Research Report

DFID-CPHP Project R7485

Facilitating the effective production and marketing of processed food products by small-scale producers in Zimbabwe (Project R7485)

Output 3.1 Report on retail survey: Assessment of existing market for processed fruits and vegetables

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Facilitating the effective production and marketing of processed food products by small-scale producers in Zimbabwe

Output 3.1 Report on retail survey: Assessment of existing market for processed fruit and vegetables[2]

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1. INTRODUCTION

1.1 Background

Previous research suggests that small-scale processing of food products represents an important potential source of livelihood for the poorest people in Sub-Saharan Africa. Value-addition via the adoption of improved and validated processing technologies, may help small-scale horticultural producers overcome some of the problems experienced in the fresh produce market (such as lack of market information and market integration, reliance on spot markets, transport constraints and wastage), and provide them with an alternative and/or additional means of marketing their crop.

Consumer demand for processed food products is rapidly expanding throughout Sub-Saharan Africa (Richter, Basler and Franzen, 1996; SMALLFOOD, 1999). The growing popularity of convenience and snack foods in urban areas in particular has provided opportunities for peri-urban-based poor people to benefit from using processing technologies to satisfy these demands. In some cases these products are manufactured equivalents of products that were traditionally produced by large-scale manufacturers, such as cassava starch or maize meal. In others they are non-traditional and typically more highly processed products (e.g. snack products) that are either imported or produced domestically.

Zimbabwe's urban population is growing at 5% per year (EIU, 1998; CSO, 1994), increasing the demand for food in urban areas. The population of Harare has grown by more than 6% per annum since 1982 (CSO, 1998), totalling approximately 2 million inhabitants (including Harare's Chitungwiza town) by 1998. Urban population growth shall no doubt impact upon consumption patterns, as a growing percentage of Zimbabwe's inhabitants are unlikely to have access to land to provide for subsistence needs.

Although relatively little is known about the specific changes in urban food demand in developing countries, evidence would seem to suggest that the nature of food demand is likely to change. In general, urbanisation and demographic change may have significant effects on both the quality and quantity of food demanded. Research suggests that urban consumers—particularly middle-class consumers, may be prepared to pay for higher-value food products (such as meat and fruits and vegetables), as well as for food that passes more stringent norms of hygiene and safety (Dia, 1997; Wiggins, Otieno, Proctor and Upton, 2000). Further, as food habits change, the type of products requested by consumers and the ways in which they are purchased may also change (Aragrande, 1997).

Urbanisation for example, is likely to mean an increase in the proportion of meals taken outside the home, and therefore to a rise in the demand for catering, convenience and snack foods, as those at work are unable to return for midday meals (Dia, 1997; Wiggins *et al*, 2000; Griggs, 2000). Consumption of ready-made items, whether at home, in the street, at the workplace or in school, or in small restaurants, has become a common feature of consumption patterns in urban areas of West Africa for example (Dia, 1997). The need to commute to distant work places has stimulated a strong reliance on street food (FAO, 1999).[6] Research suggests that street foods are a growing sector of the processed foods market (Natural Resources International, 2000).

[6] Urban households often incur substantial travel costs (time and money), since transportation and communication systems in most cities are poor and inefficient. This imposes limitations on home consumption of meals (Wiggins *et al.*, 2000).

Furthermore, changes in the urban way of life may lead to an increase in the number of women who participate in the labour market, and who have correspondingly less time to spend preparing foodstuffs for household consumption (FAO, 1999; Wiggins *et al.*, 2000). Convenience foods and/or processed foods are likely to be preferred, as they usually require less preparation time compared to fresh produce. In the case of horticultural produce this may mean an increase in the demand for convenience products such as frozen (washed and sliced or diced), pre-packed (and ready to cook) or pre-cooked vegetables, pre-prepared soup mixtures, fruit juices and jams for example.

Evidence from Zimbabwe suggests that food habits and tastes are changing fast, pressurising producers to change their cropping patterns (Sena, 1997). Sena (Ibid.) suggests that some households have switched from the conventional fresh greens (rape, cabbage, spinach and green beans) and starchy staples (e.g. *sadza*)[7], to a diet with a higher consumption of non-traditional foods such as cauliflower, broccoli, squashes, mange tout, baby marrow and fresh fruit (Ibid.). Factors encouraging increased horticultural production for the domestic market in Zimbabwe for example, include increased urban demand as a result of increasing urbanisation, the growth of the middle class in Zimbabwe and related changes in consumer tastes (Poole, Kydd, Loader, Lynch, Poulton and Wilkin, 1999; Sena, 1997).

Little is known however, about the demand for processed fruit and vegetable products across Zimbabwe. Greater knowledge of the nature of consumer demand for processed horticultural products is needed in order that farmers may access the potential markets for processed products and enhance their livelihoods through value-adding activities for example.

1.2 The demand for processed fruits and vegetables

The project proposes to consider consumer issues relating to processed fruit and vegetable products. The **main aim of this phase** of the study is:

- To assess the current and potential market for processed products based on horticultural and/or fruit crops.

Essentially the research shall focus on existing and potential demand for processed fruits and vegetables in general, among consumers in peri-urban areas of Zimbabwe. However, particular attention shall be given to the study products, i.e. jams/marmalades and dried fruits and vegetables.

[7] A staple food of thick white porridge, made from maize meal.

1.3 Research methods adopted to study consumer demand

The research relating to consumer demand for processed fruit and vegetable products in urban/peri-urban areas of Zimbabwe will be carried out in three stages. These are as follows:

1.3.1 Retail survey

The first stage of empirical data collection aims to assess the existing market for processed products based on horticultural and/or fruit crops in peri-urban areas of Zimbabwe. Current demand for processed fruits and vegetables was essentially assessed through a survey of existing products on the market in Zimbabwe, for example products that currently are largely supplied by medium- and large-scale manufacturers to formal retail outlets particularly in urban areas. The survey was conducted across a random sample of retail outlets across high-, medium- and low-density areas of Harare in order to reflect any differences in the availability of processed fruits and vegetables by income area.

1.3.2 Focus group discussions

Focus group discussions shall be conducted with groups of consumers in order to appreciate consumer perceptions relating to processed fruits and vegetables currently on the market in Zimbabwe, including products processed by large, medium and small-scale processors. Discussions shall focus on consumer issues such as standards, food safety, quality, taste and the cost of processed fruit and vegetable products. The focus groups shall be conducted with female heads of households in the greater metropolitan area of Harare, given that these individuals are essentially those responsible for the purchase of food products consumed within the household. It is anticipated that 6 focus groups will be conducted in all, with each group being made up of at least 8 females. In order to capture differences in consumption patterns across high-, middle- and low-income households, focus groups will be differentiated by income levels. The focus group participants shall also be differentiated by generation, in order to capture any differences in the eating habits of older and younger generations of urban households. It is also anticipated that the focus groups shall be differentiated by ethnic origin, in order to capture any differences in eating habits that may be culturally specific.

1.3.3 Consumer survey

Finally, the potential demand for processed fruits and vegetables will be assessed through an administered survey of consumers in urban/peri-urban areas in Zimbabwe. The findings from the retail survey and the focus group discussions shall be used to design the survey instrument. The survey will be piloted with a group of 25 households and subsequently refined. The survey will be conducted with a total of 500 households across the greater metropolitan area of Harare, with households in high, medium and low-density areas, in order to appreciate any differences in consumption patterns owing to household income group.

2. THE RETAIL SURVEY

2.1 Objectives of the retail survey

The retail survey instrument was designed to capture a range of information relating to the characteristics of processed fruit and vegetable products currently on the market in urban areas of Zimbabwe.[8] Of particular interest to the study was the type of processed fruit and vegetable products on the market, brand names, price, packaging characteristics, SAZ accreditation, and labelling of products for example. Essentially the specific objectives of the retail survey were:

- To consider the existing urban market for processed fruit and vegetable products.
- To consider the range and diversity of processed horticultural products currently on the market (and in particular that relating to the study products—dried fruits and vegetables and jams/marmalades).
- To consider issues relating to the labelling and packaging of processed fruit and vegetable products.

2.2 Types of processed fruit and vegetable products surveyed

The survey was conducted across a random sample of retail outlets or retailers (34 in total) across the greater metropolitan area of Harare and covered a total of 184 food items. Given the specific focus of the project, the survey was only conducted for a particular set of products that were defined in advance. Of particular interest were jams, juices, dried fruit and vegetable products, canned or bottled fruits and vegetables and other preserves. Table 1 considers the range of products that were included in the survey.

Table 1. Product categories included in the retail survey

FRUITS	• Dried fruit (including dried fruit products for cooking, e.g. packs of sultanas; also snack products such as fruit confectionery, fruit rolls etc.) • Fruit juices (though not squashes or cordials) • Fruit jams/jelly/marmalades etc. • Canned/bottled fruits in juice/water etc. • Other preserves: Relish/chutney/pickles etc.
VEGETABLES	• Dried vegetables (individual packs of dried vegetables, e.g. dried mufushwa, dried soup mixtures) • Juices made from vegetables • Jam made from vegetables • Canned/bottled vegetables in brine, water, juice etc. • Other preserves: Relish/chutney/pickles/soups etc.

[8] Please refer to Appendix 1 which displays the survey instrument used in the study.

2.3 The retail outlets

A total of 34 retail outlets/retailers were surveyed across high-, medium- and low-density regions within the greater metropolitan area of Harare. The distribution of the outlets across the various density areas is highlighted in Table 2 below. The majority of outlets surveyed were supermarkets, and stalls or kiosks in formal markets. Table 4 details the names and location of all the outlets surveyed.

Table 2. Type of retail outlets surveyed across high-, medium- and low-density areas

TYPE OF OUTLET/ RETAILER	LOW	MEDIUM	HIGH	TOTAL	TABLE %
Supermarket	4	4	4	12	35.3
Grocer/General store			2	2	5.9
Speciality shop/Tourist outlet	1	1		2	5.9
Stall/Kiosk in formal market*			12	12	35.3
Informal market/Street trader		3	1	4	11.8
Other	1	1		2	5.9
Total	6	9	19	34	100.0

Note: *A formal market was defined as a market where a fee was paid to the local council for the use of the stall/kiosk to sell goods

There was almost an equal distribution of food items between low-, medium and high-density outlets given that they accounted for 30%, 40% and 30% of the cases recorded respectively (Table 3). Almost 70% of the items recorded were found in supermarkets, which is perhaps not surprising given the propensity of supermarkets to stock a wider range of food items than other retail outlets. Stalls and kiosks in formal markets accounted for 12% of the food items recorded.

Table 3. Number of products recorded across retail outlets in high-, medium- and low-density areas

TYPE OF OUTLET/ RETAILER	LOW DENSITY			MEDIUM DENSITY			HIGH DENSITY			TOTAL		
	Count	Column %	Table %	Count	Column %	Table %	Count	Column %	Table %	Count	Column %	Table %
Supermarket	46	82.1%	25.0%	55	75.3%	29.9%	24	43.6%	13.0%	125	67.9%	67.9%
Grocer/General store							8	14.5%	4.3%	8	4.3%	4.3%
Speciality shop/ Tourist outlet	2	3.6%	1.1%	10	13.7%	5.4%				12	6.5%	6.5%
Stall/Kiosk in formal market							22	40.0%	12.0%	22	12.0%	12.0%
Informal market /Street trader				4	5.5%	2.2%	1	1.8%	.5%	5	2.7%	2.7%
Other	8	14.3%	4.3%	4	5.5%	2.2%				12	6.5%	6.5%
Total	56	100%	30.4%	73	100%	39.7%	55	100%	29.9%	184	100%	100%

Table 4. Name and location of retail outlets surveyed

CODE	TYPE OF OUTLET	NAME OF OUTLET	LOCATION
LOW DENSITY			
1	Supermarket/Grocer	Bon Marche	Borrowdale
1	Supermarket/Grocer	TM Supermarket	Groombridge Shopping Centre
1	Supermarket/Grocer	TM Supermarket	Borrowdale
1	Supermarket/Grocer	Wichendon	Domboshawa Rd
2	Speciality shop/Tourist outlet	BP shop, Helensville	Borrowdale
6	Other	Groombridge Service Station	Groombridge Shopping Centre
MEDIUM DENSITY			
1	Supermarket/Grocer	TM Supermarket	Avondale
1	Supermarket/Grocer	Athlentis Supermarket	Fife Avenue Shopping Centre
1	Supermarket/Grocer	Bon Marche	Avondale
1	Supermarket/Grocer	Classic Supermarket	Five Avenue Shopping Centre
3	Speciality shop/Tourist outlet	Top Set Vegetable Market	Fife Avenue Shopping Centre
5	Informal Market/Street trader	Street trader	Waterfalls Shopping Area, Vegetable market
5	Informal Market/Street trader	Street trader	Ashdown Park Shops
5	Informal Market/Street trader	Street trader	Avondale Shops
6	Other	Here's Health Herbal Pharmacy	Fife Avenue Shopping Centre
HIGH DENSITY			
1	Supermarket/Grocer	Spar	Budiriro Shopping Centre
1	Supermarket/Grocer	Spar	Hatcliffe
1	Supermarket/Grocer	Current Quick Serve	Hatcliffe
1	Supermarket/Grocer	GGM Supermarket	Hatcliffe
2	Grocer/General store	Musanhi Store	Mbare Musika
2	Grocer/General store	Kumukira General Store	Mbare Bus Terminus
4	Stall/Kiosk in formal market	Stall 196	40th Street, Hatcliffe
4	Stall/Kiosk in formal market	Stall 40	Hatcliffe market, 19th Street, Hatcliffe
4	Stall/Kiosk in formal market	Stall 518	Mbare Musika
4	Stall/Kiosk in formal market	Stall 753	Mbare Musika
4	Stall/Kiosk in formal market	Stall 472	Mbare Musika
4	Stall/Kiosk in formal market	Kiosk	Glen View Four Shopping Area
4	Stall/Kiosk in formal market	Stall 734	Mbare Musika
4	Stall/Kiosk in formal market	Stall 645	Mbare Musika
4	Stall/Kiosk in formal market	Stall 725	Mbare Musika
4	Stall/Kiosk in formal market	Stall 750	Mbare Musika
4	Stall/Kiosk in formal market	Stall 830	Mbare Musika
4	Stall/Kiosk in formal market	Stall 818	Mbare Musika
5	Informal market/Street trader	Street trader	Mbare Musika

Although a higher number of high-density outlets were included in the survey—19 compared to 9 and 6 outlets in medium- and low-density areas respectively, significantly more processed fruit and vegetable products were recorded among low- and medium-density outlets (See Table 5). For example, the average number of items found per outlet was five. However, the average number of items found in low-density outlets was nine, compared to eight items in medium-density and three items in high-density outlets. This suggests that low-density outlets tend to stock a greater number of processed fruit and vegetable products than outlets in other areas. Four of the six outlets surveyed in low-density areas were supermarkets. Supermarkets tended to stock a significantly higher number of processed fruit and vegetable products than the average outlet, 10 and 5 items respectively. However, supermarkets in high-density areas tended to stock significantly less processed fruit and vegetable products than supermarkets in low- and medium-density areas—on average 6 items compared to 12 and 14 items respectively.

Table 5. Average number of items recorded per outlet

TYPE OF OUTLET/ RETAILER	LOW DENSITY			MEDIUM DENSITY			HIGH DENSITY			TOTAL		
	Items	Outlets	Items/ Outlet	Items	Outlets	Items/ Outlet	Items	Outlets	Items/ Outlet	Items	Outlets	Items/ Outlet
Supermarket	46	4	11.5	55	4	13.75	24	4	6	125	12	10.4
Grocer/ General store							8	2	4	8	2	4
Speciality shop/ Tourist outlet	2	1	2	10	1	10				12	2	6
Stall/Kiosk in formal market							22	12	1.8	22	12	1.8
Informal market/ Street trader				4	3	1.3	1	1	1	5	4	1.25
Other	8	1	8	4	1	4				12	2	6
Total	56	6	9.3	73	9	8.1	55	19	2. 9	184	34	5.4

2.4 Variety of processed products currently on the market

Table 1 highlighted the range of processed fruit and vegetable products that were considered within the survey. Table 6 points out the number of cases recorded for each product category. Jams and marmalades and fruits and vegetables canned or bottled in water, brine or juice were the two most significant product types recorded (See Figure 1). The former products were only recorded for fruit products—and more often than not consisted of mixed fruit jams (See Table 8). An equal number of canned and bottled products were recorded for both fruits and vegetables. Peaches, mangoes and grapefruit were the main fruits that were canned or bottled in their juice. Garden peas and tomatoes were the main vegetables processed in this way (Table 8).

Table 6. Processed fruit and vegetable products currently on the market

PRODUCT CATEGORY	FRUITS			VEGETABLES			TOTAL		
	Count	Column %	Table %	Count	Column %	Table %	Count	Column %	Table %
Dried products	9	9.7%	4.9%	31	34.1%	16.8%	40	21.7%	21.7%
Jams/jelly/marmalades etc.	42	45.2%	22.8%				42	22.8%	22.8%
Juice products	12	12.9%	6.5%				12	6.5%	6.5%
Canned/bottled in juice, brine or water	21	22.6%	11.4%	21	23.1%	11.4%	42	22.8%	22.8%
Other preserves: relish, chutney, pickles, soups etc.	9	9.7%	4.9%	17	18.7%	9.2%	26	14.1%	14.1%
Baked beans				22	24.2%	12.0%	22	12.0%	12.0%
Total	93	100%	50.5%	91	100%	49.4%	184	100%	100%

Dried products were also significant across the retail outlets surveyed—40 cases in all or 22% of all items recorded (Figure 1). The majority of the dried products recorded were vegetable-based, and included dried soup mixtures for example (Table 8). Mango was the only significant dried fruit recorded. The range of dried vegetables was much more diverse than that of fruit and included products such as dried okra, dried sugar beans, dried mushroom, and the traditional dried leafy greens such as covo, mufushwa, rape, pumpkin leaves and dried nyvehe for example.

What is interesting however, is that when the range of processed fruit and vegetable products were considered in each density area, some interesting observations could be made (Table 7). For example, there were no cases of dried fruit among retail outlets in high-density areas, yet the majority of dried vegetables were found in these same outlets. In fact the sale of dried vegetables in such outlets was the most significant category in the study—representing 10.9% of all the items surveyed, followed by the sale of jams/jelly/marmalades in medium-density outlets (10.3% of all items). Furthermore, canned and bottled fruits and fruit preserves (e.g. mango chutney) were not recorded on the shelves of retail outlets in low-income areas.

Figure 1. Share of processed fruits and vegetables in each product category (as % of total)

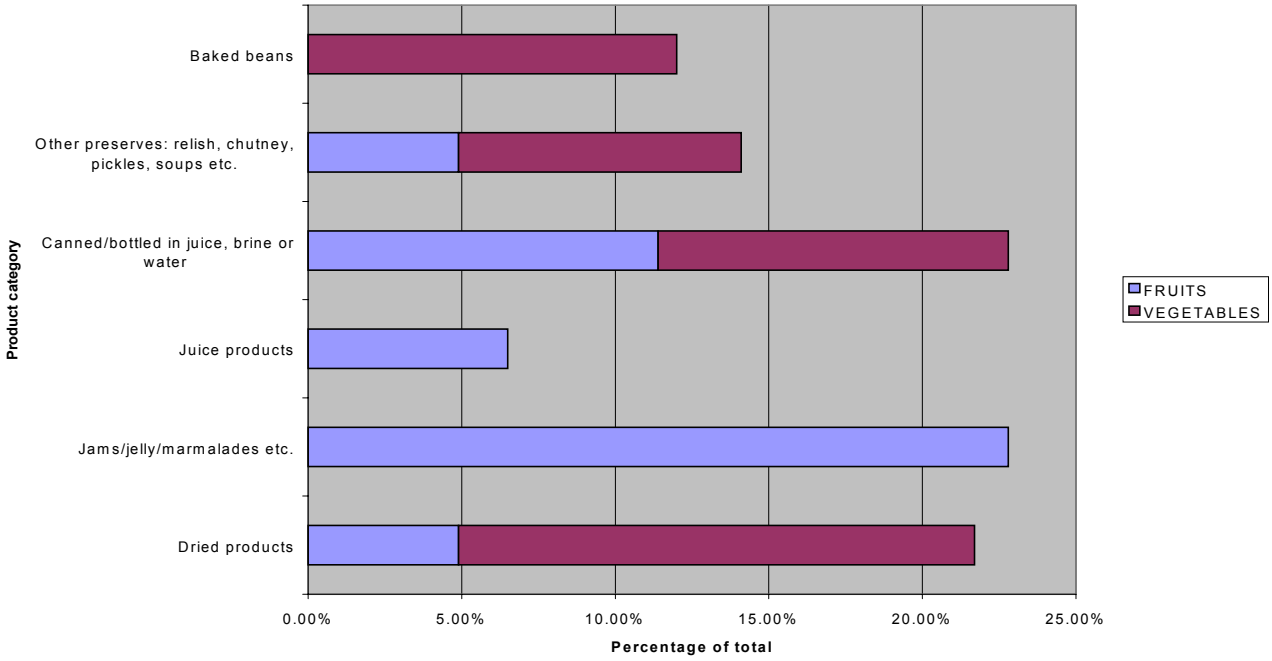


Table 7. Processed fruit and vegetable products currently on the market in high-, medium- and low-density areas

	High Density						**Medium Density**						**Low Density**						**Table Total**		
	Fruit			**Vegetables**			**Fruit**			**Vegetables**			**Fruit**			**Vegetables**					
	Count	Col %	Table %	Count	Col %	Table %	Count	Col %	Table %	Count	Col %	Table %	Count	Col %	Table %	Count	Col %	Table %	Count	Col %	Table %
Dried products				20	54.1%	10.9%	5	11.4%	2.7%	7	24.1%	3.8%	4	12.9%	2.2%	4	16.0%	2.2%	40	21.7%	21.7%
Jam/jelly/ marmalades	13	72.2%	7.1%	-	-	-	19	43.2%	10.3%	-	-	-	10	32.3%	5.4%	-	-	-	42	22.8%	22.8%
Juice products	5	27.8%	2.7%	-	-	-	4	9.1%	2.2%	-	-	-	3	9.7%	1.6%	-	-	-	12	6.5%	6.5%
Canned/bottled products in juice/water/brine				5	13.5%	2.7%	13	29.5%	7.1%	10	34.5%	5.4%	8	25.8%	4.3%	6	24.0%	3.3%	42	22.8%	22.8%
Other preserves: relish, chutney, pickles, soups etc.				4	10.8%	2.2%	3	6.8%	1.6%	5	17.2%	2.7%	6	19.4%	3.3%	8	32.0%	4.3%	26	14.1%	14.1%
Baked beans	-	-	-	8	21.6%	4.3%	-	-	-	7	24.1%	3.8%	-	-	-	7	28.0%	3.8%	22	12.0%	12.0%
Table Total	18	100%	9.8%	37	100%	20.1%	44	100%	23.9%	29	100%	15.8%	31	100%	16.8%	25	100%	13.6%	184	100%	100%

Table 8. Varieties of fruits and vegetables processed within each product category

PRODUCT CATEGORY	FRUITS (No. of cases recorded)	VEGETABLES (No. of cases recorded)
Dried products	• Fruit and nut mix (1) • Mango (6) • Sundried cake mix (1) • Sundried peaches (1)	• Beans (2) • Cauliflower (1) • Covo (1) • Mixed vegetables (1) • Mufushwa (1) • Mushroom (chihombiro, firifiti) (2) • Nyevhe (2) • Okra (fine, coarse and sliced) (5) • Pepper (1) • Pumpkin leaf (1) • Rape (1) • Sugar beans (4) • Dried soup mixtures (9)
Jams/jelly/ marmalades etc.	• Apricot (1) • Gooseberry (1) • Lime (1) • Mixed fruit (26) • Nartjie (1) • Orange (5) • Raspberry (3) • Strawberry (4) • Youngberry jam (1)	
Juice products	• Apple (1) • Guava (1) • Mango (1) • Mixed Fruit (2) • Orange (4) • Passion fruit (1) • Pineapple (1) • Youngberry juice (1)	
Canned/bottled in juice, brine or water	• Apple (2) • Grapefruit (4) • Guava (2) • Mango (4) • Peach (6) • Pear (2) • Pineapple (1)	• Asparagus (1) • Butter beans (2) • Garden peas (8) • Gherkins (2) • Green beans (2) • Potatoes (1) • Tomatoes (5)
Other preserves: relish, chutney, pickles, soups etc.	• Apple sauce (1) • Fruit chutney (1) • Mango chutney (3) • Mango pickle (1) • Other (3)	• Vegetable pickle (4) • Pickled onions (6) • Tomato sauce (6) • Vegetable relish (1)

Table 9 below summarises the range of fruits and vegetables being processed by how often each was recorded in the retail survey.[9] In terms of fruit, mangoes, oranges and peaches were the fruits that were most frequently recorded as processed products. Beans, tomatoes, peas and onions were the most significant vegetables being processed.

[9]It is important to point out that the fruit or vegetable mentioned refers to the specification of the product on the label but does not take into account any further clarification that may have appeared on the list of ingredients.

Table 9. Recorded number of cases of processing different fruit and vegetable varieties

FRUITS		VEGETABLES	
• Mixed Fruit	29	• Beans	24
• Mango	15	• Mixed vegetables	15
• Orange	9	• Tomatoes	11
• Peach	7	• Garden peas	8
• Apple	4	• Pickled onions	6
• Grapefruit	4	• Okra	5
• Strawberry	4	• Sugar beans	4
• Other	4	• Green beans	2
• Guava	3	• Nyevhe	2
• Raspberry	3	• Butter beans	2
• Pear	2	• Gherkins	2
• Pineapple	2	• Mushroom (chihombiro, firifiti)	2
• Youngberry	2	• Mufushwa	1
• Apricot	1	• Pepper	1
• Gooseberry	1	• Asparagus	1
• Lime	1	• Covo	1
• Nartjie	1	• Rape	1
• Passion fruit	1	• Pumpkin leaf	1
		• Potatoes	1
		• Cauliflower	1
Total	93	Total	91

2.4.1 Types of processed products currently on the market in high-, medium- and low-density areas

Table 10 below suggests some differences in terms of the type of processed products prevalent in the three income areas—high-, medium- and low-density areas. For example, of all the products surveyed, dried fruits and vegetables and fruit juices are the only products that can be said to be as prevalent in high-density retail outlets as medium- and low-density outlets. However, the latter products—i.e. juices, are of little prevalence in all three income areas. Canned and bottled fruits and vegetables and other preserves—such as chutney, relishes and pickles, whilst of significance in medium- and low-density areas were found to be very uncommon among retail outlets in high-density areas.

All in all, the data would seem to suggest that processed fruit and vegetable products are not as common in high-density retail outlets as they are in medium- and low-density outlets throughout the metropolitan area of Harare. Whether this is due to consumer preferences and taste for example, or price considerations regarding the purchase of value-added fruit and vegetable products remains unclear at this stage.

Table 10. Number of items recorded in high-, medium- and low-density retail outlets for each product category

PRODUCT CATEGORY	LOW		MEDIUM		HIGH		TOTAL	
	Items	Items/ Outlet	Items	Items/ Outlet	Items	Items/ Outlet	Items	Items/ Outlet
Dried products	8	1.3	12	1.3	20	1.1	40	1.2
Jams/jelly/ marmalades	10	1.7	19	2.1	13	0.7	42	1.2
Juice products	3	0.5	4	0.4	5	0.3	12	0.4
Canned/bottled fruits	8	1.3	13	1.4			21	0.6
Canned/bottled vegetables	6	1.0	10	1.1	5	0.3	21	0.6
Other preserves	14	2.3	8	0.9	4	0.2	26	0.8
Baked beans	7	1.2	7	0.8	8	0.4	22	0.6
Total	56	9.3	73	8.1	55	2.9	184	5.4

Note: Items/outlet refers to the average number of items recorded in high-, medium- and low-density retail outlets for each product category.

2.5 Packaging characteristics of processed fruit and vegetable products

Half of all the items surveyed consisted of canned fruits or vegetables (Table 11). Canned products were the most common types of packaging recorded across all the density areas. Glass containers were also a significant form of packaging for processed fruits and vegetables products, particularly in the case of jams and marmalades and other preserves for example. However, few products were recorded in low-income areas as being packaged in glass (Figure 2). For example, jams and marmalades and other preserves marketed in high-density areas tended to be canned, whereas in low-density areas these products tended to be packaged in glass containers. Furthermore, canned and bottled products were more likely to be sold in supermarkets.

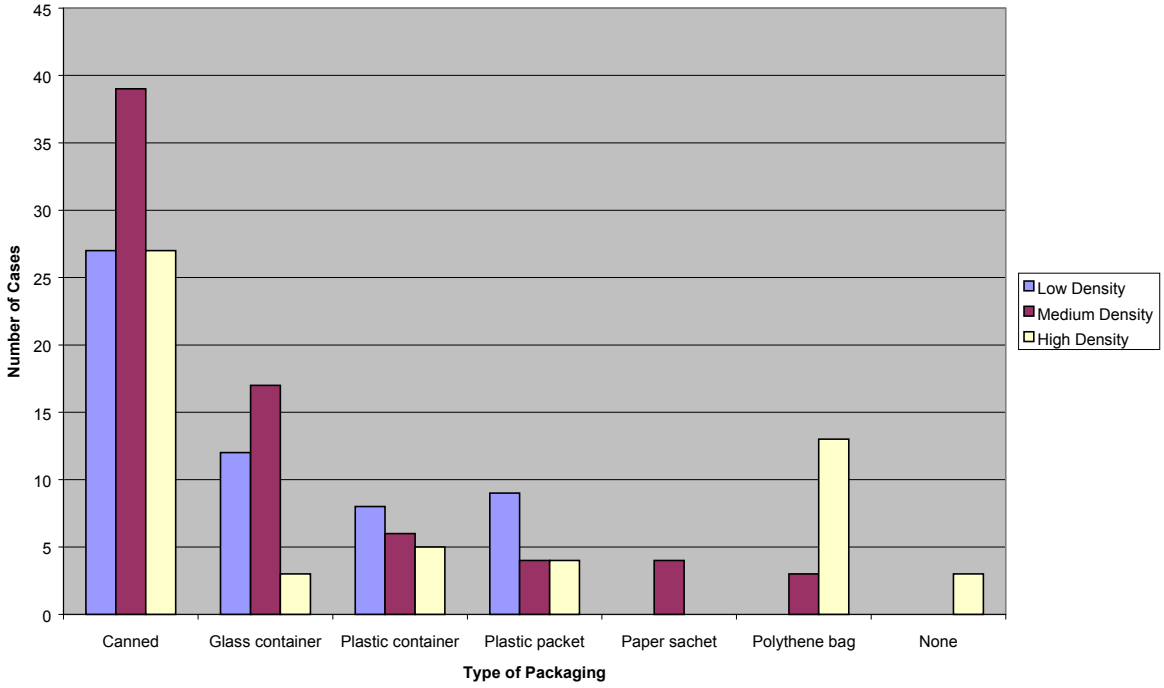
Table 11. Characteristics of packaging used

Packaging	Low Density	Medium Density	High Density	Total	Table %
Canned	27	39	27	93	50.5
Glass container: jar/bottle etc.	12	17	3	32	17.4
Plastic container: jar/ bottle/carton/ punnet etc.	8	6	5	19	10.2
Plastic packet	9	4	4	17	9.2%
Paper sachet		4		4	2.2%
Polythene bag		3	13	16	8.7%
None			3	3	1.6
Total	56	73	55	184	100.0

Note: NA refers to instances where no packaging was provided, e.g. in Mbare Musika market.

Various forms of plastic packaging were also recorded in the survey. Polythene bags were commonly used in Mbare Musika market to package products that were sold loose. In some cases, no packaging was provided to the customer—again in Mbare Musika or in informal markets or with street traders.

Figure 2. Types of packaging recorded across high-, medium- and low-density retail outlets



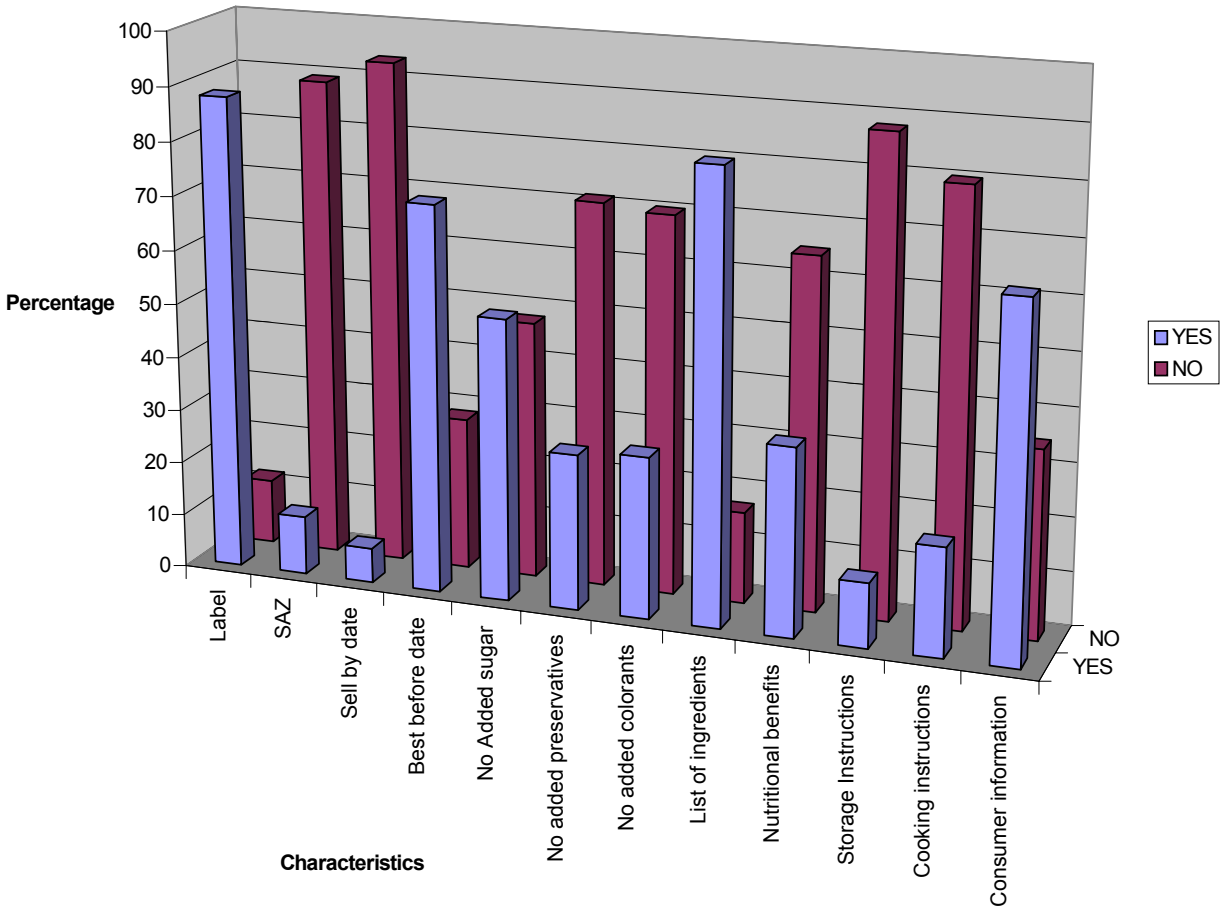
2.6 Product labelling

The survey also gave some consideration to the nature of labelling of processed fruit and vegetable products. Approximately 12% of all the items surveyed did not possess a label (Table 12). The majority of these products were recorded in Mbare Musika or with street traders or on informal market stalls and were usually sold loose to customers. Only 10% of the food items surveyed exhibited Standard Association of Zimbabwe (SAZ) accreditation, almost all of which were recorded in supermarkets. Although the overwhelming majority of products did not exhibit a sell by date, the majority did exhibit a best before date. Approximately 83% of the food items surveyed listed the ingredients of the product, and approximately 65% of the products displayed the nutritional benefits of the food item in question. Whilst quite a few items stated that the food product did not contain added sugar for example; in less than 30% of the cases did the label suggest no colorants or flavouring had been added to the product. Few products advised on the best way to store the product in order to maintain its shelf life (12%), and in only 20% of cases did the product provide the consumer with suggestions on how to cook the product. Approximately two-thirds of all the food items surveyed provided contact details where consumers could request further information about the product (See Figure 3).

Table 12. Characteristics of product labelling

PRODUCT LABEL:	YES	NO
Does product have label?	162 (88%)	22 (12%)
Does product exhibit SAZ logo?	20 (10.9%)	164 (89.1%)
Does product exhibit sell by date?	12 (6.5%)	172 (93.5%)
Does product exhibit best before date?	132 (71.7%)	52 (28.3%)
Does product state “No Added sugar”?	96 (52.2%)	88 (47.8%)
Does product state “No added preservatives”?	53 (28.8%)	131 (71.2%)
Does product state “No added colorants”?	55 (29.9%)	129 (70.1%)
Does product exhibit list of ingredients?	153 (83%)	31 (16.9%)
Does product state nutritional benefits?	64 (34.8%)	120 (65.2%)
Does product state storage Instructions?	22 (12%)	162 (88%)
Does product state cooking instructions?	37 (20.1%)	147 (79.9%)
Does product state address for consumer information?	120 (65.1%)	64 (34.8%)

Figure 3. Characteristics of product labelling



2.7 Product specification and price characteristics

The overwhelming majority of products on the market were sold in metric measures (See Table 13). Over half of all products sold per weight were sold in measures of between 400-500g. This was particularly the case of canned fruits and vegetables for example, where measures of 410g and 425g were standard (Table 14). Smaller measures of 220g or 250g were also recorded for these products. Jams and marmalades were typically sold in measures of 450g (however, smaller measures of 220g were also popular). Other preserves were typically sold in measures between 300-400g (Table 14).

Products sold per volume were usually sold in measures of between 300-400ml (Table 13). Juice products were usually marketed in snack portions of 200 or 250ml or family size packs of one litre for example. Some canned fruit and vegetable products were sold in measures of 375ml. Other preserves, i.e. sauces, chutneys and relishes were typically sold in 375 ml or 750 ml measures.

Table 13. Typical measures of processed products sold

	Weight (g)	Volume (ml)	Total	Table %
Non-metric			21	11.4
<100	16		16	8.7
101-200	1	3	4	2.2
201-300	23	5	28	15.2
301-400	13	20	33	17.9
401-500	67	1	68	37.0
701-800	1	5	6	3.3
801-900	4		4	2.2
901-1000		4	4	2.2
Total	125	38	184	100.0

When sold metrically, dried products were almost always sold per weight. Measures were typically snack portions of 50g or 100g as in the case of dried mango for example (Table 14). Larger measures of 500g were common for dried products that were used for cooking, for example, mufushwa, sugar beans and cake mix. Dried soup mixtures tended to be sold in packets of 62g or 75g. However, the survey also recorded 20 cases of dried products being sold in non-metric measures. The majority of these cases were found in retail outlets in high-density areas—in Mbare Musika and with informal street traders for example, where cup, plate or 2-litre tin measure sold products.

Table 14. Typical weight/volume measures for the various product categories

Weight (g)/ Volume (ml)	Dried	Jam/jelly/ Marmalades	Juice Products	Canned/ Bottled Fruits/Vegetables	Other Preserves	Baked Beans	Total	Percent
Non-metric	20					1	21	11.4
<100	14				2		16	8.7
101-200	1		3				4	2.2
201-300		8	3	4	4	9	28	15.2
301-400	1	5	2	13	12		33	17.9
401-500	4	24	1	24	3	12	68	37.0
701-800			1	1	4		6	3.3
801-900		4					4	2.2
901-1000		1	2		1		4	2.2
Sub-Total	40	42	12	42	26	22	184	100.0

2.7.1 Price of processed fruit and vegetable products

Table 10 suggested that processed fruit and vegetable products are not as common in high-density retail outlets of metropolitan Harare as they are in medium- and low-density outlets. For example, some products are much more prevalent in low- and medium-density areas than high-density areas—canned and bottled fruits and other preserves such as chutney, relishes and pickles. Of the various product categories surveyed, dried fruits and vegetables are the most common processed horticultural products to be found in retail outlets across high-density areas of greater Harare.

Table 15. Mean and median price of processed products in high-, medium- and low-density areas

	High Density			**Medium Density**			**Low Density**			**Table Total**		
	Count	Mean Z$	Median Z$	Count	Mean Z$	Median Z$	Count	Mean Z$	Median Z$	Count	Mean Z$	Median Z$
Dried products	20	23	19	12	38	28	8	47	22	40	32	20
Jams/jelly/ marmalades	13	42	34	19	52	49	10	49	34	42	48	35
Juice products	5	43	56	4	44	39	3	28	26	12	40	39
Canned/bottled fruits				13	48	47	8	52	55	21	49	50
Canned/bottled vegetables	5	33	36	10	41	40	6	81	46	21	50	40
Other preserves	4	32	36	8	75	75	14	81	67	26	72	66
Baked beans	8	27	26	7	37	40	7	37	37	22	33	34
Total	55	31	25	73	48	43	56	58	43	184	46	40

Note: GBP1.00 is equal to approx. Z$80.00

Data presented in Table 15 would seem to suggest that some of these differences may be explained in terms of the actual cost of the various value-added fruit and vegetable products. In fact, the price[10] of food items varied across high-, medium- and low-density areas. Dried fruits and vegetables represent the most accessible product in monetary terms given the median price of Z$20.00 per dried food item on the shelf (Table 15, See also Table 16). Furthermore, dried products were cheapest in high-density retail outlets, perhaps helping to explain their prevalence in these outlets. The findings would suggest that the

[10] Price here refers to the median price of a food item in each product category.

cost of the various products may influence where they are sold, i.e. across retail outlets in high-, medium- or low-income areas. Canned and bottled fruits and vegetables and other preserves represent the three most expensive categories identified within the survey, with a median price of Z$50.00, Z$40.00 and Z$66.00 per item respectively. Interestingly enough there was no record of canned/bottled fruits being sold in high-density retail outlets. And although canned/bottled vegetables and other preserves were cheaper in high-density outlets, fewer numbers of these products were recorded on the shelf of such outlets than in medium- and low-density outlets.

Table 16. Price range of items for each product category

Price	Dried	Jam/jelly/ Marmalade etc.	Juice products	Canned/ bottled in juice, brine or water	Other preserves	Baked beans	Total	Percent
Z$10.00 or less	7		1				8	4.3
Z$10.01-25	24	8	2	2	1	5	42	22.8
Z$25.01-40	1	16	3	13	5	13	51	27.7
Z$41.01-55	2	5	2	19	4	4	36	19.6
Z$55.01-70	1	7	4	7	7		26	14.1
Z$70.01-100	3	4			4		11	6.0
Z$100.01-150	1	1			4		6	3.3
Z$150.01-200	1				1		2	1.1
Z$200.01-250		1		1			2	1.1
Total	40	42	12	42	26	22	184	100.0

Note: GBP1.00 is equal to approx. Z$80.00

2.8 Food manufacturers and brands of processed fruit and vegetable products

The great majority of the processed horticultural products marketed within the outlets surveyed were produced in Zimbabwe—only 8 of the 184 items recorded in the survey were known to have been imported products, mainly from South Africa. The survey concluded that there are a number of food companies involved in the production and marketing of processed fruits and vegetables in Zimbabwe (See Table 17). The most frequently cited companies however, were Cairns Foods, Chegutu Canners, Marlon Foods and RYL Farm which produced 28.3%, 16.3%, 5.4% and 6% of the food items recorded respectively. Such companies are large food manufacturers in Zimbabwe and produce quite a wide range of processed food products.

Given the lack of information regarding the origin of processed products sold in Mbare Musika for example, it was not possible to consider the extent of participation by small-scale processors in the processed food sector. However, one clear example of the participation by small-scale processors is the retailing of products produced by the Murewa Food Processors Association in TM supermarkets and BP shops for example.

Table 17. Food manufacturing companies and product brands

Food manufacturer	Count	Brand names	Count
Ballycarney Estates	1	• Bally Juice	1
Baobab Investments	2	• Fantaisie Fruit	2
Blue mountain	1	• Blue Mountain	1
Cairns Foods	52	• Border Streams	9
		• Cashel Valley	15
		• Sun	10
		• Tomango	6
		• Top	7
		• Top & Sun	3
		• NA	2
Ceres	1	• Ceres	1
Chegutu Canners	30	• Green Valley	2
		• Heinz	23
		• NA	5
CPC Tongaat Foods	1	• Knorr	1
Dairiboard	2	• Fun Fresh	1
		• Natural Joy	1
Fruit Africa	1	• Fruit Africa	1
HP Foods	1	• HP	1
Intrade	1	• Huckleberrys	1
Landfall Farm	2	• Go-Mango	2
LEMCO	3	• Vine	3
Lever Brothers	4	• Royco	4
Lyons Maid	1	• Cascade	1
Lyons Zimbabwe	1	• Rab Roy	1
Marlon Foods	10	• Marlon	10
Murewa Food Processing Association		• Any Time is Mango Time	2
	3	• Fresh Pak	1
NA	24	• Choice Grade	1
		• Farm House	1
		• Liquifruit	1
		• Mango Loerie	1
		• Mr Tasties Food	1
		• TM Super Saver	2
		• Mufuswha Pac	1
		• Premier	1
		• NA	15
National Distributors	5	• Huckleberrys	1
		• Jackpot	1
		• Vine	3
Nestle	4	• Maggi	4
Nevada Farm	1	• Vine	1
New Season	1	• New Seasons	1
Nyanga Farm Produce	3	• NA	1
		• Sugarfree	2
Nyanza Estates	1	• Nyanza Estates	1
Olivine Industries	2	• Fortris	2
Prajit Marketing Services	2	• Prajit	2
Pure Joy	1	• Pure Joy	1
Robertson Foods	3	• Carmel	2
		• NA	1
RYL Farm	11	• RYL Farm	11
Schweppes Zimbabwe	3	• Mazoe	2
		• Ripe 'n Ready	1
Spar Zimbabwe	1	• Spar	1
Sunbird	3	• Nature's Choice	1
		• Sunbird	2
UNICARE	1	• Ranch House	1
Valley Canners Pvt Ltd, Ex	1	• Natural Health	1

3. CONCLUSIONS

The retail survey was conducted with 34 retailers throughout urban areas of Harare and covered a total of 184 processed fruit and vegetable products currently sold on the market. The retail outlets included supermarkets, grocers and general stores, and retailers in formal and informal markets for example. The data suggests that quite a wide variety of processed horticultural products are being sold on the market including dried fruits and vegetables, fruit jams and marmalades, fruit juices, canned and bottled fruits and vegetables and other preserves included chutneys, relishes and pickled fruits and vegetables. The findings also suggest however, that candied sweets and fruit rolls for example are not popular among urban consumers as they were seldom found in retail outlets in Harare.[11]

Despite the fact that processed horticultural products could be found across all income areas, the findings suggest that certain types of processed fruits and vegetables are more likely to be found in some areas than others. For example, canned and/or bottled fruits and vegetables and other fruit and vegetable-based preserves are much more likely to be found in retail outlets in medium- and high-income areas than low-income areas. Although jams and marmalades are common in retail outlets across high-, medium- and low-density areas, the nature of packaging of such products is differentiated across income areas. For example, in high-density areas, jams are more likely to be sold as canned products, rather than in glass jars or bottles as was the case in retail outlets in low-density areas. In actual fact, in high-density areas, dried vegetables (particularly the traditional leafy greens) represented the most common type of processed horticultural product to be found across the retail outlets surveyed. Price was also an important factor to be taken into account when considering the prevalence of the different product categories across the various density areas. In actual fact, dried fruits and vegetables, the most prevalent processed horticultural product in low-income areas, was also the most accessible product in monetary terms. The most expensive category of processed fruits and vegetables—i.e. preserves such as pickles, chutneys and relishes, were seldom found in retail outlets in high-density areas. Furthermore, there was no record of canned/bottled fruits—the second most expensive product category, being sold in retail outlets in low-income areas.

Although the vast majority of products were labelled, the information contained on labels differed greatly. What was perhaps most surprising was the general low prevalence of SAZ accreditation among processed products sold on the formal market in Zimbabwe. The data would suggest however, that large-scale food companies produce the majority of processed fruit and vegetable products sold across urban areas of Zimbabwe. The predominance of companies such as Cairns Foods and Chegutu Canners who market their products under various brand names provokes the question as to the barriers to entry to the food sector in Zimbabwe, for small-scale processors for example.

[11] It must be pointed out however, that unfortunately no tourist outlets were included in the survey.

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APPENDIX 1.

FACILITATING THE EFFECTIVE PRODUCTION AND MARKETING OF PROCESSED FOOD PRODUCTS BY SMALL-SCALE PRODUCERS IN ZIMBABWE [R7485]

RETAIL SURVEY: PROCESSED FRUIT AND VEGETABLES CURRENTLY ON THE MARKET

Date of visit: _____ **Field Assistant:** _____

Location of retail outlet (loc): (Circle one)
High density (HD)
Medium density (MD)
Low density (LD)
Non applicable (NA)

Type of retail outlet (type): (Circle one)
Supermarket (1)
Grocer/general store (2)
Speciality shop/Tourist outlet (3)
Stall/kiosk (formal market where fee paid to City Council) (4)
Informal market/street trader (5)
Other (6)

Name of retail outlet/informant, e.g. stallholder, street trader **(outlet)**: _____

Physical address/location, e.g. stall number in Mbare Musika **(address)**: _____

Please detail the following:						**Does the label display or state the following?**											
Brand Name	Product Description	Weight (g)/ Volume (ml)/ Measure (cup, = x g)	Price (Z$)	Does it have a label? Y/N	Describe packaging	SAZ logo Y/N	Sell by date Y/N	Best before date Y/N	No sugar added Y/N	No preservative added Y/N	No colouring added Y/N	Nutrition benefits (e.g. rich in vitamins) If Y, detail	Recom-mended storage conditions Y/N	List of ingredients/ preservatives If Y, detail	Recipe, cooking instructions, etc. Y/N	Address for consumer information Y/N	Manufacture r (name/ address/tel.) If Y, detail	Distribut or (name/ address/ tel/) If Y, detail
brand	product	measure	price	label	pack	saz	sellby	bb	sugar	preserve	colour	nutben	storage	ingred	cookins	consinfo	manuadd	distradd