Factors Affecting Honey Pricing in Domestic Supply Chain

The Case of the Konso District, Ethiopia

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Abbreviations

ANOVA	Analysis of Variance
CBI	Community Based Institutions
CSA	Central Statistical Agency
EECMY	Ethiopian Evangelical Church Mekane Yesus
ETB	Ethiopian Birr (Ethiopian Currency)
FAO	Food and Agriculture Organisation of United Nations
IFAD	International Fund for Agricultural Development
IIRR	International Institute of Rural Reconstruction
ILO	International Labour Organisation
ILRI	International Livestock Research Institute
KARDO	Konso Agriculture and Rural Development Office
Kg	Kilogramme
Km	Kilometre
KSW	Konso Special Woreda
L/MHF	Large/Medium Holder Farmers
MoARD	Ministry of Agriculture and Rural Development
NGO	Non-governmental organisations
OH	Old Honey
OMFI	Omo Micro-Finance Institution
SHF	Smallholder Farmers
SNNPRS	Southern Nations, Nationalities and Peoples' Regional State
SPSS	Statistical Package for Social Science
VCA	Value Chain Analysis
YH	Young Honey (or fresh honey)

Abstract

In developing countries where subsistence production is the livelihood base of producer farmers, finding product marketing with effective value chains is usually rare. Farmers produce some items totally as cash products for their household income. Among these agricultural cash income producing products, honey is has been found as one contributing to producer farmers' household income. The extent to which honey production increases the household income of a producer farmer depends on the economic status and the labour force availability of that family. This situation is again further affected by the position of the agro product in the market and ability to bargain over its price when transacting with traders.

The objective of this research project was to explore the underlying mechanisms of honey pricing difference between smallholder and large/medium holder farmers to recommend possibilities of improving bargaining power of the smallholder farmers in the domestic honey supply chain of Konso district in Ethiopia. The objective was achieved by interviewing 56 producer farmers in two wealth groups and at different distance from physical market. In addition to this, 20 traders were interviewed while one group discussion in which both traders and producer farmers were participated. By the help of interview questionnaires, information was collected on farmer-trader relationship, market access, product availability and its qualities, and involved services as possible factors affecting honey pricing through influencing bargaining power of an actor in the honey supply chain. After analytically and statistically processing the collected data, among the four suspected factors of honey pricing between the two wealth group producers were found to be holding containers, shelf-life (age) of the honey, farmer's distance from market, and credit access. These factors were also found very interrelated and interdependent in determining the bargaining power of smallholder honey producer farmers in the district.

Based on the finding and analysis results, information provision, building farmer-trader market relations through up grading or transforming existing informal institutions into market service delivery cooperatives is recommended for all chain stakeholders, i.e. farmers, traders, and government and non-government development organisation working on improving the livelihood base of the poorest community so that they play their own role in developing competitive honey value chain whereby the smallholder farmers get reasonable price for their honey product in the supply chain.

Key Words: Honey Supply Chain, Honey Price Determinants, Konso Honey Market, Domestic Honey pricing

1. Introduction

Price of a product is expressed in three ways: cost-based, competition-based and customer-based pricing (Gale and Swire, 2006); all of them are used in the process of setting price in marketing (Bennett, 1997 and Chong, 2003). These bases of pricing are related to the product in different ways. In case of honey, product qualities such as volume, taste, colour, odour, age and liquidity are the main extrinsic attributes used in establishing price. Volume, taste and colour are mostly occurred as a result of seasonal flora availability (Hartmann, 2004) while odour is related with the containers in which the honey is stored and the process of harvesting whether smoke is used during harvesting or not. Age of the honey is an important parameter in pricing. Unlike table honey supply where fresh honey fetches premium price, older honey has got higher price for "tej" production. Even though there are no honey brands in rural parts of developing countries, origin of production or reputation of producers is taken as intrinsic honey qualities.

Market deficiencies are more pronounced in rural areas with underdeveloped road and communication networks and other market infrastructure (Shiferaw et al, 2006). Place where market supporting institutions are lacking, rural markets having low infrastructure are very thin and imperfect. The absence of these institutions hinder the marketing functions coordinating or disconnecting producers from markets due to high associated transportation and transaction costs thereby undermining the processes of exchange (Gabre-Madhin 2001). Market place and access to transport is also playing major role in product pricing (Jacobs, 2008). In cases where there are seller-buyer relationship, i.e. depending on the level of agreement between them, the intimacy of blood or kinship, and the strength of social bond and position, the price of marketable honey changes. This farmer-trader relationship which usually acts as rural-urban linkage (Tacoli, 1998) opens room for providing embedded (within value chain) services like transport cost coverage and arranging credits. Traders usually provide credit in the form of inputs to producers or as cash or in some kind of advances, based either on repayment at harvest or on agreed purchase (Shepherd, 2003). It also determines the timing of payment (prepayment or post-payment) according to their contract agreement thereby influencing the process of establishing product price by affecting bargaining power that exists between farmers and traders, hence become causes for honey pricing differences between smallholder and large/medium holder farmers.

1.1 Research Problem

Honey production is reported as the immediate and main source of annual cash income for small holder famer households. According to same Konso Agriculture and Rural Development Office (KARDO) Cooperative desk report (2009), smallholder farmers (SHF) are paid low honey price (about 15% lower) by traders as compared to that of medium/rich farmers in the same domestic market. The same report states that the cause of this relative low price for smallholders is that they are not willing to be organised into cooperatives. However, in reality, even rich farmers are not organised into cooperatives to get bargaining power to fetch good price which is against the reasoning of the report. Again the two farmer wealth groups are supplying their produced honey to traders in the same supply chain that has no market segmentation. This indicates that there is a limitation of information on the underlying mechanisms of this honey pricing difference between smallholder and rich/medium farmers when transacting with traders.

1.2 Research Objective

The objective of this research is to explore the underlying mechanisms of the honey pricing difference between smallholder and large/medium farmers in order to recommend possibilities of improving the bargaining power of smallholder farmers in the domestic market honey supply chain.

1.3 Scope of the Research

The main target or research object of this thesis is the general Konso domestic honey supply chain with a specific attention given to trader-producer relationship, market access, the product, and embedded service related attributes as the possible factors affecting the bargaining power between trader and producer farmers in the process of establishing the price of marketable honey between the two actors in the supply chain.

1.4 Significance of the Research

There are many endeavours in the country which focus on the improving the livelihood of the poorest part of the community. For districts like Konso, where food insecurity has been a chronic (long lasting) problem because of erratic rainfall and exhausted farmlands, all development actors including the local government are looking for appropriate possibilities through which smallholder farmers can diversify their household income. In Konso honey production has been making the main part of annual cash income for farmers involved in beekeeping in addition to crop and livestock production.

Therefore, understanding the underlying causes or mechanisms of price establishment and differences for smallholder and large/medium holder farmer in selling their honey to traders may avail directive information for development practitioners that helps them to design appropriate strategies in order to improve the household income of smallholder honey producer farmers specifically in honey production sector and in other sectors in general.

1.5 Limitations of the Research

The time in which the research was conducted and field data were collected was the year of surplus crop production in the history of the district in the last ten years. The data was collected just after the harvesting time of crop where both traders and producer farmers were busy in the harvesting and transporting activity. Therefore, the present condition of surplus harvest might change the mind set of respondents in order not to tell the normal phenomena on average in their life including previous years. Especially this has a lot of influence on the livelihood options and their major source of cash income for both traders and farmers since traders are also farmers that practice trading as additional income generating activity.

The other thing is with the distance of producer farmers from the place of market. In the time of data collection the Kebele (parish) that was selected as the farthest one was blocked because of river flood that totally interrupted the transportation access between the district capital, Karat Town, and the selected Kebele for consecutive four weeks. Due to this situation, another Kebele of medium distance was again selected to compensate for the discrepancy which has quite different level of honey production. This event might pose its own influence on the effort made to see the effect of distance from market place on the honey price establishment between trader and producer farmer.

1.6 Research Issue

In the process of conducting this research and writing thesis, the paper is going to answer the following research central questions and sub-questions in order to achieve the objective and be able to present the current bases or mechanisms of honey pricing in Konso district.

1. What are the factors affecting the price of a product between farmers and traders?

1.1. What types of farmer-trader relationships influence honey price?

1.2. In what way does market access affect honey pricing?

1.3. What are the product related price determinants in supply chain?

1.4. What types of embedded services influence honey pricing?

1.5. What are the factors affecting competition of farmers/traders in supply chain?

2. What is the current situation of domestic honey supply chain in Konso district?

2.1 What factors are there that affect bargaining power between farmers and traders in supply chain?

2.2 What are the differences and similarities of large and smallholder producer farmers' honey price?

2.3 What possibilities are there to improve the bargaining position of smallholder honey producers in domestic honey supply chain?

1.7 Definition of Terminologies

In this thesis paper unless specified in detail in the context, the following terms and terminologies have the meaning as described below.

Farmers

This term is generally to mean all households who are involved in beekeeping that produce and sell honey at least once a year. And they are categorized in to four groups (classes) depending on their wealth status and livelihood options.

Large-holder (rich) Farmers (first class): are of the highest wealth group in the community in asset possession and also in benefiting from social support and be able to try many livelihood options by being ready to take new risks.

Medium-holder Farmers (second class): are farmers have increasing asset position and can follow the richer farmers whose mobility depends on local economic growth.

Smallholder farmers (third class): are farmers that have lower wealth position in the community due to their low asset possession who seek change but less able to control their asset and options.

Poorest of poor (fourth class): are aged and some women headed farmer households with declining assets and are living under shocks and little social opportunities. Since they are rarely engaged in beekeeping they are not included under this research.

Honey

Honey mentioned in this research paper is the one which is mixed with honey-comb and is usually known as chunk honey. Other honey type existing in the district is the manually extracted honey in the "tej"[1] brewery houses which is sold to some consumers (tourists and out of district people) is mentioned as "table" honey. According to the storage shelf life, a honey sold as harvested or within 2 months period is mentioned as "young" honey (YH) while the one which is stored and sold after 2 months is "old" honey (OH).

Hives

In this research paper, unless specified in different name hives are homes made for bees for honey production and put either on a tree in a forest or made ready to be hanged being without bees; otherwise those that are hanged and already occupied with bee colonies are termed as "beehives". And all hives mentioned in this research are referring to traditional hives since transitional hives and modern hives are still at introduction phase with insignificant honey production records in the district.

[1] "Tej" (indigenous honey wine) is a home-processed, but also commercially available honey wine. It is prepared from honey, water and leaves of Gesho. Sometimes, widely for commercial purposes, mixture of honey and sugar could be used for its preparation. In cases where sugar is used as part of the substrate, natural food colouring is added so that the beverage attains a yellow colour similar to that made from honey. Good quality *tej* is yellow, sweet, effervescent and cloudy due to the content of yeasts. A study found that the mean alcohol content of *tej* was between 6.98% and 10.9%. Another study found that the average alcohol content of *tej* was 6.07%.

2. Literature Review

2.1 Conceptual Framework

Farmers, in rural areas when selling their agro products, usually look for better price even though they do not know the buyer preference and the status of their product quality. It is unquestionable that the majority of producer farmers are characterized by poor economic status. Production oriented decision making that is not economically viable has been identified as a major reason for the lower socio-economic status of these farmers (Kodithuwakku and Rosa, 2002). As a result, commercialization of farming does not benefit individual farmers with fragmented productions. Because of this reason, in many cases, farmers get organized to have increased bargaining power on pricing of their product and have better linkage with market. On the other hand, individual farmers are on the hands of traders to sell their agricultural products without which their life is at risk (KIT and IIRR, 2008). In marketing concepts there are interrelated elements such as price, place and product which are usually known in the 4P's of marketing mix as a means of applying marketing planning into practice (Bennett, 1997) as an individual or an organisation. Moreover, in order to be competent enough in market chain, relationship within chain actors and involved embedded services are of great importance in affecting the price of a product between producer farmers and traders.

According to Chong (2003), the origin of the four marketing mix is from a single P (price) of microeconomic theory which had shown pricing as the most important activity in marketing (Robicheaux, 1976). This means all the rest 3P's (product, place and promotion) combined with other elements are determining factors of pricing. However, when using elements from the marketing mix between two actors in a supply chain, it is important to consider its limitations. Including the relationship between actors and also embedded services involved in the chain which are core ideas of value chain (Goi, 2009) is very important. This situation calls for additional concept that helps to understand the competition among farmers and the level of bargaining power between farmers and traders. To know the competitive position of an industry or any actor in a chain, the use of Porter's fives forces that determine their profit potential by influencing prices, costs and required investments is essential.

Therefore, this conceptual frame work tries to see how honey pricing is established by bargaining power difference as a result of interdependent four elements between farmers and traders. These elements are trader-producer relationship, market access, qualities of product and chain embedded services with their sub-elements (figure 1). These elements help producer farmers and traders (or their organisations) to position their product or service in appropriate market chain. Farmers needed to strength their bargaining power over the price instead of trying simply to sell what they have produced and then seeking for higher price market opportunities (KIT et al, 2006). In developing countries, like in Ethiopia, the differences in bargaining power over price is not only between organised and unorganised producer farmers but also between smallholder (poor) and large holder (medium/rich) farmers in selling their food (honey) product to traders, which expose them to risks of changing market conditions (Bijman, 2007). That is why two farmer wealth groups are considered in the conceptual framework below.

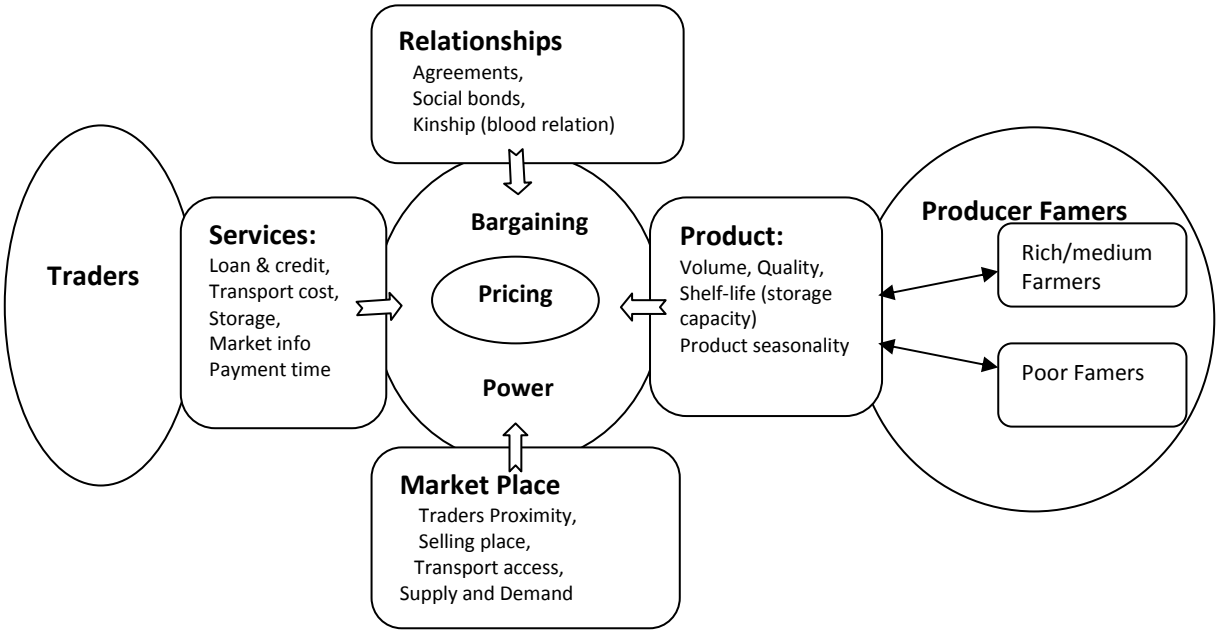


Figure 1 Conceptual Framework of the Research

2.2 The Chain Actors in Focus

The supply chain of domestic honey market consists of beekeepers (producer farmers), Traders, tej breweries (acting as both processors and retailers) and consumers which are identified as key actors in the honey value chain of the district. Beekeepers sell their produce directly to traders who are acting as collectors (see figure 5). During collection, the honey is usually in the form of chunk, a honey mixed with honey-comb. The use of wax is little known as sellable by-product in the locality except for fumigation of hives and containers of breweries for local cultural drinks. The honey collected by traders is then sold directly to "tej" breweries. The chunk honey, with its wax content, is then processed in the tej houses where pure honey is separated from wax manually (pressing with hand in water) during the process of tej preparation. Since the prepared tej is a short living drink, most of the tej is then consumed by farmers of which many are also beekeepers. This research, however, focuses on the honey price establishment between traders and honey producer farmers as briefly described in the next paragraphs.

2.2.1 Farmer Producers

Participation in integrated supply chains has the potential to open up new market opportunities for rural smallholders. However, in different agro product supply chains, market power tends to concentrate into traders in developing countries and retailers in industrialized parts of the world. This situation poses special challenges to smallholder competitiveness, both in terms of quality and price specifications (World Bank, 2007 and Francesconi, 2009). Most smallholders used to spread their risk by diversifying their sources of livelihood by including considerable income from off-farm activities (Bijman and Maijerink, 2007). Though smallholder farmers form the bedrock and source of global agriculture food supply, they face with markets in an unmatched state of instability (Vorley et al, 2008). Despite the long history of Ethiopian beekeeping tradition (Hartmann, 2004), honey production is still under-developed sector of agriculture since the knowledge and skill of honey and beeswax production and extraction is very backward (MoRAD, 2006).

In many developing countries, honey is produced traditionally (only depending on the instinctual talent of bees) where the effect of human activities for quality honey production is minimal until the time of harvesting. Since most part of the produced honey is domestically consumed, all farmers under this production system put little effort on honey production as if it were off-farm activity whether they are rich or poor which also affect production volume (Koekoek, 2002). Even though the demand of table honey is increasing at national level, farmers' product quality doesn't fit into that market and hence they are forced to sell their honey locally to traders at prices much lower than in national commercial markets (Girma, et al, 2008). In Konso district, hives are man-made and form cylinders of 1m-length, made of wood, twigs, barks, covered in cow dung, fumigated with fragrant herbs having smell attracting bees and then hung in trees (Forch, 2003). In this research the words or phrases smallholder and large/medium holder farmers are to mean poor and rich/medium farmer in general wealth ranking status according to KIT et al (2006) based on household asset. Unlike the present times, before one decade in rural parts of Ethiopia, honey was used in home and in community for cultural values, for instance as dowries during marriage and mixing with different local drinks including "tej", "birz"[2] and "cheka"[3] for honoured guests (Tadesse and Philips, 2007) and especial parties.

2.2.2 Traders

Honey market is generally not well developed, mainly due to a limited number of buyers relative to the number of producers (suppliers), poor market infrastructure and information. Because the buyers are few, prices of honey are largely determined by them since farmers do not have any chance for side selling. The local traders in the district usually lack basic business concepts i.e. they do not have sense of competition, poor in client handling, weak in information gathering and use, etc. They also lack facilities like proper container and processing materials for most of the rural traders are farmers who are relatively at higher wealth status and have additional exposure to market environment. According to KIT and IIRR (2008) traders have also positive image due to their freedom since they operate both in formal and informal economy, and they have ability to switch between the two at their free will. However, in Konso history for the last two decades, traders and handcraft people (including blacksmiths, butchers, tanners, potters, and weavers) were subject to negative connotations for they engaged themselves in different nature of trade and they were moving between and among different people. Consequently they were considered as liars and spies. Despite their mutual interdependence and cooperation, the difference between the two groups, traders and farmers, was clearly defined for they did not intermarry, and the relation between the groups was not equal in social structure and authority. The difference between the groups was not only economic but also of political and symbolic, as each group peddles negative stereotypes about the other (Watson, 2006).

Nowadays traders are seen as the most favoured and prosperous people even among the Konso community. Due to existing change in their life and livelihood options, they have controlled the risk associated with their business by diversifying sources of household income by carrying out agro-product trading in addition to crop, livestock and honey production. And hence, traders have strong bargaining power (Vorley, 2001) in supply chains of different agricultural commodities.

[2] "Birz" is non-alcoholic drink made from honey, that is, it is simply a mixture of water and extracted honey.

[3] "Cheka" is an alcoholic local drink unique to Konso people made of grain flour. When it is mixed with liquid honey, it is locally called "Chaqa-takma" – meaning "honey-cheka".

2.3 Bases of Price Establishment

In having stable market price, several studies have listed that small holders encounter constraints when they want to link to new markets or become more competitive in existing markets. Among five issues distinguished by the World Bank (2007), lack of access to these markets; difficulty in meeting quality standards; difficulty in meeting contract conditions; and exposure to additional risks are matching with the objective of this research. There are many dimensions of the issue of market access for trade: physical access to markets; market structure; and lack of skills, organization and information (IFAD, 2003); barriers to entry; risks; transaction costs; asymmetry of information or lack of information on markets; lack of bargaining power and asymmetry of negotiation; lack of economy of scale; lack of human capital; and lack of social capital (Bienabe et al, 2004).

Generally in Ethiopia, price of honey is high in towns and in off-seasons and very low in remote honey producing rural areas and during harvest seasons. That is, the price decreases significantly during harvesting season when supply is high and slightly increases in the off-seasons. Light coloured honey, commonly called white honey, fetches a higher price than other types of honey (Tadesse and Philips, 2007). By combining several of the factors mentioned in the literature, we limit our discussion on the following factors categorized into four components that influence honey price establishment through affecting the power of bargaining between producer farmers and traders:

- Farmer-trader relationship;
- Market access;
- Qualities of the product; and
- Embedded services.

2.3.1 Farmer-Trader Relationship and Pricing

Relationship between farmer and trader has to do with the bargaining power to influence pricing of a product. Among the evaluating criteria of inter-firm (inter-actors) relationships, effectiveness is the main one that is known to promote poverty alleviation by integrating micro-enterprises into increasingly competitive value chain contributing to economic growth. Relationships may be defined between them either by prior agreements, social bonds and kinship through blood relations. In effective value chains, actors do not always seek to maximize short-term profit, but they consider the minimizing of risks and maximizing access through developing personal relationships with other agents (Lyon, 2000). Barratt (2004) highlights the need for mutual trust and openness with real benefit only being gained from integrative programmes such as process alignment, joint decision making and shared supply chain values; this trust is also defined by others as decision synchronisation and incentive sharing (Simatupang and Sridharan, 2005), shared vision and objectives along with behaviour and common definition of consumer value. Trust can come from both generalized norms of morality and more personalized sources embedded in social networks. Traders and farmers develop customer relationships for a guaranteed supply when the product is scarce and when there are many buyers. In cases where there are contract agreements between producer farmers and traders, there is a balanced bargaining power with stable or reasonable pricing. Existing social bonds, again having founded on trust, in which communities are networked also pose influence on bargaining power especially when they work in hierarchical informal community based institutions (CBIs) such as "Idir", "Iqub", "Debo", "Parka" and religious gatherings.

On the other hand, when there is no market relationship between trader and producer farmer, the on-spot transaction results in variable pricing (KIT and IIRR, 2008) depending on

the level of the buyer or seller access to market information. This situation decreases the competiveness of the supply chain by increasing the time of transaction and bargaining because of less trust between trader and farmer about the product and price respectively. This type of relationship between farmer and trader is resembled with the rural-urban linkages. Beside the nature and scale of the linkages or relationship, it is affected by local contexts such as level of access assets (natural, physical, financial, social and human (Tacoli, 1998) which are bases for services provided between trader and farmer as described in section 2.3.4 below. This means that relationships are usually built among people of similar resource, social or economic status which is not always true in case of value chain where the base of trust is mutual long term benefit (Ganesan, 1994) for both partners.

2.3.2 Market Access and Pricing

Marketing access is expressed in two ways: the first one is by the proximity of traders to the producer farmer, and the second one is by the physical market place where traders and farmers carry out their transactions. In cases where there is distance either between trader and farmer or market place and producer, access and affordability of transport is another factor determining associated transaction cost thereby influencing bargaining power between farmer and trader in establishing price. Smallholders, because of their economic capacity, usually need to rely on public transport to bring their farm product to the market. Transport contractors, however, are reluctant to provide service to smallholder producer farmers due to the absence or poor quality of feeder roads in rural villages (Jacobs, 2008). In this sense, according to Donnges et al (2007) in International Labour Organisation report, permanent or seasonal absence of roads act as a crucial factor in terms of the access of rural communities to local markets and other basic services such as education, primary health care, water supply and economic opportunities. These all have to do with the amount and responsibility of covering the associated transaction cost and also hinder participation of smallholder producer farmers in market.

In rural areas, market is active in few hours of the day in a specific market place. In this case, traders demand large quantity of honey within that specific short period of time. Here the balance between demand and supply is affected by both spatial and temporal market access all having high transaction cost. The effect of distance is interesting in that prices usually increase as distance increases enough to create incentives for small producers for travelling long distance to market (Shiferaw et al, 2006). Arriving at right time to sell your product is mandatory to have money you need for household expenses. Many farmers are forced to take loans with expensive interest rates from informal rural institutions because of the inaccessibility of transport especially during wet seasons. Available transports are of multipurpose carrying everything at the same time, which are even unaffordable.

2.3.3 Product Qualities and Pricing

Product is the main item around which all other parameters move in process of determining its price. Product volume is the force that substantiates the market transaction cost between the buyer and seller through unit price change while quality is the value of consumer about the product for pricing. Low productivity and poor quality management of beeswax and honey products are the major economic impediments for rural beekeeper farmers as in other parts of Ethiopia (Nuru, 1999). Since activities for quality honey production are uncommon before harvesting, except for using fumigant herbs used to attract bee colonies, the quality aspects of honey like colour, taste, odour (smell) are the results of existing natural vegetation. These qualities and manmade attributes like dirt content, wax-honey ratio are all

used in pricing. Deliberate feeding and watering of bees is not common in the district. Honey colour and taste are the direct result of the vegetation environment and farming practices which varies between season and season according the type, distance and timing of flora. However, after harvesting, the process of local honey mixing i.e. preparation of chunk honey while mixing, the hygiene of farmer's hand and holding containers are the main sources of contamination. Based on colour, the lighter the honey the higher the price (especially for table honey) while taste has to do with the crude content of unprocessed pollen with nectar and type of vegetation (Hartmann, 2004).

As in other parts of the country, since more than 80% of marketable honey goes to "tej" production (Hartmann, 2004), the age of the honey matters a lot in the district. The older the honey, the higher the price for it absorbs a lot of water during "tej" preparation and fermentation. This phenomenon asks for the capacity of farmers to store honey after harvesting and sell it later when it gets older which is a great temptation for farmers having low income generating options. Farmers that can store for at least three months are also benefiting from the change in price due to the seasonality of the product.

2.3.4 Embedded services and pricing

Services are of different types in value chain: regulatory services, facilitation services, embedded service. As a result of agreements among actors in value chain, usually a trader is providing some services such as information provision on market price, the consumer needs. These relationships are also sometimes accompanied by credit agreements for the farmers (Lyon, 2000). Traders tend to give more credit to farmers as they have greater bargaining power there and when farmers have less financial service options (Shiferaw et al, 2006). According to Gangopadhyay and Sengupta (1987), under-pricing of the product of the farmer is caused by the loan and credit market imperfection which result in distress sales which does not necessarily lie in the inaccessibility of the farmer to the product market. It was also found by Lyon (2000) that trust is the dependable basis as compared to written agreements. This gives farmers a weak bargaining power as they are obliged to sell their product to the trader in order to repay the loan. However, the cost of credit or loan is again shaped by the bargaining of the farmers and traders depending on the access of each party to market price and supply information and the competition among buyers.

In relation to the physical access of market, traders sometimes arrange transport by setting collection point in the proximity of the producers without changing product price when competition among traders is relatively high. This phenomenon has dual benefits for it helps the trader to have larger volume within short period while it saves time, money and energy for producers. Payment time setting is another element of price establishment. In cases where producer farmers are in need of money for production, traders make prepayment as embedded service; however in areas of surplus production where farmers are at higher wealth status the agreement states the reverse of the above case i.e. post payment. Post payment may occur also due to store service of town traders in seasons when farmers that come from distant places can't sell their honey on the intended date and time.

3. Research Methodology

3.1 Research Area Background

National and Regional overview

Ethiopia is a land locked and country found geographically at the horn of Africa and surrounded by four countries: Kenya & Somalia in south, Sudan in West, Eritrea in North and Djibouti and Somalia in East (Figure 2) with population of about 73.9million (CSA, 2008). It has the largest livestock production in Africa, and the 10th largest in the world. Ethiopia's livestock population is currently estimated at 35 million cattle, 21 million sheep, 16.8 million goats, and 10 to 12 million of which 4.8 million are hived. Annually it produces 2.7 million hides, 8.1 million sheepskins, 7.5 million goatskins, and more than 30 thousand tons of honey (ILRI, 2007).

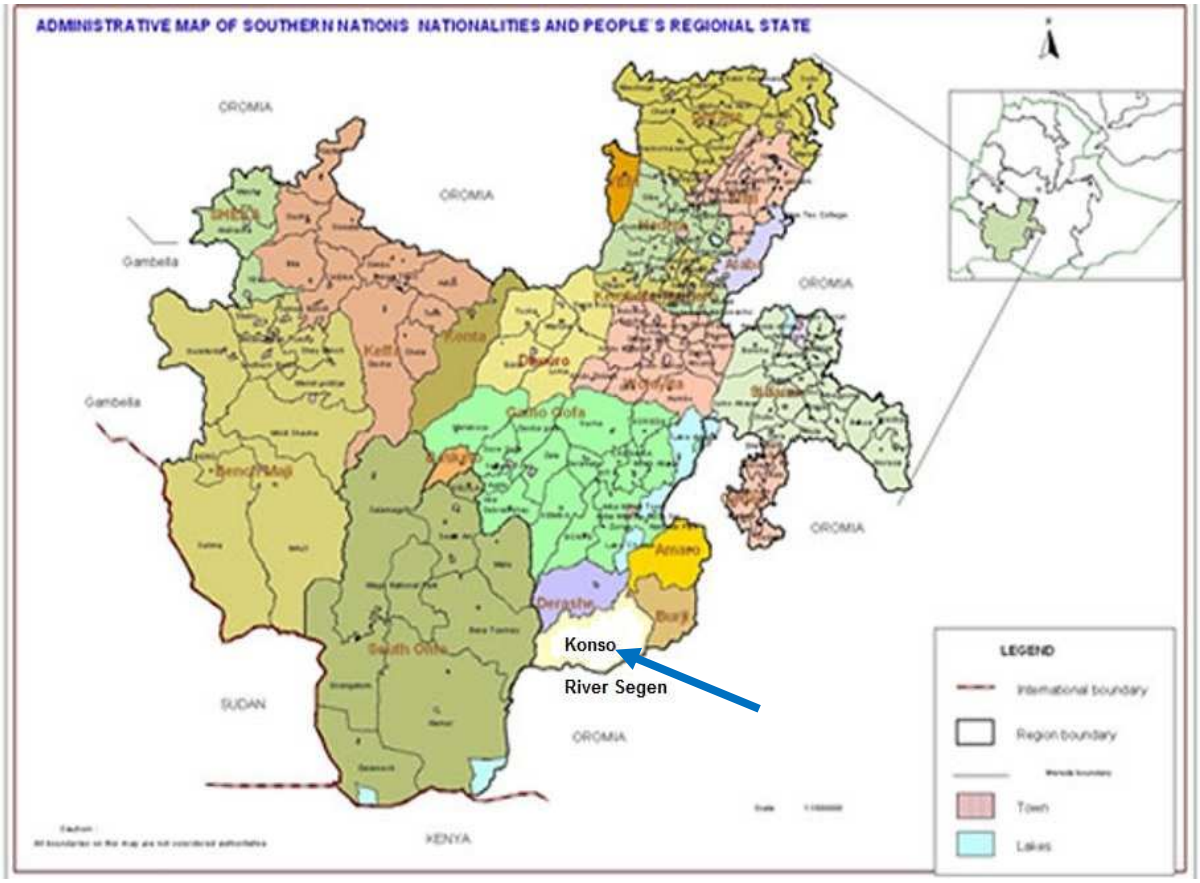


Figure 2 **Administrative Map of Konso District in Southern Region of Ethiopia**

Ethiopia is known to be the largest honey producer in the Africa continent and 10th in the world (Girma, 1998). It has been put by FAO (2005) report as the 9th honey producing country of the world with 3% honey production share. Beekeeping is the oldest farming system in the country suited for extensive ecosystems because of its fauna and flora diversity. Of all countries in the world, few countries have long tradition of beekeeping as compared to Ethiopia which has had to do with the dissemination of Christianity that more strengthened the beekeeping system because of its demand for wax for religious

ceremonies (Hartmann, 2004). Beside the high ecological value of the pollination services of beekeeping activities , even though now declining, the traditional inheritance rights where honey-bee trees are inherited from one generation to the other over centuries encourages endeavours of primary forest conservation. World widely, it also ranks 4th in bee wax production. To date, Ethiopia has over 10 million bee colonies including both feral (wild) and hived ones, and also produces around 23.6% and 2.1% of the total Africa and World's honey, respectively (Ayalew, 2001).

According to the Ethiopian central statistics agency (2005) there is growth in honey production which is indicated by both the quantity of honey production and number bee hives. In 1997, the total honey production of the country is about 13.5 thousand tons which has grown to 30.4 thousand tons in 2005, while the number of bee hives has also been increased from 3,358,000 to 4,546,000 within the above mentioned same years respectively, of which traditional production accounts for 95.5% (Tadesse and Philips, 2007).

Southern Nation, Nationalities and Peoples' Regional state (SNNPRS) which usually known as southern Ethiopia region produces 17% of the national share which ranks it as the 3rd honey producing region preceded by Oromia and Amhara regions that have production shares of 53% and 21% respectively (CSA, 2005).

Konso District Overview

The Konso Special Woreda[4] (KSW) is a district of an ethno linguistic group located in the arid highlands of south-western Ethiopia. Unlike most Ethiopian peoples, the Konso live in large towns, each governed by an independent council of elders, cultural leaders. According to the data of Central Statistical Agency census, the population of district is estimated to be 234,987 (male 113,353 and female 121,634) with population growth rate of 2.9% (CSA, 2008). About 96% of the population are living in rural while all those living in cities and towns constitute only 4% percent. The district is divided in 48 rural administrative "Kebeles[5]" (Parishes) and two towns of which one is the district capital, Karat. It is at the third lower hierarchy national administrative structure (Federal or Central – Region – Zone or District). Approximately 10% the district population are under transhumance living system. The livelihood base of Konso people is laid on crop production, livestock rearing, beekeeping and petty trading.

Konso district is one of the honey producing areas in the Southern Ethiopia region, as shown by an arrow in figure 2, which produces 0.27% of the national honey production. According to central statistics agency (2005) report, the quantity of honey produced per hive in Konso district is 8.59Kg which is higher than that of the regional and national volumes per hive as reported was 7.15Kg and 6.68Kg respectively. This is relatively the highest figure as far as the quantity of honey produced by traditional hives is concerned. Because the maximum honey volume producing region where modern beehives are used is Gambella for its average regional productivity per hive reported was 11.39Kg (Ayalew, 2001). As the most food insecure district from the southern Ethiopia region and where more than 80% of rural households participate in honey production, this has been serving as the only immediate

[4] "Woreda" is an administrative unit in the government structure of Ethiopia which is equivalent to a district in other countries.

[5] "Kebele" is also an administrative unit serving as the structural and functional unit at the lowest level, and referred in this paper as "Parish".

cash income for crop products does not enter market beyond home consumption because of the exhausted farmlands and the alarmingly increasing population pressure with a growth rate of 2.9% (CSA, 2008). And of all marketable honey, as any other parts of the country, goes through traders to domestic consumption in form of local wine which is usually known by Ethiopians as “Tej” (Hartmann, 2004).

3.2 Process of Data Collection

To minimize confusion in the process of data collection and have dependable (unbiased) data, stratification (pre-defined grouping) was used to select respondent farmers. That means the two wealth groups of honey producer farmers in four parishes (Kebeles) in Konso District of Ethiopia were used since the wealth ranking process has already been done by the local government office of Agriculture and rural development. A total of 56 farmer households i.e. 14 farmers from each parish of which 7 were smallholder and the rest 7 were large/medium holders. Each producer farmer was asked to respond to research questionnaires structured in such a way that it could collect information on the factors affecting the bargaining power and then pricing of honey between farmer and trader. In addition, twenty traders were interviewed on the pricing criteria related to product quality and relationship, while and processors (Tej Makers) were asked for triangulation purpose especially on the honey quality they need for the process of “tej” preparation.

As visualized below in figure 3, research framework was constructed in such a way that the parameters determining or acting as bases of honey pricing in rural community between traders and farmers were reviewed from secondary data sources such as books, journals, working papers, research reports and on internets in order to know the relationship between product price and factors like farmer-trader relationship, market place access, product qualities and embedded services. Research issue was developed from the research objective as main and sub research questions from which interview questionnaires were constructed to the level of operational meaningful checklist and structured questions. These mentioned factors were used as bases of honey pricing through questionnaires against which the current honey price establishment of the two farmer wealth groups were studied in four Parishes namely Dera, Dokatu, Duraite and Sorobo (the one replaced by Birbirsa due to transportation inaccessibility) that are at different distance from the district main (Karat) market place and transportation access. One unplanned focus group discussion was also held with traders and some farmers to discuss on a way in which honey quality (honey harvesting stage) may be improved in the future to transform the supply chain into competitive honey value chain.

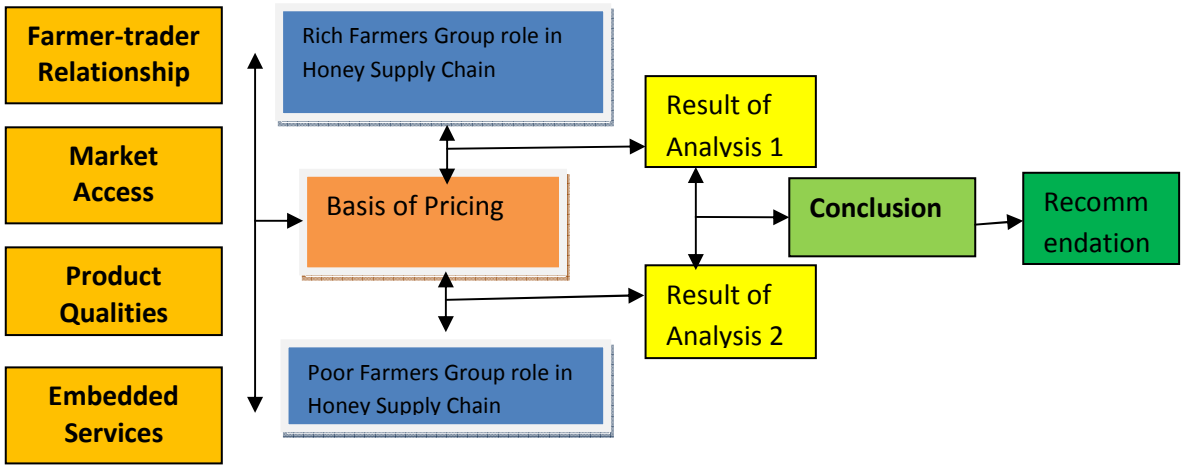


Figure 3 Research Framework of the Thesis

3.3. Data Analysis

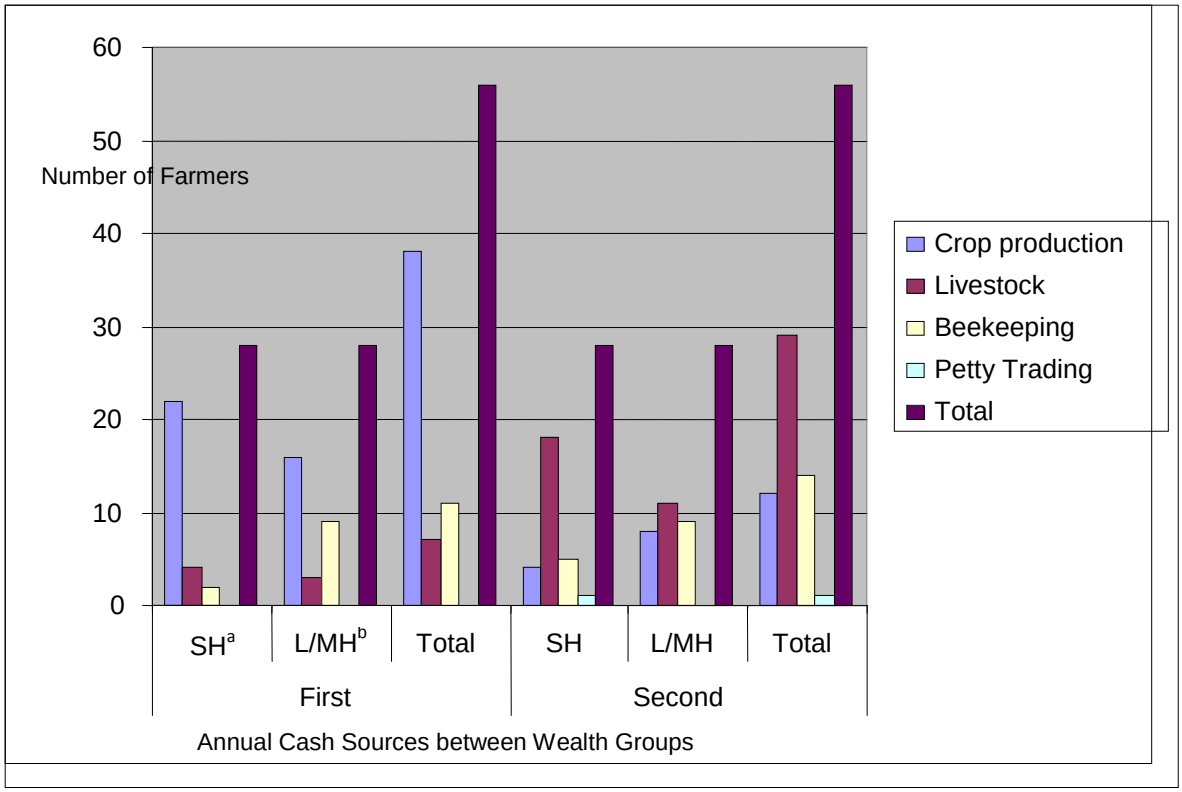
The data collected by the questionnaires developed from research issue was analysed by both analytical and statistical tools. In order to have visual representation of the whole chain in the district, chain mapping was employed with its price labels at each actor level. In order to understand more the strength of bargaining power between producer farmers (both smallholder and large/medium holders) Porter's five forces tool of analysing ones market position was applied with special emphasis on the bargaining power of suppliers and buyers even to see the balance between demand and supply since it has a lot to do with interaction of traders and producer farmers in a chain.

On the other hand, elements of Statistical Package for Social Science (SPSS) were used to process and produce frequency tables, graphs, the means of different variables involved in the study. Independent samples t-test was applied to know the equality of means of honey yield, annual production and, prices for both farmers at distant and nearer places while spearman correlation was also used to check the correlation between different variables especially to know the number hives hanged by a farmer and his quantity of annual production. To further check the existing difference between and within groups, analysis of variance (ANOVA) was used. Even though different tools were applied in the analysis process, they all were managed within the concepts of marketing and value chain analysis (VCA) to show how the supply chain is functioning in the district.

4. Empirical Results

4.1 General Characteristics of Respondents

In Konso, the means of livelihood and the annual source of cash income are related. By the help of the formulated questionnaires 56 farmers (Annex I) were interviewed, and for all farmers the main (first) annual cash income source was found in order of priority as crop production, livestock production and beekeeping as indicated in figure 4 below.



Key: [a] SH - Smallholder farmer; [b] L/MH – Large/Medium Holder Farmer

Figure 4 Overview of the Annual Cash Source among Farmers

According to the interview responses, even the average family members of all respondent farmers was 5 persons, the average number of family members engaged in beekeeping of honey production was found to be 1.27 which is almost one. That is out of 56 farmer respondents in 42 (75.0%) families there is only one beekeeper while two and three family members engaged in honey production accounts for frequencies of 13 (23.2%) and 1 (1.8%) respectively. The separate average family members engaged in beekeeping for smallholder and large/medium holder farmer households were found to be 1.14 persons and 1.39 persons respectively where all of the participating members are males.

Concerning traders, primarily and entirely they are farmers (involved in beekeeping) that are ranked at medium to higher wealth status. According to the response from the traders, out of 20 traders 50% (10) rely on crop production as main annual cash income, while 45% (9) of them depend on trading and 5% (1) on livestock production respectively. Of all interviewed traders only 2 of them were licensed for trading.

4.2 Brief Description of Existing Honey Supply Chain

In the focused group discussion, all participants have agreed that the process of honey production is being changed. According to their conclusion, beekeeping was an interesting activity done as hobby and it covers more than 40% of household cash income. But now, due to increasing population and need for crop production farmland, almost all forests have been cleared. The raw materials for hive making have also perished with forests. And by now, beekeeping is in wilderness at the distance range of 10-45km from settlement area in remote riverbanks and long-lived trees in farmlands.

Due to the above briefly mentioned reasons, hives (as input) are coming from highlands of neighbouring districts by handcraft people. The family labour demand of the sector has increased. However, they still say "honey is money" though its contribution percentage to household income is decreasing. The annual production of the district is increasing in decreasing rate with present value of about 80.3 tons. The productivity decreased from 8Kg to 5Kg per hive. This due to the lack of modern beekeeping knowledge, shortage of trained manpower, shortage and cost of beekeeping equipments, less access to credit, pests and predators and inadequate research works to support development programs of the sector (Abebe, 2009). Concerning the volume of honey production which is related to the number hives hanged on a tree (trees) since 89.3% (50 respondents) answered in such a way that increasing the number hives has been the method to increase production volume. The average number of hives hanged by all producer farmers 28.38 of which on average 12.45 hives have got bee colonies and 9.45 beehives are getting chance to be inspected per season. The total average yield of honey per hive was found 5.12 Kg where the total annual honey production per household has got an average of 44.20 as shown in table 1.

Table 1 Some Statistical parameters of Honey production

Statistical Parameters	Hives	Beehives	Inspected Beehives Per Season	Yield Per Hive	Annual Production
Mean	28.38	12.45	9.45	5.1571	44.2018
Mode	15	10	10	5.00	15.00
Range	97	61	60	14.80	353.20
Minimum	3	0	1	.00	2.00
Maximum	100	61	61	14.80	355.20

N = 56

Collection methods: Various reports suggest that nearly 97% of the domestically produced honey is sold in the local markets for cash while only about 3% of the honey produced is consumed in the household level of the producers. Of the total marketed honey, nearly 80% is used for mead, "*Tej*", while the rest is consumed in the urban areas (Hartmann, 2004). Adulteration of honey is also threatening the market. Concerning the honey price, traders were asked three prices: buying (for gourd and graduated containers) price and selling price. Buying price is the one by which they acquire the product from suppliers (producer farmers) while selling price is the one for which they sell they honey to "tej" brewers. The average buying price is ETB 22.6 while the selling price of honey by traders to local honey wine breweries ("tej" houses).is ETB 27.55 per Kg. However, the average buying price for honey with gourd containers was ETB 20.15.

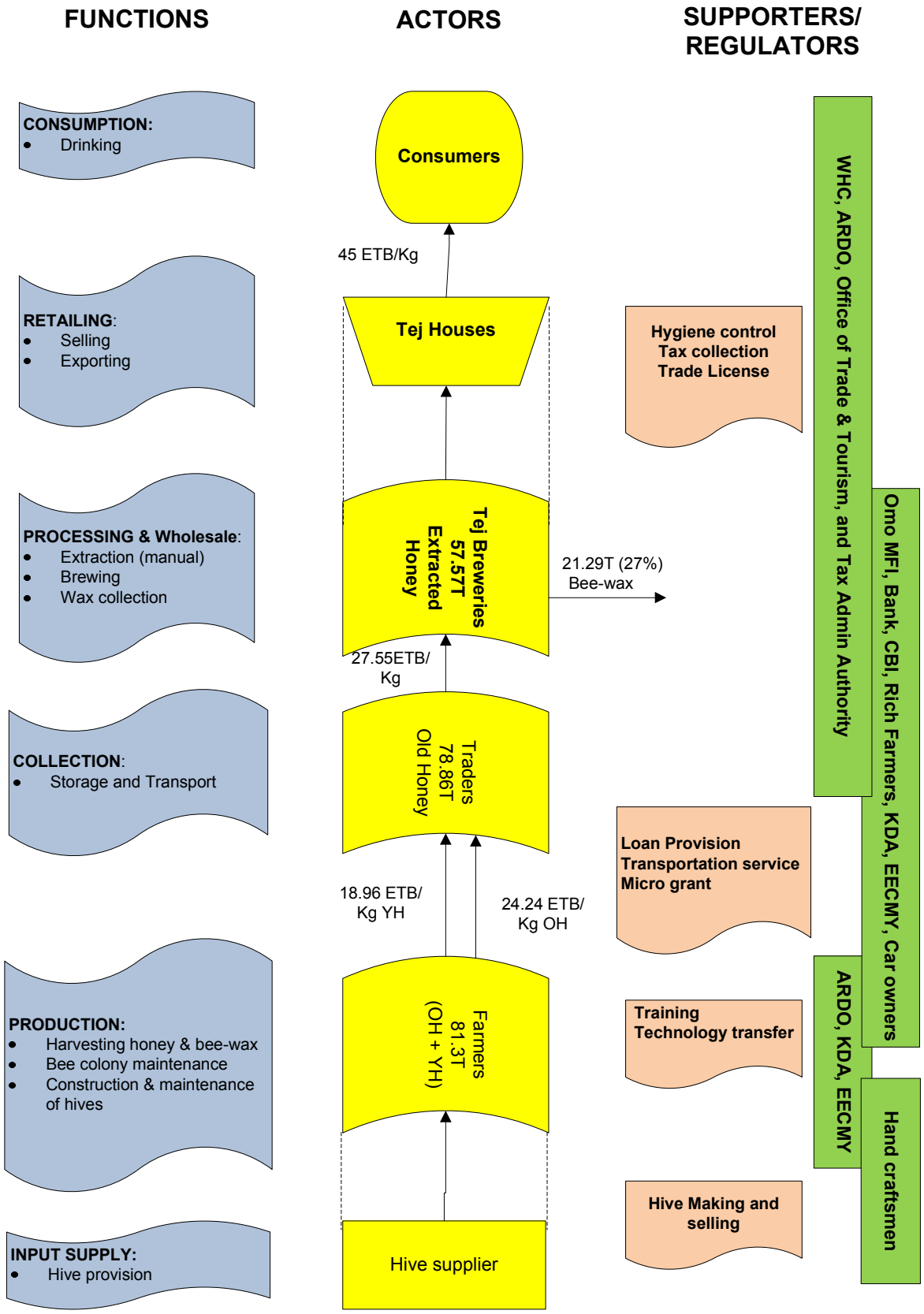


Figure 5 **Domestic Honey supply Chain Map in Konso District**

Processing and Retailing: The main processing method done in rural parts of Ethiopian is manual extraction that is the separation of honey from wax during brewing process. After processing the "tej", the local honey wine, is retailed by the tej houses to consumers (see figure 5). The honey wine is then totally consumed by district people locally; that is why the chain is named as domestic honey supply chain.

Chain Support and Regulation: In the district, there are government and non-government organisation working on honey as one of the means to increase the household income of the lower economic class of the community. KARDO is providing training on technical honey production systems and also organize farmers into cooperatives through its Cooperative Desk to channel government credits from its rural finance fund. Konso Development Association (KDA[6]) with its partners, and local development branch of EECMY implementing projects to enhance the livelihood of the poorest community part through household income diversification mechanisms. Their activities include micro grant provision for income generating activity, technical and administrative trainings, and information dissemination. District health centre is the controlling the hygienic condition of tej-houses while local branch of tax administration authority, and office of trade and industry are taking care of the tax collection from business organisation and provision of trade license respectively.

4.3 Factors affecting honey Pricing

4.3.1 Farmer-Trader Relationship

For the interview questionnaire saying “Have you ever been a member of a cooperative?”, from all 56 respondents, 25 (44.6%) responses were “yes” while the rest 31 (55.4%) were “no” indicating most of them are not cooperative members. The answers of the same questionnaire yielded 13 “yes” and 15 “no” for large/medium holder farmer producers while 12 “yes” and 16 “no” were for smallholder farmer honey producers. When asking for further information the activities of their cooperatives, out of the 25 cooperative members farmers, 17 were members of informal task force associations who cooperate for one another by labour in crop production and different farming activities while the rest 8 were from the smallholder (poor) farmers that are currently organized as saving and credit cooperative by World Bank Konso Food Security project being implemented by District ARDO and they have little know how about the activities of their cooperatives. Even though they are members of formal cooperatives and are also engaged in different micro enterprises, there is no sense of cooperation among the members in establishing and defending for their product price in the market.

Again with this phenomenon from the side of all 56 interviewed honey producer farmers only 5 of them have customer trader who buys their honey regularly which are entirely under the category of large/medium holder (rich) farmers. Social networks such as Idir, Iqub, Debo, Parka and religious gatherings have got decreasing influence on power of bargaining between trader and producer farmer to determine honey price. But the intimate blood relationships like brothers, brothers-in-law have still some influence on bargaining power.

[6] “KDA” – is a non-political, non-religious and not-for-profit local non-government development organisation established by keen interest of Konso people to facilitate and catalyse development activities in order to tackle the chronic food insecurity condition of the district.

Even 75% of the traders focus on on-spot transaction without any agreement or prior customer to buy honey. Even the other 25% traders have unwritten agreement, but simply based on social trust with medium to large holder farmers that are acting some times as brokers and collectors among villagers. Due to this reason when they were asked that how do they rate the bargaining power of suppliers, 80% (16) of the responses were there is balanced bargaining while 15% (3) and 5% (1) replied as “strong” and “very strong” respectively. There is also cooperation between traders especially providing containers for one another even though their power in fixing and controlling honey market price is loose. In their response 70% (14) have cooperation among each other while the rest 30% (6) have no cooperation; rather they tend to compete for one another when they are buying honey from farmers to get sufficient volume on that specific market day. The cooperation of the 70% traders is in the sense of individual collaboration which help them only in times of material or financial need in a given specific time or day.

Out of the 20 interviewed traders only 8 (40%) have buyer customer while the rest 12 traders are looking for buyer after they have bought enough honey they wanted to purchase. The cooperation mentioned above is not in the form of formal cooperatives for only 10% (2) of them are members of formal cooperative that are engaged in different microenterprise and petty trade activities such as weaving, grain trade, and running mini-shops. 20% (4) are members of informal cooperatives which also mention in the case of farmers’ task force association who collaborate in labour during times physical work and farming activities. All the rest of the traders (70%) are individualistic traders who run after their business in a way they thought appropriate to get sufficient profit through competition. Only two of the four informal cooperative member traders are licensed for micro trading by local government.

4.3.2 The Market Access

In the district there are two main physical market places, namely Karat and Segen. All the four parishes are users of Karat market. There is no special place, even appropriate shade, where honey transaction is carried out, as clearly shown on the picture (Fig. 6) farmers are sitting on the sunny bare field waiting for trader who buys their honey. Out of 56 respondents 31 are from Kebeles (parishes) closer (less than 7km) to the market place in the district town while the rest come from relatively far distance (above 10km) use gourd containers to hold their honey for marketing. Most of the farmers get access to market place on foot carrying their honey to sell in the Karat town. When there is high quantity of sellable honey, additional family members are needed to carry the honey to market. This distance is the distance between farmers' settlement area centre to market only; that means it does not include the distance from the place of production as already described in section 4.2. The distant farmers sell their honey for lesser price on average of ETB 23.74 per Kg while the average selling price of the nearer farmers is ETB 25.79 per Kg even in the same season in the market place. As far as the distance of production site concerned, the producer farmers that live far from town could inspect on average11 beehives while the nearer farmers could only inspect 4 beehives in one season as shown in figure 6. According to the field data collected from the producer farmers, beehives are usually inspected (and harvested) two times a year.

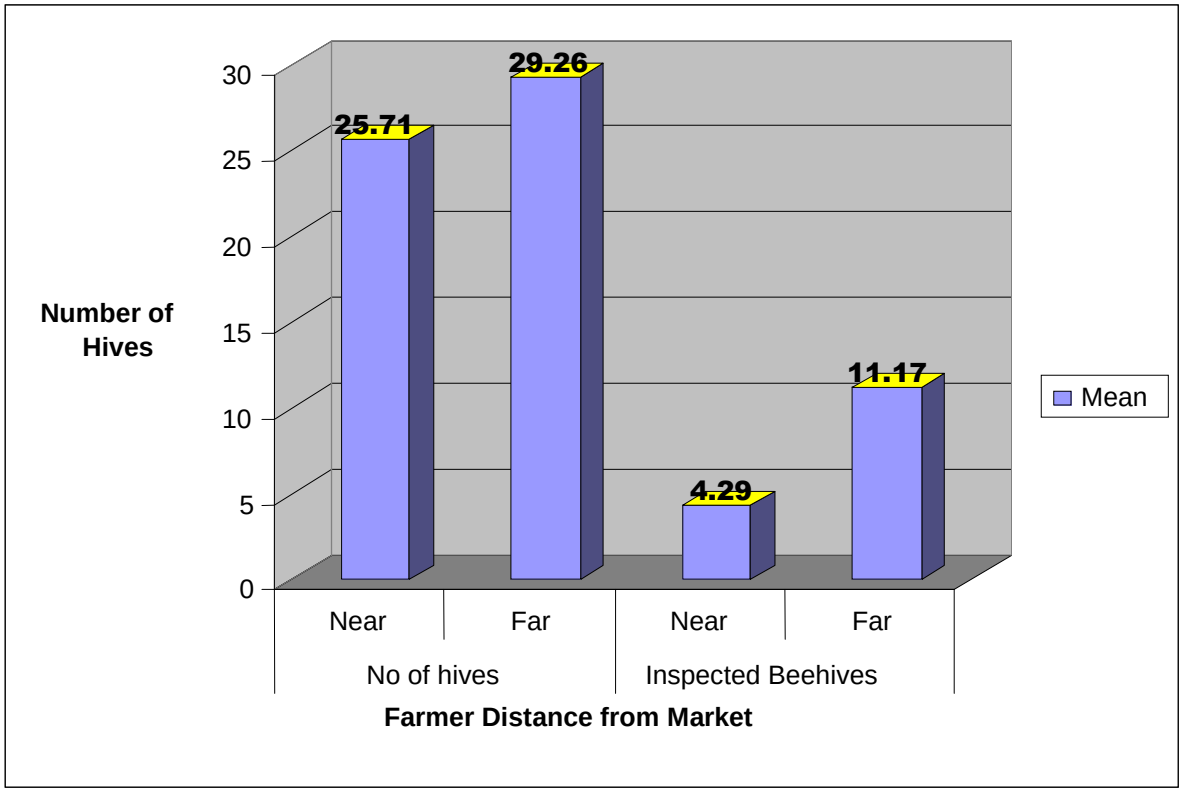


Figure 6 **Averages of Hives Possessed and Seasonally Inspected Beehives**

Though there are traders in the villages of producer farmers, none of them used to buy locally without going to market place. The reason they mentioned with this situation as a problem is the absence of appropriate transport that help them to collect the purchased honey from villages to their store in the town. Since most of the farmers still use gourd containers to hold their marketable honey, the chance of container breaking is high during transport. The average price of older and young honey was ETB 24.25 and ETB 19.84 respectively while the average late market price was ETB 17.84 as described in table 2 below.

Table 2 **Pricing Mechanism Differences for Farmer Wealth Groups**

Farmers' Sale Pricing	Wealth Rank	N	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Older Honey Price	rich	28	24.2143	5.17370	.97774	0.956 (0.956)
	poor	28	24.2857	4.51218	.85272	
Young Honey Price	rich	28	20.7321	3.08065	.58219	0.013 (0.014)*
	poor	28	18.9643	1.96228	.37084	
Late Honey Market Price	rich	28	18.4286	1.03382	.19537	0.00 (0.00)*
	poor	28	17.2500	.55277	.10446	

* The mean difference is significant at P<0.05. But rich farmers do not usually sell young honey

4.3.3 The Honey Qualities

The qualities of honey used for pricing as mentioned by the 56 farmer respondents in priority is taste (20), colour (16), dirt and wax content (14) and odour (6). They also mentioned that the best way to keep the quality of honey for higher price is holding the honey in pure and hygienic containers and minimizing smoking during harvesting. In addition to these honey product qualities, they also underlined that the quality difference due to seasonality which is unavoidable and influence the taste, odour and colour of the honey produced during that specific season. In addition of the hygienic condition of their honey containers, the type of container has also to do with price setting. For this reason 42 (75.0%) of the farmers bring their honey when coming to market with tin buckets and plastic containers with already known volumes as in figure 7 below. According to the research findings, both the large holder and smallholder farmers use metallic buckets of 5 Kg since they are coming with food-aid are also cheap to buy by all famers. But only large holder farmers were the ones that use large plastic container of volumes ranging from 20 – 30 Kg. That means from the above 42 farmers 14 are smallholder farmers who are using small metallic buckets. And 50% of smallholder farmers are selling with gourd containers.

Figure 7 Honey with Different Containers in Konso-Karat Market place

Besides the above mentioned honey product qualities the age of marketable honey is very important criteria for pricing in the honey supply chain of the district for “tej” preparation. It was mentioned as indispensable criteria by which honey price is established between farmer and trader since the older honey has paramount importance for honey supplied to “tej” breweries. This is related to the capacity of retaining or storing honey during seasons of surplus production and selling in off-season period. As depicted below in figure 8, 69.64% (39) of the farmers sell their honey at any time they want, while 23.21% and 7.14% of the farmers sell the produced honey as harvested and 1-2 months later respectively. From the 39 farmer respondents who answered as "at any time I want", only 12 used to sell their honey after 2 months, while others are flexible between the category of "as harvested" and "1-2 months later".

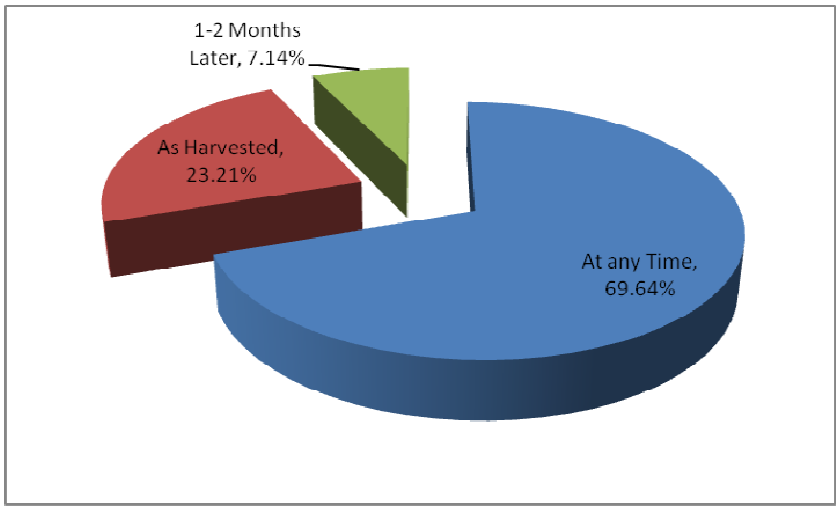


Figure 8 **Honey selling time as Reported by farmers**

4.3.4 Services involved in the Supply Chain

In cases where farmers get in short of money for their household affairs, the source of loan according to the responses of all 56 respondents is described in table 3 below with their shares between smallholder and large/medium holder honey producer farmers. Out of all interviewed producer farmers, none of them receives advance payment for its honey to be paid back with produce later with agreement. Even the loan of the two smallholder farmers in the table (3) below has nothing to do with securing honey for trader, instead the traders are both blood relatives and interdependent neighbours in labour work, and the loan is based on social obligation, but has high local rate of interest (100% per annum).

Table 3 **Sources of Loan for Producer Farmers**

Source of Loan	All Respondent Farmers	Percent (% of all)	Smallholders farmers	Large holders farmers
Kinsperson	42	75.0	21	21
Bank	3	5.4	0	3
Microfinance	9	16.1	5	4
Trader	2	3.6	2	0
Total	**56***	**100**	**28**	**28**

*N = 56

The other reason they mentioned for not buying honey in the villages (in section 4.3.2) is that neither the trader nor the farmers is sure of the present market price of honey due to very little flow of market information. Instead, after going to market place and have known the honey price of the day, the traders start to rush to market place tributary lines to buy honey before the producer farmer knows the market price. And from the traders, 70% (14) are in the vicinity of market place, district capital (Karat) whereas the rest are at the distance of 10-15 Kilometres far from the centre of the market place.

5. Discussion

From the empirical data collected both from producer farmers and traders in the honey supply chain of Konso district in Ethiopia, let us see the way how trader-farmer relationship, market place access, qualities of the product, and embedded services influence bargaining power between trader and producer farmer, and by so doing affect the final honey price establishment.

5.1 Effect of Farmer-Trader Relationship

The relationship between farmer and trader is usually manifested in the form of written or unwritten agreements, social bonds and networks, and blood relation (kinship). Even in the normal situation, it is very difficult to have contract agreement with each individual producer farmer for it is costly (KIT et al, 2006) and it is not also matching with the economies of scale that the trader demanding. Individual farmers and traders having no mutual respect and understanding are usually too weak to build and maintain competitive value chain. Only when they endeavour to group themselves with peers they can reach sufficient force to make improvements in the value chain. When we see the number farmers that have trader customer and vice versa, most of the transactions are carried out on-spot as trader and farmer met in market place for 75% of the interviewed traders have no supplier customers and 91.07% of respondent farmers also do not have customer traders that buy regularly their honey. The term “value chain” refers to the fact that an entire network of chain actors is needed and necessary to get the product in good condition from the countryside (where it is produced) to the city, where it is consumed, through creating mutual respect and understanding among buyers and sellers for each other’s business (KIT and IIRR, 2008). However, in the findings, as there is little prior agreement and understanding on the product price from both sides, bargaining takes long time in deciding the exact value of the product.

The farmer-trader relation in terms of social bonds and networks and/or blood relation is a short term remedy only in cases of surplus production where traders select their relative or nearby neighbour to buy honey from provided that the quality is of acceptable standard, and vice versa; i.e. in times of honey shortage where producer farmer seeks a trader that is likely to benefit him in the near future. However, this system is not sustainable in marketing as the centre of attention of relationship is out of the needed product quality in appropriate time. It has little to do with price establishment since price knowledge is considered as a fundamental requirement in rational customer decision making (Monroe, 2003) about the product value. The challenge for smallholders when they are integrated to market oriented environments, the increase in market uncertainties of which the most important and key one is price risk (Jacobs, 2008) which is associated with market development. Had the product been locally consumed in the same village where the producer is living, according to Lyon (2000), consumers might have used trust as social capital to have confidence in the product for it is uncommon for smallholder rural producers and trader to apply legal measures.

The findings reveal that the average price for which association member farmers sell their product is ETB 25.40 and 20.60 per Kg for older (long stored) and young (as harvested) honey respectively, where as non-cooperative member farmers sell the same honey types at ETB 23.30 and 19.20 per Kg respectively too. However, there is no statistical significant difference between the selling prices of member and non-member of cooperatives. This is because all cooperation types mentioned are task-force associations that help one another in times of tough farm work and play little role in influencing product market price.

5.2 Effect of Market Access

Market access is expressed in different forms. As mentioned in results under the responses of both actors in the supply chain Konso district domestic honey market, even though the effect of the distance of the producer farmers from the physical market place is not statistically shown as significant difference, the average selling price of distant farmers is lesser by ETB 2.00 per Kg as compared to the selling price of nearer farmers. In addition, reality has also confirmed the price different due to distance is of high importance. For example, if we take the Kebele that was cancelled from the survey because of the summer rain and river flood, and became inaccessible for vehicle transportation; most of agricultural products were forced to be sold for cheap price. Even in the times of good transport access, distant farmers are exposed to risk of product loss since people and stock (freight and wet) are loaded together. When the quantity of marketable honey is small, though they come to market on their foot, it does not cover the allowance of the farmer who came to sell the honey, and other needful household expenditures.

When the price difference due to distance of from market place is traced from data result for smallholder and large/medium holder farmers, there is no difference since none of traders move to Kebeles to buy honey from producer farmers. Even though, most traders became owners of mobile technology, as far as the trust and mutual understanding between trader and farmer is nil for both actors, they use market place as information centre in addition to its usual function as transaction site. The major difference that has been found during the interview was large/medium holder farmers bring different marketable items over which they spread their associated transaction cost while the same amount of cost is applied to smallholder with single item.

At the same time, since smallholder lack money to pay for transportation cost and usually come on foot, they are suffering from frequent travel (see figure 9) to market for the same product since they miss the time of honey selling for rural markets are active and hot within specific hours (usually from 1:00 – 3:00 PM) of the day. It is in these cases that most of the farmers sell their older (stored) honey for average late market price of about ETB 17.80 per Kg (Table 2) to cover his costs and buy household consumables though the events are rare. This price is locally termed as late market price where only 21.4% of interviewed large/medium holder farmers used to sell in late market.

Figure 9 **Producer Farmer Sold one of two buckets of his Marketable Honey**

The other factor related to market access is the proximity of traders for producer farmers. As already mentioned in results part, since 90% of the honey traders are not licensed for trade and their relationship with producer farmers is limited, and hence there is no price difference. The other reason for traders refusing trade license is not only to escape government tax but also to be able to switch between farming and trading as conditions permit for all of the traders are also farmers. As risk aversion is the main coping up mechanism of Konso people in their very farming system, these traders still share this behaviour and do not fix themselves to trade single commodity. For instance, out all interviewed 20 traders 75% (15) are trading more than three commodities such as grain, cattle, hides and skins including honey as one of the items.

5.3 Product and Effect of its Qualities

Volume

When traders and farmer are discussing in a market about a sellable product, the immediate information needed with its price is the quantity of the product. According to collected field data from producer farmer in the Konso district, it is found clear that quantity of honey produced is directly related to the number of hives hanged in a forest (wilderness) by farmers (table 4) and the distance of the farmers' residence from the district capital. In the first case due to the farmland shortage in the district and increasing population existing forests have been cut, and beekeeping has been pushed to remote area river banks (Hartmann, 2004). In this sense farmers live around the town have eventually became inaccessible to forest trees. Trees in the nearby ritual forests which serve as clothes of

cultural villages, have been possessed by more than two farmers at a time; and can no more carry many hives (Girma, 1998). Although there is no difference in per hive honey yield between the farmers at the different distances, because of the above reason, as a second case, there is significant difference between them for the average of annual productions are 27.0 Kg and 49.0 Kg for the near and distant farmers respectively. This has positive and strong correlation with the number of hives hanged and regularly inspected per season as shown below in table 4 for the number hives of distant farmers are higher than that of farmers in vicinity. Due to some improvement in farming practices of the nearest farmlands such as garden vegetables cultivation, fruit tree plantations and other agro-forestry activities, the honey yield per hive is increasing for nearby honey producer farmers, which is promising for introduction of other types of hives to further enhance productivity (Jacobs et al, 2006). This trend if backed up by appropriate beekeeping techniques and water harvesting in the vicinity, it may reverse the deleterious effect product seasonality on pricing.

Table 4 Correlations between number of hives and annual honey production

Test	Variables		How many hives do you have?	What is your annual honey production?
Spearman's rho	How many hives do you have	Correlation Coefficient	1.000	.404**
		Sig. (2-tailed)	.	.002
		N	56	56

** Correlation is significant at the 0.01 level (2-tailed).

When coming to the pricing of honey volume, which is quantity, is measured by weighing balance. However, since producer farmers have no trust in measurement scale of the weighing balance, containers are playing major role in influencing the establishment of market honey prices between trader and farmer. As indicated in figure 7, in order to have correct pre-information about the price of their honey, farmers use plastic and tin container for their volume is clearly known. But those farmers who have no such containers fall on the hands of traders and are paid as per the reading of the corrupt weighing balance as described in results (sections 4.2 and 4.3.3). This is because traders are known in manipulating the strength of the spring in the balance so that it may underestimate the weight of the honey (in gourd containers) for lower pricing. Since most (75%) the farmers, both large and smallholder farmers, are using small tin (metallic) bucket to hold their marketable honey, there is no price difference for honey of the same quality. But when smallholder farmers bring large quantity of honey (more than 10Kg) to market, they use gourd containers, that expose them to traders unreliable weight reading, thereby lowering the price of their honey from normal average of ETB 22.60 to 20.15 per Kg with statistically significant difference.

Honey Qualities

Product quality is the most important and the centre of attention in price determination which the final consumers most value. The appearance of honey by itself is determined by its colour. Colour gives rough information about dirt content and the season of production. However, it becomes determinant of price if and only if it is accompanied by good taste. White honey is preferred to the black one when it is intended to be sold a consumer using it as table honey or prepare “birz” for non-alcoholic drinkers.

In rural areas like Konso district where chemical test of honey is unavailable, traders and producer farmers themselves are experts of honey quality check from their life experience. As revealed from the results, 35.7% of farmers are already familiar with taste as the first criteria to establish honey price between trader and farmer which is a rough indicator of the chemical content of the honey. Therefore, as indicated in figure 10, even though light honey is usually preferred world widely as the good quality; in the district traders are always suspicious about it for its immaturity and unprocessed pollen content. This is because, when mixed with wax, it is difficult to differentiate the pollen content in the liquid part of the honey. Hence when compared with colour, taste is the better criterion in determining market price of honey. Since smallholder farmers have little income generating options, they are economically forced to inspect beehives for harvesting at early stage i.e. when all the honeycomb holes are not filled with pure honey and sealed. That means harvesting is done when the content of the honeycomb is full of larvae, honey and unprocessed pollen. Due to this reason, smallholder are exposed to such less quality honey that fetches lower price (even below young honey) as reported by traders and farmers focused group discussion.

Figure 10 Colour and Taste of Chunk Honey in a Konso- Karat Market Place

As already mentioned in the very introductory part, this domestic supply chain of Konso honey is for local wine (tej) preparation. By taking the consumer preference and suitability for tej preparation, traders prefer older (stored) honey to the younger (fresh - as harvested) one. As far as the price of normal (aged) honey is concerned there is no difference between smallholder and large/medium holder producer farmer honey price. But when it comes to the selling price of young honey by producer farmers, there is a significant statistical difference between rich (large/medium holder) and poor (smallholder) farmers as shown in table 5. By the way, traders again use honey consistency, taste and odour to identify whether honey is fresh or old. In fresh honey, traders cannot detect the presence of added water, however, in case of old honey the smell of the honey starts slightly to be like smell of “tej” due to started fermentation. The main reason is large/medium holder farmers have the capacity to postpone the time of selling their honey since it is easy for them to find credits from different sources. On the other hand traders usually use the older honey to be sure that it is not adulterated by water since waterless honey stays for long period of time (Aparna and Rajalakshmi, 1999) with significant change in odour (smell).

Table 5 Independent T-test for young and old honey prices for rich and poor farmers

Honey Prices	Wealth rank	N	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
What is price of young honey?	rich	28	20.7321	3.08065	.58219	0.013 (0.014)*
	poor	28	18.9643	1.96228	.37084	

* The mean difference is significant at P<0.05. But rich farmers do not usually sell young honey

5.4 Effect of Embedded Services

Provision of service within a chain is a base for chain development or building market relationship among actors. Between trader and producer farmer the most important service is credit. The inaccessibility of financial service in the rural areas like Konso is the main bottles neck for farmers produce marketing. As mentioned above under the effect of product and its qualities on pricing, the major determining factor for smallholder farmers is the limited capacity to store their honey for specific period of time to fetch higher price. However capacity to store product depends on the ability to cover other household expenses from other sources of income. In this case as indicated in table 2, 42 (out of 56) are using kinsperson for loan source which is with high rate (100% per annum) of local interest. And in Konso, more than traders, all money lenders are large/medium holder farmers that discriminate (in interest rate difference) poor farmers with this type of high interest credit (Watson, 2006) while they support one another for they benefit one another in other services and economic affairs. Because of the power of these actors in a chain is an obstacle to poor farmers based on the importance of their resources to another actor, there is a concentration of these resources in the same chain (Pol and Visscher, 2010). The worst thing is that these large holder farmers hinder smallholder farmers not use other sources of financial services. They are also the most elite people in the community who have access to different information and government intervention. The Omo Micro Finance Institution (OMFI) is a regional government institution that has a goal of serving the rural pro-poor community part. Because the rich farmers are both innovators and open to new information, they have made use of bank, microfinance as their loan source ahead of poor farmers.

The other services are transportation and storage of the marketable product. Concerning transportation, traders have decided not to go villager producers to minimize the risk product spoilage due to the nature of local containers. Because of this reason, producer farmers especially of distant residents are forced to bring the product the market place. In case the product is not sold they leave it in relative trader store who will eventually buy it by deducting store charge. This temporary service decreases the bargaining power of such farmer in the next transactions, i.e. not to look for other traders.

Market information is another service that has to be circulated among all value chain actors so that the final consumer could clearly know and value the condition of the product, and the producers know the demanded product quality with its price range. It is not only for the sake of consumer preference, but also for the mutual respect and common understanding of the chain actors for smooth, efficient and competitive value chain (KIT and IIRR, 2008). Market information is more than the present product price even though price knowledge is the key element for prior decision making for all actors (Monroe, 2003) in the chain. The timing of supply flow, for example, is a key element for contract processors. Otherwise misalignment of interest may be created among actors and then hinders innovation (Greenwood and Hinings, 1996). Farmers do not trust traders for market information in Konso since they are

considered as exploitative middlemen in the market chain because of the pre-existing social class stereotype difference (Watson, 2006). Hence traders are revenging by being unwilling to provide accurate and genuine information and make they practice cheating innocent producer farmers when buying their product. However, since there is no trust, which acting as binding force, farmers could not make use of traders as good source of market information.

5.5 Level of Bargaining Power

Bargaining is a media of information exchange by which decisions are made between two individuals, groups or organisations on fixing value for a specific item or commodity. In case of traders and farmers, the centre of attention for the bargaining is the price of marketable product. Those farmers that had never sold anything before want to sell their product at any price unlike experienced farmers who sell their produce regularly. As a result smallholder farmer rarely make part of marketing trust networks due to their low degree of participation (Jacobs, 2008). According to Muthoo (2000), bargaining has been defined in general terms as a situation in which two or more players[7] have a common interest to co-operate, but have conflicting interests over exactly how to co-operate.

Even in analysing an actor's position in marketing using porter's five forces, the two challenging forces are made of power of bargaining from two sides of an actor in the chain as briefly described in section 5.6. Understanding the position of traders or farmers in the context of above four discussion points (5.1 – 5.4) is very important in order to know what is present behind bargaining as a power. It is this power that act as hammer deforming or shaping the price of a product between the two actors. That means, if actors have good market relationship (contract agreement) with clients, favoured with market access (transportation and time), produce acceptable quality, and are provided with necessary embedded and external services, the power they have in bargaining is stronger than those actors without these services. In other words, an actor with weak bargaining power may get paid less than he really deserves. A key principle here is that, actors with outside options (alternative outside the chain) will increase their bargaining power if and only if the outside option is sufficiently attractive; if it is not attractive enough, then it will have no effect on the bargaining outcome (Muthoo, 2000). However, these elements mentioned as outside options do no act independently to influence the bargaining power; rather they interact and being in combination with other elements of persuasive tactics, they determine the strength of the bargaining power of an actor in the honey supply chain.

In this study, let's consider the position of the two honey producer farmers separately. Large/medium holder farmers have somewhat better market relationship with each other and traders while smallholders have almost none. Even in the case of market access, smallholder cannot afford transportation in rural feeder road (rural roads conveying to main road) in addition to the reluctance of service of transport contractors in such roads. Smallholders take the price risk in missing the exact market transaction time. Moreover, concerning rural financial services, large/medium holder farmers are at better position and access that enable them to change selling their honey in times when honey supply is much (high) in the market and by so doing are increasing the price increment due to honey aging. Traders have used market information as a weapon to dominate their suppliers by telling them non-promising future market. This weakens bargaining position thereby affecting the final price of their marketable honey.

[7] A "player" can be either an individual actor, or an organisation (such as a firm, an association, a political party, cooperative, company or a country).

5.6 Competitive Positions of chain Actors

In analysing the position of the two actors in the domestic honey supply chain of the Konso district, applying the Porter's Five Forces tool is important. Since the position of the two actors has to be compared, their competitive positions are briefly summarized in table 6 below.

Table 6 Competitive Positions of Traders and Smallholder Farmers

Five Competitive Forces	For Traders	For Producers
1. Bargaining power of suppliers	• Large, but fragmented suppliers • Switching to modern honey production by suppliers is high • Can trade other commodities in the absence of honey	• Input are made by farmers • Can easily switch to other farm activities
2. Bargaining power of buyers	• Few, but large volume buyer tej houses • Breweries are not price sensitive (have good margin) • The honey cannot be produced by breweries	• Few, but ever changing traders • Traders are very price sensitive • Traders are also honey producers
3. Threat of new entrants	• Small investment needed to start honey trading • Operation of traders without license • Low switching cost for tej- houses	• Small investment is needed to start traditional beekeeping • No specialisation in production • Traders may change honey trading
4. Threat of substitutes	• No brand loyalty • Little relation between breweries and producer farmers • High demand of tej from consumer side (good trend)	• Again no brand loyalty • Traders have no substitute for honey • Ever increasing number of traders day-to-day
5. Competitive Rivalry between Existing Players	• Economically the same sized traders • Traders follow the same strategies • Barriers to exit the business are low	• Many honey producers • Farmers follow the same production system • None of the farmers engaged in vertical integration (differentiation) • It is easy to exit beekeeping

The above table shows, trader are in good competitive position except for the threat of new entrants and competition among already existing players. But in the case of producers, in general sense, they are not in good position except for the bargaining power of input supplier and threats of new substitutes for the there is no other commodity which is found to be used for tej preparation and can replace honey.

6. Conclusions and Recommendations

As developed from the very conceptual framework, the objective the research project is to identify the underlying mechanisms of honey pricing especially between producer farmers and traders. In the course of the process, it is also to know factors of differences between the honey selling prices of smallholder and large/medium holder farmers. The honey supply chain of the district is traditional where there is no market oriented production from the side of producer farmers. Even though development activities are being done to improve the livelihood of smallholder farmer in household income diversification, all activities are focused on production without considering supply chain for that product.

6.1 Conclusions

Among the elements formulated in the conceptual framework of the research as factors influencing the pricing honey through affecting the strength of bargaining power are farmer-trader relationships, market access, product qualities and embedded services in the chain. The competition among traders to get enough quantity of honey, and among farmers in finding market for their honey product is related to the volume of honey that the traders want to buy and the quantity of honey for which producer farmers look a market.

Even though different types of relationships are mentioned in the findings between traders and farmers, there is no formal market binding agreement that could influence the pricing of honey at significant level. This disproves that the lower honey price (KARDO, 2009) was not only because of unwillingness of smallholder farmers to form cooperatives. However, it does not mean that cooperation in any form has by no means influence pricing, but also due other factors. This is because even the few large/medium holder farmers that have trader customers have increased the price of their product where its effect has been revealed through credit access and the price of young honey. Therefore, market relations have influence on bargaining power thereby determining the mechanism of pricing.

The market access has been explained in terms of market place distance, traders' proximity, transaction time and transportation access and its affordability. When the quantity of marketable honey is small, the is no difference in pricing due to market access in the above mentioned mechanisms. But for large honey ($\geq$ 20Kg), smallholders are affected by transportation cost and miss the hot transaction time. From the analysis of the results, transaction time was the determining factor exposing smallholder famer to late market price which is quite lower price. It also poses influence on both traders and farmers. This is because traders looking for high quantity of honey in a specific time to comply their agreement with breweries cannot get the needed product volume because of short transaction time and long distance exacerbated by poor quality of rural roads for transportation. This condition has multiplied negative effect on far smallholder farmers in consuming their time, energy (family labour) and money as transaction cost. Traders' proximity to producer has little effect on the pricing of honey. Therefore, transaction time and distance from the market are the main identified barriers in disturbing the equilibrium between demand and supply thereby influencing price.

Concerning the honey qualities (physical properties) such as colour and odour have very little influence on pricing. However, the age of the honey and the container in which the honey is held during transactions have significantly influenced the bargaining power to the level of anticipated differences in honey pricing. Age of honey is highly demanded by tej brewers. Traders consider older honey as unadulterated honey. But farmers need money for their household expenditures to store honey for long time, in a situation where local interest

rate from CBIs, kinsperson and informal institutions is unaffordable (Pol and Visscher, 2010). Because of this reason smallholder farmers are forced to be paid lower price for their fresh (younger) honey for they cannot postpone selling time. Smallholders do not have graduated plastic jars and tin buckets, while nearby and large holder farmers have access to these container. Therefore, containers influence the market pricing in two ways: the first one is by giving good estimation of product price to both farmer and trader thereby minimizing transaction time; while the second one is determining the product transportation to market which is related to damage risk, cost and transaction time.

Among the listed embedded services in the conceptual framework, limited financial credit services is the main forces influencing the bargaining power between trader and farmer thereby determining the product market price. The extent to which smallholders are affected is synchronized with their low economic status. This is because, traders are not specialised for honey trading and, therefore, are not willing to provide advance payments to have guaranteed honey supply from producers for they used to trade other commodities with their money. Moreover, traders do not want to lose the high interest rate of their of informal saving and credit associations from borrowers. In case where there is intimate market relationship between trader and producer farmer, market information is provided from the trader side as an embedded service to the farmer. However, smallholders were not lucky to get this service. Since there is no trust on economic market relations (Jacobs, 2008) between trader and farmer, market information on price and consumer need are not shared among them to have competitive value chain for knowledge about price is a tool for decision making.

According to the results and discussion part, bargaining power is all about having outside option for product selling for farmers and out-sourcing of supply for traders (Muthoo, 2000). These outside (out of chain) options are within the range of relations among other agent, spatial and temporal market access, the intrinsic and extrinsic qualities of the product (service), and the importance mutual benefits (Lyon, 2000) of embedded services. In general, according to this research, the four broad components mentioned as factors affecting the honey pricing among different wealth group producers through influencing their power of bargain are interrelated and interdependent. In short, the major factors affecting honey pricing differences between smallholder and large/medium holder farmers in the domestic honey supply chain in Konso district are summarized below.

Honey Age: as a result of limited financial credit services in the district and alternative source of household income, smallholder farmers were not able to store honey for longer period of time. Since honey in "tej" supply chain needed to be of older age (at least older than 2 months), these small holders are exposed to the lower price of young honey.

Missing *Transaction Time:* the effect of market access has been revealed here in the form of distance of producer farmers from market place. In rural honey producer villages the quality of rural roads is poor. Transport contractors, therefore, are not willing to provide service in these inaccessible villages having ragged roads. Due to accommodate the risk of vehicle maintenance, transport cost is high which unaffordable by smallholder farmers. Because of this reason, poor farmers prefer to go on-foot to sell their product, and thereby exposed late market price by missing the short transaction time.

Use of Non-graduated Containers: industrially made containers have already graduated scale. In Konso, gourd containers having different thickness are commonly used to hold fluids. Graduated large volume plastic containers are expensive to be afforded by smallholders. Due to these containers, smallholders fall on hands of traders, i.e. unreliable reading of weighing scale and hence paid lower price.

6.2 Recommendations

In order to change traditional supply chains into value chain in which all the chain actors benefit from the common economic growth, the role of chain stakeholders (producers, traders and supports) is indispensable. Based on the findings and conclusion of the research, selling of young honey, missing the market transaction time and use of non-graduated honey containers were the major identified factors that influence the pricing difference between large/medium holder and smallholder producer farmers. Therefore, the change in these limiting factors should increase the price of honey of smallholder farmers and accommodate them as active participants of the market network. In addition, it is always wise to make the problem owner as the first part of the solution. Hence, in the process of enhancing the household income of smallholder farmers for honey production sector through increasing their bargaining power on the price of their honey, the needful roles of chain stakeholder are recommended below.

6.2.1 Role of smallholder producers

The producers are the first owners of the product. They should know what traders most value to set the price of their honey. The lower price for young honey is the result of little traders confidence on whether the honey they are buying is natural or adulterated with water. Since traders do have stores to put young honey till they sell it to breweries (tej-houses), farmers have two possibilities to get reasonable prices for their honey at a given specific of time.

The first one is to give guarantee for traders about its natural quality of their young honey. Due to fragmented productions, it is time taking for traders to deal with warranty with individual producer farmers. Therefore, developing local groups (in each village) that may be responsible for the honey quality assurance for traders is important to build confidence and trust between trader and producers. By so doing they can increase the price of their young honey higher than that of on-spot transaction price, and thereby also build future market relationship based on common agreement in the long-run.

The second possibility is the presence of experienced and long-lived informal institutions and social networks in the hands of both smallholder and large holder producer farmers which are to be used as opportunity to form associations. The already existing saving and credit system in the form of "Iqub", and social self-help associations, "Idirs", are also good foundations to start market oriented loan services with lower interest rate. By using the loan from these informal institutions for their immediate expenses, they will have chance to postpone the time of selling the honey while the honey is getting older for higher price. This possibility may enhance the bargaining power of smallholders with traders in the process of determining the price of marketable honey.

This second option of transforming informal institutions into formal saving and credit associations, may also prepare them to be eligible to acquire or secure the micro grants that the local and national development organisations want to channel through community based institutions for income generating activities to tackle the chronic food insecurity in the district. Furthermore, the presence of this micro grant will augment the amount of revolving fund when pooled with the capital of the institution's accumulated as a result of saving and/or as a contribution of individual member farmer, and hence, enable the associations to reach many credit seeking member farmers. Then they may develop the capacity even to compete with traders to directly supply to processors.

6.2.2 Role of Traders

Traders are the second product owners in the supply chain. In order to have sustainable economic profit in the chain, their relation with suppliers and buyers is of paramount importance. Without compromising for their profit, traders can also play their role in the process of increasing the income of smallholder farmers from honey supply chain. Getting organized is not only the remedy for smallholder farmers. For traders, cooperative formation will give them power in bargaining with suppliers, and make them responsible for the next actor, the processors, and chain regulators. Traders need to be legal, which help them to reduce the level of competition among traders, for the number of traders that want to operate under legal umbrella are few. And legally organized traders are good leverage points for development organisations to develop value chains for that specific product supply chains.

After getting organized, they may establish marketable honey collection centres near the village of the producer farmers. By joint effort, they will also have the financial capacity to buy transportation van for bringing honey from collection points to towns. This will then minimise the problem faced by smallholder farmers in missing market transaction time due to unaffordable transportation cost. This will protect the poor farmers from the low late market honey price. The traders can also arrange market segment for table honey which has been showing slightly increasing demand. And by so doing, they may open new market for young honey of smallholders which will no more be compared with the honey price needed by processors (tej-houses) as older honey of higher price.

6.2.3 Role of Chain Supporters

Since support given to individual smallholder farmers is considered as aid from the farmers' side, the need of cooperative establishment is unquestionable. However, in the process of cooperative establishment, the societal value that helped the community to have long-lived and effective sense of cooperation has to be maintained. Once actors in the chain are motivated to cooperate among themselves and with the next actor in a chain, chain supporters will have good entrance point to start value chain development. That means instead of establishing new cooperatives from scratch, up grading the existing (already started) informal institutions into active agents of transformation is important in the process of building value chain for agro products. That means, all chain supporters including chain regulators may then play the following roles with respect to the mandate and development activities they have in the district.

Non-Governmental Organisations: in addition to providing micro grants for income generating activities through organized traders and farmer associations, they can also provide trainings on the benefit of reduced farm gate honey price, the importance of saved time and labour, and appropriate and hygienic handling of marketable product. Moreover they can also enhance the administrative and technical capacity of the associations. This may help smallholder farmer associations to buy common plastic jars to be rented to its members to protect them from lower gourd honey payments.

Government Sectors: according their responsibility ARDO may facilitate, through its cooperative desk, the transformation of the institutions into formal cooperatives, and then provide technical training on the production and post-harvest handling of marketable honey. The office of Tax Administration may then follow up and facilitate the legalization of traders and their associations while Office of Trade and Industry provides market information to be circulated among all chain actors.

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Annex I: List interviewed producer Farmers and their Wealth Status

No	Farmer's Name	Parish	Wealth Category	No.	Farmer's Name	Parish	Wealth Category
1	Gelebo Mashola	Sorobo	L/MH	29	Gendo Lemita	Turaite	L/MH
2	Gelsimo Gelebo	Sorobo	L/MH	30	Armata Toraya	Turaite	L/MH
3	Gemeida Gelebo	Sorobo	L/MH	31	Gelgelo Gendo	Turaite	L/MH
4	Gendisha Geda	Sorobo	L/MH	32	Kambiro Kusse	Turaite	L/MH
5	Beyene Guyita	Sorobo	L/MH	33	Orkaido Abalo	Turaite	L/MH
6	Teykane Kalsho	Sorobo	L/MH	34	Gelebo Gudeno	Turaite	L/MH
7	Almata Chirato	Sorobo	L/MH	35	Gurasho Simo	Turaite	L/MH
8	Guyita Kalshuna	Sorobo	SH	36	Orkaido Ayano	Turaite	SH
9	Kapino Kussia	Sorobo	SH	37	Kusse Gelebo	Turaite	SH
10	Gelebo Kalshuna	Sorobo	SH	38	Tenka Karche	Turaite	SH
11	Delbole Guyita	Sorobo	SH	39	Kusse Gehano	Turaite	SH
12	Soka Teykane	Sorobo	SH	40	Kusse Marisa	Turaite	SH
13	Gezahegn Chicho	Sorobo	SH	41	Tesfaye Marisa	Turaite	SH
14	Kantela Tikaisha	Sorobo	SH	42	Kambiro Oltisha	Turaite	SH
15	Kambiro Katale	Dera	L/MH	43	Uluba Kerra	Dokatu	L/MH
16	Kame Sabo	Dera	L/MH	44	Guyita Kusse	Dokatu	L/MH
17	Nigatu Korra	Dera	L/MH	45	Akkita Kolmale	Dokatu	L/MH
18	Soka Ayano	Dera	L/MH	46	Sanga Gileno	Dokatu	L/MH
19	Ayano Kussia	Dera	L/MH	47	Gedeno Teykane	Dokatu	L/MH
20	Korra Ekulle	Dera	L/MH	48	Karro Kara	Dokatu	L/MH
21	Adane Orkaido	Dera	L/MH	49	Berisha Karmo	Dokatu	L/MH
22	Kachulo Toraito	Dera	SH	50	Kareba Game	Dokatu	SH
23	Katale Barako	Dera	SH	51	Orkaido Lemita	Dokatu	SH
24	Masha Aylola	Dera	SH	52	Gelebo Kamba	Dokatu	SH
25	Kadafo Ongo	Dera	SH	53	Gezahegn Gehano	Dokatu	SH
26	Kusse Masha	Dera	SH	54	Kusse Kambiro	Dokatu	SH
27	Matewos Masha	Dera	SH	55	Gelsimo Gelebo	Dokatu	SH
28	Kusse Korbaido	Dera	SH	56	Oshe Teykane	Dokatu	SH

Annex II: Research Field Interview Questionnaires (for FARMERS)

Date _____

1. Respondent Information

1.1 Parish (Kebele) Name_____ Km from district town_____
1.2 Wealth Status (Rank) _____ No. of Family members _____
1.3 Main activities_____
_____
_____
_____
_____.

1.4 Major sources of annual cash income in order (1, 2, 3, 4...) put rank number in bracket after the phrases below:
- Crop production, (___)
- Livestock production, (___)
- Beekeeping, (___)
- Petty trade (___)
- Other (specify) _____ (___)

1.5 How many family members are engaged in the honey production? _____.
1.6 Have you ever been a member of cooperative? (tick one ✓) Yes ____ No _____.
1.7 If "yes", what are the main activities of your cooperative? _____
_____
_____
_____
_____.

2. Product Information

2.1 How many hives (with and without bees) do you have? _____ Beehives _____
2.2 How many times do you harvest honey per year? _____
2.3 From how many bee hives do harvest honey per one season? _____
2.4 What is average yield per hive (in Kg)? _____
2.5 Is there any seasonal honey quality difference? (tick one ✓) Yes ____ No _____
2.6 Which season yields good quality honey? _____
2.7 What is the average total honey production per year (in Kg)? _____.
2.8 For how long does honey stay without spoilage (in months)? _____.
2.9 Can you improve volume of honey production? (tick one ✓) Yes ____ No _____. If the answer is "yes", how? _____
2.10 Can you improve quality? (tick one ✓) Yes ____ No _____. If "yes", how? _____
2.11 What criteria do traders use to price your honey? _____
_____
2.12 What type of honey containers are you using?_____.

3. Place Information

3.1 Where (market place/town) do you sell your honey? _____, and how far is its distance (Km) _____.
3.2 How do you get there? (tick one ✓) On foot _____ By Car _____.
3.3 How much time does it take to get there (in Hrs)? On foot _____ By Car _____.
3.4 Is the transport affordable? (tick one ✓) Yes ____ No ____. Amount ETB _____.

3.5 Is there any product spoilage during transportation? (tick one ✓) Yes ____ No ____. If "yes", what type of damage? _____

3.6 Do you go to market only to sell honey? (tick one ✓) Yes ___ No ____. If the answer is "No", why not? _____.

3.7 Are there honey traders in your Parish (Kebele)? (tick one ✓) Yes ____ No ____.

3.8 Do they buy your honey? (tick one ✓) Yes ____ No ____. If the answer is "No", why not? _____.

4. Relationship Information

4.1 At what time do you sell your honey (circle one)?

a. Just after harvest **b.** 1- 2 months later **c.** At any time I want

4.2 If your answer is "a", give your reasons _____

4.3 Have you a customer trader who buys your product regularly? (tick one ✓) Yes ____ No ____.

4.4 Do you have contract agreement with your customer (✓)? Yes ____ No ____.
If "Yes", what type of agreement? _____
If "No", how do you call him my customer? _____

4.5 From where do you get loan during times of financial shortage (circle one or more)?

a. Kinsperson **b.** Bank **c.** Microfinance **d.** Informal institutions **e.** Trader

4.6 Have you ever received advance payment for honey product? (tick one ✓) Yes ___ No ____.

4.7 If your answer is "yes", from whom (circle one)?

a. Customer trader **b.** Any trader **c.** Rich Farmers **d.** Kinsperson

4.8 Do you sell your honey on credit (for late payment)? (tick one ✓) Yes ___ No ____.
If "No", why not? _____
_____
_____.

4.9 Are there any groups that exclude you not to sell your honey? (tick one ✓) Yes ___ No ____. If "yes", in what way? _____
_____
_____
_____
_____.

5. Price Information

5.1 For how much (average) do you sell your honey per Kg (in ETB)? _____.

5.2 What is the price difference for product at village and at town (in ETB)? _____.

5.3 What is the price difference for stored honey and fresh honey (in ETB)? _____.

5.4 What do think about improving income from honey production with respect to:

a. Increasing selling price?
_____
_____.

b. Reducing transport and related costs?
_____
_____.

c. Having relatively stable market price?
_____
_____.

Thank you for your cooperation!!!

Annex III: Research Field Interview Questionnaires (for TRADERS)

Date _____

1. Respondent Information

1.1 Parish (Kebele) Name_____ Km from district town_____
1.2 Wealth Status (Rank) _____
1.3 Main activities_____
_____
_____
_____
_____.

1.4 Major sources of annual cash income in order (1, 2, 3, 4...) put rank number in bracket after the phrases below:

- Crop production, (___)
- Livestock production, (___)
- Beekeeping, (___)
- Trading (___)
- Other (specify) _____ (___)

1.5 How many family members are engaged in the honey production? _____.
1.6 Have you ever been a member of cooperative? (tick one ✓) Yes ____ No _____.
1.7 If "yes", what are the main activities of your cooperative? _____
_____
_____
_____.
1.8 Are you licensed for trading? (tick one ✓) Yes ____ No _____

2. Product Information

2.1 On average, how much price do you pay per KG of honey? ETB _____
2.2 What is the price of honey per Kg in gourd containers? ETB _____
2.3 Is there any honey quality difference? (tick one ✓) Yes ____ No _____
2.4 Do you use quality rating in pricing? (tick one ✓) Yes ____ No _____
2.5 What are the bases for honey quality differentiation for pricing?

a) _____
b) _____
c) _____
d) _____

2.6 For how long does honey stay without spoilage (in months)? _____

3. <u>Relationship Information</u>

3.1 Do you have a customer trader who sells honey to you regularly? (tick one ✓)
Yes ____ No ____.

3.2 Do you have contract agreement with your suppliers (✓)? Yes _____ No _____.
If "Yes", what type of agreement? _____
If "No", how do you collect honey from farmers?

- _____
- _____
- _____
- _____

3.3 How do you maintain relationship with supplier?

- _____
- _____
- _____
- _____

3.4 Is there any cooperation between honey traders? (tick one ✓) Yes ____ No ____.
If your answer is "yes", what type of cooperation? _____
_____
_____.
If "No", what do you say about competition among honey traders? _____
_____
_____.

3.5 How do you rate suppliers' power in setting honey price (circle one)?

a) Very strong
b) Strong
c) Balanced
d) Weak
e) Very weak

3.6 What do suggest for quality improvement of honey for producers?
_____
_____

3.7 What types of problems are there honey trading?
_____
_____.

Thank you for your cooperation!!!

Annex IV: Some Summarized Farmers' Group Statistical Parameters

A. Group Statistics

	How are U rich	N	Mean	Std. Deviation	Std. Error Mean
How many hives do you have?	rich	28	36.54	24.461	4.623
	poor	28	20.21	13.138	2.483
How many beehives do you have	rich	28	16.75	14.206	2.685
	poor	28	8.14	6.985	1.320
How many beehives are inspected per season	rich	28	12.32	12.263	2.317
	poor	28	6.57	7.136	1.349
What is average yield per hive	rich	28	5.3786	2.82887	.53461
	poor	28	4.9357	3.07152	.58046
What is your annual honey production	rich	28	63.5214	74.51742	14.08247
	poor	28	24.8821	21.93183	4.14473
How much do you sell your honey	rich	28	24.2143	5.17370	.97774
	poor	28	24.2857	4.51218	.85272
What is price young honey?	rich	28	20.7321	3.08065	.58219
	poor	28	18.9643	1.96228	.37084
What is honey late price?	rich	28	18.4286	1.03382	.19537
	poor	28	17.2500	.55277	.10446

B. Independent Samples T-Test Between the Two Farmer Wealth Groups

		T-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower
How many hives do you have	Equal variances assumed	3.110	54	.003	16.321	5.247	5.801	26.842
	Equal variances not assumed	3.110	41.382	.003	16.321	5.247	5.727	26.916
How many beehives do you have	Equal variances assumed	2.877	54	.006	8.607	2.992	2.609	14.605
	Equal variances not assumed	2.877	39.334	.006	8.607	2.992	2.557	14.657
How many beehives are inspected per season?	Equal variances assumed	2.145	54	.037	5.750	2.681	.374	11.126
	Equal variances not assumed	2.145	43.405	.038	5.750	2.681	.344	11.156
What is your average yield per hive?	Equal variances assumed	.561	54	.577	.44286	.78914	-1.13927	2.02499
	Equal variances not assumed	.561	53.638	.577	.44286	.78914	-1.13952	2.02523
What is your annual honey production?	Equal variances assumed	2.632	54	.011	38.63929	14.67974	9.20819	68.07039
	Equal variances not assumed	2.632	31.643	.013	38.63929	14.67974	8.72440	68.55417
How much do you sell your honey?	Equal variances assumed	-.055	54	.956	-.07143	1.29735	-2.67245	2.52959
	Equal variances not assumed	-.055	53.020	.956	-.07143	1.29735	-2.67355	2.53070
What is price of young honey?	Equal variances assumed	2.561	54	.013	1.76786	.69026	.38396	3.15175
	Equal variances not assumed	2.561	45.813	.014	1.76786	.69026	.37828	3.15744
What is your honey late price?	Equal variances assumed	5.320	54	.000	1.17857	.22155	.73439	1.62275
	Equal variances not assumed	5.320	41.272	.000	1.17857	.22155	.73124	1.62591