Evaluating Marketing Efficiency of Tomato in Khartoum State, Sudan

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ABSTRACT

The study aimed to evaluate the marketing efficiency of tomato in Khartoum State central markets at winter 2010. The study depended mainly on primary data, which was collected through questionnaire. About 18 and 30 wholesaler and retailer were selected, respectively. Relevant secondary data was also collected. The data was analyzed using descriptive statistics. Also, the study specifically estimated the distribution of net margins among the various marketing agents: wholesaler and retailer. The study revealed that; the majority of respondents were aged group more than 31 years of age, about 100% of respondents were male, and about 20, 13, 20, 45 and 2% were represented illiterate, organic, primary, secondary and university education level for wholesalers, respectively. The study indicated that retailers had education level scattered from organic (10%), primary (80%) to secondary (10%) education. About 81% and 90% of wholesalers and retailers had experience of more than five years. Wholesalers generally got higher marketing margins than retailers with exception of Khartoum market, where retailers got higher marketing margins than wholesalers. By the same sequence of marketing margins, net marketing margins followed at wholesaler. Retailers got higher marketing efficiency than wholesalers. Omdurman market was ranked at the top with respect to marketing efficiency followed by Bahari and Khartoum (at wholesale & retail levels). Increasing marketing efficiency at wholesalers in Khartoum market through reducing marketing costs (transportation & handling, packing & other cost items) and encouragement of investment in this efficiency activity represented the recommendations of the study. © 2011 Friends Science Publishers

INTRODUCTION

Khartoum State ranks top among other states in Sudan regarding to production and consumption of vegetables that relates to the higher increase in population growth, income level and nutritional awareness (Mohammed, 2005). Tomato product is considered as most important vegetables crops in Sudan and that due to its economics and nutritional value. It occupies about 28% of the total area under vegetables production (Ahmed, 2009). Tomato is a perishable product that needs more efficient production and marketing activities. Tomato ranks next to potato and sweet potato in production, but as canning crops, it takes the first rank among the vegetables (Michele, 1996). Constraints facing tomato production and marketing include low productivity due to irrelevant varieties, poor seeds, pests and diseases, producers and traders do not have access to credit (Hassan, 1986). Mendoza (1995) conducted study of marketing channels and margins to analyze the marketing of different products (Tomato, Vegetable & Potato). The study demonstrated that even when there were price variations at all market levels, the marketing margins became larger due to increases in the value added by the marketing system.

Abdalla and Simpson (1965) reported that in Khartoum province the early tomato crop is harvested in late September, which secures relatively high prices. Commercial tomato growers in Eilafoun usually time their harvest so that it does not coincide with the produce from Northern Gezira, White Nile and Managil extension. Tomatoes from the later areas, grown during winter, pour into the market during December, January and February resulting in a considerable drop in prices. Only 26% of tomato produced in the Gezira was marketed locally within the scheme, whereas the rest was channeled to the markets of Khartoum (46.7%) and Wad Medani (27.3%). Most of Northern and Wadi shair groups production was marketed at Khartoum, while the produce from central (El Madina) and Southern (Wad Elataia) groups of Gezira found outlets either at Wad Madani or locally (Elhaj, 1987). Middlemen and local retailers dealt with 25.9% of the tomato produce in the Gezira. The share of middlemen was about 16%, where their activities were mainly concentrated in central and Southern parts of the scheme. This implied that not all of the tomato marketed locally was necessarily used for local consumption within the scheme, but may be transported outside the Gezira by middlemen. The tomato marketed at

Khartoum and Wad Madani (74.1% of tomato produced) was mainly sold to brokers (69.5%) and wholesalers (4.6%) in these markets. So middlemen and brokers dealt with the bulk of tomato produced (85.5%) in the Gezira and this agree with the findings of the Ministry of Agriculture (1986) which showed that vegetables market were dominated by middlemen. Tomato prices attained their highest levels during August and decreased to reach their lowest levels in October and November when the bulk of the Gezira tomato production reached the market. Then prices started to increase from December onwards. In spite of the fact that the December-February period is the proper season for tomato production, prices were highest in that period than those of the off-season production in October and November. This was mainly because most of the tomato producers in the Gezira practiced off-season production and this lowered the prices during October-November (Elhaj, 1987).

There are trade relationships between traders in production areas and consumption areas in the central markets of Khartoum State. Though, each farmer in the production area has an agent in each of the three central markets (Khartoum-Omdurman-Shambat). A farmer or a trader contacts the market agents to determine the market price and to choose which the market with the higher price. There is also communication among the agents in the three central markets, to fetch the highest price of tomato in the three markets. Sometimes the brokers, who are in contact with the traders in different central markets, purchase tomato from low price markets and sell it in the high price market. Thus, the distribution strategy of tomato depends on the market price. The market with the higher price is the first receiver of tomato production and the surplus is directed to other markets and this phenomenon is observed in all markets in all seasons.

These central markets kept receiving varying quantities of tomato from different sources. Shambat central market received more than 60% of the total tomato quantity from Gezira area during three seasons. However, Omdurman central market received more than 65% of the total tomato quantity from Gezira area in winter and summer and more than 40% in autumn (Altoum, 2008). Most of the tomato comes from the Gezira area throughout the year also tomato come from Sinnar and Eastern Nile throughout the year. As expected large number of vehicles transport tomato from different parts of Sudan during winter. These include Abo-Roof, Bahri, Karari, Omdurman North, Wad Hamid, Gezira Eslang, Gamoeia, Hager El Asal, River Nile and White Nile. Transportation of off season tomato (during autumn) also takes place from Kosti, Halfa, Managle and Gadarif. Transportation of off season tomato (during summar) also takes place from Kassala and Damazeen. Thus the broad spectrum of areas producing tomato in Sudan indicates the variability of zones that are legible for growing tomato almost all the year round. There are three methods for transporting tomato from production

sites to consumption sites (Altoum, 2008). These are the Lorries totaling to a number of 4.1 thousands, Dafars totaling to about 3.1 thousand and small vehicles (Boxi) with a total number of about 2.07 thousand.

This study aims to highlight the marketing economics of tomato in Khartoum State, Omdurman, Khartoum and Bahari central markets in winter 2010. In the State there are three central markets receive vegetables from different production areas and through wholesalers and retailers the products are distributed.

MATERIALS AND METHODS

Method of data collection: the study depended mainly on primary data, while secondary ones was also collected. The former was collected through questionnaire, while the latter was collected from sources related to topics of the study. About 18 and 30 wholesaler and retailer were selected, respectively.

Data analysis: The descriptive statistics, marketing margin and the marketing efficiency analyses were used in the data for the study.

Descriptive statistics: Descriptive statistic such as the frequency count, percentages, means and standard deviations were used to analyze the data gathered on the socio-economic characteristics of tomato marketers in the study area.

Marketing margin analysis: Marketing margin analysis was used to estimate the margin in terms of revenue and profit that accrue to the tomato marketers. Marketing margin can be estimated as:

$$Marketing\ Margin = Selling\ Price - Cost\ Price$$

Net marketing margin = Marketing margin–marketing cost.

Net Marketing Margin for Wholesaler = Wholesale marketing margin – Wholesale marketing cost.

Net Marketing Margin for Retailer = Retailer marketing margin – Retailer marketing cost.

Marketing efficiency: the Marketing efficiency is measured as:

Marketing efficiency = (Gross marketing margin/ marketing cost) × 100

Also, Sherpherd formula technique was used as follows:

Marketing efficiency = (Consumer price/Total marketing cost) – 1.

RESULTS AND DISCUSSION

Socioeconomics Characteristics

Age: Table I showed that the majority of respondents were aged group more than 31 years. Upton (1987) recorded that age influence managerial decision making.

Table I: Socioeconomic characteristics of traders

Characteristic	Wholesaler		Retailer	
	Frequency	percentage	Frequency	percentage
Age (years)				
< 20	0	00	2	11.0
21-30	2	11.1	4	22.0
31-40	11	33.3	4	22.0
> 41	17	55.6	8	45.0
Total	30	100.0	18	100.0
Gender				
Male				
Female	30	100.0	18	100.0
Education	0	00.0	0	00.0
Illiterate				
Qranic	6	20.0	0	00.0
Primary	5	13.0	2	10.0
Secondary	6	20.0	14	80.0
University	12	45.0	2	10.0
Total	1	02.0	0	00.0
Marketing Experience	30	100.0	18	100.0
<1				
1-3				
3-5	0	00.0	1	05.0
>5	1	09.0	0	00.0
Total	1	09.0	1	05.
	28	81.0	16	90.0
	30	100.0	18	100.0

Table II: Net marketing margins at wholesaler and retailer level at Bahari, Khartoum and Omdurman marketes

Variable	Wholesaler			Retailer		
	Bahari	Khartoum	Omdurman	Bahari	Khartoum	Omdurman
Wholesale Price/Consumer price	0.750	0.500	0.800	1.000	1.000	1.000
Farm Gate Price or Wholesale price	0.080	0.030	0.080	0.750	0.500	0.800
Marketing Margin	0.670	0.470	0.720	0.250	0.500	0.200
Marketing cost:	0.04271	0.06455	0.03073	0.00698	0.01423	0.00539
Transportation & Handling	0.00008	0.00400	0.0012	0.00062	0.0007	0.00020
Rent Cost	0.0076	0.0074	0. 0074	0.0024	0.0021	0.00360
Losses	0.0031	0.0054	0.0056	0.0029	0.0015	0.00130
Packing	0.00003	0.00015	0.00003	0.000	0.0095	0.0000
Others	0.0319	0.0476	0.0165	0.00106	0.00043	0.00029
Net Marketing Margin	0.62729	0.40545	0.68927	0.24302	0.48577	0.19461

Table III: Marketing efficiency of traders (S. G/kg)

Variable	Wholesale			Retailer		
	Bahari	Khartoum	Omdurman	Bahari	Khartoum	Omdurman
Gross Marketing Margin	0.670	0.470	0.720	0.250	0.500	0.200
Marketing Cost	0.04271	0.06455	0.03073	0.00698	0.01423	0.00539
Marketing Efficiency %	15.697	7.281	23.430	35.816	35.137	37.106

Table IV: Estimation of marketing Efficiency- Sherpherd formula technique

Item	Wholesale				Retailer	
	Bahari	Khartoum	Bahari	Khartoum	Bahari	Khartoum
Consumer price*	0.79271	0.56455	0.83073	1.000	1.000	1.000
Marketing Cost*	0.04271	0.06455	0.03073	0.00698	0.01423	0.00539
Purchases price	0.080	0.030	0.080	0.750	0.500	0.800
Total Marketing Cost	0.122710	0.09455	0.11073	0.75698	0.51423	0.80539
Marketing Efficiency (Sherpherd formula)	5.46003	4.97091	6.50230	0.32104	0.94466	0.24163

Source: Data collected and calculated, 2010
* In S. G/kg

Gender: About 100% of respondents were male (Table I).
Education: About 20%, 13%, 20%, 45% and 2% were represented illiterate, organic, primary, secondary and university education level for wholesalers, respectively. The retailers had education level as follows: organic (10%),

primary (80%) and secondary (10%). Upton (1987) reported that education has an important influence in managerial ability and decision making (Table I).
Marketing experience: From the table about 81% and 90% of wholesalers and retailers had experience more than five

years. This means that the tomato marketing is practically done by well experienced traders.

Net marketing margins: Table (II) showed the Net marketing margins for wholesalers and retailers in Bahari, Khartoum and Omdurman. At trader level, wholesalers generally got higher marketing margins than retailers with exception of Khartoum market, where retailers got higher marketing margins than wholesalers. This may be due mainly to lower prices of wholesalers at Khartoum market, which reflected to the fact that Khartoum wholesalers were received tomato product at lower farm- gate price (0.03 SG/kg). At markets location, Omdurman wholesale market showed higher marketing margins (0.720 SG/kg) followed by Bahari (0.670 SG/kg) and Khartoum (0.470 SG/kg). By the same sequence of marketing margins, net marketing margins followed. The lower net marketing margins of Khartoum wholesalers was reflected to the higher marketing cost, which came as a results of higher transportation and handling (0.00400 SG/kg), packing (0.00015 SG/kg) and other costs items(0.0476 SG/kg). This result was agreed with study of Altoum (2008), who found that the inadequate marketing services such as transport, packing and handling represent the main obstacles that facing marketing activities. Khartoum wholesale market is received tomato product from far distance area (Altoum, 2008).

In spite of the fact that Khartoum retailers market got higher marketing costs (0.48577), they showed higher net marketing margins than the other two. This may be due the fact that wholesalers at Khartoum market got lower prices due to their benefit of economies of scale.

Marketing efficiency: A market that is efficient does not only bring sellers and buyers together, it enables entrepreneurs to take advantage of opportunities, to innovate and improve in response to demand and price changes (Fakayode *et al.,* 2010). Table (III) indicated that retailers got higher marketing efficiency than wholesalers.

the retailers. At markets locations, Omdurman wholesale market ranked at the first followed by Bahrei and Khartoum, respectively. At retail markets, Khartoum market appeared higher marketing efficiency than others ones.

CONCLUSION

Increasing marketing efficiency at wholesale level in Khartoum market through reducing marketing costs (transportation, handling, packing & other cost items) is important. Similarly, encouragement of investment in this efficiency activity is essential.

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