you access the Internet during the past 4 weeks?	49
Do you have a Satellite dish/ DSTV/Cable TV subscription?	34
Do you have a built in kitchen sink in your household?	31
Do you have a Microwave oven?	32
Did you read a newspaper in the last 7 days?	17
Do you have a video recorder?	18
Do you have a mobile / cell phone with a working line?	16
Do you have an electric iron?	17
Do you have a personal computer for your own personal use at home?	34
Do you have a fixed telephone line at home or an outstanding application for one?	14
Have you watched TV in the last 7 days?	17
Do you have access to e-mail (via own/friend's mobile phone, own/friend's computer, or via internet café?	41
Do you have washing machine?	32
Do you have refrigerator?	20
Do you have a Hi-Fi or music centre?	17
Do you have a Free Standing Deep Freezer?	19
Do you have a Video camera/camcorder?	35
Do you have an account with a Commercial Bank?	15
Do you live in a Brick house/ cluster house/ condominium/flat	11
Do you have one or more cars in your household?	12
Have you Bought adult clothing in the past six months?	10
Add this every time (constant)	32
Step 2 : Add all circled scores including the constant	

If total score is			LSM Group
Up to		37	1
38	to	54	2
55	to	70	3
71	to	87	4
88	to	103	5
104	to	120	6
121	to	153	7
154	to	186	8
187	to	219	9
220	to	252	10
253	to	285	11
286	to	318	12
319	to	352	13
353	to	385	14
386	to	418	15
419	to	451	16

SCE E

SCE D

SCE C2

SCE C1

SCE B

SCE A

DEMOGRAPHIC CHARACTERISTICS OF HOUSEHOLD

Now, I'd like to get some information about the people who usually live in your household starting with the household head. *(Codes are provided below)*

1	2	3	4	5	6	7	8	9
Line.no	Name of the hh member	Relationship with the head of the hh	Sex	Age	Marital status	Education	Level of education	Occupation
	Please give the names of the HH members who usually live in your household starting with the hh head	What is the relationship of (NAME) with the head of the household?	Is (NAME) male or female?	How old is(NAME) If below one year old enter 00	What is the current marital status of(NAME) (Ask if above 10 years)	Did (NAME) attend school at any time?	What is the highest level that (NAME) has ever attained?(Primary and Below = NONE)	What is(NAME) current employment Status?
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Codes for Q3			Codes for Q4			Codes for Q6	
01	HEAD OF HOUSEHOLD		1	MALE		1	MARRIED/ LIVING TOGETHER
02	SPOUSE		2	FEMALE		2	DIVORCED/SEPARATED
03	DAUGHTER/SON					3	WIDOWED
04	FATHER/MOTHER					4	NEVER MARRIED
05	GRANDCHILDREN					5	OTHERS specify_______
06	OTHER RELATIVE						
Codes for Q8			Codes for Q7			Codes for Q9	

1	PRIMARY		1	YES		1	WORKING FULL TIME
2	SECONDARY		2	NO		2	WORKING PART TIME
3	TERTIARY/COLLEGE					3	CASUAL
4	UNIVERSITY					4	UNEMPLOYED
						5	HOUSE WIFE/HOUSE HUSBAND
						6.	OTHERS specify__________

I'd like to ask you about your income, what the average Household monthly income?

	Code
less than Kshs 50,000	1
Kshs. 50,001 – 100,000	2
Kshs 100,001 - 250,000	3
Kshs. 250,001 - 500,000	4
Kshs 500,001 and over	5
Don't Know	98
Refused to answer	99

On average, how much do you spend on the following items every time you go shopping?

	Q3
Items	Kshs/shopping
Food Stuff*(excluding fruits and vegetables)*	
Fruits	
Vegetables	
Others	
Total	

Of the amount you spend on vegetables how much do you spend on; Main vegetables? African leafy vegetables? Asian vegetables?

INTERVIEWER SHOW CARD WITH LIST/PICTURES OF VEGETABLES

	Q4
Items	Kshs/shopping
Main vegetables	
African Leafy vegetables	
Asian vegetables	

Others specify _..	
Total	

CURRENT USAGE, DRIVERS, ATTITUDES TOWARDS VEGETABLES, PRODUCT CATEGORY CONSUMED AND RELEVANT DECISION CRITERIA

Where do you usually buy your food stuffs from? MULTIPLE ANSWERS

Where do you usually buy your vegetables from? MULTIPLE ANSWERS

	Q 5. Food stuffs source	Q6. Vegetable source?
Supermarkets	1	1
Convenience stores	2	2
Dukas (small permanent shops)	3	3
Kiosk	4	4
Street vendors	5	5
Petty traders	6	6
My shamba/kitchen garden	7	7
Others specify………………………	96	96
Can't remember	97	97
Refused to answer	99	99

What else do you buy? LIST UPTO 5

INTERVIEWER; ASK FOR ALL PRODUCTS MENTIONED IN Q7. Where do you buy […………………….] from?

Q7	Write down all products bought elsewhere				
	i.__________	ii.___________	iii.____________	iv.______	iv.______
Q8					
Supermarkets	1	1	1	1	1
Convenience stores	2	2	2	2	2
Dukas (small permanent shops)	3	3	3	3	3
Kiosk	4	4	4	4	4
Street vendors	5	5	5	5	5
Petty traders	6	6	6	6	6
My shamba/kitchen garden	7	7	7	7	7
Others specify………………………	96	96	96	96	96
None	95	95	95	95	95
Can't remember	97	97	97	97	97
Refused to answer	99	99	99	99	99

Thinking of vegetables, how do you test vegetables for quality?

	code
Tangible quality attributes	
Uniformity of the product	1
Freshness of the product	2
Colour of the product	3
Ripeness of the product	4
Intangible quality attributes	
Environmentally friendly production techniques (as indicated on some packaging)	5
I look at the brand reputation of vegetable supplier	6
I look at the supplier information (Image of supplier)	7
Others specify (________________________)	8

What key factors do you consider in choosing which outlet you buy your <u>vegetables</u> from? MAKE REFERENCE TO Q6

	TICK AS PER Q6	Low prices	Credit facilities offered	All under one roof (convenience)	Proximity Close distance to home/office etc	Easily accessible	Trusted source	Quality products	Availability	Others specify_____________	Others specify_____________
Supermarkets		1	2	3	4	5	6	7	8	9	10
Convenience stores		1	2	3	4	5	6	7	8	9	10
Dukas (small permanent shops)		1	2	3	4	5	6	7	8	9	10
Kiosk		1	2	3	4	5	6	7	8	9	10
Street vendors		1	2	3	4	5	6	7	8	9	10
Petty traders		1	2	3	4	5	6	7	8	9	10
My shamba/kitchen garden		1	2	3	4	5	6	7	8	9	10
Others specify………………………		96	96	96	96	96	96	96	96	96	10
Can't remember		97	97	97	97	97	97	97	97	97	10
Refused to answer		99	99	99	99	99	99	99	99	99	10

INTERVIEWER SHOW CARD WITH LIST OF VEGETABLES

Looking at this card, please tell me which vegetables you usually consume in your household?

INTERVIEWER; FOR THE VEGETABLES USUALLY CONSUMED ASK; How do you usually consume these vegetables. Do you consume raw, cooked single or cooked mixed with other food stuffs? MULTIPLE RESPONSE

Tell me which of these vegetables you usually consume for breakfast? Lunch? Dinner and which ones you consume when you eat out? MULTIPLE RESPONSE

And how frequently do you consume these vegetables?

LIST OF VEGETABLES SHOW CARD A	Q11.	Q12.			Q13.				Q14 Frequency of consumption				
	Vegetables usually consumed	consume raw	cooked single	cooked mixed	breakfast	Lunch	Dinner	Eaten out	once a day	Twice a day	Three times a day	weekly	Others specify ________
Main vegetables													
Potatoes	1	1	2	3	1	2	3	4	1	2	3	4	5
Tomatoes	1	1	2	3	1	2	3	4	1	2	3	4	5
Snow Peas	1	1	2	3	1	2	3	4	1	2	3	4	5
French Bean	1	1	2	3	1	2	3	4	1	2	3	4	5
Sugar Snaps	1	1	2	3	1	2	3	4	1	2	3	4	5
Spinach	1	1	2	3	1	2	3	4	1	2	3	4	5
Runner Beans	1	1	2	3	1	2	3	4	1	2	3	4	5
Cabbage	1	1	2	3	1	2	3	4	1	2	3	4	5
Kale	1	1	2	3	1	2	3	4	1	2	3	4	5
Garden Pea	1	1	2	3	1	2	3	4	1	2	3	4	5
Carrot	1	1	2	3	1	2	3	4	1	2	3	4	5
Courgettes	1	1	2	3	1	2	3	4	1	2	3	4	5
Sweet Pepper	1	1	2	3	1	2	3	4	1	2	3	4	5
Broccoli	1	1	2	3	1	2	3	4	1	2	3	4	5
Butternut Pumpkin/squash	1	1	2	3	1	2	3	4	1	2	3	4	5
Baby corn	1	1	2	3	1	2	3	4	1	2	3	4	5

Lettuce	1	1	2	3	1	2	3	4	1	2	3	4	5
Cauliflower	1	1	2	3	1	2	3	4	1	2	3	4	5
Beetroot	1	1	2	3	1	2	3	4	1	2	3	4	5
Cucumbers	1	1	2	3	1	2	3	4	1	2	3	4	5
Radish	1	1	2	3	1	2	3	4	1	2	3	4	5
Turnip	1	1	2	3	1	2	3	4	1	2	3	4	5
Mushrooms	1	1	2	3	1	2	3	4	1	2	3	4	5
Onions	1	1	2	3	1	2	3	4	1	2	3	4	5
Ginger	1	1	2	3	1	2	3	4	1	2	3	4	5
coriander	1	1	2	3	1	2	3	4	1	2	3	4	5
Garlic	1	1	2	3	1	2	3	4	1	2	3	4	5
African Leafy Vegetables	Vegetables usually consumed	consume raw	cooked single	cooked mixed	breakfast	Lunch	Dinner	Eaten out	once a day	Twice a day	Three times a day	weekly	Others specify___ ______
Leaf Amaranth	1	1	2	3	1	2	3	4	1	2	3	4	5
Grain Amaranth	1	1	2	3	1	2	3	4	1	2	3	4	5
African Nightshade	1	1	2	3	1	2	3	4	1	2	3	4	5
Cowpea leaves	1	1	2	3	1	2	3	4	1	2	3	4	5
Jute mallow	1	1	2	3	1	2	3	4	1	2	3	4	5
Pumpkin leaves	1	1	2	3	1	2	3	4	1	2	3	4	5
Pumpkin fruit	1	1	2	3	1	2	3	4	1	2	3	4	5
Rattle pod	1	1	2	3	1	2	3	4	1	2	3	4	5
Spider plant	1	1	2	3	1	2	3	4	1	2	3	4	5
Asian vegetables	Vegetables usually consumed	consume raw	cooked single	cooked mixed	breakfast	Lunch	Dinner	Eaten out	once a day	Twice a day	Three times a day	weekly	Others s specify___ _____
Aubergines	1	1	2	3	1	2	3	4	1	2	3	4	5
Okra	1	1	2	3	1	2	3	4	1	2	3	4	5
Karella	1	1	2	3	1	2	3	4	1	2	3	4	5
Dudhi	1	1	2	3	1	2	3	4	1	2	3	4	5
Valore	1	1	2	3	1	2	3	4	1	2	3	4	5

Please, list for me 3-5 of the most consumed vegetables in your household?

List – 5 most consumed vegetables
1.
2.
3.
4.
5.

Do you face challenges sourcing for the most consumed vegetables in your household?

Yes	1	Continue
No	2	Go to Q18
Refused	99	

What are the challenges you face sourcing for these vegetables? Please list up to 3 main challenges?

Challenges faced sourcing for vegetables
1.
2.
3.
4.
5.

Please, list for me 3-5 of the least consumed vegetables in your household?

List OF 3-5 least consumed vegetables
1.
2.
3.
4.
5.

What are the reasons for least consumption of these vegetables in your household?

Reasons for least consumption of some vegetables
1.
2.
3.
4.
5.

Are there vegetables which are never consumed in your household?

Yes	1	Continue
No	2	Go to Q23

List for me 3-5 vegetables which are never consumed in your household?

What are the reasons for non-consumption of these vegetables?

Q21 List of 3-5 never consumed vegetables	Q22 reasons for non-consumption
1.	
2.	
3.	
4.	
5.	

PRODUCT PERCEPTION

I am now going to read some statements that other people have made specifically about VEGETABLES. For each one, I would like you to tell me how much you agree or disagree. For that purpose please use a scale of 1 to 5 where 1 means “completely disagree” , 2 means “disagree” , 3 means ” neither agree nor disagree” , 4 means “agree” and 5 means “completely agree”.

	Completely disagree	disagree	neither agree nor disagree	agree	Completely agree
A meal for people like you	1	2	3	4	5
A nutritious meal	1	2	3	4	5
It is a meal for women	1	2	3	4	5
It is a meal for children	1	2	3	4	5
it is an expensive meal	1	2	3	4	5
It is a cheap meal	1	2	3	4	5
A meal for all	1	2	3	4	5
It is easy to cook/prepare	1	2	3	4	5
It Is easily available	1	2	3	4	5

SECTION 1: GENERAL MEDIA USE

ASK ALL: Which of the following devices or services do you own, or do you use someone else's? INTERVIEWER, TICK ALL THAT APPLY.

		Own	Use somebody else's	Have no access
1.	Mobile Phone	1	2	3
2.	Desk top Computer	1	2	3
3.	Laptop	1	2	3
4.	Tablet	1	2	3
5.	Internet connection	1	2	3
6.	TV	1	2	3
7.	Pay TV service (like TV, DSTV)	1	2	3
8.	Radio	1	2	3
9.	Don't Know	98	98	98
10.	Refuse	99	99	99
11	NONE	CLOSE AND THANK RESPOND		

INTERVIEVER: CLOSE IF HAS NO ACCESS TO ANY DEVICES ABOVE

How frequently do you use the following to get news and information about food in general?

READ OUT

		Daily	Weekly	Monthly	Less often	Never	DK	Can't remember	Refuse to Answer
1.	TV	1	2	3	4	5	98	97	99
2.	Radio	1	2	3	4	5	98	97	99
3.	Newspapers	1	2	3	4	5	98	97	99
4.	Magazines	1	2	3	4	5	98	97	99
5.	Internet	1	2	3	4	5	98	97	99

6.	Social Media	1	2	3	4	5	98	97	99
7.	SMS	1	2	3	4	5	98	97	99
8.	Friends/Family	1	2	3	4	5	98	97	99
9	Others (specify______)	1	2	3	4	5	98	97	99

Where do you obtain information in general about vegetables?

Where do you go most often when in need of information about vegetable stuff?

	Q26. General source of information	Q27.Most often used source
TV	1	2
Radio	1	2
Newspaper	1	2
Magazine	1	2
Posters	1	2
Word of mouth	1	2
Billboards	1	2
Others Specify	1	2

END AND THANK THE RESPONDENT