Ministry of Economic Affairs, Agriculture and Innovation

Research Solutions Africa

REPORT OF A MARKET STUDY ON FRESH VEGETABLES MARKET IN KENYA

RETAILER'S SURVEY

By

Research Solutions Africa (RSA) Ltd

DECEMBER, 2015

Table of Contents

Figures

Definitions

Hypermarkets: defined as a supermarket (with more than 8 cash registers)

Large supermarket: (3-8 cash registers)

Medium supermarket 2 cash registers

Duka: small permanent shop

Convenient/self-service: in a petrol station

1 Background and Objectives

1.1 Objective of the Retailer's Study

The **main objective** of the retail study was to determine the sources of fresh vegetables for Kenyan supermarkets.

The **specific** study objectives were;

- To determine what part of sourcing is directly through smallholders.
- To determine what part of sourcing is through medium- to large-scale agribusinesses that procure from smallholders.
- To determine what part of sourcing is through brokers.
- To determine what part of sourcing is through the open market.
- To determine what part of sourcing is through imports and from where

Further research on the retail study was to determine:

- Sourcing of products across different outlet types (all of them fixed structures where vegetables remain on site overnight).
- Establishing the product range offered in different outlets, perception of high value vegetables, vegetable waste and key factors when choosing vegetable suppliers.

2 Research method

2.1 Study approach and design

The approach used in carrying out the '*Vegetables Retailer's study*' was both consultative and participatory. This was meant to ensure there was adequate contribution by relevant stakeholders including team members. The key driver of this approach was the need to ensure the *output* was an ideal fit in achieving the set study objectives.

Data used in this study were largely from primary sources. It was a quantitative study design and involved the use of pen- and paper-based face to face interviews with retailers distributed in urban areas over a total of three counties. We targeted a total of 520 retailers. In addition, data from desk review and in-depth interviews was incorporated in this report.

2.2 Scope of the Vegetables Retailer's Study

The study covered three counties in Kenya (Nairobi, Nakuru and Mombasa) and focused on respondents at the retail outlets level. The sample was stratified for category, size and 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 Vegetables Retailer's Study Population

Respondents in the sampled outlets included those in procurement/management and also based on their role/mandate in sourcing for vegetables. This included individuals involved in sourcing, stock taking, stores, receivables, quality assurance and commodity security etc. Where more than one respondent was interviewed in an organization, the gathered data was triangulated to reflect the outlet position.

2.4 Sampling

Quotas were set for different outlet types to avoid too many too small outlets. Purposeful sampling was done to ensure that, as stated in the TORs, the survey covered relevant sectors, organizations and individuals. The outlets purposely sampled were stratified for size, the category as highlighted in the TORs. The individual respondents within these organizations were also where possible stratified to answer for sector and divergence in job descriptions/ task/roles and responsibilities, as necessary.

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 TOR, further discussion with team members from RSA/The Dutch Embassy and local market context. The pilot testing of the draft semi-structured questionnaire was done in Nairobi before start of the exercise and informed the development of the final copy.

A copy of the Semi-structured data gathering 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. Overall, 15% of the interviews were back-checked and a further 33% accompanied by a supervisor or a team leader.

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.

Qualitative data collected from the field was analyzed and used to make more specific and generalized observations in addition to that from the findings of the respondent interviews.

In instances where more than one respondent was interviewed in one retail outlet, the responses were triangulated, and the one with more compelling evidence taken to represent the retail.

2.8 Ethical considerations

Voluntary participation was sought from the identified respondents in the outlets. 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 supermarkets needed a lot of flexibility on the part of the study team members. Further, it was not always possible to get convenient appointments to ensure serial and time saving visits to even those retailers especially within Nairobi.

These challenges were overcome by the team becoming more flexible in order to fix and meet the appointments given by the respondents. This meant going to interviews very early in the morning or later in the evening

3 Survey Findings

3.1 Sample Characteristics

A total of 520 retail outlets throughout the targeted three counties in Kenya were visited. Respondents were identified and interviewed within these retail outlets. The primary respondents were those in positions that in some way affect the sourcing of vegetables in the sampled outlets. Retail outlets were categorized under three broad categories. Hypermarkets defined as a supermarket with more than 8 cash registers, large supermarket (3-8 cash registers), medium supermarket (2 cash registers), Duka (small permanent shop) and a convenient/self-service in petrol stations.

	City			
Type of outlet	**Total**	**Nairobi**	**Mombasa**	**Nakuru**
Supermarkets	50	34	5	11
Duka (small permanent shop)	463	265	75	123
Convenient/self-service in a Petrol station	7	7	0	0
Total	**520**	**306**	**80**	**134**

Table 1: Sample distribution across type of outlet and locations

3.2 Sources of vegetables

There are multiple suppliers per product. Retailers often source vegetables from different sources even though this increases their transaction costs.

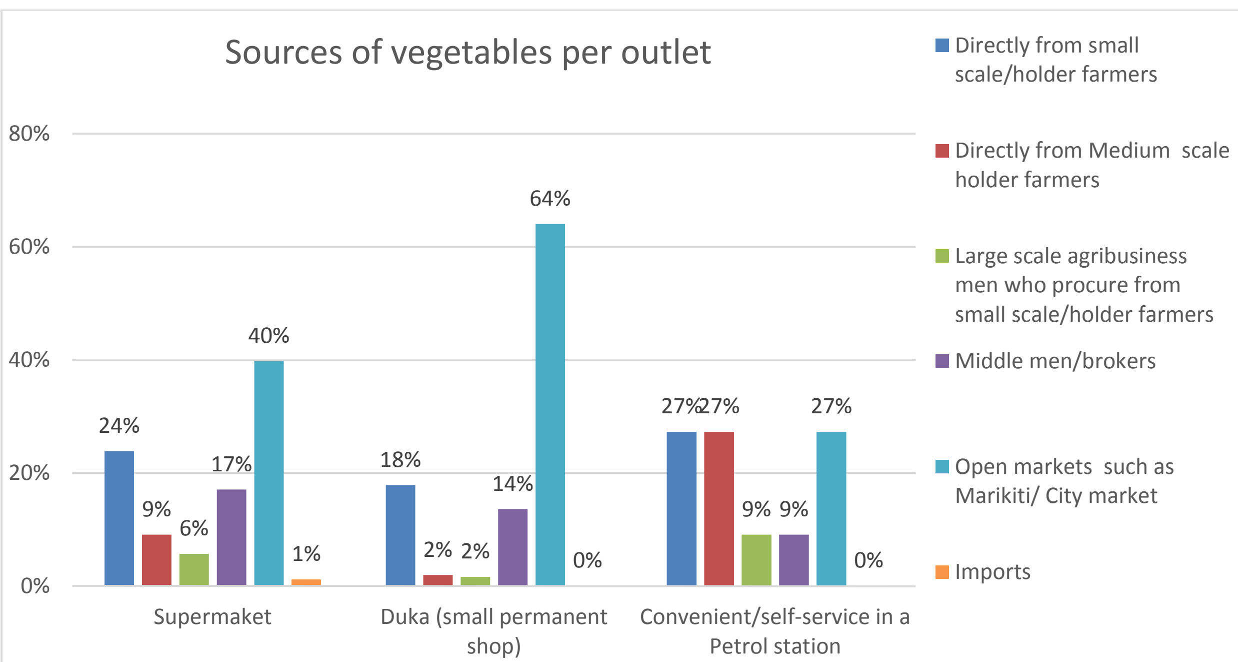

Figure 1: Percentages of purchase sources for Duka's

Duka's

Duka's, mainly greengrocers, source vegetables from the same sources as supermarkets with the same price albeit in small quantities. Duka's main source of vegetables are wholesalers or open markets such as Marikiti or City Hall in Nairobi, Kongowea in Mombasa, Gikomba and Top market in Nakuru. An analysis of the survey results shows that 64% of the surveyed Duka's mainly source from open markets, 18% source directly from small scale/holder farmers while 14% source from middle men/brokers. A paltry 2% of the retailers source from large scale agribusiness men who procure from small scale farmers and also directly from medium scale farmers. Duka retailers interviewed do not import any vegetables.

Supermarkets

An analysis of this survey shows the main sources of vegetables for supermarkets to be open markets as indicated by 40% of the interviewed supermarkets. These were mainly supermarkets which were defined as large supermarkets (3-8 cash registers) and medium supermarket (2 cash registers). The hypermarkets defined as a supermarket (with more than 8 cash registers) mainly source from farmers. 24% of the supermarkets source from small scale holders/famers, 17% of the surveyed retailers source from middle men, 9% sourced directly from medium scale farmers, 6% of the supermarkets reported to source from large scale agribusiness men who source from smallholder farmers. Only 1% of the surveyed retailers indicated to import some vegetables. These were mainly hypermarkets.

Uchumi supermarket chain sources its supplies from individual producers or producer groups who are listed and personally known to the chain. These suppliers to Uchumi are farmers or producer wholesalers. Uchumi's personnel visits the farms to ensure that quality standard in production and harvesting are maintained.

Nakumatt chain of supermarkets and Tuskys chain of supermarkets procures vegetables via Fresh 'n' Juici Company who procures largely from preferred individuals. These preferred suppliers are those able to supply consistently and normally in large quantities thereby contributing to reduced transaction costs. Some of the suppliers/individuals purchase the produce from farmer groups. A supplier who is interested in delivering vegetables has to go through the following stages to be included in the Nakumatt chain:

- Express interest
- Write an application
- Hand it in for review and approval
- Bring in a sample of whatever product they will be supplying
- They are then allowed to continue supplying only in small amounts until the company is satisfied that the standards are met
- After that they are allowed to supply in bulk.

Reasons for selecting sources

The three main reasons why retailers source from different sources include;

- Pricing (referring to better margins)
- Quality of vegetables, and the
- Supplier's ability to meet required quantities as well as all year round supplies.

During the dry season, only a few producers with access to irrigation water grow vegetables. Thus there is high demand during this time making vegetables costly since they are not readily available. The Government of Kenya in collaboration with other stakeholders have been encouraging farmers where possible to engage in staggered and scheduled production to ensure they have the vegetables all year round[1]. The retail outlets demand specific standards for example leaf size and appearance, and sometimes put a premium on the pesticide maximum residue levels for chemicals found in the vegetables. They also demand consistency in supply and prefer to deal with groups rather than individual farmers so as to cut on transaction cost.

Zucchini, one of the main exclusive vegetable and fruits vendor purchases directly from small scale and large scale farmers. They visit firms for assessment of quality standards and the assessment is mainly visual.

3.3 Exclusive vegetable vendors

Exclusive Vegetable vendors

From the results of this survey, retailers sell other products along with vegetables. Of the 520 retailers interviewed in the three cities, Nairobi, Mombasa and Nakuru 73% were not exclusive vegetable vendors as illustrated on figure 2 below. None of the hypermarkets and convenience stores were exclusive vegetable vendors.

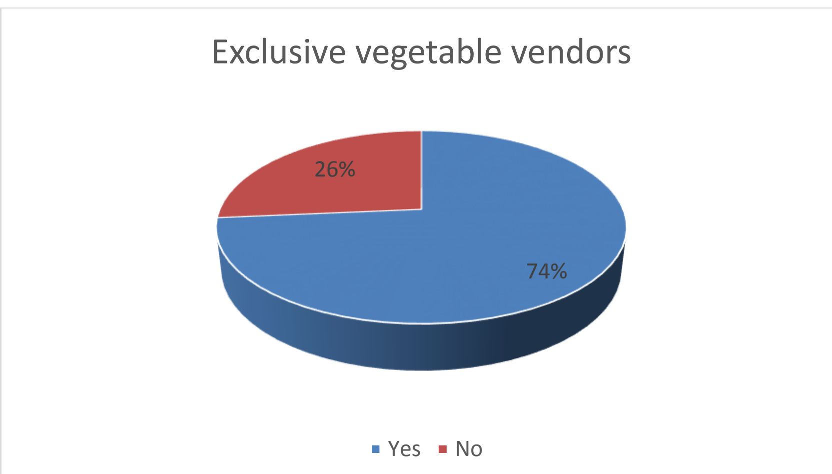

Figure 2: Percentage of retailers who were exclusive vegetable vendors

Exclusive vegetables sellers were greengrocers who operated from Duka's. These vendors were not exclusive per se as they sell vegetables and fruits. Exclusive vegetable vending can be a risky business since most vegetable production in Kenya is rain-fed. In the dry season, farmers adopt risk-avoidance strategies for all year round availability to meet vegetable needs. This includes production along riverbanks, supplementary watering and irrigation. The recent developing greenhouse sectors are slowly ensuring all year round supply to the retailers.

The concept of all under one roof for customer's convenience is seemingly getting established in the Kenyan market. In order to spread risk and maximize on profits in addition to customer's convenience, retailers sell other products in addition to vegetables.

Product range offered in retail outlets

The other items offered apart from vegetables in retail outlets are a wide range which includes: dairy products, food items, toiletries, bakery, electrical appliances, clothes, upholstery etc. Figure 3 below provides a graphical summary of the main items sold in outlets apart from vegetables. The most retailed product other than vegetables is dairy products mentioned by 45% of the surveyed retailers followed by beverages (36%). Even though the least mentioned was furniture, all hypermarkets stocked furniture while none of the Duka's and convenient stores stocked furniture.

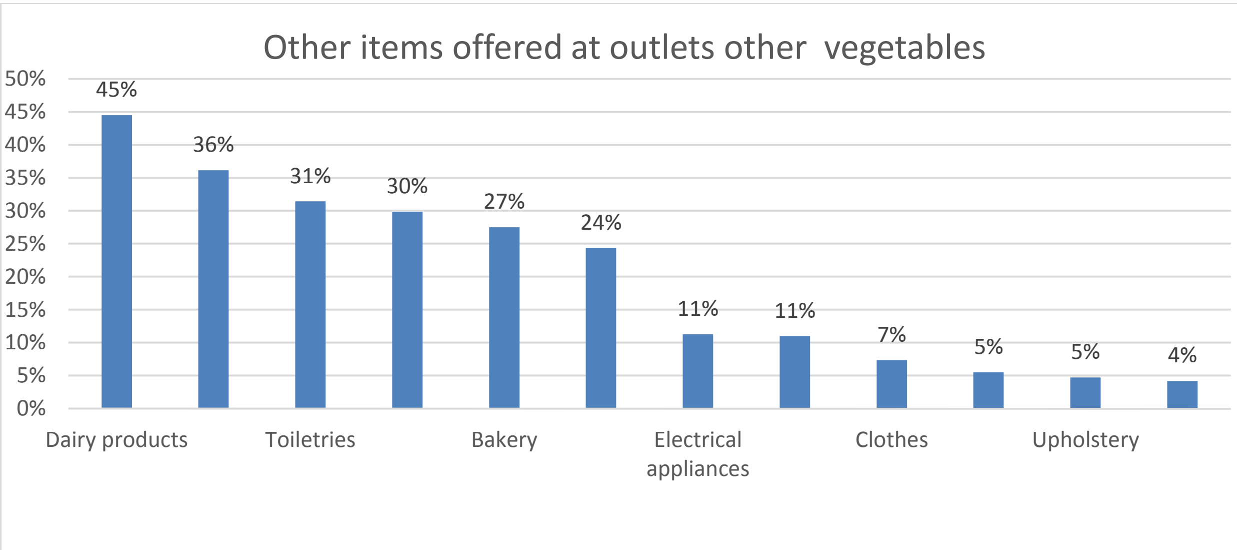

Figure 3: Product range offered in retail outlets other than vegetables

3.4 Vegetable waste

From the results of this survey, majority of the survey outlets experience vegetable waste as reported by 90% of the 520 retailers interviewed. Only 10% indicated not to experience wastage. The waste was established to be experienced at two levels;

- while receiving and sorting vegetables and
- on the shelf.

Wastage on the shelf was reported to be higher than when receiving and sorting out vegetables. In terms of who bears the burden of wastage, it was reported that the supplier bears most of the burden on sorting while the outlet bears the burden on the shelf.

Some hypermarkets and supermarkets like Nakumat and Tuskys do not experience wastage as they lease space to and outsource vegetable and fruits to other vendors or subsidiary organizations.

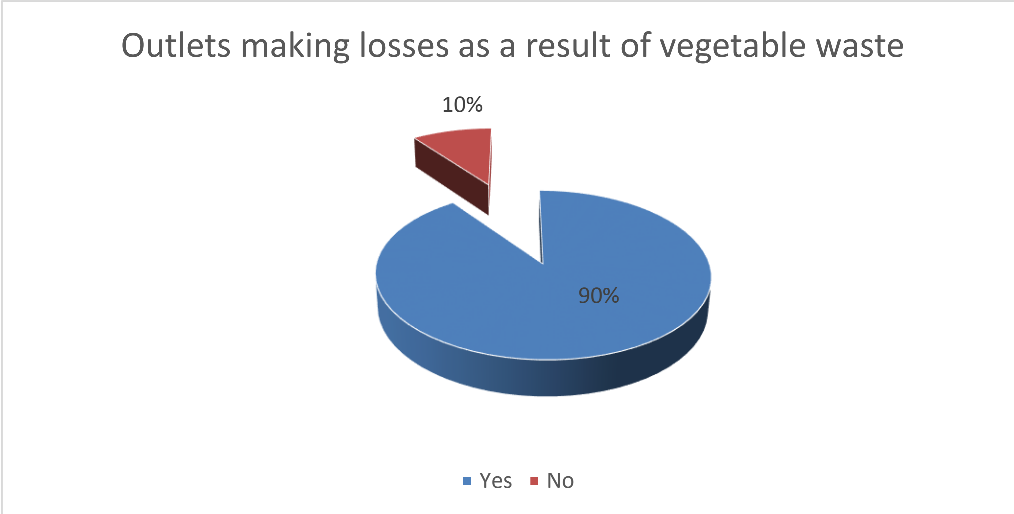

Figure 4: Percentage of outlets making losses as a result of vegetable waste.

The top five vegetables with the most wastage according to this survey by most mentions include; potato (75%), tomatoes (50%), snow peas (50%), French beans (24%) and sugar snaps (14%). This aspect was evaluated by asking respondents to list the top five vegetables with most waste in their outlets considering wastages on receiving & sorting vegetables and waste on the shelf. An aggregation of all mentions across all the 520 outlets gave a list as graphically indicated on figure 5 below.

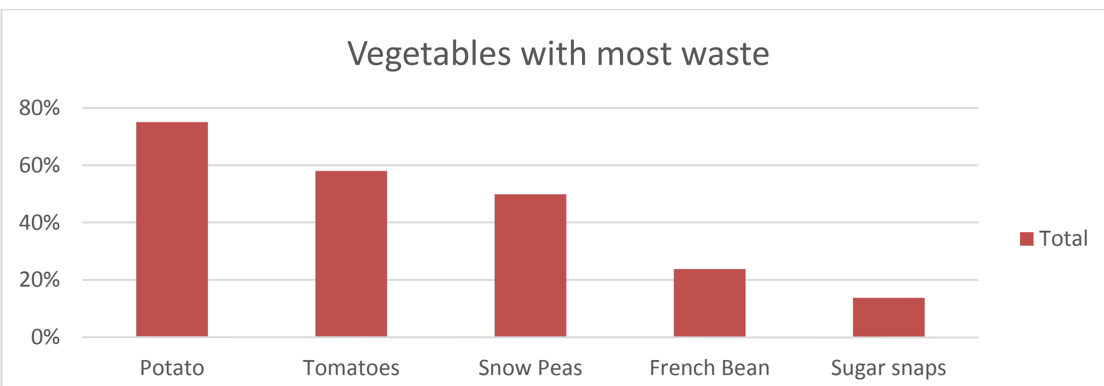

Figure 5: Top five vegetables with the most waste

A further analysis was done on vegetable waste in terms of revenue. The survey respondents were asked to average how much they loose on receiving and sorting of vegetable from suppliers and after the vegetables have gone bad on the shelf. Vegetable losses on the shelf were reported to be higher than on receiving and sorting from suppliers. Convenient stores reported higher losses followed by supermarkets.

Figure 6 below is an illustration of average wastage amount in USD by outlet type.

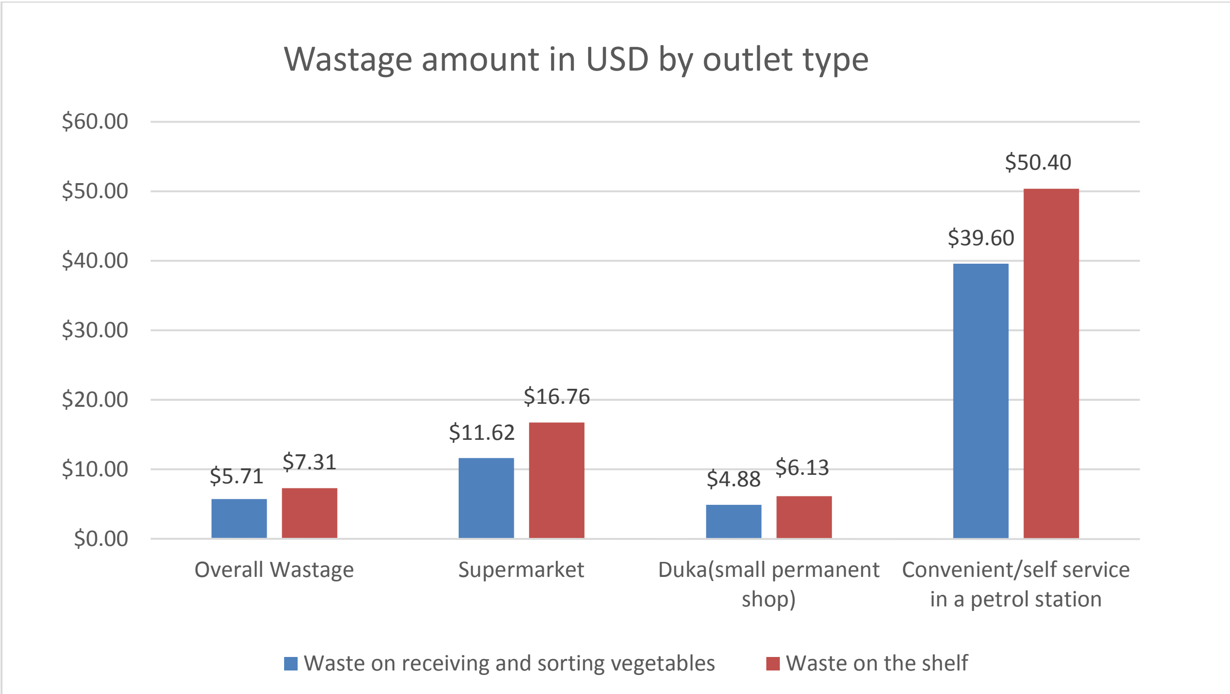

Figure 6: The average amount of lose in USD by outlet type as a result of vegetable waste

Waste management

Presence or absence of storage facilities and the associated technological advancement may be critical to reduction of waste. Good waste management: frequency of collection of waste can be used as a measure of good waste management practices. It is an indicator of awareness by all concerned on the need for a clean environment.

3.5 Key vegetable products

The Kenyan market for vegetables has seen an increased growth over the last years. Recent developments in terms of organic foods and consumers' appreciation of healthy food is likely to bring further growth to vegetable consumption creating a demand especially from high end consumers. With a seemingly increased disposable income for the middle, upper middle and high end consumers and a growing economy there is a market for fresh vegetables segment.

This survey sought to establish key products offered at retail outlets. This aspect was assessed by asking the survey respondents to list vegetables which were premium (high value) in terms of margins and turnover.

Overall, the most common vegetables were said to be of high value in terms of both margins and turnover in all retail outlets. Asian vegetables were reported to be of least value in terms of margins and turnover in all outlets.

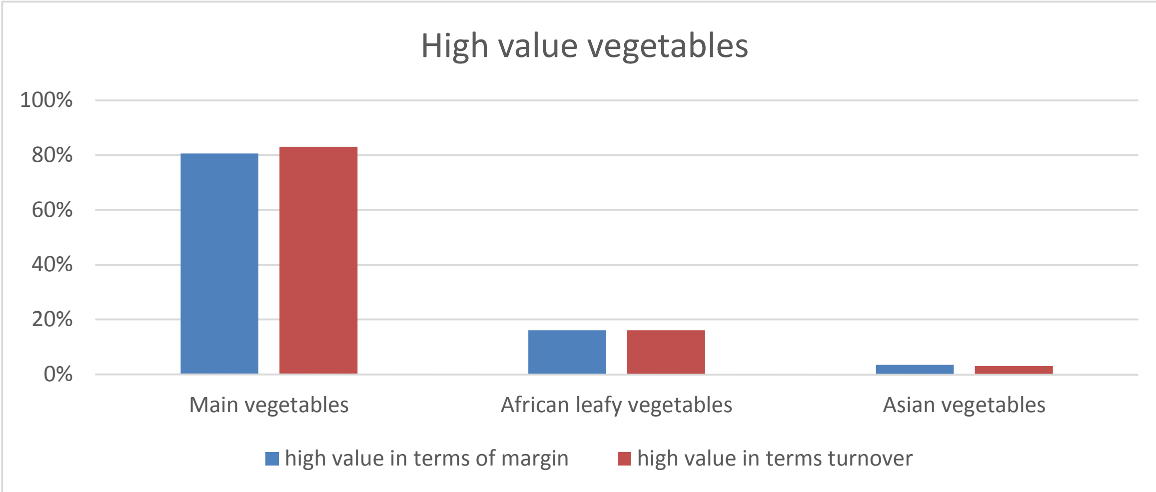

Figure 7: High value vegetables in terms of margin and turnover

The study results show that tomatoes were ranked as the highest value vegetable in terms of turnover and margins. An analysis of this aspect was done by collating most mentions from all the retailers interviewed and averaging the same. They were asked to each mention the five high value vegetables in terms of turnover and margins. In terms of turnover the following vegetables were considered high value in ranking order: tomatoes, kale, spinach, onions, cabbage, potato, carrot. Vegetables with high value in terms of margin include; tomatoes, onions, kale, potato, cabbage, spinach and carrot.

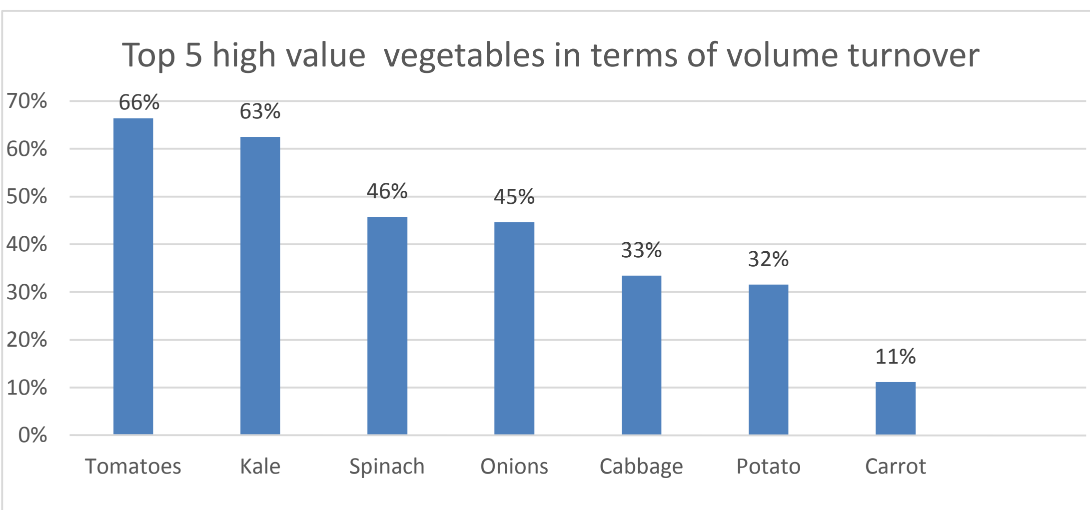

Figure 8: High value vegetables in terms of volume turnover

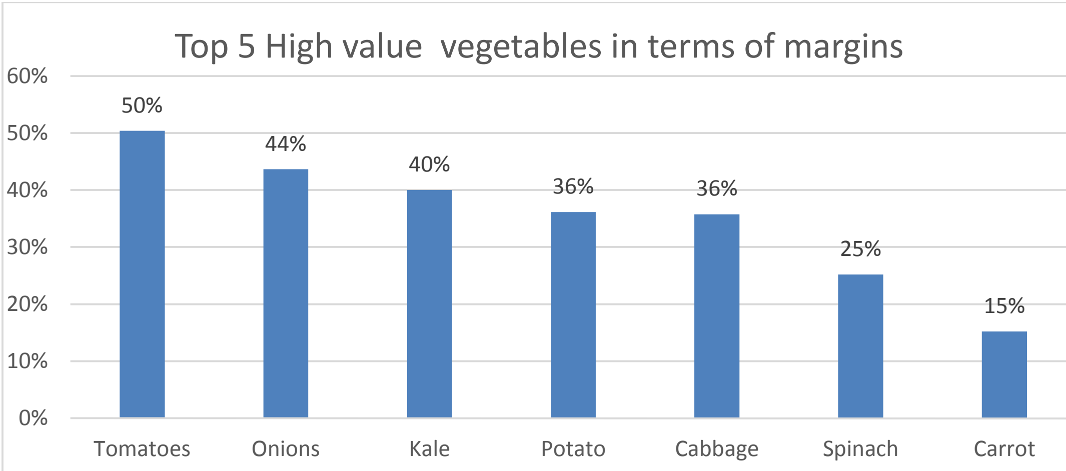

Figure 9: High value vegetables in terms of margins

The importance of premium vegetables is significant to the major players within the vegetable segment and the potential players in this market. Retailer's main aim is profit making thus the drive to stock high value vegetables. Tomatoes in the Kenyan market are reported to be an important source of vitamins and an important cash crop for both smallholders and medium-scale commercial farmers. Tomatoes act as taste enhancers in food thus, always in high demand both for fresh consumption and processing.

3.6 Interaction with suppliers

This study assessed the kind of interaction between retail outlets and suppliers. A majority of the survey retail outlets (57% of 520 interviewed) had payment arrangements with suppliers. Retailers' choices are driven by consumer needs. It is therefore imperative that retailers and suppliers keep an effective relationship. From the retailer perspective this requires a clear understanding of which suppliers are the most strategic for their vegetable supply needs all year around.

Most of the payment arrangements are a fixed contract basis. 95% of the retailers in this survey had fixed contract with suppliers. Fixed contracts included but were not limited to the following;

- Quantities expected for delivery
- Delivery time
- Standards expected (Quality of vegetables inspected and accepted. For most retail outlets, when vegetables are delivered, the supermarket staffs are trained to select only the best. Any produce that does not meet the standards is given back to the supplier/supplier representative; this implies that the farmer/representative is present from delivery to the selection and the weighing)
- Payment terms

Suppliers to supermarkets do not receive advance payments but are paid on delivery. In Nakumatt (Fresh 'n' Juici), payment is done daily for the suppliers who bring in produce valued not exceeding certain amounts. The rest are paid in a month's time depending on the agreement.

The company does not offer transport services to the suppliers. If, and when a supplier does not meet the set standards, he/she is discontinued from supplying to the company. The company does not provide extension services to farmers. Set standards are dictated by the customers' requirements. Fresh 'n' Juici supplies to all the Nakumatt supermarket branches in Nairobi but not those located in Mombasa. Fresh 'n' Juici also supplies to all the supermarkets operated by Tusker Mattresses Limited trading as Tuskys.

Some retailers may have multiple payment arrangements with suppliers depending on the vegetable and other goods being supplied. Results from this survey confirm that retailers pay highly perishable goods on a cash basis. Payment arrangement with most of the suppliers to Duka's for vegetables is on cash on delivery basis.

3.7 Key factors considered by retailers when choosing vegetable supplier(s)

There is a growing demand for higher quality, external as well as internal quality from consumers. External aspects (presentation, appearance, uniformity, ripeness, and freshness) are the main components in the decision to purchase, which is usually taken when the consumer sees the product exhibited at the sales point. This is particularly important in the self-service systems where the product must "self-sell" and if it is not chosen, represents a loss for the retailer. Internal quality (flavor, aroma, texture, nutritional value, and absence of biotic and non-biotic contaminants) is linked to aspects not generally perceived externally, but are equally important to many consumers[2]. In addition, it is important to note that consumers are becoming more sensitive on environmentally produced vegetables. The existing high value markets for vegetables impose stringent conditions on quality of the produce they purchase. As is evidenced from this survey 77% of the surveyed retail outlets indicate quality of vegetable is a key factor considered when purchasing vegetables.

A list of the key factors considered by retailers when choosing a vegetable supplier include;

- Quality of the product as mentioned by 77% survey respondents
- Margins (46%) and
- Sufficiency with the supplier/ability to consistently supply whether product is in or out of season (42%).

Others in descending order included;

- Lead times (22%)
- Conditions under which vegetables are grown; whether healthy or unhealthy (16%)
- Supplier's proximity to the outlet (15%)
- History with the supplier (12%) and the least considered factor according to this survey was
- Packaging of the product (7%).

Quality of vegetables

Retail outlets assess vegetable quality by physical inspection. Supermarkets have set standards which are largely market driven and are dictated by the prevailing consumer taste and preferences. The quality standards are set for different vegetables. An analysis of this survey show the key quality attributes considered by retailers include:

- Fresh product (94%)
- Right color (75%)
- Ripe product (59%)
- Product uniform (41%).

Others included, clean, neat, not attacked by insects, appropriate length (required length varies for different vegetables). In addition to the said quality attributes set standards include agreed quantities and harvesting conditions. Suppliers who are unable to meet these standards are excluded from the chain.

Other factors crucial for supermarkets are intangible quality attributes such as environmentally friendly production techniques mentioned by 16% of the surveyed retailers, brand reputation of vegetable supplier as mentioned by 12% of the retailers and image of supplier as indicated by 11% of our respondents.

Quality attributes
Tangible quality attributes **Fresh** **Right colour** **Ripe product** **Product uniform** **Size of vegetable leaf** **Texture of vegetable** **Firmness of the product** **Clean** **Neat** **Not attacked by insects**
Intangible quality attributes **Environmentally friendly production techniques** **Brand reputation of vegetable supplier** **Image of supplier**

Margins

Retailers are mainly driven by profit maximization. A margin is therefore a key factor of consideration for both retailers and suppliers. Sufficiency with the supplier's ability to consistently supply product whether product is in or out of season is key. A supplier who is unable to meet demands all year round is easily excluded from the chain. Supplier's proximity to the outlet was reported to be a consideration because of less transport costs and vegetables ability to stay fresh.

3.8 Challenges

Challenges faced sourcing for vegetables by retailers

Results from the survey indicate that 71% of the retailers face challenges sourcing for vegetables. The challenges listed by survey retailers include:

- Accessing quality vegetables: some suppliers deliver vegetables which are not fresh. This is a common seasonality challenge. During harsh weather e.g. rains and dry seasons vegetables are often not fresh. Retailers therefore have to return vegetables on receiving and sorting at the retail outlet or run low on supply when vegetables aren't fresh on the shelves.
- Limited supply: adequate supply of vegetables is often hindered by the absence/lack of adequate storage facilities by suppliers and their ability to handle large quantities required by retailers as well as lack of storage facilities and the associated technological advancement to enable farmers produce large quantities of vegetables required by outlets. Suppliers' inability to meet demand either by delivering less quantity than ordered or not delivering at all.
- Seasonality of vegetables presents challenges of plenty during on season (thus low purchase price) and scarcity during off season (leading to high purchase prices). The high purchasing cost coupled with price fluctuations/variations makes it difficult for retailers to put a mark up on them.
- Lead time long/late delivery by some suppliers.
- Unpredictable customer demands/sudden upsurge on particular vegetables creating scarcity.

Challenges faced selling vegetables

- Consumer demands quality in terms of appearance, freshness, presentation as well as nutritional value and safety. While consumer's opinion is becoming more and more important, it is no longer sufficient for a product to be technically perfect and produced in an economically profitable way, it is also necessary to satisfy the consumers' expectations of quality.
- Different consumers have different expectations on quality based on individual perception of quality. Meeting the wide variety in expectation is a challenge to retailers.
- Short shelf life because of high perishability; if vegetables don't move from the shelf once they are stocked they become wastage and losses are incurred.
- Lack of awareness on different types of vegetables.
- Pests like rodents cause huge loss.

4 Overall Conclusions

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

- Sourcing: There are multiple suppliers per product. Retailers often source different vegetables from different sources even though this increases their transaction costs. An analysis of this survey shows the main sources of vegetables for supermarkets to be open markets as indicated by 40% of the interviewed supermarkets. 24% of the supermarkets source from small scale holders/famers. The hypermarkets defined as a supermarket (with more than 8 cash registers) mainly source from farmers. Hypermarkets outsource vegetables retailing to either subsidiary firms or other firms. The majority of Duka's (64%) source from open markets, followed by small-scale farmers (18%) and brokers (14%).

- Quality: There is a growing demand for higher quality, external as well as internal quality from consumers. External aspects (presentation, appearance, uniformity, ripeness, and freshness) are the main components in the decision to purchase, which is usually taken when the consumer sees the product exhibited at the sales point.

- Selection of suppliers: Key factors considered when choosing vegetable suppliers: As is evidenced from this survey 77% of the surveyed retail outlets indicated quality of vegetable is a key factor considered when purchasing vegetables. The key factors considered by retailers when choosing a vegetable supplier include; quality of the product as mentioned by 77% survey respondents, Margins 46% and sufficiency with the supplier/ability to consistently supply whether product is in or out of season 42%. Others in descending order includes lead times (22%), conditions under which vegetables are grown; whether healthy or unhealthy (16%) suppliers proximity to the outlet (15%) history with the supplier (12%) and the least considered factor according to this survey was packaging of the product 7%.

  Suppliers who are unable to keep up with the quality and quantity demanded by the markets are excluded from the chain. Collective action by some farmers who are suppliers has promoted their inclusion in the chain. Access to water is essential if farmers at all levels but more specifically if small scale farmers are to sustain their inclusion in the supply chain, by consistently supplying large quantities.

  Presence or absence of storage facilities and the associated technological advancement may also be critical to reduction of waste and deterioration of quality. Lack of credit, poor infrastructure, and lack of market information may all curtail the ability of the market actors in the value chain to improve or increase the supplies.

- Key products: Overall, the most common vegetables were said to be of high value in terms of margins and turnover in all retail outlets. Asian vegetables were reported to be of least value in terms of margins and turnover in all outlets. The following vegetables were considered of high value in terms of turnover; tomatoes, kale, spinach, onions, cabbage, potato, carrot while high value in terms of margins included; tomatoes, onions, kale, potato, cabbage, spinach and carrot.

- Retail landscape: Duka's seem to dominate the retail landscape in Nairobi, Mombasa and Nakuru. Supermarkets are increasingly becoming visible as a trend towards one stop shop shopping continues to grow in the Kenyan market. Most supermarket chains like Uchumi, Nakumat, Tuskys and Ukwala, as well as other smaller estate supermarkets are important outlets for vegetables especially for the working upper and middle class who have little time to visit the open air and seemingly congested Nairobi City Council markets. The outlets offer lower prices and a huge choice of products. Nakumat and Chandaria have started door step deliveries, but this service is not yet common in the Kenyan vegetable market.

- Challenges: Results from the survey indicate that 71% of the retailers face challenges sourcing for vegetables. The challenges listed by survey retailers include; accessing quality vegetables, limited supply and seasonality of vegetables

5 Bibliography

(1) Accessed from [http://www.ijhssnet.com/journals/Vol._1_No._8;_July_2011/23.pdf page 6](http://www.ijhssnet.com/journals/Vol._1_No._8;_July_2011/23.pdf).

(2) FAO Corporate document repository, Produced by: Agriculture and Consumer Protection.
Title: Manual for the preparation and sale of fruits and vegetables

6 Annexes

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

Retailer's Questionnaire
ADMINISTRATIVE INFORMATION

Questionnaire number		
Date of interview:		
Time of interview: (*24 hr clock*)	**Start**	**Stop**
Name of interviewer:		

City	**Nairobi**	**Mombasa**	**Nakuru**
	1	**2**	**3**
County			
Physical Location			

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 quota	2	2	2
Respondent not able to be interviewed	3	3	3
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 Retailer's opinions around some or all of fresh vegetable products. 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 questionnaire is likely to take 30 minutes or less.

Intro: To be eligible for the survey we looking to talk to people who have certain responsibilities, could you please tell me if you are;

Owner	
Manager	
Supervisor	
None of the above	Ask to talk to the person responsible for making purchase/sourcing decisions

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. Do you stock vegetables in your outlet(s)?

Yes	1	**CONTINUE**
No	2	**STOP**

Q1. Type of outlet **[INTERVIEWER: FOR PURPOSES OF THIS SURVEY WE WILL RESTRICT OUR INTERVIEWS TO OUTLETS WITHIN BUILDINGS]**

Outlet type	code
Hypermarket (more than 8 cash registers)	1
Large supermarket (3-8 cash registers)	2
Medium supermarket (2 cash registers)	3
Small supermarket (1 cash register)	4
Duka (small permanent shop)	5
Convenient/self-service in a Petrol station	6

Q2. Outlet name

I'd like to start by asking you some questions about vegetables in your outlet.

Q3. Please look at the list of vegetables on this show card and tell me all that you usually stock in your outlet? **INTERVIEWER: CIRCLE YES OR NO**

Q4. From <u>whom</u> did you usually purchase/source your vegetables? **SOURCE**

SHOW CARD WITH LIST OF VEGETABLES

LIST OF VEGETABLES SHOW	Q3 Usually stocked		Q4 Directly from small scale/holder farmers	Directly from Medium scale holder farmers	Large scale agribusiness men who procure from small scale/holder farmers	Middle men/brokers	Open markets such as Marikiti/ City market	Imports Specify___	6 Other SPECIFY
Main Vegetables	Yes	No							
Potatoes	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Tomatoes	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Snow Peas	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
French Bean	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Sugar Snaps	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Spinach	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Runner Beans	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Cabbage	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Kale	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Garden Pea	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Carrot	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Courgettes	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Sweet Pepper	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Broccoli	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Butternut Pumpkin/squash	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Baby corn	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Lettuce	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Cauliflower	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Beetroot	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Cucumbers	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Radish	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Turnip	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Mushrooms	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Onions	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Ginger	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
coriander	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________

Garlic	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
African leafy vegetables									
Leaf Amaranth	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Grain Amaranth	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
African Nightshade	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Cowpea leaves	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Jute mallow	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Pumpkin leaves	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Pumpkin fruit	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Rattle pod	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Spider plant	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Asian vegetables									
Aubergines	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Okra	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Karella	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Dudhi	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________
Valore	1	2	1	2	3	4	5	6. Specify____________	7 Specify______________

VEGETABLE WASTE

Q5. Apart from vegetables, do you sell anything else in your outlet?

Yes	1	**Continue**
No	2	**Go to Q7**
Can't remember	97	
Don't know	98	
Refused to answer	99	

Q6. What else do you sell at your outlet?

	code		**code**
Electrical appliances	1	Upholstery	8
Clothes	2	Cosmetics	9
Dairy products	3	Bakery	10
Stationery	4	Toiletries	11
Furniture	5	Beverages	12
Hardware	6	Others	13
Pay Bills	7	Refused to answer	99

Q7. Does your outlet experience losses in terms of vegetable waste? **INTERVIWER IF A CHAIN OF OUTLETS ASK FOR THE MAIN OUTLET**

Yes	1	**Continue**
No	2	**Go to Q11**
Can't remember	97	
Don't know	98	
Refused to answer	99	

Q8. On average, how much do you loose in terms of money on vegetable waste on receiving and sorting of vegetables from your supplier? **PER DELIVERY**

Q9. And how much do you loose after the vegetables have gone bad on your shelf?
INTERVIEWER: DO NOT ASK FOR NONE

	Q8	**Q9.**
	Amount (Kshs)	**Amount (Kshs)**
On receiving and sorting of vegetables from your supplier		
After the vegetables have gone bad on your shelf		
None	96	
Can't remember	97	97
Don't know	98	98
Refused to answer	99	99

Q10. List for me the top 3-5 vegetables with the most vegetable waste?

Vegetables with the most waste	code
	1
	2
	3
	4
	5

PREMIUM VEGETABLES

Q11. Of the vegetables you usually sell in your outlet, please list for me 3-5 vegetables which you consider **premium products** in terms of **volume turnover**?

1.
2.
3.
4.
5.

Q12. Also list for me 3-5 vegetables which you consider **premium** in terms of **good margins**?

1.
2.
3.
4.
5.

INTERACTION WITH SUPPIERS

Q13. Do you have payment arrangement (s) with your vegetable supplier(s)?

Yes	1	**Continue**
No	2	**Go to Q22**
Can't remember	97	
Don't know	98	
Refused to answer	99	

Q14. What payment arrangement (s) do you have with your vegetables supplier(s)? **MULTIPLE ANS.**

Contract (fixed)	1	**Continue**
Contract (flexible)	2	
Cash payment (Cash on delivery)	3	
Credit facility	4	
Other specify ________________	96	
Don't know	98	**Go to Q22**
Refused to answer	99	

REFER TO QUESTION 4, TICK AS APPROPRIATE AND ASK Q15-Q20 FOR ALL MENTIONED

Q15. What payment arrangement do you have with small **scale/holder farmers?**

Q16. What payment arrangement do you have with **Medium scale holder farmers?**

Q17. What payment arrangement do you have with **Large scale agribusiness men who procure from small scale/holder farmers?**

Q18. What payment arrangement do you have with **Middle men/brokers?**

Q19. What payment arrangement do you have with **open markets sellers such as Marikiti/City market?**

Q20. What payment arrangement do you have with **Importers**?

Q21. What payment arrangement do you have with **others ______________**?

		Q15	**Q16**	**Q17**	**Q18**	**Q19**	**Q20**
	Refer to Q4 and tick in row as appropriate	**Small scale/ holder farmers**	**Medium scale holder farmers**	**Large scale agribusiness men who procure from small scale/holder farmers**	**Middle men/ brokers**	**Open markets sellers such as Marikiti/City market**	**Import**
Weekly contracts		1	1	1	1	1	1
Monthly contract		2	2	2	2	2	2
Quarterly contract		3	3	3	3	3	3
Cash on delivery		4	4	4	4	4	4
Others specify___________		5	5	5	5	5	5
Not applicable		96	96	96	96	96	96
Can't remember		97	97	97	97	97	97
Don't know		98	98	98	98	98	98
Refused		99	99	99	99	99	99

Q22. What are the key factors you consider when choosing your vegetable supplier(s)?

Q23. **INTERVIEWER READ OUT THE LIST AND RECORD**...Do you consider [……..]?

KEY FACTORS CONSIDERED	**Q22 SPONTANEOUS MENTIONS**	**PRO ME**
Margins	1	
Lead times	2	
Sufficiency with the supplier/ability to consistently supply whether product is in or out of season	3	
Volume (suppliers ability to meet the required volumes)	3	
Conditions under which vegetables are grown (healthy/unhealthy)	4	
Suppliers proximity to the outlet	5	
Packaging of the products:	8	
History with the supplier	6	

Quality products *[**The tangible quality attributes** such as, freshness, quality, colour, ripeness, packaging, etc which affect appearance and make produce more appealing or attractive compared to similar products]* *[**Intangible quality attributes** such as, environmentally friendly production techniques, brand reputation, image of the supplier, etc.]*	7	

Q24. **INTERVIEWER IF CODE 7 QUALITY IS MENTIONED THEN ASK**; thinking of vegetables, what do you consider as 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	5
brand reputation of vegetable supplier	6
Image of supplier	7
Others specify ________________________	8

Q25. Do you face challenges sourcing for vegetables?

Yes	1	**Continue**
No	2	**Go to Q28**
Don't know	98	
Refused	99	

Q26. What are the challenges you face sourcing for vegetables? Please list 3-5 main challenges? **ATLEAST 3**

Q27. Which supplier(s) do you face these challenges from? **INTERVIEWER: CIRCLE ALL THAT APPLY**

Q26	**Q27**				
Sourcing main challenges	**Small scale/holder farmers**	**Medium scale holder farmers**	**Large scale agribusiness men who procure from small scale/holder farmers**	**Middle men/ brokers**	**Open markets sellers such as Marikiti/City market**
	1	1	1	1	1
	2	2	2	2	2
	3	3	3	3	3
	4	4	4	4	4
	5	5	5	5	5
Other specify_____________	96	96	96	96	96
Can't remember	97	97	97	97	97
Don't know	98	98	98	98	98
Refused	99	99	99	99	99

Q28. Do you face challenges selling vegetables?

Yes	1	**Continue**
No	2	**Go to Q30**
Don't know	98	
Refused	99	

Q29. What are the challenges you face selling vegetables at your outlet? Please list up to 3 main challenges?

Selling - main challenges
1.
2.
3.
4.
5.

Q30. In closing, what advice would you give to someone venturing in the vegetables business in Kenya?

OTHER DEMOGRAPHICS

D1. Position of Interviewee in firm ________________________________

D2: Telephone number of the respondent/outlet____________________

THIS IS THE END OF THE INTERVIEW. THANK RESPONDENT AND CLOSE