

Analysis Marketing Behavior of Honey in Oromia Regional State, Ethiopia

Ajabush Dafar and Motuma Turi

Oromia Agricultural Research Institute, Holeta Bee Research Center, P.O.Box 22, Holeta, Ethiopia

Abstract

Production of honey is the main marketable and profitable in the beekeeping sector of the study area. However, high production does not always imply higher profits. The key for the profitability of bee product is the existence of efficient market. The aim of the study was to present the honey marketing behavior in Jima and West shewa zones of Oromia region. The focus of the study was, to characterize the demand and supply pattern of honey production through evaluating structure-conduct-performance of honey marketing. The data were generated by individual interview from producers, traders, input suppliers, services, product processors, and consumers. Traders were categorized under whole sellers, collectors, retailers and tej makers. Producers were those produce honey since five years to date, but data depends only one year production. Purposive and stratified simple random sampling was employed to pick up total sample size of 132 honey producers, and for other marketing actors, snowball sampling was employed to contact 59 market participants: 21 traders, 30 consumers, 2 services, 3 input suppliers, and 3 processors. The data collected was analyzed using SCP model, SPSS and Microsoft Excel. From the result total honey supplied to market was 29,307.5 kg at 2016/17 production year, which was about 90.4% of total production. The result of SCP indicated that the structure of honey market in the study area characterized with an existence of oligopoly with four firms' concentration ratio of 40.7%. The honey market conduct was inefficient in that some traders were price makers and the price was affected by individual firms. From marketing margin analysis it was observed that large profit was going to processors and variations in profit share across the actors was observed. Hence from the result of market structure, conduct and performance analysis it is possible to conclude that honey market in the study area is inefficient.

Keywords: Honey, Market structure, Market conduct, Market performance

DOI: 10.7176/JMCR/57-01

Publication date: June 30th 2019

1. Introduction

The beekeeping subsector has been an integral part of agriculture in Ethiopia. It has been revealed that the country's beekeeping subsector is mainly practiced using traditional basket hives with low productivity. There are an estimated 5.15 million hives in Ethiopia, which are almost all entirely maintained according to traditional methods (Paulos, 2011). The countries annual production amount for the year 2012 was 53.7 thousand tones (MoA and ILRI, 2013). As per USAID (2012) report, about 24% of Africa's and of 2% of the world's honey comes from Ethiopia. Honey is produced in almost all parts of Ethiopia. However, the most important honey regions are Oromia which accounts for over 51% of the bee colonies and 38% of the honey production, followed by Amhara which accounts for about 21% of the colonies and 26% of the honey production (Kenesa, 2018). Beekeeping is relatively low labor requirements, when properly handled; beekeeping can coexist almost effortlessly with regular farming activities, such as growing crops, horticulture production, and animal husbandry. Honey business activity has the potential to provide a wide range of economic contributions like income generation from marketing honey and its by-products, and the creation of non gender biased employment opportunities (Miklyaev *et al.*, nd). In Ethiopia high portion of honey is sold for income generation. The domestic honey market starts at the smallholder bee keeper's level, who majorly sells crude honey to collectors in the nearest town/village markets (Assefa, 2009). In the study are, the whole domestic honey market lacks proper structure and legality. Market channel and profit share from the product across the actors was also not identified yet. So, the beekeepers complain the business was not rewarding and even lacking the market for their product, while the consumers see the ever increasing price of honey as unfair (Gemechis, 2015). In addition, non stability of supply and lack of the required quality were raised as a problem from the trader and consumer side (personal observation). So, this study focuses on the structure, conduct and performance of honey market in Jima and west shewa zones of Oromia region to identifies what the structure, conduct and performance of honey market looks like in the study area.

2. Methodology

This study was conducted in Jimma and West Shewa zones of Oromia region, Ethiopia. Jima has 22 districts with 22 urban, and 513 rural kebeles. Number of farmers participated in beekeeping were 208,144 male, and 14,781 Female in the year of 2017(ZAO, 2017). Similarly, West shewa zone hold 22 districts, 45 urban, and 530 rural kebeles. To represent the population, seven districts from both zones have been conducted. The study area is known for its high production of honey. As ZAO (2017) reports, Jima zone was occupied with about bee colonies of

1,459,155 of with traditional hive, 84,405 transitional hives, and 63,069 box hives. Total output in one year of production as a zone is 825,606 kg of pure honey, 743,045 kg of crude honey, and 68,770 kg of bees wax. In the same way, in west shewa: 159,300 Traditional hive, 49,868 Transitional hives, and 8,747 Box hives with colony.

In spite of production potentiality, there is a gap in honey marketing in the districts that honey marketing system in the zones was inefficient. Concerning this, data were collected from 132 honey producers, 21 traders, 3 processors, 30 consumers, input supplier 3, and Services 2. Sample selection method was purposive, stratified, and simple random sampling for selection of producers. For other marketing actors snowball sampling was employed. In this study, both descriptive and S-C-P methods of data analysis were employed.

Table 1: Sampled of farm households of honey producers in the study area

Districts	zone		Total
	Jima	West Shewa	
Geeraa	21	0	21
Gommaa	24	0	24
Mannaa	19	0	19
Jimma town	6	0	6
Dannoo	0	19	19
Noonnoo	0	20	20
Ambo town	0	23	23
Total	70	62	132

3. Results

The results were analyzed and discussed with the aid of descriptive, Microsoft Excel and S-C-P. The descriptive analysis describes the general characteristics of the sampled farm households and the honey marketing chains. The S-C-P was used to analyze market behaviors, margin was used to identify market actors share.

3.1. Demographic and Socio-Economic Characteristics of Honey Producers

This section provides the profile of the sample respondents with regard to their age, sex, education level, family size, and beekeeping experience. Out of the total sampled households in the study area, 78.8% were male-headed and the rest 21.2 % were female headed households. Regarding Educational status of the sampled households, most of the household heads (30%) were educated with 9 – 12 grades, while the least percent was illiterate (Table 2).

Table 2: Sex and Educational status of Farm households of honey producer

		N	%
SEX	Male	104	78.8
	Female	28	21.2
	Total	132	100.0
EDUCATION	Illiterate	10	7.6
	Read & write	13	9.8
	Grad 1-4	28	21.2
	Grade 5-8	28	21.2
	Grade 9-12	40	30.3
	Diploma & above	13	9.8
	Total	132	100.0

Source: Own survey result, 2017

Age of the respondents in the study district ranged from 18 to 73 and the mean age of the respondents was 39.3 years with standard deviation of 12.65. This shows that most of honey producers in the study district were adults. The family size of sampled respondents also ranged from 1 to 14 and the average family size was around 6 persons with standard deviation of 2.7 (Table 3). Regarding experience sampled household practicing beekeeping on average, about 11 with maximum 50 years. This indicates early survival of the activity in the country.

Table 3: Age, family size, beekeeping experience of sampled households

	Descriptive Statistics				
	N	Min	Max	Mean	Std. D
Age of household head(year)	132	18.00	73.00	39.295	12.65378
Family size of house hold head (#)	132	1.00	14.00	6.121	2.70151
Beekeeping experience (year)	132	1.00	50.00	11.189	9.94576
Valid N (list wise)	132				

Source: Own survey result, 2017

Farmers of the study area are practicing different activities to generate income for their food security. Accordingly, about 78.8% depend on crop farming as main sources of income. However they are practicing different activities side by side. Keeping honey bees offers additional income to farmers in Ethiopia. This is important in rural areas, where income opportunities are limited. Ethiopian farmers can combine honey production with other agricultural activities, such as coffee production. Total income from honey and wax for household is on average 21,639.7387 birr per year (Table, 4). Beekeeping is not considered as main occupation because of less resource and labor requirement activity but considered as better in terms of supply income (Table, 4).

Table 4: Main occupation and income sources for respondents of honey producers

Parameters		N	%
Main occupation	Crop farming	104	78.8
	Off-farm/small business	12	9.1
	Beekeeping	5	3.8
	Farming & beekeeping	9	6.8
	Farming and small trading	2	1.5
	Total	132	100.0
Main sources of income	Crop	68	51.5
	Livestock	1	0.8
	Beekeeping	15	11.4
	Both crop & livestock	31	23.5
	Petty trading	2	1.5
	Coffee farming	6	4.5
	Crop, livestock, beekeeping	8	6.1
	Remittances	1	0.8
	Total	132	100.0
Total income from honey & beeswax (birr)	Min	240.00	
	Max	336000.0	
	Mean	21,639.739	
	Std. D	46154.528	

Source: Own survey, 2017

3.2. Institutional factors

Institutional factors like service provider including Input provider, credit, market availability and distance, road availability, training, and extension contact were amongst variables considered for the study. Market distance is one factor of honey marketing that availability and near market shall motivate producers to produce other and get better supply. Farmers of the study area walk about maximum 4 hr, minimum 3 minutes, and on average 55.6 minutes to trade their products (Table, 5). Credit providers in the area were WALQO, Katta muduga (NGO), and other micro finance institution, cooperative, individual lender but inadequacy of credit problem was raised in the study area. Lack of credit is a major constraint for one and all concerned with producing in use of improved technologies to provide quality of honey for market. Honey traders and consumers expect honey with required quantity and quality from beekeepers, while beekeepers expect better price traders have to pay. This needs use of full recommended technology to produce enough quantity and quality of honey, in turn this need credit to have with the required product that may make producers bargaining power. However, less percent farmers use credit for beekeeping (17.7%). Farmers raise the reason of less in use of credit like complexity of the bureaucracy, high interest rate, less awareness, lack of required collateral, and religious problem (from Muslim religion especially). So, if concerned bodies intervene on the issue and make smooth to use, better marketing may be formed. For all technology, even for use of credit, training is must but still about 34% are not trained since five years to date. Training and extension support are back bone for improved beekeeping activities since more of its work is practical.

Respondents have tried to name the most training provider for the beekeepers of the study area. Accordingly, SNV (NGO) is leading. Training and Extension contact for other agricultural activities may not support beekeeping activities because of that extension contact for beekeeping alone were considered in this study. Accordingly, about 66% got training while, 34% practice beekeeping without training. Training providers were zonal and district

Agricultural development Agents (DoARD) responded by 39% of sampled household followed with Research center (33.3%), and Different NGOs (27.6%) exception of SNV. The extension contact also considered based on daily, weekly, monthly, yearly, and occasional category. Accordingly, most percent goes to the answer occasionally 46% (Table, 5). However monthly contacted got a rank second having 25% which is moderate. Other PLC also there in the study area providing different beekeeping inputs. However few in number, from that *Hirkisho* at Jimma (PLC): Provide all beekeeping accessories thereafter collect honey from producers located at Jimma town. And *fayida inchet ena biret sira(PLC)* and Other individual carpenters also provide inputs like box hive in mass. But, were not acknowledged by producers due to high price fetched, and which directs recommendation that material cost assessment, and need of substitution and then after provision at fair price.

Table 5: Institutional factors

Parameters	Response	Frequency	Percent		
Training	Yes	87	65.9		
	No	45	34.1		
Credit	Yes	22	17.7		
	No	101	81.5		
Why not use credit	Un availability	6	7.8		
	Collateral	1	1.3		
	High interest rate	11	14.3		
	Religious	33	42.9		
	Unawareness of the importance	26	33.8		
Extension contact	Daily	1	0.9		
	Weekly	6	5.4		
	Monthly	28	25.0		
	Yearly	25	22.3		
	Occasional	52	46.4		
Road availability to transport beekeeping inputs and outputs	Very low	7	6.2		
	Low	28	24.8		
	Moderate	39	34.5		
	High	24	21.2		
	Very high	15	13.3		
Training provider	Research center	29	33.3		
	DoARD	34	39.1		
	NGOs	24	27.6		
Descriptive statistics					
Parameters	N	Min	Max	Mean	Std. D
Distance to the nearest market center	132	3.0	240.0	55.64	43.198
Distance to the nearest extension center	132	3.0	240.0	36.735	33.048
Distance to the nearest cooperative center	132	2.0	180.0	40.89	34.0261
Total	132				

Source: Own survey result, 2017

3.3. Honey Productivity, production, and cost of production

Regarding productivity respective of hives in the study area, honey yield was markedly different for the types of beehives used. On average, it was about 5.6 kg/hive from traditional, and 12 kg/hive from the transitional, and 24.4 kg from modern hives in one production season with 2.09, 4.33, and 9.35 of standard deviation, respectively (Table, 6).

Table 6: Honey productivity per year from each hive at 2016/17

Descriptive Statistics					
Honey yield/kg	N	Min	Max	Mean	Std. Deviation
From traditional hive	132	2.00	12.00	5.6439	2.09373
From transitional hive	132	6.00	25.00	12.3258	4.33431
From box hive	132	12.00	40.00	24.4394	9.35007

Sources: Own survey result, 2017

The average amount of honey produced per sampled households in 2016/17 was on average 245.63 kg, out of which 90.4 % was supplied to the market and the rest was consumed (Table 7). The total honey produced were 32423 kg by sampled households in the 2016/17 production year. From which the total amount of marketed was

29,307.50 kg (Table 7). To produce 32423 kg of honey 136535 birr was required. That means 1 kg of honey costs about 4.21 birr. The cost was considering only total variable cost like labor, feed, and wax to make sheet for box hive if any. Other production costs like hive and accessories are not considered because are fixed cost, and the analyses was one year production. The labor used is converted into man equivalent unit. Feed cost is a cost producers incurred to feed bees. It includes cost of pea/bean flour and cost of sugar that were used to feed honeybees in the study district as per the survey data however most of them were not feeding. Total production cost of 1kg of honey could be 4.21 birr is far less than 16.75 birr reported by Tizazu *et al.*, (2017) which was consider fixed cost. According to producer farmers, the marketing cost is associated to transportation cost from farm gate to the selling market and cost of honey container. On average market cost for 222.03 kg of honey supplied was 537.304 birr (Table7). From the result one can conclude that the marketing cost of 1 kg of honey could be 2.41 birr to sell to collectors at farm gate and district market. However, as they sold at different market to different actors, the marketing cost was varying. But the common customer of honey from producers are collector and processor, because of that, the study consider market cost reacted with the most clients, but for market performance computation, market costs for each actors was separately considered.

Table 7: Total of honey produced, marketed, and consumed @ 2016/17 in kg

Descriptive Statistics						
	N	Min	Max	Sum	Mean	Std. D
Total honey produced	132	0.00	4254.00	32423.00	245.63	524.62161
Total honey consumed	132	0.00	100.00	2506.50	18.99	22.97331
Total honey sold	132	0.00	4200.00	29307.50	222.03	496.37817
Total Production cost	132	4.21	17909.34	136535.27	1034.36	2208.5341
Total Market cost	132	0.00	10164.00	70924.15	537.304	1201.23516

Sources: Own survey result, 2017

3.4. Trend of production

The study tried to analyses trend of colony number, honey and wax production for consecutive five years. Accordingly, the number of colony was observed at 2016 in high number and the trend is vary, and was not match with honey production that was highly produced at 2017. This may be interpreted in two ways: firstly, current year additional colony may be the base for coming year honey production increment. Secondly, high production of honey may come from improved management regardless of colony increment. From the chart one can easily understand that at the point of crude honey started to decrease, pure honey began to increase. This indicates some improvement in production through technology support. The figure also displays that, as crude wax decreasing at increasing rate, pure honey production increasing at increasing rate. This also indicates the divergence of farmers from traditional to in use of improved practices.

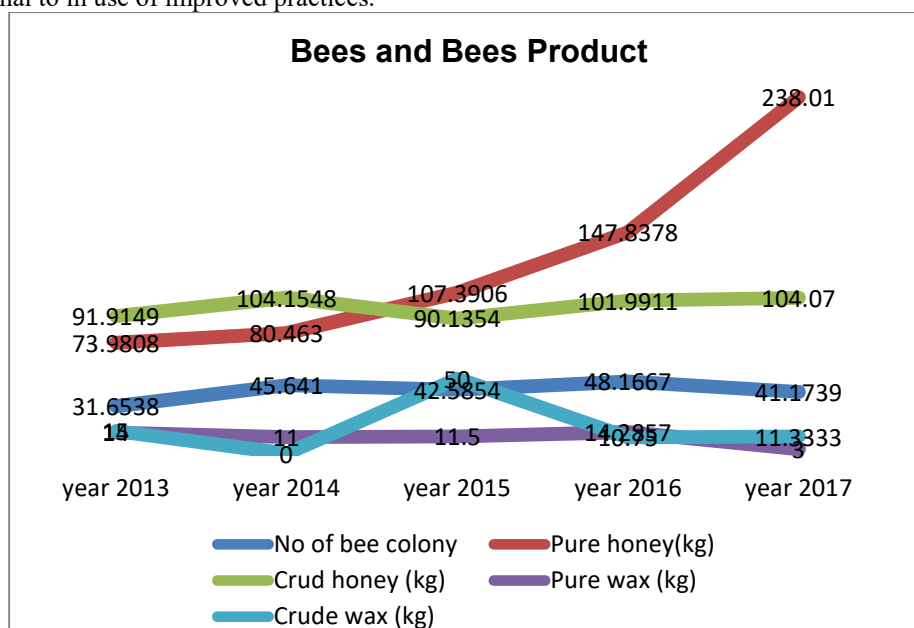


Figure1. Trend of Bees and bee production for five years

3.5. Marketing of Honey

Marketing is a proactive process of identifying and meeting the needs of customers or buyers in a profitable way.

Sellers/buyers need to decide what market best suits their needs. However, the market conditions are influenced by supply, demand, prices and tastes. In the study area the most traded at farm household level is honey however other products like wax is also popular at some parts of the country. Farmers are not participating actively rather it has practiced by individual non farmers, and PLC. Bee colony marketing is the foremost income deriving activity in different parts of the country, which can fetch 700 - 1000 ETB/ Colony at Ejere, and Ambo town of west shewa zone. However, in spite of the potential in Jima zone, none of bees' colony is traded due to cultural taboo. There is a knowhow in west shewa zone but not practiced in far rural area rather is practiced at near of the center (town) which is purchased by development actors (NGO) occasionally. So, detail awareness on bees and other bees product business is need intervention.

3.6. Honey Market Supply and Demand

The **market supply** is the total quantity of a good or service all producers are willing to provide at the prevailing set of relative prices during a defined period of time. The market supply is the sum of all individual producer supplies. Accordingly, in the study area, total honey supplied to market was 29,307.5 kg at 2016/17 production year, which was about 90.4% of total production (Table, 7).

Market demand is the total amount of goods and services that all consumers are willing and able to purchase at a specific price in a marketplace. Buyers, as a group, determine the overall demand for a particular product at various prices while, sellers as a group, determine the supply of a particular product at various prices. So for the study, honey producers are determinant factor for honey supply, while the consecutive actors (traders and consumers) are considered as determinant factors in demand face.

3.7. Honey Marketing Actors and Their Roles

Four actors have been identified from the survey result as actors of honey marketing in study area. These actors were producers, traders, processors and consumers of honey. The role of each actor in honey production and marketing, the linkage among themselves and the product (honey) flow through each channel is discussed below (Table, 10). Traders also split in to collectors, whole sellers, retailers, and tej makers.

Table 10: Honey marketing actors and their roles

Market Actors	Activity performed
Producers/beekeepers	It is first link in the marketing chain analysis of products. They produce, harvest, and supply to the second agent. For the study 132 sampled farm households are considered as producers.
Collectors	Collect honey from the producer of the study district and sold the assembled honey for wholesalers, processors, retailers and consumers. In the study area, sometimes collectors come from other zone, like from waliso town of S/W/shewa zone to purchase honey from Dannoo and Noonnoo districts of w/shewa zone (the study area).
Wholesalers	Carry a wide range of products that meet almost all the retailers' requirements including tej makers, and consumers. Bought honey from rural assemblers in zonal and district town. Usually, they are placed at district and zonal town
Retailers	Purchased honey from farmers, collectors, and wholesalers. Have shops and sell it to consumers and tej maker in small units. They are many in numbers and found in district and zonal town.
Processors	Purchased from producers, process (add value) and sold to consumers. Least in numbers but buy in mass.
Tej makers	Purchase honey from Producers, whole sellers, Retailers and make tej (add value) then sold to consumers. Some scholars categorized it under processor but in this study tej makers stand as one actor independently since its output and processing process is different.
Consumer	The last link in the marketing chain and end consumer of honey

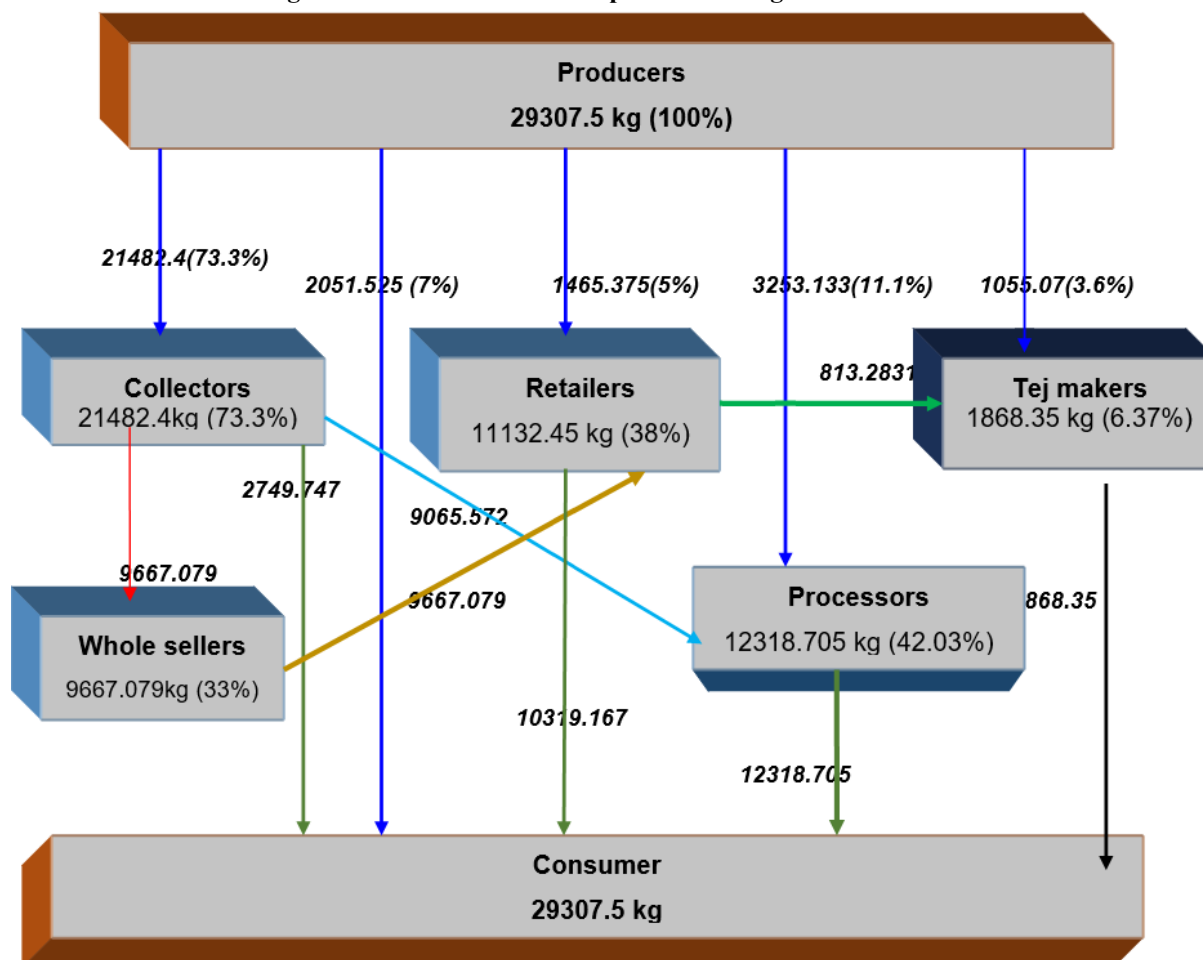
3.8. Honey Market Channel

Eight main marketing channels were identified for honey marketing in study area from the survey data in 2016/17. The identified honey marketing channels indicated the routes through which the marketed honey flowed from producer farmers (where it originated) to consumers (where it ended). It also entailed linkage among honey market participants. As indicated below, market channel III carried the largest volume of output flowing through in 2016/17. It carried 9667 kg of honey out off the total 29307.5 kg. That means (33%) of honey supplied by the producer farmers for sale, followed by channel I which carried 30.93 % of the total supply by producer farmers. This showed that channel III and I were the main channels through which large volume of honey channeled

(63.93%) in the year 2016/17 in cumulative terms. These marketing channels were:

- I. Producers → Collectors → Processors → Consumers = 9065.572 kg (30.93%)
- II. Producers → Collectors → Consumers = 2749.747 kg (9.4 %)
- III. Producer → Collectors → Wholesalers → Retailers → Consumers = 9667.079 kg (33%)
- IV. Producers → Retailers → Tej makers → Consumers = 813.2831kg (2.77%)
- V. Producers → Retailers → Consumers = 652.0919 kg (2.23%)
- VI. Producers → Tej Makers → Consumers = 1055.07 kg (3.6%)
- VII. Producers → Processors → Consumers = 3253.133 kg (11.10%)
- VIII. Producers → Consumers = 2051.525 kg (7%)

Figure 2 shows the flow of the product through these channels



Honey Market Structure, Conduct and Performance Analysis (S-C-P)

Structure, Conduct and Performance paradigm (SCP) is used as an analytical framework, to make relations amongst [market structure](https://policonomics.com/structure-conduct-performance-paradigm/), market conduct and market performance (<https://policonomics.com/structure-conduct-performance-paradigm/>). Generally, according to the "structure-conduct-performance paradigm" the structure of market (e.g. the number and relative size of the competitors) determines how they behave ("conduct"), and the behavior, in turn, affects the market outcome ("performance"), e.g. quantities, prices, costs, profit. Structure, Conduct and Performance paradigm (SCP) is used as an analytical framework, to make relations amongst market structure, market conduct and market performance (Tizazu *et al.*, 2017).

3.8.1. Honey Market Structure

In S-C-P analysis, structure refers to the relatively stable features that influence the rivalry among the buyers and sellers operating in a market (Caves, 1992). Some examples of the elements of structure include the number of buyers and sellers in the market (concentration ratio), barriers to entry and exit, and the vertical coordination mechanisms. Market structure in this study has been described using concentration ratio.

Concentration ratio

The most common concentration ratios are the CR₄ and the CR₈, which means the market share of the four and the

eight largest firms. Concentration ratios are usually used to show the extent of market control of the largest firms in the industry and to illustrate the degree to which an industry is oligopolistic (Christoph, 2007). The standard tools of competition economists and competition authorities to measure market concentration are the Herfindahl-Hirschman index (HHI) and the concentration ratios (CR (n)). The concentration of firms in an industry is of interest to economists, business strategists and government agencies. Four firms concentration ratio (CR4) was applied on this study for judging the market structure. The computation was performed by taking together the total sales for each of the four largest firms in the study area. Then divide that sum by the total sales. Convert that result to a percentage, and that percentage value is the four-firm concentration ratio. A CR4 of 50% and above is generally considered strong oligopoly; CR4 between 33% and 50% is generally considered a weak oligopoly and a CR4 of fewer than that is no oligopoly at all.

Out of the total 21 interviewed traders, 19 of them purchased honey from producer farmers in the study area. Except the two sample wholesalers purchased honey from rural assemblers. The remaining all traders, including retailers and tej makers directly contact producers. Therefore, the analysis of the degree of market concentration ratio was carried out for 19 traders who purchased honey at the study area from producers based on their honey purchased quantities in 2016/17 (Table 11).

Table 11. Honey trader’s concentration ratio of 2016/17 production year

Frequency of traders	Cumulative frequency of traders	Volume of purchase (kg)	Total volume of purchase (kg)	% share of purchase	Cumulative % share
1	1	800.0	800.0	3.5	3.5
1	2	450.0	450.0	2.0	5.5
2	4	4000.0	8000.0	35.2	40.7
2	6	216.0	432.0	1.9	42.6
1	7	1000.0	1000.0	4.4	47.0
2	9	800	1600.0	7.0	54.0
1	10	3000.0	3000.0	13.2	67.2
1	11	5000.0	5000.0	22.0	89.2
2	13	320.0	640.0	2.8	92.1
2	15	700.0	1400.0	6.2	98.2
4	19	100.0	400.0	1.8	100.0

Source: Own survey, 2017

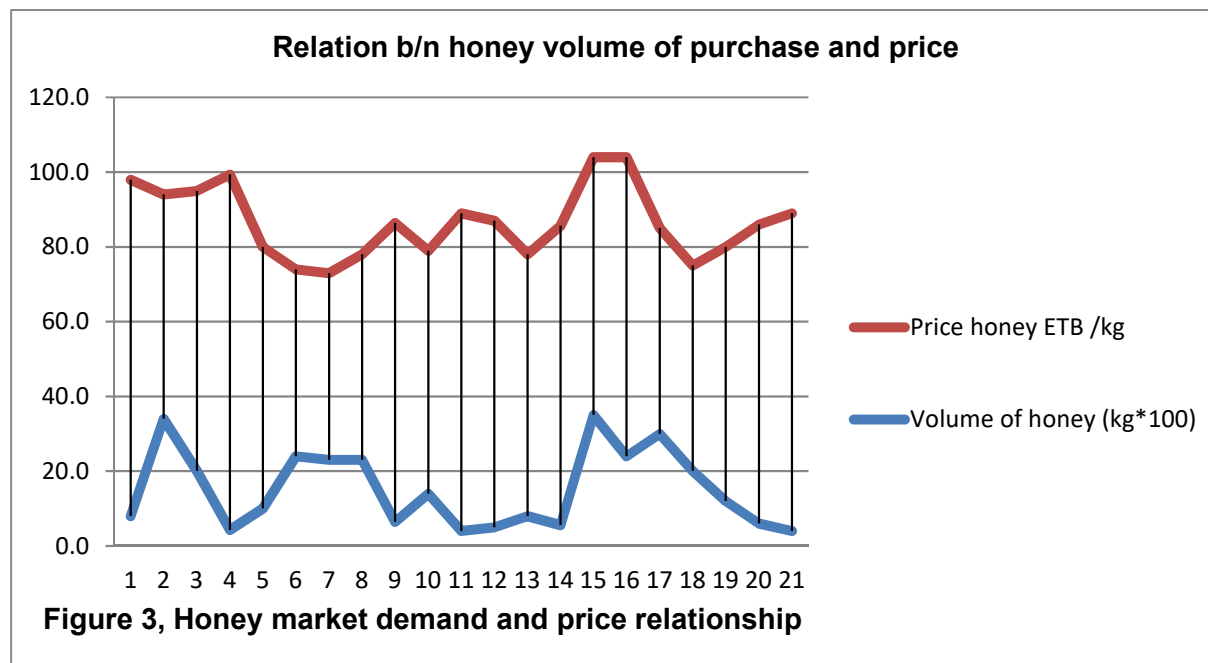
The CR4 measures of market concentration ratio showed that the top four traders have controlled 40.7 % of the honey market in 2016/17 production. This therefore indicated that honey market in study area was characterized with weak oligopoly. Since CR4 between 33% and 50% is generally considered a weak oligopoly. Oligopoly is a market structure that is dominated by a few large firms.

3.8.2. Honey Market conduct

Market conduct refers to the pricing and promotion strategies followed by the players in the market in terms of their aims, objectives and decision-making process. Examples of conduct include price-setting behavior and buying and selling practices.

3.9.2.1. Buyers price responsive

People are willing to buy at a fair price; the relationship between price and quantity demanded is known as the demand relationship which means as price of honey increase volume of purchase decrease and vice versa for normal good. Law of demand states: As price of good increases, the quantity demanded of the good falls, and as the price of good decreases, the quantity demanded of the good rises, ceteris paribus. Restated: there is an inverse relationship between price (P) and quantity demanded (Qd). Figure 3, below indicates honey market demand in relation of its price of the study area. The study consider only traders for analyze because of they are more responsive to price fluctuate since they are profit oriented. While Consumers are purchase in less amount, and consider as luxury/inferior good rather than normal good that may not follow law of demand.



Source, Own survey result, 2017

3.9.2.2. Consumer Attitudes towards Honey Quality

Consumers' preference is defined as the subjective tastes of individual consumers, measured by their satisfaction with those items after they have purchased them. This satisfaction is often referred to as utility. Consumer value can be determined by how consumer utility compares between different items. Accordingly, honey purchasers of the study area prefer honey based on its different characteristics. Honey color ranges from nearly colorless to dark brown, and its flavor varies from delectably mild to distinctively bold, depending on where the honey bees buzzed. As a general rule, light-colored honey is milder in taste and dark-colored honey is stronger (<https://www.apexbeecompany.com/honey-products>). There are different types of honey in Ethiopia, each with a unique flavor and color depending on the blossoms visited by the honey bees. Single varietal honeys result when the honey bees gather nectar from the same type of flowers. Honey adulteration is the worst in honey marketing and consuming because of that purchasers believe to certain things like its color. From the study area, most preferred color is white responded by 56.6 % (Table, 12). Regarding hive type, most of the respondents have no selection in between however honey from improved hive is slightly preferred to from the traditional one (Table, 12). Processed/extracted honey is the most favored as (62.3%) of the users responded. In terms of nectar source (plants visited by bee), honey produced from (*Schefflera abyssinica (Bottoo/gatamaa)*) is like better that it produces white honey as honey market actors responded (Table12). From the study, honey market players including traders themselves, prefer to purchase from producers (75.5%) due to different reasons: price, originality, identity (originated from homogenous plant relatively, known from which hive it produced, from where agro ecology) as they replied.

Table 12. Honey buyers preference based on different decisive factor

Parameters		Frequency	Percent
Based on color of honey	Red	6	11.3
	white	30	56.6
	yellow	4	7.5
	No selection	13	24.5
	Total	53	100.0
Based on hive type	Traditional	15	28.3
	Improved	17	32.1
	No selection	21	39.6
	Total	53	100.0
Honey processed	Un processed	2	3.8
	Semi processed	6	11.3
	Full processed	33	62.3
	Table honey	11	20.8
	Neither of	1	1.9
	Total	53	100.0
Plant visited	Coffee	8	15.1
	Vernonia amygdalina (Eebicha)	4	7.5
	Guilolia Scabra(Tuufoo)	10	18.9
	Cordia Africana(Wadeessa)	1	1.9
	(Schefflera abyssinica (Bottoo/gatamaa)	23	43.4
	No selection	7	13.2
	Total	53	100.0
Supplier	Producer	40	75.5
	Trader	5	9.4
	Processor	3	5.7
	No selection	5	9.4
	Total	53	100.0

Source, Own survey result, 2017

3.9.2.3. Price determination

Market clearing is based on the famous law of supply and demand. As the price of a good goes up, consumers demand less of it and more supply enters the market. If the price is too high, the supply will be greater than demand, and producers will be stuck with the excess. Conversely, as the price of a good goes down, consumers demand more of it and less supply enters the market. If the price is too low, demand will exceed supply, and some consumers will be unable to obtain as much as they would like at that price. To follow the situation that sellers must assess the market. So, about 65.2% of sampled households use market access techniques to determine price that if more demand they supply with high price (Table, 13). Due to this, predatory pricing was being exercised as per the survey data. Therefore, as compared to competitive market norms where price is set by the interaction of market demand and supply and where both buyers and sellers are price takers, market conduct in the study area was deviated in that price is decided by seller (67.9) and negotiation (17.9%) which indicates monopoly. This comes from shortage of production rather producers bargaining power as traders responds. However, responses from producers indicate the honey price is set by buyers (46.2%). Generally, from the two sides of react, one can understand as no competitive market where no individual buyer/seller can affect the market price which indicates prevalence of inefficient honey marketing system in the study area.

Table 13. Price determination and Price decision

		N	%
Price determination based	Considering costs incurred	9	6.8
	Assessing the market price	86	65.2
	Considering color of honey	4	3.0
	Considering honey quality	23	17.4
	Holy day & traditional ceremonies	10	7.6
	Total	132	100.0
Price decision (traders response)	Buyer	4	7.1
	Seller	38	67.9
	SS&DD	4	7.1
	Negotiation	10	17.9
	Total	56	100.0
Price decision (Producers response)	Seller	40	30.3
	Buyer	61	46.2
	SS&DD	8	6.1
	Negotiation	23	17.4
	Total	132	100.0

Source, Own survey result, 2017

3.8.2.1. Honey Market performance

Performance refers to the extent to which markets result in outcomes that are deemed good or preferred by society (Caves, 1992). The market performance for this study was evaluated by analyzing margins of marketing agents in all eight identified marketing channels and analyzing profits. Table 14 presents honey marketing profit for all channels identified in study area.

As presented in Table 14, the total profit was highest in channel VII which was birr 107.5 per kg of honey followed by channel I which produced total profit of birr 104.4. From all honey traders, processors have got the highest profit which accounted for birr 38.9 from Channel I and 45.3 from channel VII (direct purchase from producers). Total cost was also highest incurred by processors. Cost include was only variable cost for all marketing actors. Costs (fixed cost) machinery/equipments and other permanent materials were not considered. However, costs like shop rents, container costs, packing, (sugar and other ingredients for tej makers) were considered.

Channel VIII produced highest profit for producers (birr 68.7) and possessed faire price both for the producers and consumers in relative terms. This is because producers directly sold honey for consumers without any middle actors in this channel. It seems that better profit was viewed from producers' side because of that the fixed costs (large portion of cost) like hive costs, colony costs, accessory costs were not considered for the study since the analysis was one year production. Large volume of honey flowed in channels (Channel III and Chanel I) where the producers' profits were low relative to channel VII and VIII. Therefore it can be said that producer farmers were not benefitted much from their supplies through long chain and mass supply to the market and also proved that the marketing system in study area was somewhat distorted where equal share profit was not observed. However, table 14 indicates, cost and profitability analysis of honey production for 2016/17 production year in the study area was encouraging regarding its profitability.

Table 14. honey marketing performance for all channels identified in study area

Agents		Honey market channel							
		I	II	III	IV	V	VI	VII	VIII
Producers	Selling price(birr/kg)	65	65	65	68	68	68	70	75
	Production cost (birr/kg)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	Marketing cost (birr/kg)	2.4	2.4	2.4	3.6	3.6	3.6	3.6	2.1
	Total cost (birr/kg)	6.6	6.6	6.6	7.8	7.8	7.8	7.8	6.4
	Profit (birr/kg)	58.4	58.4	58.4	60.2	60.2	60.2	62.2	68.7
	Profit share (%)	55.9	69.5	81.6	75.0	86.7	63.3	57.9	100.0
	Collectors	Purchasing price (birr/kg)	65.0	65.0	65.0				
Selling price (birr/kg)		76.4	95.0	76.4					
Marketing cost		4.3	4.3	4.3					
Profit (birr/kg)		7.1	25.7	7.1					
Profit share (%)		6.8	30.5	9.9					
Wholesalers	Purchasing price (birr/kg)			76.4					
	Selling price (birr/kg)			85.0					
	Marketing cost			2.5					
	Profit (birr/kg)			6.1					
	Profit share (%)			8.5					
Retailer	Purchasing price (birr/kg)				68.0	68.0			
	Selling price (birr/kg)				75.0	80.0			
	Marketing cost				2.8	2.8			
	Profit (birr/kg)				4.2	9.2			
	Profit share (%)				5.2	13.3			
Tej makers	Purchasing price (birr/kg)				75.0		68.0		
	Selling price (birr/kg)				105.0		105.0		
	Processing cost(birr/kg)				12.0		12.0		
	Marketing cost(birr/kg)				2.1		2.1		
	Total cost				14.1		14.1		
	Profit (birr/kg)				15.9		34.9		
	Profit share (%)				19.8		36.7		
Processors	Purchasing price (birr/kg)	76.4						70.0	
	Selling price (birr/kg)	140.0						140.0	
	Processing cost(birr/kg)	22.7						22.7	
	Marketing cost(birr/kg)	2.0						2.0	
	Total cost	24.7						24.7	
	Profit (birr/kg)	38.9						45.3	
	Profit share (%)	37.3						42.1	
Total Profit (birr/kg)		104.4	84.1	71.5	80.3	69.4	95.1	107.5	68.7

4. Conclusions and Recommendation

On the basis of the results of this study, the following conclusion and recommendations are drawn so as to suggest the future intervention strategies aimed at the promotion of honey market behavior through understanding the feature of honey market structure, market conduct, and market performance. From the result of the study, total honey supplied to market was 29,307.5 kg at 2016/17 production year, which was about 90.4% of total production. To trade the supplied output, eight main marketing channels were identified for honey. Market channel III carried the largest volume of output marketed. This was the longest channel. Which was from producers, and passed through collectors, wholesalers, retailers then end to consumers however, the producers' profits were low relative to channel VII and VIII in the channel. Channel VIII is the direct contact of producers with end consumers. Therefore it can be said that producer farmers were not benefitted much from their supplies through long chain. So, tie producers with end consumer seem better and needs intervention to act on. The CR4 measures of market concentration ratio showed that the top four traders have controlled 40.7 % of the honey market in 2016/17 production. This therefore indicated that honey market in study area was characterized with prevalence of oligopoly. So, this desires interference on market structure to lesson oligopoly problem by setting fair trader control methods. From the study of market conduct, as compared to competitive market norms where price is set by the interaction of market demand and supply and where both buyers and sellers are price takers, market behavior in

the study area was deviated in that price is decided by seller which indicates monopoly. This comes from shortage of production rather producers bargaining power of sellers as traders responds. So this needs some intervention on production improvement to eradicate prevalence of inefficient honey marketing system in the study area.

5. References

- Central Statistical Agency of Ethiopia (CSA), 2015. Statistical Abstracts. Central Statistical Agency. Addis Ababa, Ethiopia
- Christoph Lang, 2007. Marktmacht und Marktmachtmessung im deutschen Großhandelsmarkt für Strom, Deutscher Universitätsverlag/GWF Fachverlag GmbH, Wiesbaden 2007
- Gemechis Legesse, 2015. Beeswax production and marketing in Ethiopia: Challenges in value chain Agriculture, Forestry and Fisheries
- International Livestock Research Institute (ILRI) and Ministry of Agriculture, Federal Republic of Ethiopia, 2013. —A piculture value chain vision West Shewa Zone, Oromia Regional State, Ethiopia. Institute of Cooperatives Developmental Studies, Ambo University, Ethiopia. International Journal of Economics and Business Management, 2016, 2(2),170-182
- Kenesa Teferi , 2018. Status of Beekeeping in Ethiopia- A Review. Journal of Dairy & Veterinary Sciences ISSN: 2573-2196
- Paulos Desalgne, 2011. Ethiopian Honey: Accessing International Markets with Inclusive Business and Sector Development. Organisation: SNV Ethiopia
- Tizazu Toma, Bosena Tegegn, and Lemma Zemedu. 2015, The Structure-Conduct-Performance Analysis of Honey Marketin Shebedino District, Snnpr, Ethiopia. *Journal of Biology, Agriculture and Healthcare* www.iiste.org ISSN 2224-3208 (Paper) ISSN 2225-093X (Online) Vol.7, No.17, 2017
- United States Agency for International Development (USAID), 2012. Agricultural Growth Program-Agribusiness and Market Development (AGP-AMDe) Project. Submitted by ACDI/VOCA to Contracting Officer's Representative Tewodros Yeshiwork, USAID Ethiopia