

Assessing Economic Factors Affecting the Marketing of Tomatoes (*Solanum Lycopersicum*) By Smallholder Farmers at Negomo Co-Operative Society in Mazowe District of Zimbabwe

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Abstract: *This study investigated factors affecting the marketing of tomatoes at Negomo smallholder Cooperative in Mazowe. A descriptive quantitative survey research design was adopted and questionnaires were used to collect data from local farmers. A sample of 100 farmers was randomly selected from the Negomo Cooperative Society from a population of 296 farmers and data was analysed using SPSS version 17 and presented in the form of table, charts and figures. The majority (62%) of these of farmers were found to be selling their produce in urban markets mainly in Harare (Mbare Musika) while a few (38%) sold their produce in local village markets. The study established that the major factor affecting tomato marketing was lack of storage facilities such as cold rooms and cold-containing trucks followed by poor transport mode as 87% of the farmers did not have their own transport and some used buses to carry their tomatoes to markets. Price fluctuations on the market and lack of market information also affected marketing of tomatoes. Lack of experience had an effect on a farmer's quantity of harvest per hectare while age, gender and source of financing had no effect on quantity of harvest. From the results of the study, it can be recommended that there should be the creation of a Horticultural Marketing Board for smallholder farmers, pooling of resources by the farmers to acquire cold rooms and transport for the cooperative farmers which they could use in an organized manner and buying the right packaging materials such as plastic crates.*

Keywords: Economic factors, Horticulture, Co-operative, Market, Marketing

1. Introduction

Agricultural industry is the backbone of Zimbabwe's economy and largely influences the economic, social and political lives of the majority of Zimbabwe. According to [4] it provides employment for 70% of the population, 60% of the raw materials required by the industrial sector and contributes around 40% of total export earnings. In addition, [5] argues that the sector directly contributes between 15% and 19% to annual GDP, depending on the rainfall pattern. According to the Mid-Year Fiscal Policy Review Statement (2013), it contributed between 25% and 29% of the country's total exports in 2012 exporting around US\$1 billion. Zimbabwe's horticultural export industry, accounts for approximately 2% of Zimbabwe's agricultural export earnings [3].

Negomo Co-operative Society was founded in 1996 as a platform to bring together resources for the purpose of establishing small-holder irrigation horticultural production. The project was established as a joint venture funded by the Republic of Germany through Kreditanstalt fuer Wiederaufbau (KfW) and the Government of Zimbabwe in the framework of the Germany financial Co-operative with Zimbabwe. The project is 100% farmer managed following the withdrawal of financial assistance by the Donor in 2002 and the Government of Zimbabwe in 2003. Members of the Co-operative Society contribute monthly levies of \$20-00 towards the operation and maintenance costs of irrigation and administration. The Negomo project was registered as a legal entity in 2003 under the Co-operative Act Chapter 24:05. The Negomo Co-operative Society was formed to satisfy two main objectives, which were to increase household income for members and employment generation through horticultural production on a commercial basis.

Tomatoes are among the most important vegetables grown by smallholder farmers in Zimbabwe. Tomato growers at Negomo Cooperative Society mainly grow the Floradade and Rodade Plus tomato varieties. They are a vital component of diet, providing essential nutrients in raw or relish recipes [10]. Smallholder tomato farmers at Negomo co-operative society are realising low profits from their tomato sales during the period from September 2013 to March 2014. The study seeks to identify economic factors affecting the marketing of tomatoes by smallholder farmers at Negomo Co-operative Society.

2. Methodology

Negomo Co-operative Society is located in Chiweshe area, in Mazowe District of Mashonaland Central Province. The area covers 357 hectares and accommodates 296 farmers. Each farmer is allocated a plot of 1.2 ha, subdivided into 0.5 ha for annual crops and 0.7 ha for citrus. The co-operative depends on irrigation water from a dam built across Ruya River with a capacity of 5 million cubic meters and uses pumped irrigation via an elevated tank. A survey was carried out using a sample of 100 smallholder farmers selected from a population of 296 using random sampling. Questionnaires were used to collect data. A total of 100 questionnaires were distributed to smallholder farmers at the Negomo Cooperative the response rate was 94%.

Descriptive statistics were used to analyze obtained data using the Statistical Package for Social Scientists (SPSS version 17). The results were presented in graphs and charts.

3. Results

Source of financing for farmers at Negomo Cooperative Society in Mazowe District

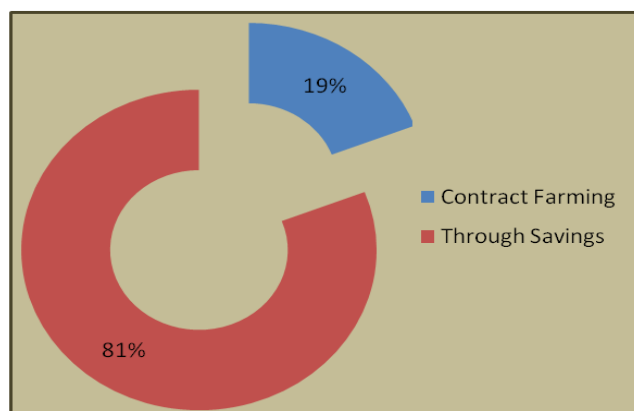


Figure 1: Source of financing for farmers at Negomo Cooperative Society in Mazowe District

From figure 1, the majority 76(81%) of the farmers at Negomo Cooperative were using their own savings to finance their tomato production. This means that the farmers could be accessing credit from financial institutions.

Markets for tomato farmers at Negomo Cooperative Society in Mazowe District

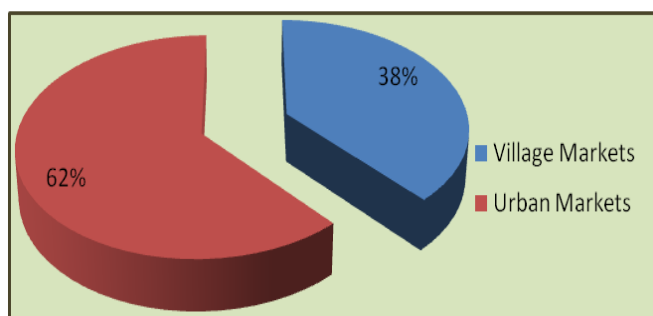


Figure 2: Major markets for tomatoes

The majority 58(62%) of the respondent farmers had access to urban markets as shown in Figure 2. For those who sold their produce to local village markets 36(38%), they highlighted that market distance was the major reason why they opted for local village markets.

Fairness of prices at which farmers sell their tomatoes

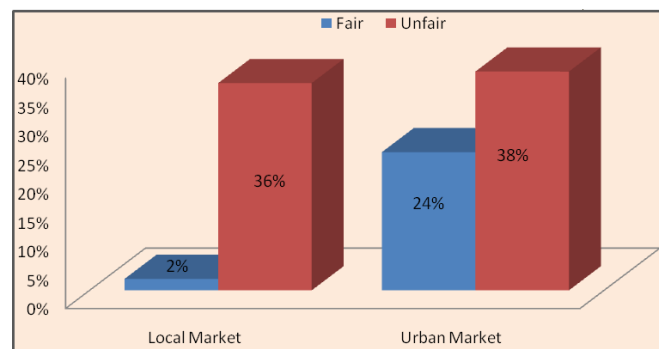


Figure 3: Fairness of prices at which farmers sell their tomatoes

Findings from the study showed that, among the farmers who sold their tomatoes to urban markets, 36(38%) indicated that the prices were not fair while 34(36%) of farmers selling to local markets also echoed the same. However 2(2%) and 22(24%) of the farmers selling to both local and urban markets were content with the prices offered by these markets (Figure 3). Those who sold their tomatoes in urban markets highlighted that prices in urban markets fluctuated but were mostly unfair because farmers would be in a hurry to sell their produce before they go bad due to lack of cold storage facilities. The buyers therefore advantage of the rush the farmers would be in to offer low prices since the produce is perishable.

Storage facilities for farmers at Negomo Cooperative Society in Mazowe District

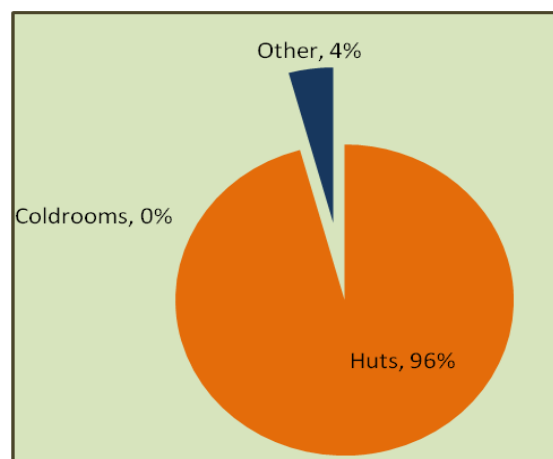


Figure 4: Storage facilities for tomatoes at Negomo Cooperative Society in Mazowe District

From the research findings, 90(96%) of farmers at Negomo Cooperative Society stored their tomatoes in huts before taking them to the market and none of the farmers used coldrooms. This was said to affect the marketing of the tomatoes since they are perishable farmers did not have power to bargain for higher prices since the perishability would be working against them. They therefore end up selling their tomatoes at prices as low as \$3.00/15kg box.

Mode of Transport

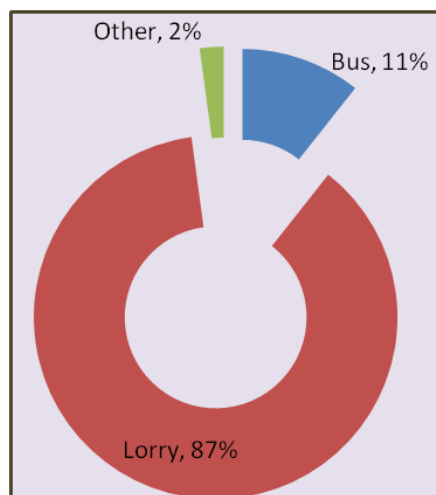


Figure 5: Mode of transport

The results of the study showed that the majority 82(87%) of the respondents used hired transport (lorries in this case) to ferry their produce to the market. However, of concern was that only 2(2%) had personal transport means while 10(11%) used buses. Transport hiring was found to be a major cost and it was affecting farmers even to the extent that some farmers would opt for local markets than urban markets. On average transport cost was found to be US\$0.50 per 15kg which would translate to US\$25 for a farmer transporting 750kg, US\$50 for 1500kg and US\$100 for 3000kg.

Type of packaging used in marketing tomatoes at Negomo Cooperative Society

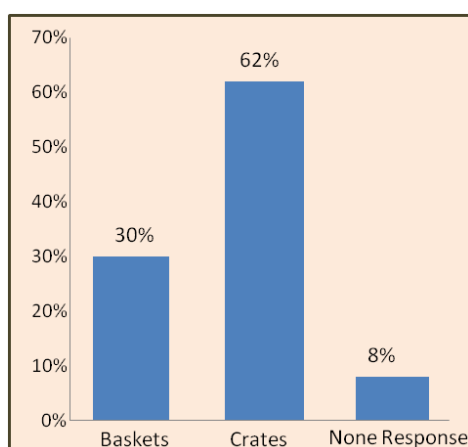


Figure 6: Type of packaging used in marketing tomatoes at Negomo Cooperative Society

The majority of respondents 58(62%) were using plastic crates for packaging their tomatoes for marketing while 28(30%) used baskets (Figure 6). This means that most of the farmers at the cooperative were using the appropriate packaging for tomatoes.

Sources of market information for tomato farmers at Negomo Cooperative Society in Mazowe District

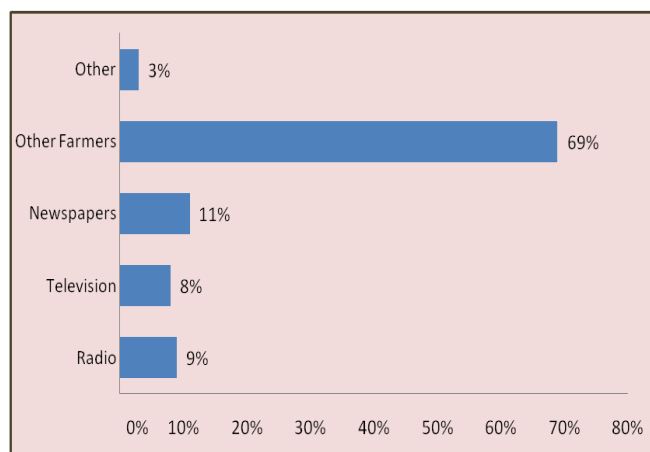


Figure 7: Sources of market information for tomato farmers at Negomo Cooperative Society in Mazowe District

The findings of the survey revealed that 65(69%) of farmers at Negomo Cooperative Society used fellow farmers as their major source of information and relied less on other sources such as newspapers, television and radio (Figure 7). Access to market information could therefore be considered to be a challenge for the farmers, affecting bargaining power in negotiating prices.

Selling of produce through middlemen

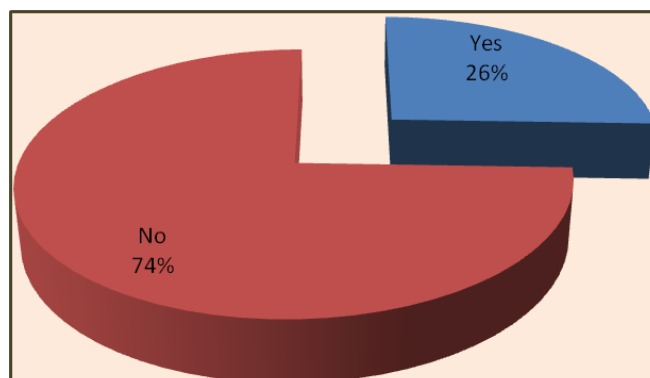


Figure 8: Selling produce through middlemen

Figure 8 shows that only 24(26%) farmers were selling their produce through middlemen. This means the majority of the farmers 70(74%) were not using middlemen, hence, the market chain was short for the majority of the farmers. Those who were selling their produce through middlemen complained that prices were cut low by the middlemen and this affected the profitability of their businesses (Fig 8).

Major factors affecting marketing of tomatoes

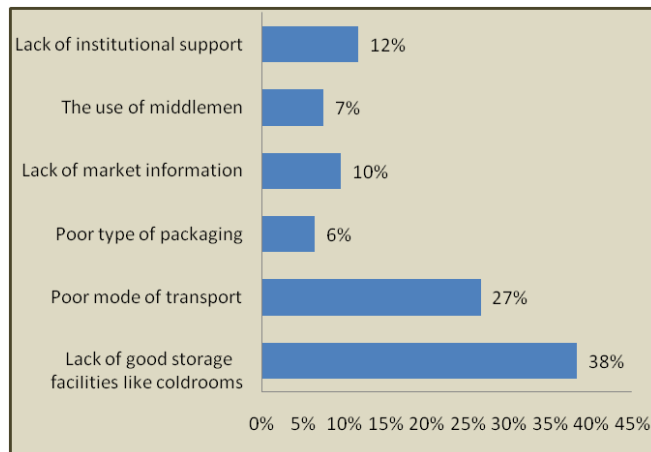


Figure 9: Major factors affecting marketing of tomatoes

The results of the study found out that that lack of good storage facilities like cold rooms and poor mode of transport were the two major factors affecting the marketing of tomatoes as highlighted by the respondents at 36(38%) and 25(27%) respectively. Lack of institutional support 11(12%), lack of market information 6(6%), use of middleman 9(10%), and type of packaging material 7(7%) were other factors found to be affecting marketing of tomatoes.

4. Discussion

Market for smallholder farmers at Negomo Co-operative Society

The majority of tomatoes farmers were found to be selling their produce at urban markets mainly in Harare (Mbare Musika) while a few sold their produce in local village markets. For those who sold their produce to local village markets, they highlighted that market distance and lack of transport were the major reasons why they opted for local village markets which were close by. Findings by [9], in Nigeria noted that transports costs to take produce to the market had an impact in marketing smallholder farmers' produce like tomatoes. However, local village market prices were said to be unfair mainly because the majority of those who bought the tomatoes were middlemen who would then sell the tomatoes to retailers, hence keeping the prices low. Others highlighted that prices in urban markets fluctuated but were mostly unfair mainly because farmers would be in a hurry to sell their produce before they go bad. The buyers therefore take advantage of the rush the rural farmers would be in to reduce the prices since the tomatoes are highly perishable.

Transport

The use of public transport was viewed as one of the economic factors that hamper the smooth marketing of tomatoes by small holder farmers at Negomo Co-operative Society. This view is supported by [11] who argues that the marketable surplus of individual smallholder farmers is too small to be traded economically in distant markets owing to high transport cost. From the observations made farmers spent a good deal of time by the road side trying to negotiate transport cost resulting in losses. Where collection breaks

down due to mechanical faults on a hired truck or the roads are wet and slippery, as it is the case during the rainy season, delays are then experienced and heavy losses of the produce are incurred. According to [2], most horticultural products are perishable and hence would lose value if they were to be transported on public transport such as buses and other traditional forms of transport.

Access to market information

One of the economic factors that was cited by smallholder farmers to be affecting the viability of tomato marketing was the problem of access to market information. This view is supported by [14], who argues that market access is linked to farmers' inability to meet standards, low volumes of produce and wide dispersion of smallholder producers. From the evidence gathered farmers lack accurate and reliable information to penetrate markets that are more lucrative such as supermarkets and this was linked to low volume of produce from smallholder farmers. This was quite evident from the information supplied by the respondents because none of them indicated supermarket chains as their preferred markets. [14] further points out that lack of reliable information and educational levels are also barriers to market access. [8] also argued that lack of information represents a significant impediment to market access by small holder farmers as it increases transaction costs and reduces market efficiency. As a result smallholder farmers are facing markets which are neither competitive nor transparent such as the village markets and some urban markets [7].

Price and price fluctuations

The uncoordinated production and marketing activities as well as the wide dispersion of producers usually results in over supplying the product to the market thereby causing steep price fluctuations [12]. This was also supported by [7] who noted that farmers are now facing markets which are neither competitive nor transparent, and they are greatly disadvantaged, especially those in remote rural areas. They have no incentive to increase the level of their productivity in order to escape the poverty in which many find themselves trapped. Thus many farmers pointed out that at times they sell their tomatoes at give away prices resulting in loss of revenue. [6] also noted that lack of market information on the part of farmers is also downplaying the farmers thus ending up giving away their produce at low prices.

The farmers indicated that tomatoes are prone to price fluctuations due to demand and supply factors. This view is supported by [8], who purports that fresh produce throughout Sub-Saharan Africa shows extreme variability in price, the ratio of maximum to minimum prices within a day can exceed 3:1 for tomatoes, based on varying quality and sudden changes in supply. The issue of low prices obtainable at the market is also being compounded by market touts who connive to lower prices thereby pushing some small holder farmers out of business. This view is being supported by [13] which reveals that the uneconomic prices are attributed mostly to weak farmer bargaining power and market cartels as well as market touts that undermine prices.

Storage facilities

Lack of storage facilities for tomato varieties such as Rodade plus and Floradade was viewed as the most outstanding economic factor that hampers the smooth marketing of tomatoes by smallholder farmers at the co-operative. The majority of farmers depend on traditional methods of storage such as huts and use of crates. The high start up costs for infrastructure such as green houses and cold rooms especially for small holder farmers was cited as one impediment that grossly affects the marketing of horticultural produce such as tomatoes [7]. Farmers argued that lack of such facilities would not allow them to store or with hold their produce in anticipation of higher and better prices. As a result farmers are forced to sell at whatever prices obtaining on the market on that day.

Packaging material

Thirty percent of the respondents were using the wrong packing materials other than plastic crates. According to [7], bamboo baskets are not suitable for packing soft fruit vegetables such as tomatoes because the rough surfaces may damage the produce. Some of those who were using crates were using wooden crates which could also damage the tomatoes if not smooth.

5. Conclusion

The economic challenges encountered by smallholder horticultural farmers include lack of transport and the high cost of hiring transport, unreliable and erratic market information, absence of proper storage facilities, unfair and unstable prices at the market and inability to access and penetrate lucrative markets. Furthermore the uncoordinated marketing activities of these smallholder farmers were also cited as the major cause of price fluctuations, which if continued on a downward trend would reduce farmers' profits.

6. Recommendations

From the results of the study, it can be recommended that, farmers should form associations in order to meet on transport costs collectively. Government needs to assist farmers penetrate the EU or export market which is more lucrative. Farmers also need to co-ordinate production and supply of tomatoes with other farmers from other areas in order to avoid over supplying the markets with the same produce though this is practically difficult considering the approach to farming by smallholder farmers. Farmers are recommended to use locally available materials to construct structures such as storage cold rooms. There is also need for private sector or stakeholders in the horticultural industry to avail refrigerated trucks to farmers at affordable rates and banks to extend financial support to farmers for infrastructure development. Farmers need market information for them to avoid incurring heavy losses due to unreliable and erratic information.

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