

*Full Length Research Paper*

## **Analysis of avocado marketing in Trans-Nzoia district, Kenya**

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The ability of small holder farmers to plant trees or expand traditional tree based system is limited to a number of factors. These factors are scarcity of resources, inadequate technical capacity and experience and market disincentives. Marketing of agro forestry produce is crucial for increasing the available money in the farming sector. Unfortunately, there is little information and experience on the dynamics of smallholder marketing in Kenya. The study was carried out in Sitatunga and Kaplamai locations of Kaplamai division, Trans Nzoia district to study the market dynamics and production challenges of avocado. Primary and secondary data was used; primary data was collected using questionnaires and observation. Published and unpublished materials formed sources of secondary data. Different players in avocado marketing were considered for study. The sample consisted of 30 farmers, 10 retailers and 10 consumers, selected using simple random sampling method. Data was analyzed using SPSS statistical package. The results indicated that middlemen plays a vital role in marketing of avocado for small holder producers and that a lot of marketing challenges such as transportation facilities, low prices and lack of market information existed for marketing agents. From the results, recommendations were made to the SCC- Vi-Agro forestry Project Management to train farmers on market dynamics, record keeping, planting of improved avocado seedlings, networking, value addition, market information generation and dissemination.

**Key words:** Avocado, marketing, price determination.

### **INTRODUCTION**

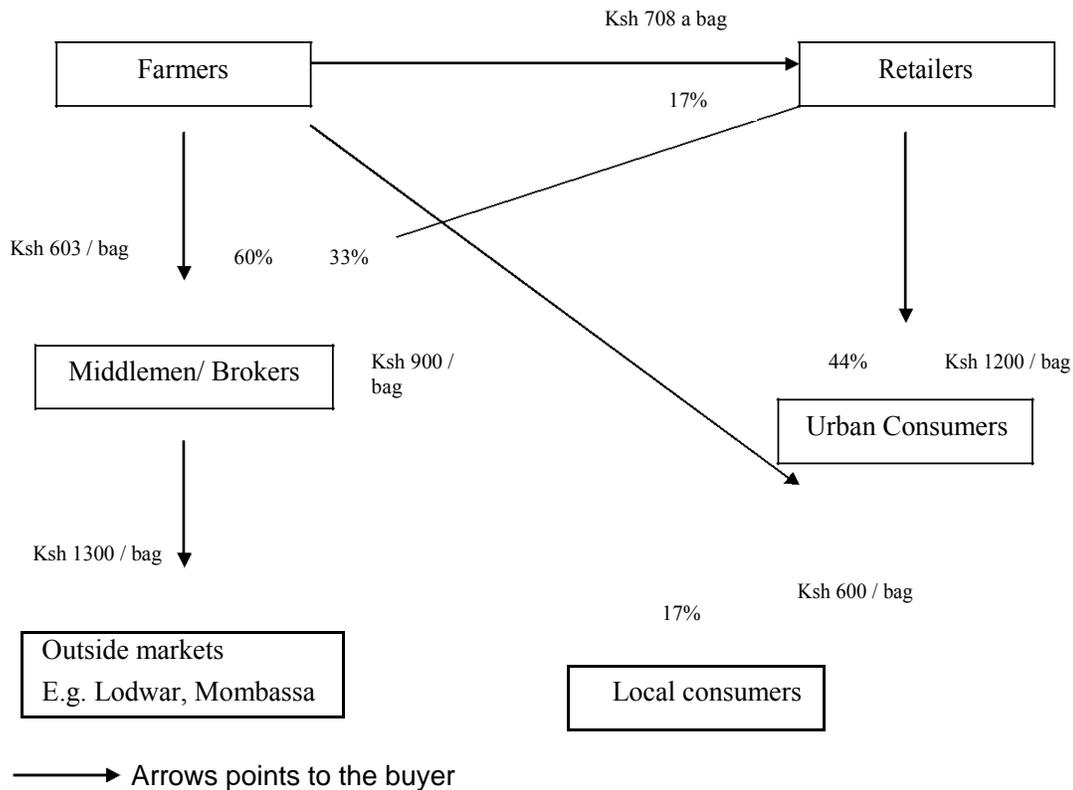
#### **Avocado**

Avocado is grown in small scale by most of small scale farmers in Kaplamai division. It serves as food, animal feed, and source of income, firewood and timber. Main varieties grown were Hass and Fuerte, harvested twice in a year. The cost of producing avocado fruits is negligible since most farmers do not use fertilizers, but use domestic manure alone which is generated locally. Spraying is also not done since many farmers do not know that the trees require spraying.

Farmers harvested fruits by use of poor traditional

methods, which contributed to the fruits' damage when ripening (Betser et al., 1999). The fruits is mainly detached by means of a forked stick and allowed to fall leading to damage of the fruits. Nowadays, harvesters use clippers for low hanging fruits and for those higher up a long picking pole with a sharp "V" on the metal rim to cut the stem and a strong cloth bag to catch the fruit. Gloves are worn to avoid fingernail scratches on the fruit. In California, studies have been done on the effects of hand clipping (leaving stem on), hand snapping (which removes the stem), tree-shaking and limb shaking (which removes the stem from some of the fruits) (Koch, 1983; Tom, 1990). Rice et al. (1986) found out that all methods are acceptable if the stem scar is waxed on stem less fruits to avoid weight loss before ripening at which time the stem detaches naturally. In Australia, some growers

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**Figure 1.** Summary of market channels for avocado fruits.

use hydraulic lifts to facilitate hand-picking. After harvesting, the fruits must be handled with care, packed and padded in single or double-layer boxes or cartons for shipment. The fruits may also be held in position in molded trays (Stachys, 2001)

Marketing of avocados is mainly done in the local markets within Sitatunga and Kaplamai villages in Kaplamai Division. The fruits were also sold in Kitale Municipal Market. The study was therefore conducted to analyze the existing market situation, its impact on production, distribution and pricing of avocado products. The study highlighted marketing problems experienced by farmers and marketing agents.

## MATERIALS AND METHODS

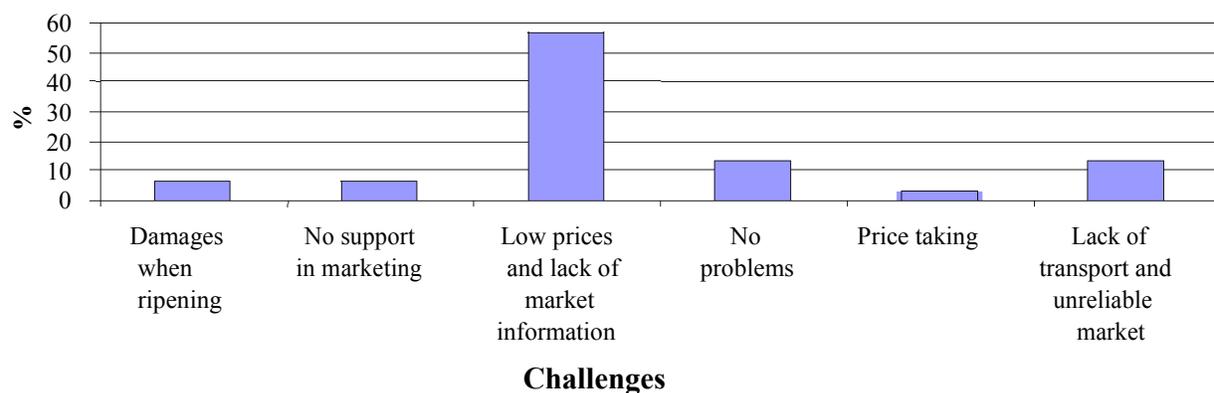
The study was carried out in Sitatunga and Kaplamai locations of Kaplamai division Trans- Nzoia district in the year 2006. Primary and secondary data was used in this study. Primary data was collected using questionnaires and observations. Published and unpublished materials formed sources of secondary data. Different players in avocado marketing were considered for study. It is from these players that the study selected 30 farmers, 10 retailers and 10 consumers as the sample. The sample was selected using the simple random sampling method. The questionnaires were administered to collect primary data. Data were analyzed using

SPSS statistical packages and results presented in the forms of descriptive statistics and figures.

## RESULTS AND DISCUSSIONS

Majority of farmers (94%) sold to the various market agents (Figure 1). However, about 6% of farmers sold to other outlets like local kiosks and schools, which were outside the above model. For farmers, prices per bag varied with retailers buying at Ksh 708, middlemen Ksh 603 and local consumers at Ksh 600 a bag (Figure 1).

Local consumers bought the fruits in small quantities. On average, farmers sold a fruit for Ksh 2 to consumers. The middlemen on the other hand bought in large quantities (in bags). By buying from the farms, middlemen had an upper hand in convincing farmers to charge low prices. Not all retailers sold to the market agents studied. About 77% of retailers sold to urban consumers and middlemen. The remaining 23% of retailers sold to other agencies like supermarkets and fellow retailers. Retail price for middlemen was lower than that charged to urban consumers. When selling to middlemen, who bought in bulk, retailers recognized the fact that middlemen do sell for profit. Retailers therefore



**Figure 2.** Marketing challenges facing farmers.

charged middlemen relatively lower prices. Urban consumers bought the fruits in small quantities. On average, retailers sold a fruit for Ksh 5 to these consumers. This was mostly the ripe ones of the improved Hass variety. Middlemen mostly sold to outside markets in towns like Mombasa and Lodwar. The average price per bag of avocado was Ksh 1300.

### Marketing challenges experienced by farmers

Low prices and lack of market information were the major marketing problems experienced by most farmers (Figure 2). Other marketing problems facing farmers during marketing of avocado included damages when ripening, unreliable market, lack of transport facilities and lack of support in marketing by the government. Damages when ripening originated from the poor harvesting methods used by farmers. Farmers prick the fruits which then fall of the hard ground. During ripening, the fruits begin to rot from the side in which they fall on the ground. Despite all these problems, slightly over 10% of farmers did not experience any marketing problems (Figure 2).

In most cases, middlemen used pick-ups to carry the fruits in bags, which they sold in markets far a way like in Lodwar and Mombasa. Those farmers who sold directly to the market took their fruits to the village/local markets during market days only. This was mainly on small-scale as farmers placed the fruits in small bags, which they carry on their heads or backs.

### Marketing challenges experienced by retailers

When marketing avocado, most retailers cited lack of transport facilities and fruit damage. When ripening the fruits, major challenges they faced were rotting, perishability of fruits, low prices and low demand.

Avocado fruits are perishable and are easily damaged during handling (transportation and storing) by retailers. However, any damage during handling was shared by farmers or middlemen, depending on who supplied the fruits to the retailers. This was noted especially in Kitale municipal market, where most retailers were large-scale sellers of the fruits. It helped these retailers to reduce losses associated with damages of the fruits.

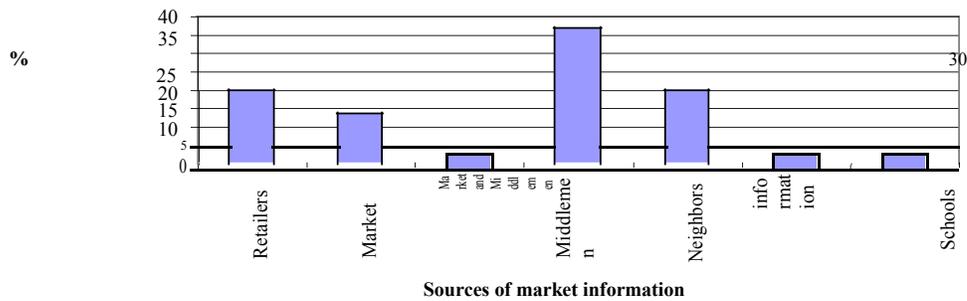
### FARMERS' SOURCES OF MARKET INFORMATION

Most of the farmers obtained marketing information for avocado (prices, varieties available and the volumes) from middlemen (Figure 3). Neighbors and retailers also formed relatively larger sources of market information for the farmers.

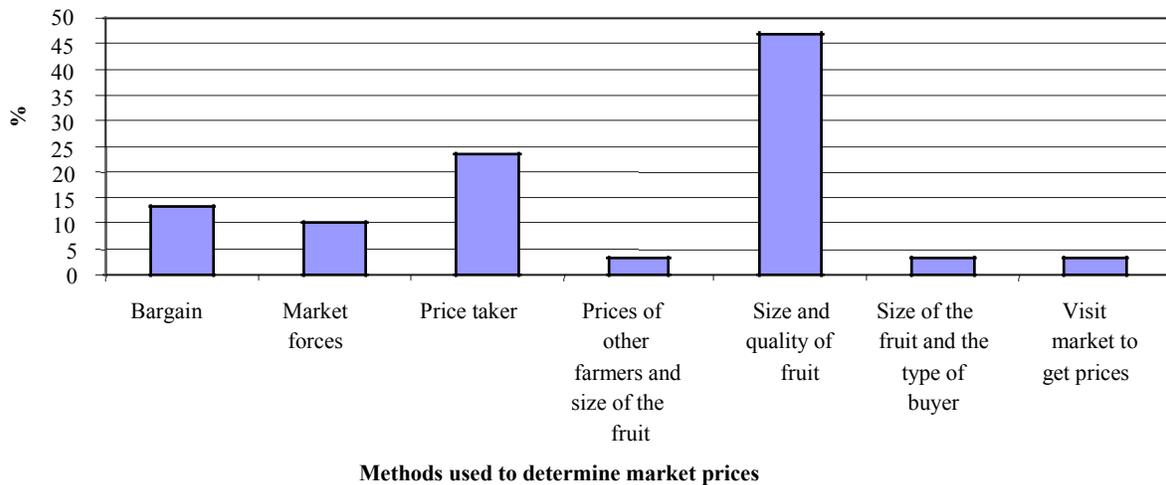
Other sources of market information were the markets and schools. Other farmers however did not have marketing information for avocado at all, since they did not cite any source of the market information (Figure 3).

### Market price determination by farmers

In determining prices for their fruits, farmers made several considerations. A larger percentage of farmers interviewed (46%) considered the size and quality of fruits produced (Figure 4). Other considerations made by farmers in determining their prices were market forces (relating to demand and supply), prices of other farmers and type of the buyer. Other aspects were bargaining and market visits to obtain prices. A relatively large number of farmers were price takers. This means that they accepted what the buyers offered. In most cases, these farmers did not have market information concerning price levels of the fruits.



**Figure 3.** Sources of market information for farmers.



**Figure 4.** Market price determination by farmers.

Though most farmers considered size and quality in setting up avocado fruit prices, their fruit quality are poor. In most cases, farmers ignored the management of the trees and only low quality organic manure is used at planting.

Most farmers did not use fertilizers, which are beneficial for the trees especially in early stages of growth. Spraying was also not done despite the pest and disease incidences since most farmers were unaware that the trees could be sprayed. It was from these observations that the study concluded that the fruits were generally of low quality and therefore could not attract better prices. This also explains the low farmer prices.

#### Market price determination by retailers

Most retailers considered profit margin expected in setting up the retail prices for the avocado (Figure 4). Retailers also bargained, considered market prices, season, size and quality of fruits and the type of the

customer in setting up retail prices.

In the market, the researcher observed that most retailers sold improved varieties of avocado fruits. They cited high demand and better prices fetched by such fruits. Contrary to this, farmers did not have such information and sold even their improved varieties at lower prices.

#### Market agents involved in setting up retail prices by retailers

Retailers mostly involved themselves when determining retail prices of avocado fruits (Figure 5). It is shown by 34%. Other market agents involved by retailers when setting up retail prices of avocado were middlemen and consumers. This shows that farmers were involved passively in retail price determination. We had seen that retailers considered profit margin expected when they set up their prices. This was where farmers came in passively as some retailers bought fruits from farmers.



Figure 5. Setting up retail prices of avocado.

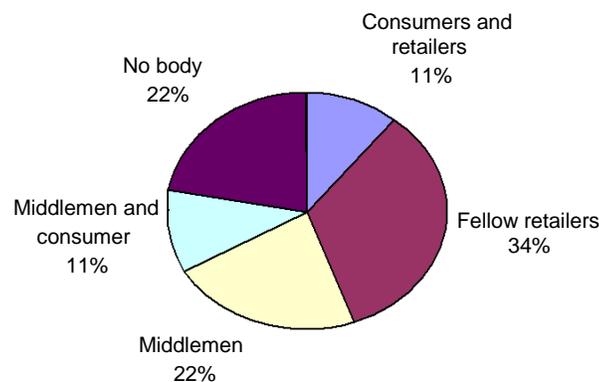


Figure 6. Market agents involved in setting up retail prices.

However, 22% of the retailers interviewed did not involve anybody when setting up their retail prices for the fruits.

### Farmers and retailers avocado price trends

Between 2004 and 2006, there was a steady rise in the unit prices of avocado for both farmers and retailers (Figure 6). Retailers however, charged about twice the unit price charged by farmers. Over the years, the difference between unit prices was Ksh 460 in 2004, Ksh. 503 in 2005 and Ksh. 535 in 2006. This means that although the unit prices for avocado increased for both farmers and retailers, that of retailers increased by a larger proportion than that of farmers. This may be attributed to the considerations made when setting up prices by farmers and retailers as had been stated previously. Retailers also sold in established markets where they easily enjoyed better prices. In contrast, farmers sold to local consumers, middlemen and schools where only low prices were offered. Retailers also observed that at the end of the month, most consumers consumed a lot of avocado, thereby increasing demand for the fruits. It is at such times that retailers raised their prices. Retailers also sold more of the improved avocado varieties, which had a higher demand with higher prices.

In contrast, most farmers sold their fruits including the improved varieties at low prices, since most of them did not have market information concerning prices and demand for such fruits.

### Value addition by farmers

Most farmers ripen the fruits before they sell. It was the most common form of value addition employed by farmers. Other forms of value addition, though done in small scale were sorting, grading and transportation. Other farmers however, did not add any value to their avocado fruits (Figure 7). For avocado to attract better prices, farmers need to consider other value addition forms like packaging and transporting the fruits to the market. Others may include avocado oil extraction which can be sold to cosmetics manufacturers or local consumers.

### Production and sales trends for farmers

Farmers' production and sales were on the rise. During 2005, both production and sales levels declined. Production however, declined by a larger margin than the

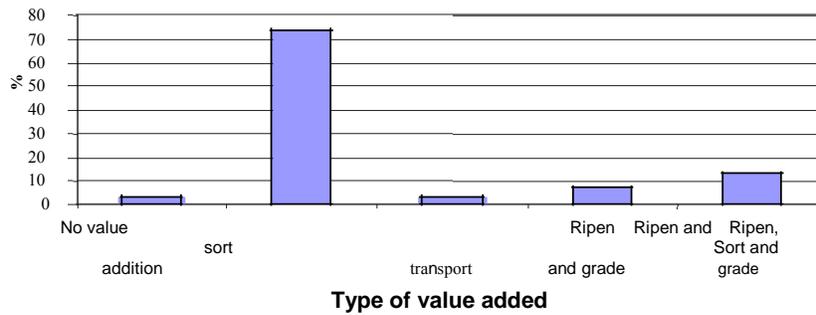


Figure 7. Value addition by farmers.

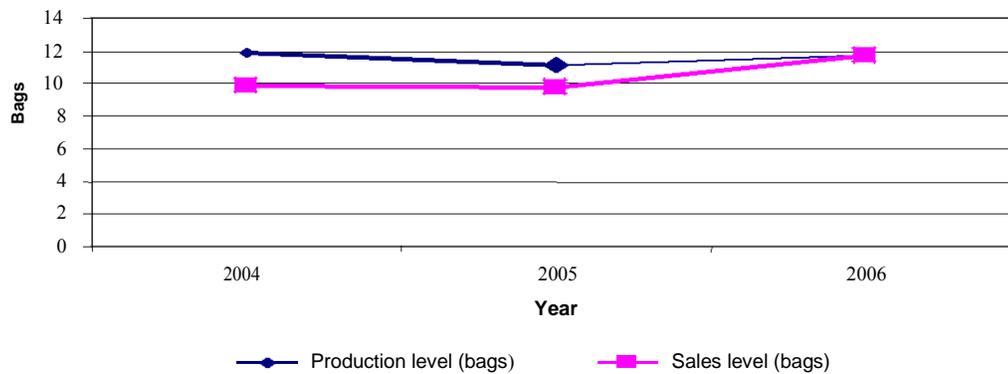


Figure 8. Avocado production and sales trends for farmers.

decline in sales (Figure 8). This is an indication of the high demand for the avocado fruits. From the year 2005, there was a steady increase in both production and sales levels, with farmers selling all they produced in the year 2006 (Figure 8). Avocado production would then be beneficial to farmers if current marketing challenges are addressed, as there is a steady demand for avocado fruits.

## Conclusion

1. Common marketing channels followed by farmers and retailers were middlemen and consumers;
2. Major challenges noted were lack of transport facilities, low prices, lack of market information and damages/rotting when ripening;
3. The major sources of market information noted were middlemen, neighbours and retailers. Market information is lacking or distorted resulting to exploitation of farmers;
4. In determining avocado prices, farmers in most cases considered the size and quality of the fruits. Retailers on the other hand considered their profit margin;

5. Ripening the fruits was the major form of value addition done by farmers.

## ACKNOWLEDGMENTS

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## REFERENCES

- Betser L, Mugwe J, Muriuki J (1999). Of-farm Production and Marketing of High Value Tree Products in the Central Highlands of Kenya. Proceedings of a Workshop on Off-Forest Tree Resources of Africa held in Arusha, Tanzania 12-16 July 1999, pp. 227-241.
- Koch DF (1983). Avocado Growers Handbook, Housall Publications: California.
- Stachys NM (2001). Marketing of Smallholder Produce: A Synthesis of Case Studies in the Highlands of Central Kenya, Regional Land Management Unit: Nairobi.
- Tom WE (1990). Kenyan Avocado Industry in the California Avocado Society 1990 Yearbook, 74: 187-189.