

Analysing Market Conduct and Performance of Honey Marketing in West Pokot, Kenya

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Abstract: Despite a long tradition of apiary farming in West Pokot, Kenya, records show that farmers in the area are yet to record an improvement in their income generation. This has been attributed to the utilization of outdated and obsolete marketing strategies that don't take into account the dynamic nature of consumer demands. To address this challenge, a study was undertaken in a bid to identify the market conduct and performance of honey marketing in West Pokot, Kenya. The discussions in this paper are premised on the findings of the study. The study adopted a survey research design and had a target population of 400 farmers and 50 traders who had experience in honey production and marketing of honey. A sample size of 120 farmers and 14 traders was obtained through purposive sampling and systematic sampling, respectively. Primary data collection was done by means of individual interview and group discussions using questionnaires and checklists while secondary data was collected from different documented sources. The honey marketing performance was measured using marketing margins complemented with analysis of costs and gross profits generated by different marketing channel actors. The findings of the study indicated that honey market concentration ratio in the study area was 94.88 percent suggesting a weaker oligopoly market type. This paper calls for a strengthening of marketing through establishing and developing co-operative societies and other honey marketing institutions. It is also essential to integrate bee keeping activities with water harvesting to secure the livelihood of apiary farmers.

Keywords: Honey Marketing, Market Conduct, Enterprise Development, Performance, West Pokot.

INTRODUCTION

Marketing conduct refers to the patterns of behaviour that enterprises follow in adopting or adjusting to the markets in which they sell or buy [1]. Such a definition shows the analysis of human behavioural patterns that are not readily identifiable, obtainable, or quantifiable. Thus, in the absence of a theoretical framework for market analysis, there is a tendency to treat conduct variables in a descriptive manner. The specified structure features of homogeneous product, and free entry and exit, require a form of conduct such that each firm must operate as if in isolation. Market conduct is exceedingly complex, encompassing all human decision within business organizations and, by extension, household. On top of the market structure, the legal environment and the internal organization of the business enterprise influence the market conduct [2].

Miles [1] and Giniat [3] name two closely interrelated aspects of market conduct in which sellers coordinate their decision and action to each other or succeed in marketing. Such behaviour include a method by which each firm determines prices and quantities, sales promotion policies, mode of transport and the level of action meant to avoid competition within the honey industry. By examining the relationship between the factors of the market structure and their setting practice, it may be possible to make some predictions about the consequences of these behavioural patterns for performance.

A study on potential agricultural market opportunities and enterprise development for the Teso and Lango regions [4, 5] made some recommendations on honey production and marketing by suggesting that oriented agricultural research and dissemination projects should be carried out to improve the honey sub-sector. In order for the honey industry to succeed, there should be development of a tripartite model - a synergistic partnership between the development sector, the private sector and rural communities [6, 7].

Market performance refers to the impact of structure and conduct as measured in terms of variables such as prices, costs, and volume of output [1]. By analyzing the level of marketing margins and their cost components, it is possible to evaluate the impact of the structure and conduct characteristics on market performance [8, 9]. Market performance, according to Gichangi [9] and Sialuk [7], refers to a composite of results that firms in the market arrive at by pursuing whatever line of conduct. They use results in the dimensions of price, output, production cost, selling cost and product design. For firms acting as sellers, these results measure the character of the firm's adjustment to the effective demands for their outputs. For firms buying goods, they measure the quantity of adjustments made by firms to the supply conditions of the goods they purchase. Estimation of net returns and market margins provide indications of an exploitative nature when returns of buyers are much higher than the fair amount, that is including all marketing costs and return to management and risk, and when market margins increase not because of higher real marketing costs but because prices paid to producers are lower.

For most countries, it is generally acknowledged that a distribution system displaying acceptable performance is one that allows technological progress, has the ability to adopt, innovate, and utilises resources efficiently and transmits prices that reflect costs [10]. Prices are thus viewed as a stimulus for an efficient allocation of resources. Hence, desirable market performance is directly related to the competitiveness of an industry because distortions tend to impede price efficiently.

The structure, conduct and performance concepts are interactive. Performance of an agricultural marketing system depends on how the market is structured and on the conduct of the participants. Despite the fact that the Structure Conduct and Performance (SCP) model is thought to be an old model, it is one of the best concepts that aids in measuring market performance.

Theoretical Framework of the Structure Conduct and Performance (SCP) Model

The SCP model dates back to the pioneering work of the Harvard economist Edward Mason in the 1930s and of his doctoral student Joseph Bain in the 1950s originally used by the US government in grafting antitrust policy. The model gained popularity among corporate strategist, when Michael Porter in his competitive strategy, used it as an analytic tool for businesses striving to compete within a market. The model, in its original form, depicts the influence of an industry structure for example the growth of demand and barriers to entry on the conduct of producers for instance pricing and the performance of both the industry and producers.

In the 1980s, Mckinsey suggested an extension that added a dynamic element to the static framework. The dynamic version suggests that the relationship among SCP is not unidirectional as they flow in the opposite direction too. This approach allows companies to consider the influence of their own conduct on an industry structure and ultimately on their performance. Many companies use the revised model to "play through" various scenarios that might affect them to gain an understanding of what's happening in their industries and to develop their industries.

The SCP approach focuses on the behaviour of groups rather than individual firms and looks into the influence of the horizontal relationship among these firms on market performance. Thus, it is suggested that the SCP model is preferable to a model which analyses the productive efficiency of individual marketing enterprises [8, 11]. The industrial organisation theory suggests that market structure determines the behaviour of firms and that behaviour, in turn, determines the various aspects of market performance hence it follows that a particular type of market is associated with particular type of performance [12, 13, 8]. The aim of this study was to establish the conduct and performance of honey marketing in West Pokot in Kenya.

MATERIALS AND METHODS

This paper entails a study that was exploratory in nature adopting the use of an explanatory research design. The population under study comprised 400 farmers with experience in honey production and 50 traders actively involved in honey marketing in West Pokot. In particular, the author focused on the individuals with experience in both honey production and traders participating in the marketing of honey. The sampling unit in this study was households and markets from where the respondents were drawn. A sample size of 120 farmers and 14 traders was obtained [14, 15].

In sampling the participants, the author conducted a survey for each group thus the farmers' survey consisted of Kapenguria, Chepareria and Konyao divisions which were considered the main areas of honey production. Purposive sampling procedure was therefore adopted since the target population of the honey producing farmers was known. The study area was divided into three zones and a constant sampling percentage of 30 per cent was applied in each zone. Homesteads were used as proxy for producer - after interviewing a producer in each home the next two homes in the immediate area were skipped before picking a home for next producer to be interviewed making a total of 120 farmers.

On the other hand, in choosing traders, systematic sampling procedure was applied first to all the major markets/centres in the region. Retailers were identified using the volume of honey they handled (less than 20 kg). The first retailer in each centre was selected arbitrarily. After interviewing the first trader, the next immediate one was skipped before picking the next trader. In case of negative response, the next immediate trader was picked as a replacement for the interview. A total of 14 traders were thus interviewed.

Data collection was primarily done by use of structured questionnaires for honey farmers and traders while secondary data was obtained from relevant institutions (Kerio Valley Development Authority, Ministry of Livestock and Animal report). Data analysis was then done by both descriptive and econometric methods. Descriptive statistics like mean, standard deviation and percentiles were used to explain basic characteristics, while these factors affecting honey supply were determined using the econometrical model.

RESULTS AND DISCUSSION

Market Conduct

Market conduct refers to the behaviour of firms or the strategies used by the firms in their pricing, buying and selling activities. There are no agreed upon procedures for analysing the element of market conduct. Market conduct defines the conditions which make possible exploitative relationships between sellers and buyers. This is done via unfair price setting practices which Smith [16] classified as collusive, predatory, or exclusionary. The study covered the following topics: the existence of formal and informal marketing groups that perpetuate such practice; formal and informal producer groups that affect bargaining power; the distance from the major market and its impact on prices and the feasibility of utilising alternative market outlets. The inquiry also provided an indication of the type of data needed and data collection procedures.

Producers' Market Conduct

Honey is the most important cash income generating commodity in *West Pokot County*. During the survey, farmers pointed out that the supply of honey to the market occurs mainly from October to February. According to the study, about 27%, 25% and 18% of the total yearly sale of honey was made in December, January and February, respectively. The remaining portion of output representing 7%, 10% and 13% was sold in September, October and November, respectively. Respondents also reported that there were no significant sales in the months of March-August. During the study, it was observed that the frequency of honey supplied to the market by most farmers (89%) was twice a year and almost 100% of the households' term of sale was on cash basis. Starting from production up to marketing, every farmer produces and sells on an individual basis. This affects their bargaining power during the sale of honey. A composition of 97% of households reported that generally, for the last five years, price of honey has shown an increasing trend. One of the reasons for the increase in price was mainly the quality of honey produce due to the introduction of and utilization of improved box beehives by farmers.

Traders' Market Conduct

The results indicate that the transactions made on honey marketing in West Pokot took place with direct contact between sellers and buyers. There were no observed brokers in the honey marketing channel during the survey period. The honey retailers were found to purchase the commodity either directly from farmers at the local market or from honey collectors. The method of price setting is of crucial importance in honey trading activity. About 43% of the sample traders reported that their purchase price was set by the market, about 36% of traders set the purchase price themselves and 21% of the traders indicated that purchase price was set by negotiation with suppliers. About 64% of sample traders set their selling price by themselves and the rest (36%) of them indicated that selling price was set by market during 2008/09 financial year.

Market Performance

Market performance refers to the impact of structure and conduct on prices, costs, and volume of output [17]. Marketing efficiency is essentially the degree of market performance. It is defined as having the following two major components: First, the effectiveness with which a marketing service would be performed and second, the effect on the costs and the method of performing the service on production and consumption. These are most important because the satisfaction of the consumer at the lowest possible cost must go hand in hand with maintenance of a high volume of farm output [18]. The two approaches to measure marketing performance are marketing margin and the analysis of market channel efficiency.

In a commodity subsystem approach, the institutional analysis is based on the identification of the marketing channels. This approach includes the analysis of marketing costs and margins [19]. A marketing margin can be defined as a difference between the price paid by consumers and that obtained by producers; or as the price of a collection of marketing services that is the outcome of the demand for and supply of such services [20]. It measures the share of the

final selling price that is captured by a particular agent in the production. In its simplest form, the marketing margin can be defined as the difference between prices paid for a commodity for example bread by consumers at a retail level, and prices received by farmers when they sell their commodity for instance, wheat to assemblers or other first handlers. Measured in this form, the margins reflect the amount of services added to a commodity once it leaves the farm and sits on a shelf in a retail outlet in a form that is acceptable, useful, and appealing to consumers [21].

Marketing margin is most commonly used to refer to the difference between producer and consumer prices of an equivalent quantity and quality of a commodity. However, it may also describe price differences between other points in the production, for example between producer and wholesale, wholesale and retail prices [22]. The size of marketing margins is largely dependent upon a combination of the quality and quantity of marketing services and the efficiency with which they are undertaken and priced. The quality and quantity of marketing services depend on supply and demand of marketing services and/or the degree of competition in the market place. The costs of service provision depend on both exogenous and endogenous factors and the efficiency is determined by the extent of competition between marketing enterprises at each stage.

According to Trotter [23], the benchmarks to which results of marketing margin are to be compared with are: the assumption of the margin to be equivalent to transfer cost as well as the constancy of margin per unit of product. Large gross margins may not express high profit but rather; increased qualities and quantities of service; low labour, capital and management productivity. Conversely, small gross margins may co-exist with inefficient use of resource; poor coordination and consumer satisfaction; and disproportionate profit elements. Thus, higher marketing margins resulting from increased services, including better coordination, may leave producers and consumers better off, and low margins may be due to low productivity. Therefore, in using market margin analyses to assess the economic performance of markets, it is always preferable to deconstruct them into their cost and return elements [22].

The challenges of data availability on costs usually create a problem. Tomek and Robinson [20] also warn that marketing margins provide only one point of reference in the evaluation of performance and should be compared with measures of profits earned by marketing firms to determine whether or not the margins are excessive. When there are several participants in the production, the margin is calculated by finding the price variations at different segments and then comparing them with the final price to the consumer. Consumer price is the base or common denominator for all marketing margins [19].

The relative size of various market participants' gross margins can indicate where in the production value is added and/or profits are made. Marketing costs and margin analysis is especially comparison of prices at different levels of marketing over the same period. Computing the Total Gross Marketing Margin (TGMM) is always related to the final price or the price paid by the end consumer and is expressed in percentage [19]. The total gross marketing margin is mathematically expressed as:

$$\text{TGMM} = \frac{\text{Consumer Price} - \text{Producer Price}}{\text{Consumer price}} \times 100$$

It is useful to introduce here the idea of "producer participation", "producer portion" or "farmer's portion", or "producer's gross margin" which is the proportion of the price paid by consumer that belongs to the producer. Producers that act as middlemen also receive additional marketing margins. The gross marketing margin for the producer is mathematically stated as:

$$\text{GMMP} = \frac{\text{Price Paid by the Consumer} - \text{Marketing Gross Margin}}{\text{Price Paid by the consumer}} \times 100$$

In production with only one trader between producer and consumer, the net marketing margin (NMM) is the percentage over the final price earned by the intermediaries as his/her net income once his marketing costs are deducted. This is presented mathematically as:

$$\text{NMM} = \frac{\text{Gross Margin in Marketing Cost}}{\text{Price Paid by the Consumer}} \times 100$$

Another parameter related to marketing margin is the producer's share. The producer's share is the ratio of producer price to consumer price (retail) [24]. The producer's share can be expressed mathematically as;

$$PS = \frac{P_x}{Pr} = 1 - \frac{MM}{Pr}$$

Where: PS = the producer's share
 P_x = producer price of honey
 Pr = Consumer price of honey
 MM = Marketing margin

The above equation tells us that a higher marketing margin diminishes the producer's share and vice-versa. It also provides an indication of welfare distribution among production and marketing agents. The magnitude of marketing cost depends on factors such as time and place of marketing, market conditions, and the market channel involved. The marketing will be composed with marketing service cost and the result will be interpreted. Margins at each stage will be computed and the share will be compared.

The market performance analyses considered were cost and profitability for each channel and marketing margins for each channel.

Cost and Profitability Analysis of Honey Production for Farmers

This section of the study focused on activities related to producing honey at farm household. The results are an indication of the performance of honey market. Average costs and sales prices of the producers were used as shown in Table 1.

Table-1: Cost and Profit Analysis of Honey Production for Producers in 2008/09

Costs	Cost/box hive per Year	Percent
Feed cost	27.92	6
Labour	119.56	2
Pest side cost	30.93	7
Transport cost	12.30	3
Tax paid	46.59	10
Interest payment	183.25	39.
Cost of equipment	45.8	10
Total Cost=A	466.35	100
Average yield of honey (Kg/hive)	28.66	
Average yield of Honey at farm gate Ksh/Kg	50	
Gross sales	1433	
Profit/loss(Kshs/hive)	966.65	

Source: Field Data (2010)

The results show that a farmer with 28.66kgs average production of honey per box beehives with average market price of honey Kshs.50 at farm gate would generate an annual return of Kshs 966.65 per box of beehives. As shown in Table 1, the total number of box beehives for the entire sample of respondents was 414 and the average holding size was 3.45 hives. If we consider the yield and the profit that is obtained from a given holding size, a farmer can generate an annual profit of Kshs. 3334.94 per beehive from the beekeeping sector. With regard to the cost items, interest payment shares the highest (39%) followed by labour cost (25%). The high interest is attributed to the improved hives which farmers received on credit basis.

Cost and Profitability Analysis of Honey Production for Honey Collectors

Table 2 presents a summary of the cost and profitability analysis of honey production for honey collectors in West Pokot.

The results show that the honey collectors obtained a profit of Kshs 1.65 per kg of honey. This indicates that the performance of marketing of honey collectors for the specified year 2008/09 was showing positive figure even though the amount of profit on a per kg basis was small. The table also shows that other costs like personal costs of the honey collectors during the operation takes the largest proportion of overall costs (35.5%), followed by honey containers

(31.5%). Therefore, the government and other development partners should enhance distribution of improved box hives accompanied by safety protective materials.

Table-2: Cost and Profitability Analysis of Honey Collectors in 2008/09

Costs Items	Cost per Kg/year	Percent from Total cost
Honey collectors purchase price = A	37.35	
Labour cost	0.05	5
Transport cost	0.13	13
Tax paid	0.15	15
Honey container	0.315	31.5
Other cost	0.355	35.5
Total operation cost =B	1.00	100
Total Cost =C	38.35	
Gross sales	40.00	
Profit/loss(Kshs/hive)	1.65	

Source: Field Data (2010)

Cost and Profitability Analysis of Honey Production for Retailers

The results for cost and profitability analysis of honey retailers are summarised in Table 3.

Table-3: Cost and Profitability Analysis of Honey Production for Retailers in 2008/09

Costs	Cost per Kg/year	Percent from total cost
Retailers price = A	40.00	
Labour cost	0.09	7.36
Transport cost	0.18	14.75
Tax paid	0.16	13.11
Rent of retail shop	0.7	57.38
Other cost	0.09	7.4
Total operation cost =B	1.22	100
Total Cost (C) =A+B	41.22	
Average retail price Ksh/Kg=D	45	
Traders Profit/loss(Kshs/hive)	3.78	

Source: Field Data (2010)

A retailer could obtain a profit of Kshs 3.78 per kg at retail level which was higher by Kshs. 2.13 profit than that of honey collectors. The cost of operation of retailers, which include rent for retail shop, is the highest (57.38%) followed by transport cost at (14.75%).

Marketing Margins

Table 4 summarises the different indicators of marketing margins for the honey market channel.

Table-4: Indicators of Marketing Margins for the Honey Market Channel

Market Channel Participants	Price (Ksh/Kg)	Marketing Cost	Gross Profit (Ksh/Kg)	Gross Marketing Margin (%)
Farmer	37.35	16.27	21.08	83
Honey Collectors	40	1.00	1.65	5.89
Retailers	45	1.22	3.78	11.11

Source: Field Data (2010)

The results revealed that 17% of total gross marketing margin was added to honey price before it reached the final consumer. Out of the total gross marketing margin, 5.89% was gross margin of honey collectors, while 11.11% was that of retailers.

CONCLUSION

This paper has shown that, for the study area, increased honey production during the harvest period was found to coincide with periods of low price. As a result, 28 percent of the respondents indicated that there were no ready markets to attract their produce. The other problem related to production and marketing problems of honey was the poor quality of the product due to improper handling which was cited by about 65 percent of honey traders. In addition, the method of price setting is crucially important in honey trading activity. About 43 percent of the respondents reported that their purchase price was set by market, and about 36 percent of traders set purchase price themselves and 21.4 percent of

the traders respond that purchase price was set by negotiation with suppliers. The study established that all marketing participants of the commodity operated at a profit. This indicated that all the marketing agents were advantageous through the channel.

REFERENCES

1. Miles D. Statistics Research: Measuring Customer Behaviour and Profitability: Using Marketing Analytics to Examine Customer and Marketing Behavioural Patterns in Business Ventures. *Academy of Marketing Studies Journal*. 2014; 18, 145-168.
2. Shen KF. The analytics of critical talent management. *People and Strategy*. 2011 Jun 1;34(2):50.
3. Giniat EJ. Using business intelligence for competitive advantage: the use of data analytics is emerging as a key discipline for healthcare finance. *Healthcare Financial Management*. 2011 Sep 1;65(9):142-5.
4. Mugonola B, Baliddawa C. Building capacity of smallholder farmers in agribusiness and entrepreneurship skills in Northern Uganda. *Agricultural Information Worldwide*. 2014;6:122-6.
5. Mukasa H, Nalmansi E, Egeru A, Ekwamu R, Atim P, Edimu M, Books RU, OER R, SCARDA R. Promoting farmer entrepreneurship among smallholders in Uganda.
6. Wambua BM. *Assessment of performance indices of frame hive beekeeping and the traditional technology in Kenya a case study of Kitui county* (Doctoral dissertation).
7. Sialuk SC. *Determinants of Beekeeping in Enhancing Environmental Conservation in Arid and Semi-Arid Lands in Kenya: A Case of Lomut Ward, West Pokot County*. Unpublished MA Thesis, University of Nairobi, Nairobi. 2014.
8. Phuu Z. *Analysis of Structure, Conduct and Performance of Cabbage Market in Central District of Botswana*. Unpublished MSc Thesis, University of Nairobi, Nairobi. 2016.
9. Gichangi AW. *Analysis of Structure, conduct and performance of sweet potato marketing: the case of Nairobi and Kisumu, Kenya* (Doctoral dissertation).
10. Warui M, Gikungu M, Bosselmann A, Hansted L, Mburu J. An assessment of high quality honeys with a potential for Geographical Indication (GI) labeling and initiatives that add value to the honey sector in Kenya. In Conference paper presented at the 1st Apimondia Symposium on African Bees and Honey Production, Arusha November 2014.
11. Kizito AM. The structure, conduct, and performance of agricultural market information systems in sub-saharan Africa. Michigan State University. *Agricultural, Food, and Resource Economics*; 2011.
12. Kwamina EB, Ockie JH, Nam CN. A systemic intervention to access resource impact on the quality of life among women farmers in developing countries: evidence from Ghana. *Academia Journal of Agricultural Research*. 2015;3(2):15-22.
13. Nguyen NC, Bosch OJ. A systems thinking approach to identify leverage points for sustainability: a case study in the Cat Ba Biosphere Reserve, Vietnam. *Systems Research and Behavioral Science*. 2013 Mar;30(2):104-15.
14. Kothari CR. *Research methodology: Methods and techniques*. New Age International; 2004.
15. Creswell JW, Creswell JD. *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications; 2017 Nov 27.
16. Smith IR. *The economics of the milkfish fry and fingerling industry of the Philippines*. 1985.
17. Scott GJ. *Prices, products, and people: analyzing agricultural markets in developing countries*. Lynne Rienner Publishers; 1995.
18. Ramakumar R. Costs and margins in coconut marketing: some evidence from Kerala. *Indian Journal of Agricultural Economics*. 2001 Oct 1;56(4):668.
19. Scott GJ. *Prices, products, and people: analyzing agricultural markets in developing countries*. Lynne Rienner Publishers; 1995.
20. Tomek WG & Robinson KL. *Agricultural Product Prices* (3rd Ed). Ithaca and London: Cornell University Press. 1990.
21. Goetz S, Weber MT. *Fundamentals of Price Analysis in Developing Countries' Food Systems: A Training Manual to Accompany the Microcomputer Software Program" MSTAT*.
22. Scarborough V, Kydd J. *Economic analysis of agricultural markets: A manual*. Natural Resources Institute; 1992.
23. Trotter BW. *Applying price analysis to marketing systems: methods and examples from the Indonesian rice market*. Natural Resources Institute; 1992.
24. Mudianto. The use of Structure, Conduct and Performance of the Market to Measure the Marketing Efficiency: A Theoretical Framework, *MEB*. 1990; 2(1), 53.