REPORT ON THE FINDINGS OF A SOCIO-ECONOMIC SURVEY ON THE MARKETING, CONSUMPTION AND PRODUCTION OF TRADITIONAL VEGETABLES IN THE URBAN AND PERI-URBAN AREAS OF MUTARE, ZIMBABWE

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By

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SUMMARY

The findings of a socio-economic survey on the production, marketing and consumption of traditional vegetables carried out in Mutare city, Zimbabwe over a fortnight in February-March 2000 are presented in this report. Interviews were carried out on traders, consumers and producers. The traders were sampled from the city centre, the main wholesale market at Sakubva, at roadsides and at street corners in the residential areas and from roadside markets in some the peri-urban service centres. Most of the responses from the consumers were obtained from the urban dwellers while the producers were interviewed in their production areas or at the main wholesale market at Sakubva. The production centres were within 100 km of the city centre.

The term 'Traditional Vegetables (TVs)' will be used in this report. This is because all the people interviewed did not specialize in those 'vegetables that are of African origin' only but on those that have been adopted and adapted as relishes in the diet of the indigenous Africans. These vegetables are not necessarily of African origin and they may be used in a completely different manner in their centre of origin e.g. pumpkin *(Cucurbitacea* sp).

The opportunities and constraints faced by each stakeholder group of trader, consumer and producer are presented in detail but separately for each group in the report. It was evident however, that all stakeholders besides these three traditional players e.g. researchers, health personnel, food scientists (food technologists, food processors etc.) need to team up and come up with strategies that will ensure optimum utilization of these vegetables. At the time of the survey, consumption, trading and production were all said to be increasing from the previous levels.

At the first mention, the English, botanical and local (Shona) names of the TV are used. In subsequent references, the English and the botanical names are used interchangeably. However where both the botanical and the English names are not yet established, the local Shona name is used e.g. *Ngaka.* The term *Derere* is used constantly in the report. It is a local name used for all those vegetables that form a mucilaginous (slimy) soup upon boiling. These vegetables include okra/Lady's Finger and *Corchorus.*

Prices are quoted in Zimbabwe dollars (Z$). At the time of the survey, US$1.00 was equivalent to roughly Z$38.50.

INTRODUCTION

The objective of the socio-economic survey was to collect information on a range of traditional Vegetables (TVs) and TV products currently in use in the urban as well as peri-urban areas of Mutare, Zimbabwe.
Semi-structured interviews were conducted on a number of interviewees. Three main groups were surveyed. Traders drawn from persons in the major wholesale market in Mutare (Sakubva) and those operating from area specific markets in the city (central business district and suburban areas) formed the most important group. A number of traders operating from market stalls as well as individual and groups of vendors were also surveyed. Consumers were surveyed mainly in the city. Producers and collectors that were surveyed were found mostly in the peri-urban areas.
The survey was guided by means of a checklist that focused on each of the groups (traders, consumers and producers/collectors) separately. The survey was carried out over a fortnight in February – March 2000, when it was expected that most of the indigenous vegetables would be on the market.

The findings from the survey are presented separately for each group of stakeholders. These groups are:

TRADERS
CONSUMERS
PRODUCERS & COLLECTORS.

A discussion (section D) then follows.

The members of the survey team were:
Mutimutema, Mr. E.
Mvere, Mr. B.
Maambira, Mr. R.
Shanganya, Ms. S.
Kabibi, Ms. S.

Some of the members had good experience of the markets particularly the wholesale market in Mutare which was essential for this sort of survey.

A: TRADERS

GENERAL INFORMATION

Traders interviewed were located in various urban and peri-urban areas of Mutare. Most of them were women. The traders also sold other commodities in addition to traditional vegetables (TV's). Some of the items they traded in included exotic vegetables, grains, seed of various cultivated plants and items for household use as brooms *(Mutsvairo*), baskets and mats. A full list of the more popular items is given in Table1 below.

TABLE 1 WARES (ITEMS) OTHER THAN TVs SOLD IN MUTARE URBAN

a) SMALL GRAINS Pearl millet (*Mhunga)*, Finger millet (*Rukweza)*, Rice, Sesame (*Uninga)*

b) FRESH VEGETABLES Rape, Cabbage, *Covo*, Mushroom (*Chowa*), Tomato, Beans, Groundnuts, Cucumber, Peas, Cowpea, melons, Squashes, Gourds (*Mapudzi*)

c) DRIED VEGETABLES Hot Peppers, Beans, Cowpea, Tomato, Mushroom (*Chowa*), Dried leaves of rape, *Covo*, cabbage

d) FRUIT Lemon, Banana, Orange

e) OTHERS Salt, Brooms (*Mutsvairo)*, Wooden spoons, Vegetable seeds, Baskets, Mats

The majority of the wholesalers were found at Sakubva market although others were found in Dangamvura, Zimunya, Chitakatira (Mutare District) and Honde Valley (Hauna & Murara markets (Mutasa District). Wholesalers were found to operate in the morning up to about 1100 a.m. (The Municipal Vegetable Wholesale Market in Sakubva - Mutare closes at 11 a.m. daily).

LOCATION

The area markets visited were Sakubva Retail Market (close to the wholesale market), market stalls in Sakubva and Dangamvura high-density residential areas, Fairbridge Park, Chikanga and Palmerstone (MACS) low-density areas, and Mutare Urban City Centre.
Area markets were also visited in Honde Valley (Hauna and Murara), Nyanyadzi and Zimunya. The Green Market located between the city centre and Sakubva was also visited.
Trade in TVs in the area markets was active particularly in the areas of Sakubva, (including the Green Market), Dangamvura, Zimunya, Nyanyadzi and Honde Valley. In the low-density areas of Palmerstone and Fairbridge Park, trade was low with one stallholder in Palmerstone remarking that 'such things are not bought/sold here!' But one wonders how many of those persons in Palmerstone actually travel to Sakubva to get their supplies. Areas away from Mutare City Centre such as Zimunya and Nyanyadzi had active trade. The stalls around the city centre also considered TVs as important. Most trade occurs when people are heading home after finishing work at which is normally around 4 p.m. and 5 p.m.

Street vendors were less visible probably due to the harassment from Municipal Police that they have to put up with. These street vendors were interviewed in the city centre as well as in Dangamvura . In other areas of the city, street vending was not so common.

The number and the type of traders (stallholder, wholesaler/producer, stallholder/producer and street vendor) are given in Table 2 below.

Most of the respondents were individual women irrespective of the type of trader(s) they were. Out of all the traders interviewed 95 % were women (mothers). Older women were mostly at stalls, while the younger ones were found on the street, at the wholesale market and all other trading areas.

Men were found mainly in the Mutare City stalls.

INDIVIDUAL/GROUP INTERVIEWS
TABLE 2. TYPES AND NUMBER OF TVs TRADERS INTERVIEWED IN THE URBAN AND PERI- URBAN AREAS OF MUTARE

Type of trader (s)	Location (see table 4)	Number of people interviewed		Total number
		Male	Female	
1.Stallholders				
(ii) Individual	Sakubva Musika	2	11	13
	Chikanga		1	1
	Sakubva Residential		1	1
	Fairbridge Park Greenmarket		2	2
	Dangamvura	1		1
			2	2
				20
(ii) Group				
	Sakubva Musika		1 (9)	9
	Chikanga		1 (2)	2
	Sakubva Residential		1 (2)	2
	City Centre		3 (7)	7
	Honde Valley		2 (5)	5
				25
2. Wholesaler/Producer				
i) Individual	Sakubva		3	3
	Chitakatira		1	1
ii) Group	Chitakatira		2(11)	11

				15
3. Producer/Stallholder i) Individual ii) Group	 Nyanyadzi Rowa		 1 1 (2)	 1 2 3
4. Street Vendor i) Individual ii) Group	 City Centre Dangamvura		 1 2 (8)	 9

The numbers in brackets represent the total number of people in the groups interviewed. Dangamvura, Chikanga and Sakubva are high-density residential areas of Mutare Urban, Fairbridge Park is a low-density residential area, while Honde Valley, Chitakatira, Nyanyadzi and Rowa are rural (peri-urban) areas within 100 km of the city centre.

MAIN TRADING ACTIVITIES

The main trading activities of the various traders interviewed were buying and selling vegetables and fruit. Some of the traders particularly at Sakubva also sold vegetable seed, grains, and some craft (and art) items. The majority though specialized in selling perishable fruit and indigenous and exotic vegetables. The trade was in small quantities packed/bundled for ready use by the consumer. Most of them would procure produce early in the day, move it to their operating point(s), clean and sort the produce and have it sold by the end of the day. Most traders aim to have their produce sold by the end of the day. The produce that remains may still be sold the day after, but at a reduced price. The traders reported that most TVs do not to stay fresh more than two days from the time of harvest. The most common vegetables and their importance in Mutare and surrounding areas are given in the Table 3 below.

TABLE 3 IMPORTANCE OF TVs IN THE URBAN AND PERI-URBAN AREAS OF MUTARE

Name			Order of Importance	
Scientific	English	Local	Fresh	Dried
Abelmoschus esculentus	Lady's Finger, Okra	*Derere nyatando*	1	2
Corchorus sp.		*Derere munda*	5	4
Cleome gynandra	Spider Plant	*Runi/Nyevhe*	2	
Cucurbita sp.	Pumpkin leaves	*Mutikiti/Muboora*	3	3
Bidens pilosa	Black jack	*Nhungunira*	4	
Vigna anguiculata	Cowpea leaves	*Munyemba*		1
Amaranthus sp.	Amaranth leaves	*Mbowa/Mowa*	6	
		Mushokoni		
Cleome monophylla		*Musemasema*		
Solanum sp.	Nightshade	*Musungusungu*		
Galinsoga parviflora	Gallant soldier	*Teketera*		
Cucumis anguria		*Mukakashango/Mubvororo*		
Brassica juncea	Indian mustard	*Muchakupuka*		
Brassica carinata	Ethiopian mustard	*Chembere dzagumhana*		

* The peri-urban areas referred to are Nyanyadzi, Honde Valley, Chigodora and Zimunya

* The order of importance considers the two states (dried or fresh) separately.
* Those vegetables ranked after Mbowa were considered of lesser importance.

TABLE 4 QUANTITIES OF TRADITIONAL VEGETABLES TRADED IN MUTARE.

Vegetable	Condition F - Fresh D - Dried	Trading Period	Quantities sold per trader	Type of trader
Lady'Finger/*Nyatando*				
	F	Jan-Dec.	1-4x20l tins/day 5-50pkts/day	Wholesaler Stallholder
	D	May-Nov.	5-10pkts/day	Stallholder
	D		5-50pkts/day	Stallholder
Spider Flower	F	Oct.-April	5-20 bundles/day	Stallholder
			4x50kg bags/wk	Wholesale
Pumpkin leaves	F	Nov-May	2-20 bundles/day	Stallholder
			50-70 bundles/day	Wholesaler
	D	May-Oct.	5-10pkts/day	Stallholder
Black jack	F	Oct-April	2-20 pkts/day	Stallholder
			3 x 50 kg bags/wk	Wholesaler
Cowpea leaves	F	Nov-March	5-15pkts/day	Stallholder
	D	April-Oct.	5-10pkts/day	Stallholder
			1 x 20L/wk	Wholesaler
Amaranth leaves	F	Nov-March	1x20l/wk	Wholesaler
			15pkts/day	Stallholder
Mushokoni	F	Nov-Feb.	15pkts/day	Stallholder
Cleome monophylla	F	Nov-Feb.	15pkts/day	Stallholder
Nightshade	F	Nov-Mar	15pkts/day	Stallholder
Galinsoga parviflora	F	Nov-Mar.	15pkts/day	Vendor, Stallholder
Cucumis anguria	F	Nov-March	15pkts/day	Stallholder
B. juncea sp	F	All year	15pkts/day	Vendor,

(Muchakupuka)				Stallholder
Ethiopian kale/mustard	F	Mar-Oct.	15pkts/day	vendor, stall
Mushroom	F	Dec.-Feb.	20-50 portions/day	Vendor, Stallholder
B. juncea	F	Oct-Feb.	14x50kg bags/wk	Vendor, Stallholder

SOURCE OF SUPPLIES

Many peri-urban areas supply the city of Mutare with TV's and most of these are within 120km from Sakubva Market in Mutare. These sources are mainly the communal areas around Mutare. Another important source of *Nhungumira* (Black jack) was a commercial vegetable farm (*KwaJack*) where the workers on the farm would collect this TV and transport it to Mutare's Sakubva Market. The important areas where TVs are sourced from are given in Table 5 below:

In the communal area sources, the vegetables are normally collected from the fields before they are cleared from the fields (weeds) as the rainy season progresses. Those persons who are fairly familiar with identifying them also collect traditional vegetables from the wild.
After collection, the women will usually sort them before putting them into large baskets *(Tswanda)* that are used when transporting them to the various trading locations.

TABLE 5 SOURCES OF TVs FOR THE MUTARE MARKETS

Source	Approximate Distance from Mutare City (Km)	Important TVs Obtained
Chitakatira	30	Black jack, *Corchorus sp.*, Mushroom, Lady's Finger, Pumpkin leaves, Amaranthus
Chigodora	25	Lady's Finger, Black jack, *Corchorus*, Amaranth, Pumpkin leaves
Dora	25 by road 5-10 by foot to Dangamvura	Lady's Finger, *Corchorus,* Pumpkin leaves, Amaranth, *Galinsoga parviflora*.
Honde Valley	100	Lady's Finger, Pumpkin leaves, Mushroom, Indian mustard, Ethiopian kale
Nyanyadzi	100	Lady's Finger, *Corchorus sp.* Pumpkin leaves, Indian mustard, *Cleome gynandra*.
Zimunya		

	20km	Lady's Finger, Mushroom
Gombakomba		Black jack, Mushroom
Penhalonga	20km	Black jack, Mushroom
Marange	40km	*Cleome gynandra*, Blackjack
Bocha Jindwi	40km	Mushroom, *Galinsoga parviflora, Corchorus sp.*

TRANSPORT

Transport to the market is usually by public buses. These buses usually charge a certain additional fee per produce container. About 80% of the produce that is found in Mutare is transported in this manner. Some suppliers in Nyanyadzi reported that the buses that have a boot (trunk) e.g. the popular "VOLVO" were making it increasingly difficult to transport produce in the baskets as these containers do not easily fit into the boot. It was easier to find space on the older type buses with a roof carrier.

Other forms of transport that are used include kombis and privately hired pick-ups. Vendors and stallholders use Kombis to move their produce from Sakubva Wholesale Market to other selling points in the city, e.g. the city centre and other suburban areas. Privately hired pick-up trucks are used by groups of stallholders who come together and collectively hire the truck.

The street vendors who were interviewed in Dangamvura were walking with the baskets of produce on their heads. The same mode of transport was used to move produce from the nearby production area (Dora) to Dangamvura. The distances involved ranged from five (5) to 10 kilometres. The traders who used this mode of transport traded in small quantities of produce at certain times of the week. They also tended to prefer orders to minimise the chances of having to keep unwanted produce into the next day. The frequency of their movement would also depend on the orders that they would have secured.

CUSTOMERS

Although in general adults of any age were reported to buy indigenous vegetables, elderly and pregnant women were found to be important buyers of the commodity. Pregnant women preferred both Lady's Finger and *Corchorus*. Sales of Lady's Finger were slightly higher but that could be linked to seasonality. Other traders reported that their customers were of all age groups, male and female, black or white and they all bought indigenous vegetables.

A stallholder trading near Sakubva hospital reported that a number of her best TV customers were patients at the hospital and their number has been increasing over the last few years.

The majority of traders reported that women were their main customers although it was not uncommon to find men and children coming to buy vegetables. This trend where not only women but also men come to buy TV has been a recent development (2 - 3 years old).

PRICING

The price of TVs in comparison with other commodities that are sold is determined by the cost of obtaining the produce. Usually prices were fixed at the beginning of the rainy (supply) season when a new crop of TVs begins to come in. For instance vegetable portions were being traded at $3-4 last season (1998/99) but during the 1999/2000 season, the price had gone up to $5 for the same portion.

During the season, what then varies is the size of the portion depending on supply. Regular daily and weekly price changes were not common. Price changes did occur for produce that would not have been bought the previous day because such produce would have deteriorated in quality.

Traders at a market would agree on the price per portion and so at any one market the price would be uniform.

Prices per unit weight tended to be higher around October/November when supply would still be limited at the onset of rains. Prices are then stable up to around March when supply is limited as the rainy season comes to an end. Not much trading of fresh TVs occurs between March and October. Trading occurs mainly for the dried/processed material, during the dry season.

OTHER VEGETABLES TRADED

Consumers who did not find TVs of their preferred choice would opt for the exotic vegetables such as rape, *Covo* or cabbage. During the dry season the TV consumers tended to use more exotic vegetables because fresh TVs were not readily available except for limited quantities that came from irrigation schemes where the conditions allowed the growing of TVs in the off season.

PROFITABILITY

Traders of TVs considered them an important and profitable component of their business. The purchase price from the producers was used to set the retail price. Most of the traders aimed at a profit equal to their procurement cost. i.e. 100% profit. The price for most vegetable portions in the 1999/2000 season was $5.

Marketing costs were spread among all the commodities that the trader dealt with, such as tomatoes, cabbage and onion among others. For producers, the major marketing cost was the cost of transport to the market especially when distances were long. For short distances produce would be carried to the market. Stakeholders around the city would spend money on commuter omnibuses transporting produce.

Other costs included the market fees for markets around the city, which were up to $70 per day in Mutare for wholesalers. All the city markets had some levy that was payable to council. The traders who reported being harassed by municipal police were probably not paying the fees or selling from illegal points (premises).

Most TVs were not packed except for Spider Flower and Lady's Finger that was put in small transparent plastic bags. The others would be wrapped in newspaper upon selling to the consumer (retail). At other points, no wrapping/packaging takes place before retailing. Lady's Finger though appeared to enjoy most of the plastic bag packaging, with about half the stakeholders packing it in plastic bags.

MAJOR CONSTRAINTS

Traders noted that sales were limited because most consumers or potential users could not prepare traditional vegetables dishes. They felt that advertising could enhance interest and awareness on the TVs thereby increasing consumption, which would in turn, enhance their business.

During storage of the dried vegetables losses occurred due to rots and moulds that occurred on the produce. They suggested that one way around the problem was to ensure adequate drying during processing and thereafter ensure that the product is kept in a well-aerated place free from excessive moisture. Losses also occurred when the dried vegetables pulverized into powder during storage. Minimising handling and avoiding application of excessive pressure would reduce the problem significantly.

Short shelf life for the fresh vegetables was noted as a problem. Most traders appeared to have no means of extending the shelf life beyond the two to three days. Attempts to moisturise the TVs by sprinkling water did not appear to have the desired effect.

Since drying was done outside - (in the shade or sun), continuous rain during the 1999 - 2000 season made the process difficult and resulted in losses due to rotting as the vegetables did not dry quickly enough. The use of sheds may be a remedy but the humidity around may still cause problems of slow drying and rots. In the 1999/2000 season, the continuous rain that occurred in some of the production areas also made it difficult to harvest creating temporary shortages.

The poor state of the infrastructure at the wholesale market at Sakubva was cited as a problem. Customers have to buy produce from the ground and this made it very unhygienic especially during the wet season. There was also a risk of spreading diseases, as most produce was not packaged protectively.

Problems of customers vanishing without paying and others bargaining for prices that were too low were also mentioned to a lesser extent.

Traders suggested that the wholesale section of the market had to be vastly improved to make it more acceptable in conducting their business. Paving the floor (ground), erecting raised benches for laying out the produce and the provision of a roof would be important starting points.

STORAGE AND PROCESSING

STORAGE

Storage of fresh produce was usually done in a basket in a cool place. Overnight storage was in a part of the room that was cool and had minimal disturbance. One stakeholder reported she put her TVs on the roof of a chicken house and covered them with plastic sheets for over night storage. With daybreak, the vegetables would then removed before temperatures rise to spoil them.

Fresh TVs may be stored for up to 3 days by the means mentioned above depending on temperature; the hotter it is, the shorter the shelf life.

For processed vegetables, storage was in grain bags (polystyrene) that allow aeration. The bags are hung or placed in a cool part of the house. Frequent inspection occurs so as to minimise losses. Plastic bags were said to be unsuitable due to poor aeration that caused the quality of the vegetables to decrease. Stacking of bags was undesirable as it resulted in the produce being crushed (pulverization) rendering it unmarketable. Stored dried produce could stay up to a year if it was not exposed to moisture and weevil damage.

Losses in storage occurred if the produce was exposed to moisture. Moulding occurred and thus made the produce unfit for consumption. Rats and weevils were reported though to a lesser extent. No chemicals were used to control these. Crushing of vegetables occurred where too much pressure was put on them. Although the TVs may still be used in that state, marketing them is difficult.

GRADING AND PACKAGING

Sorting is carried out when the produce is bought from the producer. The undesirable portions such as the over-mature leaves, those damaged by pests and those that have yellowed are removed. At sorting the material is also broken down into portions that are sold to the consumer for a certain price. Packaging is only done for Lady's Finger - the others are sold either bundled or loose.

Dried vegetables may be packed into plastic bags or they may be sold from a saucer or cup used as a measure. Some dried vegetables, such as cowpea leaves were often packed in transparent, perforated plastic bags

PROCESSING

Processing is done in two main ways. Vegetables may be dried out in the sun after sorting and chopping them up. If the weather is favourable, i.e. sunny with no interruption due to rain, drying in this way takes up to 3 days for the leafy vegetables. For Lady's Finger it may take up to a week. The vegetables are spread on a plastic sheet and are turned periodically to ensure uniform drying. Some protection is essential to guard against pets e.g. dogs, cats and birds that may disturb. This process is normally done around the homestead rather than at the market. When they were dried satisfactorily, the vegetables are then bagged and stored. This process is done in summer when fresh vegetables are available in abundance.

Another way of processing is to initially boil the vegetables (par-boiling/blanching) with a little salt. After boiling the vegetables are cooled and put out to dry in the shade. Drying in this way may take up to 5 days. At night the vegetables are removed so as to minimize dew that may occur. Amounts processed vary, some may process the equivalent of a 50 kg bag of dried vegetables at a time in 3-5 days.

The majority of traders though do not process vegetables because they concentrate on marketing i.e. they purchase produce that is ready for marketing. It was noted that wholesalers would do more processing than vendors and stallholders but less than producers.

EXTERNAL SUPPORT

It appeared that traders do not benefit from any assistance from outside. Information is shared among the traders on such matters as sourcing and pricing of produce. Other traders said that they obtained information from elders who had more knowledge on TVs than themselves. The documentation of information on TVs may assist in enhancing interest in TVs. With the increased interest in their utilization, this information would further enhance support in their cultivation marketing and consumption.

DISCUSSION

In the areas further from the city centre, (Chigodora/Chitakatira, Rowa, Nyanyadzi, Honde Valley) it was noted that the producer was also the wholesaler and vendor/stallholder, so that the distinction of types of traders was sometimes obscure . On the other hand, the stallholder in town tended to be fairly consistent in retaining that role (and stall). In Dangamvura, the position of traders was similar to those in out-lying area (Chigodora etc) because they tended to walk from the near-by communal areas of

Dora-Dombo and Dora-Pinto. It would have been interesting to probe for more detail on whether there is any change in their position with season, or what factors contribute to them remaining 'seemingly unspecialised''

There tended to be a higher frequency of group interviews in the city than in other parts visited due to what appeared to be mistrust among the traders. Some stallholders would come and participate as a way of ensuring that they knew what was going on. As soon as they thought they had had enough, they simply got off to their stall.

B. CONSUMERS

GENERAL INFORMATION

Most of consumers interviewed were in the different parts of Mutare, mainly in the city centre and the residential areas Sakubva and Dangamvura.

Out of the 18 interviewees only two were men. The rest were women, eight (8) of whom were in three (3) groups and the remaining eight (8) were individuals. Most of the interviewees were of middle age, except for one man and three (3) ladies who were elderly.

Seven (7) interviewees were in town, four (4) in Dangamvura, five (5) in Sakubva and one in Honde Valley. Out of the eighteen (18) only two reported that they were unemployed, the rest said that they were informally employed. Most of these were small-scale farmers or vendors.

TABLE 6 NATURE OF CUNSUMERS INTERVIEWED

Location	Number of interviewees	
	Male	Female
City Centre (Mutare)	1	*2 (6)
Dangamvura		4
Sakubva – Musika	1	1 (2)
Honde Valley		1
TOTAL		18

* 2(6) means that there were 2 groups with a total of 6 interviewees.

PURCHASE OF TVs

All the interviewees reported that they preferred fresh vegetables to dried ones, and that preference was due to taste.

The most important fresh TV was Spider Flower based on the fact all the interviewees said that they consumed it. Black jack followed it closely, after which came Pumpkin leaves and Lady's Finger. Amaranthus and *Corchorus sp.* leaves were less important, but were mentioned frequently.

Out of the vegetables mentioned, those most preferred in order of importance were:

1. Spider Flower/*Cleome gynandra/Nyevhe/Runi*
2. Blackj jack/*Bidens pilosa/Nhungunira*
3. Pumpkin leaves/Cucurbit leaves
4. Lady's Finger/*Abelmoschus esculentus/Nyatando*
5. Mushroom/Chowa
6. Amaranths/*Amaranthus sp./Mowa*

A full list of the TVs that were bought and used by the consumers interviewed was as follows;

1. Spider Flower
2. Black jack
3. Pumpkin leaves
4. Lady's Finger
5. Mushroom
6. Amaranths
7. Gallant soldier (*Galinsoga parviflora*)
8. *Cleome monophylla*
9. *Solanum sp.*
10. *Tapa* (Shona)
11. *Cucumis anguria*
12. *Brassica juncea*
13 Cowpea leaves

Dried cowpea leaves were the only dried vegetable that was mentioned and would appear to be important only when other fresh material was out of season.

WHY CONSUMERS USE TVs

A number of reasons were given for consuming TVs, and chief among these were taste and medicinal value.

Taste was described in various ways. Spider Flower and Amaranths were said to be tastier and Black jack closely followed these.

On medicinal value, Black jack was the most important, it was said to among other things:
- cure stomach ailments (ulcers, etc)
- build the body for adults.
- treat heart ailments
- lower high blood pressure
- cure fits (epilepsy)
- be good for expectant mothers (it was not easy to get exactly how)
- treat a hangover

Four of the interviewees reported that they were using more TVs on the doctors' recommendation, and it was their general understanding that all TVs have some medicinal value. *Corchorus* [*Derere pfumo (munda)*] was said to be good for treating a backache.

Other reasons that were given for consuming TVs were that they were cheaper as compared to the exotic ones at the market. It was also revealed that during their preparation cooking oil is not a must and this further makes them a cheaper relish. Others preferred TVs because they grow naturally without the use of fertilizer and chemicals and this makes them taste better. Apart from using it as a vegetable, one lady interviewee said that when it was squeezed, the leaves of Amaranthus had soap properties and thus she could use it for washing!

PREPARATION OF TVs

1. FRESH VEGETABLES

Traditional vegetables may be prepared in a number of ways, but it appears that all of them are boiled. No consumers reported using them in their state, that is, without having boiled them at some point. Some of the ways in which the popular IVs are prepared were reported to be as follows:

(a) *Corchorus (Derere – Munda)*
After collection or purchase from the market, the vegetables are spread out on flat basket and sorted out to remove the over mature leaves which have become woody. Foreign undesirable materials, such as other plants, insects and dried leaves are also removed. The leaves are then left to lose rigidity (wilt) for about 2-3 hours depending on the external conditions. The leaves are then washed to ensure that they are free of any soil splash. The leaves are put in boiling water, simmered for about half an hour after which time all the water should have been lost from the pot. Some consumers reported using boiling water to which SODA (Sodium bicarbonate) would have been added (up to a teaspoon full). Others indicated that SODA was only necessary when the leaves of *Derere-munda* were over-mature - for the younger tender leaves SODA is not essential.

Tomatoes, chopped up into small pieces are then added together with just enough water to cook the tomatoes. Salt may also be added at this point. When the tomatoes are cooked, the vegetable may be served.

(b) LADY'S FINGER (*Derere – Nyatando*)
The calyces are removed from the pods and the over mature pods are discarded. Smaller less fibrous pods are more desirable. Pods are then washed and chopped up into thin discs. The next step is to put them into boiling water to which SODA and salt have been added. As cooking progresses, the pot is continuously stirred to keep down the "froth" (*Kupipitsa*). The process may take up to 10 minutes or until the froth subsides. The *Derere-Nyatando* is allowed to cook for another 10 or so minutes after which most of the water would have been lost.

Tomatoes are then added and the mix is allowed to cook at low heat until the tomatoes are cooked. Some consumers reported that they might add in addition to the tomatoes, Royco Usavi Mix (a corn-starch based powdered cooking aid used to flavour relish). No consumers reported frying, roasting or the use of cooking oil in the preparation of *Derere*.

(c) BLACK JACK *(Nhungumira)*
The vegetable is cleaned and sorted as in (a). Woody portions and flowers are also removed.
The next step is to add the leaves to enough boiling water to cook the portion. When the water is low, tomatoes, peanut butter and salt may be added to taste. The cooking is then allowed to complete. Other consumers though, reported that the initial portion of boiling water is discarded and cooking is allowed to continue with another lot of water. The reason given for removing the "first" water was that if not removed, the vegetable would taste bitter.

Two consumers said that instead of throwing away the water, they allowed it to cool down before bottling and refrigerating it for later use as a drink in the morning. This drink can be used for curing stomach ailments or for treating hangover after a heavy drink. However, this water was said to be good for only two to three days only after which it is disposed of. Those who discarded the "first" water said they then added tomatoes or peanut butter and salt to taste, and continued cooking with another (fresh) lot of water. After a while the relish was ready for serving.

(d) PUMPKIN LEAVES *[Muboora (Mutikiti)]*
The first step in preparing *Muboora* for cooking is to remove the hairy skin on the leaf petiole as well as at the back of the primary (mid) and secondary ribs. (*Kufunura*). After that, the leaves and the flowers are washed, cut up into small pieces and then put into boiling water into which a small amount of SODA would have been added. When over-mature leaves are to be cooked/prepared, more SODA may be added. Some consumers substitute SODA with the ash obtained from dry maize cobs

(called *Mutomba* in Shona). In fact the ash may be used as a substitute to soda in the preparation of most IVs. As the *Muboora* is cooked, it is stirred to make it soft. When soft some consumers may add a small amount of another TV e.g. *Cucumis anguria (Mukakashango)* so as to enhance flavour. After the *Mukakashango* has softened, tomatoes may be added and everything is cooked till the tomatoes are well done.

Some consumers reported mixing Amaranth with pumpkin leaves at a 50:50 ratio after the pumpkin leaves have boiled for some time so as to produce a highly flavoured mix. For this recipe, the use of SODA or ash is no longer essential. The addition of peanut butter is usually preferred to tomatoes in the mukakashango:muboora mixture.

(e) INDIAN/ASIAN MUSTARD (*Tsunga*)
Tsunga is boiled after chopping it up and washing it. The boiling is usually for a while so that the vegetable is soft. Some consumers boil *Tsunga* for a short while, discard the water and add a fresh lot so as to reduce bitterness. The fresh lot of water will then take the *Tsunga* cooking to completion. Peanut butter or tomatoes may be added to the relish.

2. DRIED VEGETABLES

(a) COWPEA LEAVES (*Munyemba)*
Cowpea leaves may be eaten fresh or dried. Most consumers interviewed prefer the dried leaves. The leaves are initially soaked in water so as to rid them of dust and other solid matter. They are then boiled for a short while and the water is discarded. The cooked vegetable may then be added to an onion and tomato soup and then put on low heat until well cooked. Salt is added to taste.

(b) OTHER DRIED TVs
Other dried vegetables such as spider flower and pumpkin leaves, although less popular, may be prepared in much the same way as with cowpea leaves.

For those consumers interviewed, cowpea leaves was the only important dried TV mentioned.

NUTRITIONAL AND OTHER VALUES OF TVs

All consumers interviewed reported that TVs were good for one's health. Since they do not need a lot of fat during preparation, TVs were said to be desirable because they did not need expensive ingredients. Hardly any consumer interviewed used cooking oil in preparing TVs. Health benefits, although mostly not specific were recorded as below.

(a) Slimy vegetables/*Derere* (both *Corchorus* and Lady's Finger) were reported to treat stomach ailments, including a running tummy.

(b) Spider Flower was reported to heal backache as well as stomach ailments.

(c) *Ngaka* was a good appetizer that made one eat much more.

(d) Some consumers said all TVs were good for bodybuilding. "They were better and cheaper than exotics." One woman that she was encouraged to consume Amaranths by nurses at the clinic.

(e) One consumer said that the fresh juice from Black jack was good at healing mouth ulcers. One would squeeze the juice on the ulcer(s) and keep it there for a while.

Some male consumers said that they liked Black jack, Amaranths, and Lady's Finger to treat a hangover. One man reported that TVs such as Black jack and Amaranths were good to eat as one drank beer, while okra was good for a hangover.

CONSUMER PREFERENCE

All consumers interviewed except for one reported that they preferred fresh TVs to dried ones. The main reason given was that fresh TVs tasted better than those that had been processed and dried.

Two consumers said they sometimes boil and refrigerate their TVs but they noted that the quality (particularly taste) went off within three or so days. Because of the decline in eating quality noted with TVs stored/processed, most consumers used them fresh, but they would always boil the TVs. Consumption of TVs was thus largely during the rainy season (November - March).

The only important dried TV was Cowpea leaves which are consumed during the off-season (May - October).

CONSUMPTION

Most consumers interviewed would eat TVs twice or thrice per week, with some eating as many as six times per week during the rainy season. The most frequently consumed TVs were pumpkin leaves, Spider Flower, Blackjack and okra. For those with gardens or were using vleis consumption was consistent throughout the year, but in general terms there was more TV consumption in the summer than any other time of the year.

There were more male-headed than female-headed households. Out of all those interviewed, only two indicated that only the females in their households consumed TVs. It was not clear why the males in these households avoided them.

In all the families, all members consume TVs during their meals. The quantities consumed per head/family were not established but three to four portions were said to be enough for a family of six per meal. Consumption of TVs was not targeted for any particular day(s) of the week.

More consumers reported an increase rather than a decrease in the consumption of TVs. Only two consumers reported that they had not noticed any change in consumption. For those who reported an increase, the exorbitant price of substitutes was given more frequently as a reason. The reason that TVs were healthy food was also given. TVs were said to be expensive at the onset of the rainy season as small amounts start coming into the markets. But with the season progressing, the prices stabilised as larger amounts become available and are consumed. Prices were reported to go up again at the end of the season as supply declined. It is important to note here that the consumers implied that for the same price, the quantity of TVs bought varied depending on the supply-demand situation i.e. when there is a scarcity at the beginning and the end of the wet season the portions tended to be smaller than during the middle of the wet season.

Diminished availability was reported as the main reason for low consumption. Children were said to prefer exotic vegetables to TVs and thus parents ended up preparing more exotics in preference to TVs resulting in lower consumption.

Most TVs are bought fresh in summer (November - March) when they are available. In areas that had better water resources, TVs were available for longer periods. Okra/Lady's Finger, for instance was available throughout the year at Nyanyadzi (an irrigation scheme).

SOURCES OF TRADITIONAL VEGETABLES

Most consumers in the city bought their TVs from vendors at various locations. Those out of town collected their supply from fields and other areas such as fallow lands when the time was ripe. Others collected them from the wild. Irrigation schemes were also important sources for those TVs that were cultivated such as okra those that are common weeds such as Black jack and Amaranths.

Most consumers interviewed did not produce their own TVs.

Most consumers reported that there had been a marked increase in the availability of TVs on the market and that prices appeared to stabilizing. Prices are rather high at the beginning of the rainy season and towards the end when supplies are low.

IMPROVEMENTS NEEDED TO ENHANCE CONSUMPTION

(a) At household level most consumers reported that additional ingredients such as peanut butter, tomatoes, “Royco Usavi Mix” and "bones" to make TVs tastier could increase consumption within the household.

(b) Parents ought to expose their children more to TVs so that they develop a taste for them and this would result in an increase in consumption.

(c) Other consumers reported that advertising on radio and other media should improve awareness on the use of TVs. That should be accompanied by the development of exciting and easy to follow recipes.

(d) “Promotion demonstrations in supermarkets and the market place giving potential consumers opportunities to taste would also enhance consumption” reported at least one consumer interviewed.

(e) "If seed was available, then we would cultivate it on our own," reported another interviewee. If irrigation water was available there would be supply for a longer period of the year to improve on the current short period of supply.

SUBSTITUTION

Milk and exotic vegetables such as rape, *Covo* and cabbage acted as substitutes for TVs. Most consumers reported that they preferred the TVs to the exotic vegetables but only used exotics because at some times during the year they were the only vegetables available.

TVs were desirable because they were cheaper and tastier.

USE OF OUTSIDE INFORMATION

The use of outside information was restricted to persons known to the consumers such as relatives and friends. Parents or the elderly gave most of the information on TVs from collection, preparation and cooking. There were no formal means of obtaining information on TVs.

C. PRODUCERS AND COLLECTORS

GENERAL INFORMATION

Producers and collectors were found in the areas around the city as opposed to the city proper where most of the traders and consumers interviewed had been found.

The major areas where producers who were interviewed carried out their activities were as follows:

TABLE 7 MAJOR PRODUCTION (COLLECTION) AREAS OF TVs AROUND MUTARE

Location	Number of interviewees	
	Male	Female
Rowa (Zimunya)		12
Hauna (Honde Valley)		7
Nyanyadzi		8
Chitakatira/Chigodora	3	4
Total	3	31

A total of thirty-four interviewees who produced and/or collected vegetables were met mainly within the areas they operated. Only two women were met at Sakubva Market in Mutare, one having come by bus from Nyanyadzi and the other from Chitakatira.

Most of the producers/gatherers were middle aged women, whose other activities included the production of crops such as maize, groundnuts and a wide variety of vegetables, the main ones being tomato, beans, onion and carrots for income generation. The interviewees also said they sold other commodities such as fruit and craft at the markets close to where they were found.

Other interviewees reported that they had noted an increase in demand for TVs and these were becoming more important particularly in summer when exotic vegetables were in short supply. One woman from Chitakatira reported that she was not aware that TVs could earn her money until she noted her daughter-in-law collecting them for sale in Mutare and she followed suit. Since then she has been earning a reasonable income from that.

All the producers interviewed produced pumpkin leaves, okra and cowpea leaves from seed that they retained.

About 20% indicated that in addition to keeping the seed for those named above, they also used retained seed in the production of Spider Flower (*Runi/Nyevhe*) and *Ngaka. Ngaka* was mostly found in the Honde Valley area. All the other vegetables were said to sprout on their own when conditions were favorable. Most of the TVs germinated with the onset of the rains in November. In those areas where moisture was not limiting such as at irrigation schemes, riverbeds and vleis, the period during which the vegetables were available and could be collected was much longer.

The seed for the cultivated vegetables (TVs) could be obtained at the market place from vendors as well as larger suppliers such as Farm and City Centre.

A full list of the major TVs produced and collected is given in the table below.

TABLE 8 TRADITIONAL VEGETABLES PRODUCED AND GATHERED IN THE PERI-URBAN AREAS OF MUTARE

Vegetable	Ranking	Production/Collection Period	Status of Production
Corchorus	5	Nov – Feb, all year round in Chitakatira/Chigodora	Collected
Lady's Finger	2	Nov – Feb, all year round in Chitakatira/Chigodora & Nyanyadzi	Cultivated
Pumpkin leaves	1	Dec – May, all year round in Nyanyadzi, Honde Valley & Chitakatira/Chigodora	Cultivated
Spider Flower	3	Dec – Feb	Collected
Mushroom		Dec – Feb	Collected

Cucumis anguria		Jan - Mar	Collected
Amaranth	5	Dec - Feb	Collected
Ngaka		Dec – Feb, all year round in Nyanyadzi & Honde Valley	Collected & cultivated close to river banks
Sweetpotato leaves (*Kowa)*		Dec – Mar, all year round in Nyanyadzi and Honde Valley	Cultivated
Black jack	4	Dec – Apr, all year round in Honde Valley & Chitakatira/Chigodora	Collected
Galinsoga parviflora		Dec – Mar/Apr, all year round in Chitakatira/Chigodora and Nyanyadzi	Collected

* The ranking was based on the perceptions of the interviewees. A ranking of 1 was assigned to the most important and 5 the least important vegetable.

All the cultivated TVs were intercropped with other crops such as maize and beans. Cowpea leaves, pumpkin leaves, and *Ngaka* were those most commonly intercropped. Seeds were sown randomly within the maize land.

Those collected were often picked from main crops such as maize where they volunteer as weeds. Collections could also occur in the wild or close to rivers in the drier part of the year.

Okra on the other hand was reportedly produced under monoculture conditions. No producers reported ever intercropping okra. For intercropped TVs, the area depended on the extent of the 'main crop'. It was not possible to determine the extent of the area within which collections of TVs were carried out.
Women except for the three men that were interviewed largely carried out traditional vegetable cultivation. The men concentrated on the cultivated ones such as Lady's Finger and pumpkin leaves. Men did not appear to participate in collections from the wild.

There has been an increase noted in demand for TVs over the last 3 years with producers responding by increasing production/collection to satisfy the market demand. The producers themselves reported that in general they had not increased their own consumption of TVs. Most producers consumed TVs up to 5 (five) times per week of those that would be in season i.e. during summer mainly. In the wetter areas the seasons could be longer and consumption was about three times per week. (About 80% of those interviewed consumed TVs at least twice per week, and all members of the family would consume). Those TVs mostly consumed were Spider Flower, okra, pumpkin leaves and Black jack.

The amounts sold by producers varied from one vegetable to the other, ranging from 10 bundles up to more than 50 bundles per day per producer. One *Corchorus* collector reported sales of up to 10 x 50kg bags/containers per day.

Table 9 below shows the average weekly sales of some TVs.

TABLE 9 SALES OF TRADITIONAL VEGETABLES BY PRODUCERS AND COLLECTORS IN THE PERI-URBAN AREAS OF MUTARE

Vegetable	Quantity sold by producer
1. Spider Flower (*Runi/(nyevhe)*	10-100 bundles (portions)
2. Pumpkin leaves (*Muboora/Mutikiti)*	10-50 bundles
3. Black jack (*Nhungunira)*	10-30 bundles (portions)

4. *Cucumis anguria (Mukakashango)*	20-30 bundles/week
5. Amaranths (*Mbowa)*	5-30 bundles/day
6. Cowpea leaves [*Nyemba* (dry)]	1 x 20 L tin/day (Max)
8. Lady's Finger (*Nyatando)*	20-40 packets/day
9. Mushroom (*Chowa)*	10-30 portions/day
10. *Corchorus [Derere (pfumo)]*	5-10 portions/day

The figures given above were for particularly good days. The total production per season per unit area would have been useful in assessing productivity.

WHY TRADITIONAL VEGETABLES ARE CULTIVATED

Three reasons were given as to why TVs are cultivated. All producers and collectors reported that they do it for domestic consumption as well as for income generation. They reported that the TVs did not have high production costs when compared with other crops.

Two producers reported that they also did it for medicinal purposes. They ensure that they always have some Black jack in production so as to treat various stomach ailments.

PRODUCTION

a) PUMPKIN LEAVES (*Mutikiti/Muboora*)

The seed may be obtained from friends, bought at the formal or informal market or may be retained. Sowing is usually with the onset of the rains in dryland or earlier in irrigation schemes, wetlands and gardens. Sowing is done once the main crop (usually maize) has emerged. Although women mainly do sowing, producers said that there was no known barrier why any member of the family may not do it.

Two interviewees mentioned that they actually encouraged all family members to participate, as it gave better chances of a good crop.

At emergence about a shovel full (approximately 500 g) of animal manure (cattle, goat, chicken) is applied around the seedling. Inorganic fertilisers are not used, neither is top dressing as it said to affect the taste of the TV.

In the event of a pest being noted, wood ash is dusted on to the plant(s) to control the pests. No other pest control method was mentioned.

As the vines spread, leaves are harvested continuously. An adult female so as to minimise damage that would limit further development of the plant usually does harvesting. Particular care is taken not to damage or remove the growing points of the plant. Some producers reported that they would not allow anyone else to harvest their plot. Harvesting is usually done from January to May in the dry areas, or throughout the year in wet areas and in irrigation schemes.

b) LADY'S FINGER (*Nyatando)*

Lady's Finger is planted in 2 - row beds. In areas that do not experience ground frost like Nyanyadzi and Honde Valley, sowing can be done throughout the year. 'The maize spacing' i.e. approximately 0.9 m between rows and 0.3 m within the row with 2 to 3 plants per station is used. At emergence manure is applied similar to the way this is done in the cultivation of pumpkin leaves. The crop is weeded to ensure that no weed competition occurs.

As the pods mature, they are picked at the desirable stage. Producers pick the pods regularly to ensure that the picking period is longer. Producers did not report any pests and thus used no pesticides for the crop.

Women do most of the picking and the interval depends on the growth rate.

c) OTHER TRADITIONAL VEGETABLES

Most of the less important TVs are collected as and when they have sprouted. Thus there is no attention on such TVs when compared to the more important ones.

It was also noted that the TVs such as Amaranths, Spider Flower and *Ngaka* grew abundantly on area that had manure on them. In some cases fields that were idle became good collection areas for produce such as Black jack. One collector in Mutare reported that she goes to the nearby prison farm to collect Black jack, Amaranths and Spider Flower from the fields where exotic vegetables were growing or had been previously growing.

Most collections are done during the wet season. It was noted though that TVs collected when it was cloudy had a poor taste and did not keep well. Collectors thus endeavoured to obtain their TVs when it was sunny.

Few pests were reported but these could not be identified. Producers simply avoided those parts of the plant that had been affected. Producers did not report on any other constraints to production except for limited production periods in the drier areas. There appeared to be no constraints as far as the collectors were concerned.

PROCESSING AND STORAGE

The majority of the producers interviewed reported that they did not process their TVs. Forty per cent (40%) of those interviewed reported that they processed TVs and these included okra, cowpea leaves, pumpkin leaves and Spider Flower. Fresh TVs could only store for up to two days because of their short shelf life.

a) LADY'S FINGER/OKRA

The pods are chopped up and after discarding the calyces they are put in the sun to dry. The leaves are usually placed on plastic sheeting to avoid contact with the soil. The TV is turned occasionally to ensure uniform drying. This process takes 3-4 days. The dried vegetable is then packed in bags and stored in cool place.

b) COWPEA LEAVES

The leaves are left to wilt slightly before they are washed and boiled for about 10 minutes. The boiled leaves are washed again and re-boiled for another 10 minutes after which they are placed on an open surface to cool. They may then be squeezed into small bolls and put out in the shade to dry, but in most cases they are just laid out to dry without shaping them into bolls. The drying process takes 2-3 days.

c) PUMPKIN LEAVES (*Mutikiti/Muboora*)

After cleaning, the TV is chopped up and then boiled for a while, then removed to cool after which it is put on plastic sheeting under shade to dry. The process takes 2-3 days.

d) SPIDER FLOWER (*Runi/Nyevhe*)

The treatment is the same as above.
Producers who are involved in processing are usually able to work on about a 20L tin of the product at a time. A single adult is able to work on collecting, cleaning, boiling and the commencement of drying in a day. There are a number of constraints associated with processing.

CONSTRAINTS

In situations when rain falls for prolonged periods, drying becomes difficult due to the high humidity. The TV may develop moulds and rots that lead to losses.

Losses may result in the same way if there is not enough sunshine.

A heavy wind blowing may result in dust being deposited in large amounts on the TV and this lowers eating quality. Drying in some protected place may be useful.

Losses in storage may occur owing to rots, weevils and crushing due to pressure.

Some artificial means of drying should be investigated so as to minimise the influence of environmental conditions on the drying process. None of the interviewees reported that there had been any external advice given on the issue.

MARKETING

Marketing tends to be done by women except for the two men who were interviewed who said they did their own marketing.

Produce was sorted out after collecting, bundled into the appropriate portions, and then placed in big baskets that are used as containers for transport to the market. For local markets, the baskets may be carried on the women's heads and then they walk with their produce to market.

For more distant markets, which more producers seemed to prefer, the baskets were loaded onto buses or pick – up trucks heading for the market.

Most producers took their produce to the Sakubva Municipal Wholesale market and the further they were, then the more transport became a major cost in marketing. Except for okra, TVs were generally not packed. They are normally put in bundles, or they maybe left loose so that at the selling point the producer estimates the amount by eye and fixes a price. He/she may break the up the basket-full of loose leaves into smaller portions that he/she then sells.

Dried TVs packed in bags are sold using the same means during the dry season. Price fluctuations may occur for those TVs that may not have been sold the previous day. Usually for these, the price would be reduced.

For the fresh material, prices are usually higher at the start of the season, when supply would not have picked up and then at the end of the season when supply would be falling. In mid season under normal supply situations prices are usually stable. No weekly or monthly price variations were reported.

CONSTRAINTS TO MARKETING

The most frequently reported constraint to marketing was the unavailability of transport suitable to carry produce, as and when required. The buses that most producers rely on sometime refuse to carry produce, and in order to avoid losses, producers end up using more expensive options such as haulage and pick up trucks.

The opening times at the Sakubva market (0630 - 1130 hrs) is so limited that producers are forced to sell their wares at give-away prices so as to meet the market's schedule. Extending the operating hours and improving conditions such as sanitation and shelter would be worthwhile. For the rather small amounts that producers bring to the market, the daily trading fee payable to the municipality is high ($70/day)

Producers would also want to store their produce in the event that it does not sell but that is not possible because the facilities are not there.

CULTURAL ASPECTS

Two women producers reported that the TV '*Musumunhede*' was not to be consumed by men. Apart from that producers did not have other cultural considerations.

EXTERNAL ADVICE

Producers shared information among themselves, from parents and from neighbours but there was no information supplied by any other external organisation.

DISCUSSION

The socio-economic survey revealed that in traditional vegetables as with other small-scale enterprises, the producer might be the collector, trader and consumer all in one. The information that one obtains from the various groups on storage for instance was very similar.

In obtaining information on production, it was not possible to relate amounts in measurable terms (grams) and to the value ($-dollar) so that at the end of the day it was not possible to rank TVs in terms of their economic worth. For better comparisons it would be useful to find out how the various TVs compare in dollar terms, realising that some are cultivated and others gathered from the wild.

It would be worthwhile to investigate more on the health (and medicinal) attributes claimed to the various TV, so that if more is known and substantiated then information could be effectively used for a sustainable TV promotion programme. Consumers and vendors seemed to be livelier in this area than the producers, but with successful promotion all would benefit.

With increased demand for TVs, the need for seed production to facilitate 'off-season' production becomes apparent. But before one goes that far good understanding of the varieties of specified TVs would be needed. Accompanying increased demand may be specialisation of the various players in the chain that should support further development.

In order to consolidate and develop on information obtained in the socio-economic survey, it is essential to proceed with field visits to production areas (some of them) so as to make on- site

observations. The different production practices, varieties and constraints may then be better understood and thus ensure that any further development is worthwhile and substance to evaluate, how safe IV collections from farms are in terms of pesticide residues.

It was evident that there is need to collect more information on IVs. The outer-lying areas such as Nyanyadzi and Honde Valley appeared to have longer lists of IVs, unknown in Sakubva. That information should be worthwhile harnessing, verifying and then made available to various stakeholders.