Assessment on the Services of Wonchi Beekeepers' Association: The Case of Wonchi District, South West Shoa Zone, Ethiopia.





A research project submitted to Van Hall Larenstein University of Applied Sciences in partial fulfillment of the Requirements for the Degree of Professional Master in Agricultural Production Chain Management with specialization Livestock Chain

By

Taye Beyene

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Lists of Acronyms

ETB	Ethiopian Birr
FCC	Federal Cooperative Commission
GTZ	Gesellschaft Technische Zusammenarbeit
GDS	Global Development Solution
ILO	International Labor Organization
MOARD	Ministry Of Agriculture and Rural Development
MIDA	Multiple Integrated Digital Access
NGO	Non Governmental Organization
NA	Not Available
PA	Peasant Association
SPSS	Statical Package for Social Sciences
TV	Television
USD	United State Dollars
VCA	Value Chain Analysis
WETA	Wonchi Eco-Tourism Association

Abstract
Despite Wonchi district has 6724 beekeepers, the number of beekeepers joined to the Wonchi honey producer' association were only 40 farmers**.** To find out the underline the factors influence farmers not being a member of wonchi beekeepers association, assessment on the services of wonchi beekeepers' association was conducted in Wonchi district, South West Shoa administrative zone of Oromia regional state from mid July to August 5, 2013.To conduct the survey, structured questionnaire was prepared. The study used desk research, interviews and surveys as methods in seeking answers to research questions. In order to collect primary data, a purposive and random sampling technique was employed. Accordingly, 18 beekeepers who are the members of association, 18 beekeepers who are not members of association, 2 respondents from beekeepers' association, 2 honey chain supporters and 2 honey retailers were selected. Then an interview was conducted with a total 42 respondents through structure questionnaire to collect the required data. The data collected through structured questionnaire was checked, rearranged, coded, entered to SPSS statical software of version 19 and edited before analyzed. The field survey data was analyzed using descriptive statics such as percentages, frequencies, mean and statical test such as independent sample t-test. Moreover, data collected through interview was analyzed through narration and interpretation. Value chain map tool was used to show quantitative and qualitative data collected during the field work. Moreover, the spider web model tool was used to evaluate the performance of wonchi beekeepers association. Results revealed that there are different factors that influence farmers not being a member of Wonchi beekeepers association. Among of these factors high entrance fee, not fulfill criteria of association, application unaccepted, unavailable adequate information and absence of interest are some of the major factors that influence farmers not being a member of beekeepers association. From the total interviewed farmers, 47.2% of non members were stated that high entrance fee is the main reason for not being a member of association. In the same way, out of the total farmers interviewed 30.6% were replied that not fulfill of the criteria is the main reason for not being a member of association. Moreover, from the total interviewed farmers 19.4% were responded that unavailable information is the main reason for not being a member of the association. Similarly, out of the total interviewed farmers 13.9% of non members were replied that application unaccepted is the main reason for not being a member of association, whereas farmers 5.6% of non members were stated that absence of interest is the main reason for not being a member of association. To increase its members, reducing the amount of entrance fee is required.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Wonchi district is located in Oromia regional state, South West Shewa administrative zone in the West part of the country. The district has potential for beekeeping activities because relatively the area is coved with high natural resource and thus in the district's apiculture resource is immense. In the district, there are 8500 traditional bee hives, 330 transitional hives and 1145 modern hives. Even though, Wonchi district has huge number of bee colonies, farmers cannot get the benefit they should get because 90% beekeepers follow the traditional method of beekeeping. This contributes to low yield and quality of bee products (District livestock annual repot, 2010). Low productivity and quality of bee products are the major economic impediments for beekeepers (Nuru, 1999). In Wonchi district, the major constraints to increase the benefit of beekeepers are their inability to access markets, low quantity and quality of honey. Improving market access, honey product and quality for poor smallholder beekeepers and enabling them to engage actively in the market processing, therefore, one of the most urgent development challenges. The remoteness of the area on the one hand and lack of organized market system on the other often results in low producer price (Nuru et al., 2006). To overcome these problems, Wonchi beekeepers association was established in 2006 by a group of 21 local beekeepers in Wonchi district with the support of NGO called German Cooperation (GTZ). The aim of the establishment of Wonchi honey producers' association was to support the local beekeepers to solve the problems associated with low production, quality and market access. To achieve this objective, the GTZ has provided the association with necessary modern bee equipments with accessories in order to practice modern apiculture, has organized training courses and improved final presentation of honey, now sold glass labeled jars. The producers are also assisted by technical experts on the rule of production to guarantee a honey that is good and with suitable characteristics to access a wider market. Since its establishment, Wonchi honey producers' association is played great role in collecting, bulking, processing and sold glass labeled jars honey through the members (Wonchi Eco-Tourism Association leaflet).

Wonchi district has 6724 beekeepers. However, the numbers of beekeepers joined to the Wonchi beekeepers' association were only 40. As a result of low members' participation, the association is procurement low volume of honey and force the association to work under its capacity. In turn this has negative impact on the income of beekeepers' association what they can get from beekeepers' association product selling to improve the income of its members. Moreover, the roles of the beekeepers' association can play toward solving the problems of local beekeepers in that area become less as the members' participation in to the association is low.

Although cooperatives' societies are considered as an appropriate tool of rural development they are facing critical problems, which retain them from their positive role. Some of the constraints are: low institutional capacity, inadequate qualified personnel, low entrepreneurship skills, inadequate financial resources, inadequate market information, poor members participation in different activities such as financing the cooperative, patronizing the business activities of the cooperative, shareholding, control and support cooperative it (Karunakaranr et al., 2013).

1.2. Problem statement

Wonchi district has 6724 beekeepers. Despite this, the number of beekeepers joined to the Wonchi honey producer' association were only 40 farmers. As a result of low membership, the procurement volume of honey by the association is low and works under its capacity. Beside the impact on low volume of honey procurement, low members participation has also negative impact on the profitability of beekeepers' association and the benefit obtained from association to improve the income of its members.

Due to the reduction in volume of honey supply to beekeepers association, the current levels of honey collecting, processing and marketing activities are not large enough to have significant impact on the income of smallholder beekeepers because the quantity of honey collected is low compare to the operational capacity of the association has.

Problem owner**: Wonchi Beekeepers' Association**

1.3 Objective

The main objective of the study is to assess the services provision of Wonchi beekeepers' association in order to recommend to beekeepers' association to expand its members.

1.4 Research questions

Central question1

1. What are the features of honey value chain in the Wonchi district?

1.1. What is the current potential of honey production in the Wonchi district?

1.2. Who are the actors, supporters and influencer in honey value chain in Wonchi district?

1.3. What is the value share of each actor in honey value chain in the study area?

1.4. What are the volumes and prices of product traded in honey value chain?

1.5. What are the costs and profit of smallholder beekeepers, producer association, honey whole sellers and retailers?

Central question 2

2. What is the performance of Wonchi honey producer association in honey value chain?

2.1What are the main functions of Wonchi honey producers association?

2.2 What challenges do local beekeepers and beekeepers association face in the target district?

2.3 What is the opinion of farmers towards the services of beekeepers association?

1.5 Scope and significance of the study

Scope of the study

The study was geographically focuses only on Wonchi district in terms of coverage and depth to generate useful information on the services of Wonchi beekeepers' association provide to the members and associated problems in the select district. Time to undertake the study of wider area is also the reason of the study limited only to Wonchi district.

Significance of the study

The output of this study gives some insights to Wonchi beekeepers association, NGOs, governmental organizations and other honey value chain supporters who aim to improve the position and income of beekeepers in the study area in particularly and chain actors in general. The result and recommendations generated from this study give substantial help to Wonchi beekeepers association on the way it can strength its performance and services provision in order to expand its members. Furthermore, the output of this study is also useful for the beekeepers association to design strategies based on the identified gaps to improve the income of its members.

Limitation of the study

Some of the limitation of the study during data collecting from the study area was mentioned as follow.

- There are five beekeepers association in the Wonchi district but I did not visit them due to unsuitability of the area to walk on foot
- Wonchi beekeepers association is price sensitive due to high competitors from tourists and local honey traders. Because of these they were not voluntary to give cost of durable items and other fixed cost. As a result profit share of the Wonchi beekeepers association and others actors were not conducted.
- Inadequate internet service to assess supplementary information from internet.

1.6 Definition of terminologies

Chain actors: who directly deal with the produce, process, trade and own them according to KIT and IIRR (2008).

Chain supporters: are the service provided by various actors who never directly deal with the product but whose service add value to the product for instance like bank, microfinance institutions, insurance companies, transporters, brokers and other supporters including NGOs, government agencies and research centers (KIT and IIRR,2010).

Value chain mapping: a value chain analysis systematically maps the actors involved in production, collection, processing, wholesaling, retailing and consumption of particular products. This mapping assess the characteristic of actors profit and cost structure and flow of goods, money and information through the chain (Rduren, 2007)

Value addition: Is a process of adding value to products to create profit/value, whether you have increased the initial product or not. It includes all products from one level to the next (kahan, 2004).

Profitability: It is the return to investment given by profit divided by cost price expressed as percentage (Kahan, 2004)

Margin: implies that a profit margin that depends on the organization ability to manage the linkages between all activities in the value chain (porter, 1985).

Apiculture: The science and art of studying and using honey bees for men

Association: Is refers to a corporate body consisting of a group of associated persons who usually meet periodically because of common interests, objective, or profession.
Beekeeping: Is management of honey bee colonies for pollination of crops and for honey and other products
Producer organization: is the way of small-scale farmers organizing themselves for collective action to achieve the need and interest unable during the individual working.
Farmers: This term is generally to mean all households who are engaged in agriculture and beekeeping that produce and sell honey at least once a year.
Honey: Honey mentioned in this research paper is the sweet food produced by honey bees from nectar and pollen.

1.7 Research frame work.

The conceptual frame work as shown below outlines the approach in this study

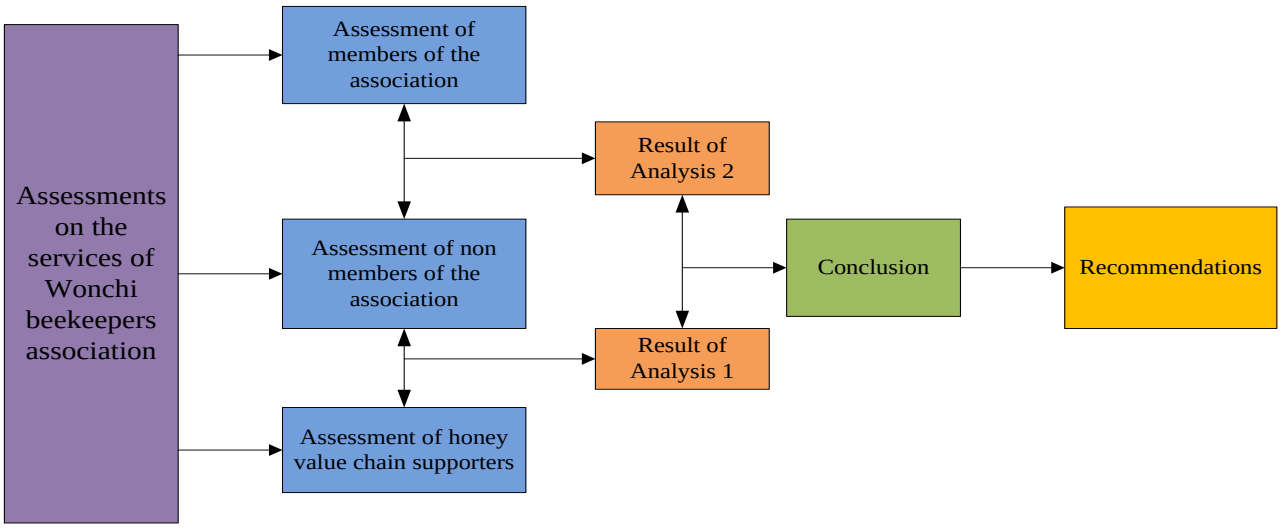

Figure 1: Research Frame Work of the study

1.8 Organization of the paper

This thesis paper is organized in to six chapters. The first chapter is the introductory part contains the background information, problems statement, objective, research questions, scope of the study and definition of terminologies. Chapter two present relevant literatures related to the concept of value chain, concept of agricultural cooperative and the over view of beekeeping sub-sector in Ethiopia. Chapter three treated the research strategy and methodology in generally and type of research, data sources, data collection methods and method of data analysis were depicted in this chapter. Chapter four presents the main finding including case study and survey. In the chapter five the main finding are discussed while in the chapter six present conclusions of the study and recommendations for the association to improve its services and expansion members participation.

CHAPTER TWO: CONCEPTUAL FRAME WORK

This chapter, the outcome of the literature study is described, resulting in a conceptual framework for this thesis work. Within this framework, the research questions referred in the previous chapter are outlined.

2.1 Honey production, Consumption and export in Ethiopia

Africa is blessed with numerous types of wild honey bees (Adjare, 1990). Ethiopia is one of the countries in the continent, which own huge honey production potential. There is an ancient traditional for beekeeping in Ethiopia stretches back in to the millennia of the country's early history (Girma Deffar, 1998). Of all countries in the world probably no country has a longer traditional of beekeeping than Ethiopia (Hart man, 2004).It has been practiced traditionally. Moreover, beekeeping is an appropriated and well-accepted farming technology and it is best suited extensive range of ecosystems of tropical Africa.

Ethiopia has a share of around 23.58 and 2.1 % of the total Africa and world honey production, respective. This is make Ethiopia the leading honey producer in Africa and one of the 10 largest honey producing countries in the World (Ayalew, 1990).Immense natural resources and divers agro-climatic conditions create conducive environment conditions for the existence of many flowering plants. This is enabling the existence of the more than 12 million honey bee colonies in the country (Gezahegn, 2001).

The most honey and beeswax producing region in Ethiopia are Oromia (About, 46% of total production), Amhara (25%), South Nations, Nationalities and People Regional state, SNNPR (22%) and Tigray (5%).The total honey production in 2009 was estimated 39,658 tons (MOARD, 203).The largest volume (70%) of the marketed honey goes to the production of local beverage (Tej) and 30% is used as table honey (MOARD, 2003).Despite of its potential, income obtained from beekeeping sector has been low as small scale farmers often lack access to improved hives and international markets.

In Ethiopia, honey production is remains traditional as 94 to 97% of bees are still kept in traditional hives (Karealem et al, 2009). There are three different type bee hives used for honey production depending on technological level. These are traditional bee hives, transitional bee hives and modern bee hives. According to (GDS, 2009), there were 5,013,848 traditional, 34, 552 transitional and 100, 843 modern hives in Ethiopia.

Table 1: Average productivity of the different type hives in Ethiopia

Type of hive	Average yield at farmers level (kg/hive)	Yield at research center (kg/hive)
Traditional hive	5	NA
Transitional hive	15-25	25
Modern hive	30-45	40

***Source*:** GDS, 2009

2.1.1. Role of beekeeping sector in the Ethiopian economy

Honey and beeswax play important role in the national economy of the country and support the national economy through foreign exchange earnings. Though honey production is contributing to export earnings, the quantity export is small compared to the amount produced per year. This is due to low quality of the honey from traditional hives. Beekeeping is also the most additional household income generating activities for many rural poor and land less people. Since beekeeping required small land and initial capital, beekeeping is best activity for small scale resource poor people. Currently the government of Ethiopia is using beekeeping sector as tool for poverty reduction and improving the livelihoods of many people live in the rural area including jobless youth, women and carpenters for bee hives construction. In Ethiopia honey selling serves to circulate money from the urban people with a relative better standard of living to rural people with relatively lower standard of living (Nuru, 2007). According to (Giday and Kibrom, 2010) report, in Ethiopia an average of 420 million ETB (35 million $USD) is obtained annually from the sale of honey. Even though beekeeping has divers' products, the main emphasis is given on honey production and beeswax as cash crop with ready local market.

Apparently, the honey export shows an increasing trend as 23.2 tonnes in 2005, 274.4 tonnes in 2009 and 201.4 tonnes of honey in 2010 were exported (Ethiopian Revenue and customs Authority, 2010).

2.1.2. Challenges of beekeeping sector in Ethiopia

In less developing countries like Ethiopia beekeepers are likely to be amongst the most remote and poor people and beekeeping is not recognize. This is due to inadequate appropriate extension materials, inadequate marketing information, inadequate trainers; inadequate organization represents interest of beekeepers, poor linkages between producers and buyers, little coordination between beekeeping and others sectors, inadequate promoting products, inadequate policies for protection of the industry and no global agreement on honey criterial (Nicola,2009).

In Ethiopia increasing human population pressure and consequently clearing of natural vegetation for expansion of farm land, cutting woods for constructions and over grazing and due to these bees and others natural resources are under continuous threats. Due to deforestation and application of agro-chemical the honey bee population is in state of continuous decaling. As a result, it has become a serious challenge to get honey bee colonies to start and expand beekeeping (Nuru, 2007).

Due to usage of traditional hives and inadequate of matched management practices suitable for the type of honey bee races their environmental condition, the annual average honey yield per colony is relatively low (Nuru, 2007).Most of the rural beekeepers cannot afford to invest inputs, process and pack of and transport their products to market to maximize profit. They produce low quality sell locally to prices much lower than in domestic commercial markets (Melaku et.al. 2008).

2.2. Value chain concept

Value chain concept can be divided in two main streams of literatures: one is based on porter's model and the other known as global value chain (Gerfti and Korzerniewicf, 1994). The concept of value chain was incorporated into the framework when researchers started to use the analysis of to show where value is captured within a particular industry (Gerefti and Christian, 2010). Value chain is made of series of actors ranging from input supplies, producers and processors to exporters and buyers engaged in activities required to bring agricultural products from its conception to its end use (Kaplinsky and Morris, 2001). Value chain concept entails the addition of value as the product progress from input suppliers to producers and then to consumers. Further, value chain exists when all stakeholders in the chain operate in the way to maximize the generation of value along the chain. This definition can be interpreted in a narrow or broad sense. In the narrow meaning value chain the range of activity performed within a firm to produce a certain output. This includes the conception and design stage, the process of acquisition of input, the production, marketing and distribution activities, the performance of after service. All this activities constitute the chain which link producers to consumers. On the other hand, each activity adds value to final product.

Value added distribution in the chain is essentially different in buyer-driven supply chains and compared to more traditional producer driven chains. The subordination of the physical production to the design and sales functions enables control over how, when, and where production takes place, and how much profit accrues to each stage and agent in the supply chain (Gereffi, 1994 as cited by Ruben *et. al.* 2007).

The decision through which channels the product should be delivered is a key tasks for every actors in the value chain. Agents must find business partners who meet the minimum requirements of the market and the firm. The channel decision used to be the initiative of the most powerful players in the supply chain or marketing channel. In times of increasing scarcity of resources, the power balance may shift towards supply side, but in times of increasing abundance the power balance tends to be concentrated at the demand side (Hingley, 2005 as cited by Ruben, *et. al* 2007). Value chain, therefore, incorporates productive transformation and value addition at each stage of the value chain value addition results from diverse activities including bulking, processing, grading, packaging, storing and transporting (Andaja and Berhanu, 2009).Value chain analysis describes the activities with in and around an organization and relates them to analysis of the competitive strength of the organization. Kaplisky and Morris (2001) also indicated that VCA help to overcome a number of important weaknesses of traditional sectoral analysis which tends to be static and suffer from the weakness of its own bounded parameters. Ingram (2008) defines value chain as the way in which a firm develops a competitive advantage and creates share holders. The activities that comprise the value chain can be contained within a single form or divided among different firms, as well as within single geographical location or spread over wider area (ILO, 2006).

2.2.1 Honey value chain concept

In this title different issue related to producer association with particularly emphasis on value chain concept, agricultural cooperative and the other related issue was assessed from different sources.

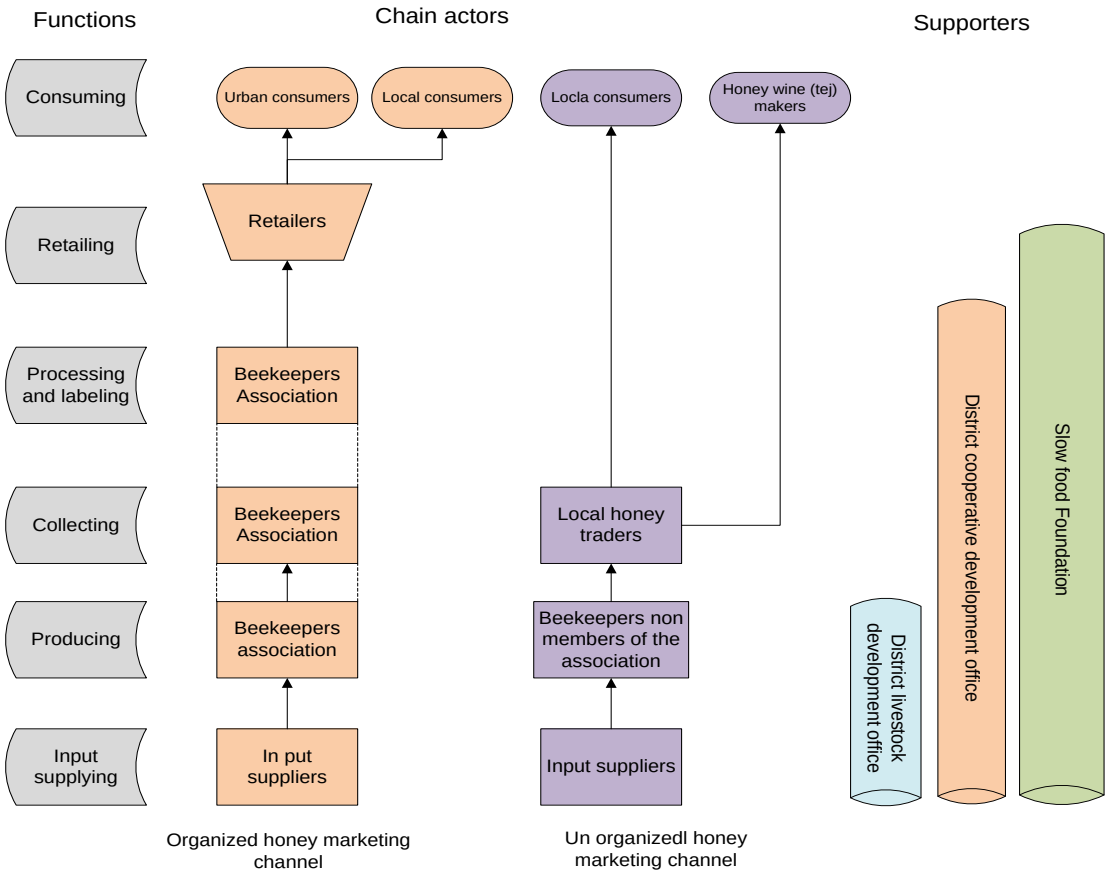

Figure 2: Honey value chain concept

Source: adopted from Wonchi district livestock development and marketing office

2.2.2 Honey value chain stakeholders and their functions

Input suppliers: they supply improved bee hives, bee equipments, accessories, purify beeswax and training. Most of the agricultural inputs supplies are given by the NGOs. However, most of the agricultural inputs are said to be of expensive lowering their utilization by smallholder farmer. Establishing producers' organization is a tool for such condition to cushion the effects of high costs by utilizing the economies of scale to benefit the inputs at relatively lower costs.

Beekeepers (producers): Smallholder beekeepers dominate the honey industry at production level. In Ethiopia about 1 million farmers are engaged in beekeeping activities (Melaku et.al, 2008). According to Nuru (2007) in Ethiopia beekeeping practice is largely traditional method which is carried out by traditional hives of different types. The average yield of traditional hives is low and it is only about 5-8kg per hive per year. However, in the potential areas and well managed conditions the amount of honey yield per hive is 10-15kg. Traditional beekeeping practice is varies from place to place and the knowledge about bees and methods of bee managing are also different in the country.

Inadequate of beekeeping skills, in appropriate production technologies, weak market access, weak price incentive systems and limited financial capacity of beekeepers are the major problems which largely reduce the potential contribution of the honey sub-sector

(Wilson, 2006 and Melaku et al 2008). This leads to low productivity and poor quality of bee products.

Traders and retailers (collecting, bulking and retailing): Buy honey from farmers and resell to consumers, processors and local drink makers. Retailers include middle man, super markets and other large scale retailer who divides up large scale of produce and sell to consumers in by dividing small units. Retailers resell processed and unprocessed honey to the consumers.

Whole seller: Provides the best situation of function and services for different kinds of retailers and execute desired supply function for different kinds of honey processors. They can perform activities like honey collection from local honey traders, producers and collection of market information for honey producers.

Consumers: The final link in the value chain and end user of honey products. They categorized as low and high income consumers as well as urban and city consumers. Consumers are the major actors and have important influence on how other actors perform. Honey customers in Ethiopia local market are varied. They include consumers in the rural areas, who are not produce honey by themselves, rural and urban trading center, high income consumers found both in rural and urban.

Honey processing Industrials: They can collect honey from honey processor cooperative agents, temporally handle, grading, refining honey to their purest, bottling, labeling and distribute to foreign buyers and national consumers.

Cooperatives (collection, bulking and processing): The cooperative assembling, bulking and sell honey to processors and trader or directly to the final consumers. Some time they can process honey by themselves and marketing. They enable beekeepers benefit from beekeeping activities by providing input supply to produce quality bee products and create market outlet locally and overseas and improve the capacity of members though training. They are also form a pioneering and exemplary enterprise in bees' products.

Different NGOs: they support different project along the chain in collaboration with government and different service providers. They also support beekeepers by providing input like improved bee hives, beeswax and other accessories, training and create market outlet.

Ethiopian quality controlling authority: Test quality and give standards for every product to make comply with the quality requirement criteria. Quality control standard officer in beekeeping service regularly inspect and registering.

2.2.3. Profit margins of chain actors

In participating in chain activities, actors incur costs. The incur costs depending on the business and risks they have to be bear (KIT&IIRR, 2008).In products where value addition is done, the share value of the farmer is usually higher than in situation where final products under gone and adding value to them.

According to the report of KIT&IIRR (2008), determining of the profit and value shares of the actors in value chain is not direct since it requires different types of information that the small scale farmers find difficult to record. It gives better ideas of the benefit each actors in the receives and it more preferred. Calculating profit is also referred to as gross income is simpler to calculate, however the KIT and IIRR (2008) point out that it does not include fixed costs and therefore not very reliable. It is referred the difference between revenue and fixed costs. On the other hand value share is the percentage of final retail price earned by the actor can be used to show how the different actors share the value added to the products.

According to KIT et al (2006) vertical integration enables small scale producers to be involved many activities such as marketing as group and processing and not only depending on production. Moreover, vertical integration small scale producers can engage in horizontal

integration where they participate in chain management that include product development and price negotiation in a business cooperative venture.

2.2.4 Information flow

Vorst (2000) indicated that it is important to recognize the key information system issues to chain management for efficient flow of physical products, information and money for a transparent and successful value chains. Product flow from input supplies to consumers while money flow from consumers to input supplies but information flow in both directions while actors proactively sharing relevant information. According to Kota et al., (2003), communication and information sharing accelerates improvement in chain coordination, create awareness and efficiency through reduction of transaction costs and fast relaying of necessary information leading to achieving greater operational efficient.

2.3 Agricultural cooperative

Agriculture cooperative society, which is a voluntary association among the rural people to solve common farm problems and broaden their livelihood options to ensure food security has several basic principle like spontaneity, universality, neutrality, democracy, autonomy, homogeneity, equity and frugality (Krishnaswami and Kulandiswamy,2000). Agricultural markets in Ethiopia are highly influenced by the production system itself**.** Most of the agricultural production is undertaken by small scale farmers scattered all over the country engaged in different agricultural enterprises without specialization and limited marketable surplus. Gebremaskel et al. (1998) estimated that only 28% of the total farm output in 1996 was marketed. Therefore, the scattered produce in small quantity needs to be collected and assembled, graded and transport from one market level to other. Currently the government of Ethiopia gives attention to increase of production and commercialization of smallholder farmers as the main focal issue in the agricultural leading industrialization development program. This is the approach of rural development focuses on market-oriented agricultural activities for achieving sustainable development for rural community. However, without links of smallholder farmers to markets, improved income and livelihood is not sustained. Thus, the government of Ethiopia realized the role of producer organization in linking smallholder farmers to the markets.

Ethiopia has introduced modern type of cooperative society in various areas of endeavor after the majority of African countries where their cooperatives were established by western powers during their colonization period (Karunakaranr et al., 2013). In fact that, the first consumers cooperative was established in Addis Ababa in 1945.currently there are about 7, 366 different types of cooperatives in the country with 3,684,112 members (FCC report, 2005).

Agricultural cooperatives are legitimate institutions which belong to farmers. Their main activities are render variety of services and access the market for input supply particularly to the rural community (Gebru, 2007).

The importance of organizing smallholder farmers as associations and accumulation of products is to reduce transaction cost, increase bargaining power and market access by providing the smallholder farmers with better fixed price and market information (Hiller, 2003). The main drive for farmers to organize themselves is that collective action, rather than individual action provides a better opportunity to gain a suitable response to their needs (Bosc et al., 2003).

Similarly Hiller (2003) is concluded that cooperatives society can reduce the risk of price availability by offering information and other means to access the market. They can share the public knowledge, modern technology and input subsidies to the smallholder farmers in more efficient way and function as sources of technology and knowledge. Commonly farmers in the cooperative have benefit of assured supplies of the right inputs at the right time, credit against deliveries and an assured market for output at a price is not always known in advance, but applied equally to all farmers in given location and time.

Gertle (2001) reported that, cooperative societies are practical vehicles for cooperation and allocation as well as they build and reinforce communities which are crucial to sustainable development.

Frank, et al, (2003), is also explained that cooperative marketing societies in India constitutes one of the important segments of the agricultural cooperative societies. Cooperative marketing render marketing services to the poor and exploited farmers at reasonable costs, assembling, grading, storing, financing, sale and transportation are under taken by the cooperative marketing societies at a lower cost by eliminating the middle men.

2.3.1 Factors influence farmers' participation in agricultural cooperative

According to Alemu et al., (2010), most cooperatives are not products of the community in which they were established, but were forced with the strong engagement of external factors. As a result, they are commonly characterized by:

- Disinterested membership with weak membership participation and an associated lack of owner ship
- A lack of initiative associated with dependency on external supporting institutions weather government agencies or NGOs
- General lack of respect for rules and regulations for cooperative operation and management
- Limited loan recover rates with poor saving performance.

Most agricultural cooperative in Ethiopia were not formed as voluntary membership organizations emerging from the needs of their members. Rather their foundation stemmed from the support and inducements of either public or NGOs for the purpose of putting in place local credit and saving services or institutional mechanism for agricultural in put provision (Benson, 2012).

The success of cooperative largely depends on their values of universality, voluntary, self and social- responsibility, democracy and openness norm (Krishnaswami and kulandaiswarmy, 2000).

Similar study shows that, the success of a cooperative is determined by the membership knowledge of their organization, their education, technical skills, participation commitment and the relation between members and manager (Harris et al, 1996; Fulton 1999).

Male household, member in rural associations, frequency of participation in public meetings, serving as member in woreda leader ship committees, access to credit institution, training and availability of information tools (TV and radio) are highly influence farmers to join the rural association (Woldegerbrial Zeweld, 2010).

Similar study showed that the probability of farmers to join the producer associations declines with increase in the age, house hold size, gross income, farm size squared and higher technology used variables and the probability farmers join to the producer associations increase with increase in experience, education, high communication level with cooperative and medium technology level variable (Bilgic et al., 2006).

Similar study showed that the probability members enter the producer association declines with increase in the age, house hold size, gross income, farm size squared and higher technology used variables and the probability to join the producer association increase with increase in experience, education, high communication level with cooperative and medium technology level variable (Bilgic et al., 2006).

The cause of success and failures of agricultural cooperatives corresponds in a building up and breaking down of cooperative identities through the process by which members and employees grow to hold the identity as their own vision. Although cooperatives societies are

considered as an appropriate tool of rural development they are facing critical problems, which retain them from their positive role. Some of the constraints are: low institutional capacity, inadequate qualified personnel, low entrepreneurship skills, inadequate of financial resources, inadequate market information, poor members participation in different activities such as financing the cooperative, patronizing the business activities of the cooperative, share holding, control and support cooperative it (Karunakaranr et al., 2013).These multifaceted problems make very difficult the overall activities of the cooperatives in general and the agricultural input and output marketing in particular.

2.4 Evaluation of the performance of Wonchi beekeepers' association

The spider web model (MIDCA, 2010) was applied to the association to evaluate the performance of Wonchi beekeepers association in Wonchi district.

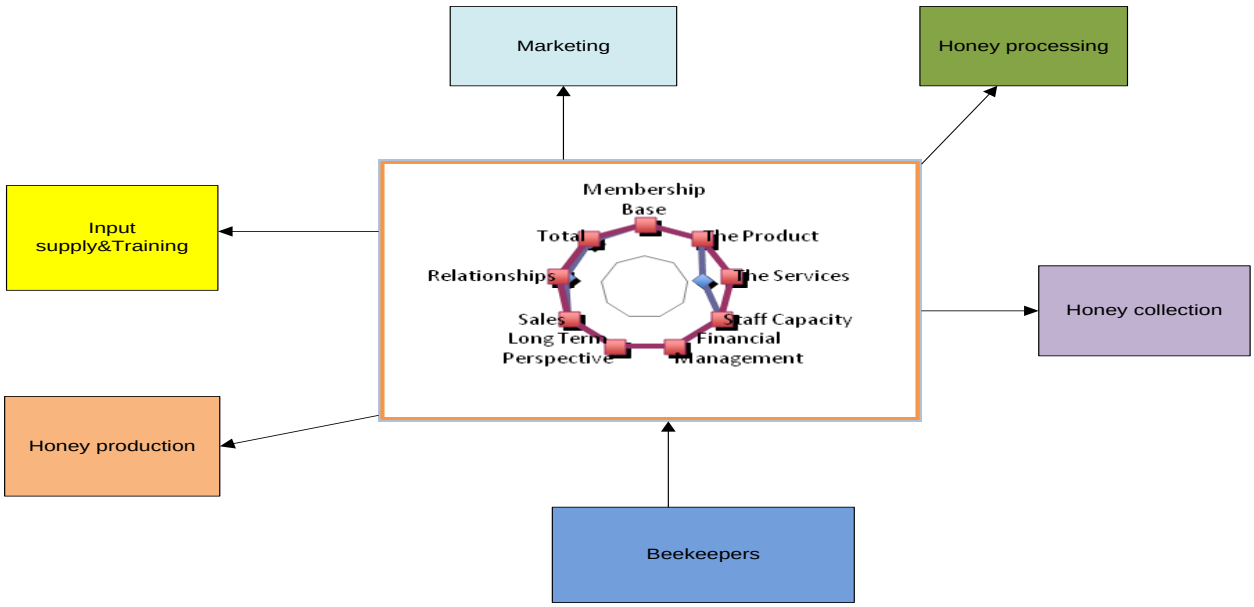

Figure 3: Spider web model for evaluation of the performance of wonchi beekeepers association

The research was used MIDCA, 2010 spider web model to evaluate the performance of the beekeepers association. Different indicators including membership base, product, services, staff capacity, financial management, long term perspective, sales and relationships for producer association were used to score which parts of the association are performing well and where the gaps are there. The indicators are scored to monitor individual parts performance and the average score reflects the overall association performance level.

Membership base

To keep a strong relation between members and association, it is important continually involve those interested in the cooperative and to constantly reach out to potential supporters whom might not be directly involved. Membership of organizations and societies that focus on the common interest of their members. Organizations provide tools and solutions to members to increase their productivity and ensure better services.

The services

Success full cooperatives can be benefited their members in many ways. Cooperative marketing farm products and providing farm input, credit and other services vary widely in success. There are two primary types of agricultural services cooperatives: these are input supply and marketing include transportation, packaging, distribution and selling farm products and provision of credit services. Agribusiness firm provide small scale farmers marketing information, packaging, grading, labeling, storage, transportation, short term credit services and access to timely affordable input.

Relationship

Farmer member form agricultural cooperative to obtain the required service and improve their farm's income rather than to realize a high return on their investments. Without the proper attention to members' relations, members' loyalty will often deteriorate. In such conditions, members use, control and ownership of the cooperative will fall. The members' participation in cooperative has an impact on the benefit of the members of the cooperative. Many cooperative managers believe providing quality services are their best members' relation tool. In fact, it is very important but a quality service alone is not always enough to create cooperative loyalty. They need to be more self-confident in building good members relations in other way. Otherwise, members may become disappointed and the cooperative association future may be endangered. Cooperative should work continuously to strengthen member relation through communicate with members educate and motivate. Effective communications are crucial in cooperatives for disseminating timely information and build a strong cooperative that has good relation with the members. Cooperative relation benefit flow from good communication and well-informed members are usually more loyal and conscientious to word their cooperatives.

Financial management

The ability to manage its finance is critical to the performance of producer organization. It includes: planning, accountability and the use of financial system. Financial planning is the ability to forecast the organizations futures monetary needs and to allocate for the use of resources. The financial systems allows, the governance structure to understand the current financial status and thus to take appropriate actions that will help financial viability. The organization should be able to organize its relationship with external actors, networking with other chain actors for example financial institutions and agricultural services. Exchange information with and establishing trust with these external actors enable the organization for success (Ellen Mangnus and Bart de Steenhuijsen Piters, 2010).

Staff capacity

Staff capacity is the key determinant of an organization success and is often the face of the agency to customers and stakeholders. Keeping a well trained, well qualified worker is a decisive function of the organization. Competence and committed staff workers are very important for the success and performance. The performance of an organization greatly depends on the presence of and the performance of the leadership which leader influence the attitude, behaviors and value of the other towards organizational goals (Vecchio, 2007).Standard leader ship activities include tracing, the direction for development, net working and ensuring output.

Sales

Small scale producers generally have interests in organizing themselves in order to obtain access to markets and obtain better selling prices. In the developing countries agriculture is dominated by small scale farmers which characterized by spread in the remote areas and poor infrastructure and this in turn affect income of farmers. The remoteness of the area on the one hand and lack of organized market system on the other often results in low producer price (Nuru et al., 2006). Thus, producer organization is the instrument service to link small farmers to the markets. The producer organization should able to increase the products and price of the products to satisfy its members. If the selling prices of the organization below the open market, farmers do not want supply their product to the cooperative and this in turn has negative impact on the performance of the cooperative.

Long term perspective

The mission and vision of an organization are the life line to sustainability. They establish its purpose of being today and goal of tomorrow. A clear define mission offers organizations a realistic lens for everyday activities. On the other hand, the clear define visions the organization has outline its aspiration for the future tasks. What they aspire to be mission and vision offer distinct perspectives, but they are interrelated in a sense that they both driven on organization to express a single purpose. Thus, written declaration of mission and vision are very important for the organization to define the basic purpose of the organization and description of the long term achievement of organization.

Product

The cooperative offer the members' different advantages including assembling and bulking the products, grading, labeling, storage, quality control and transportation. The product of small scale farmers is characterized by low volume, quality and remoteness area. The producer organization can improve the income of the small scale farmers through collecting and bulking

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 The study area

The study was conducted in Wonchi district which is located in Oromia regional state South West Shoa administrative Zone. The district is located at 155 km South West of Addis Ababa of the capital city of Ethiopia at 8°40′N and 37°55′E. The altitude of the district extends from 1700 to 3380 meters above sea level and the average of annual rain falls ranges 1650 to 1800 mm. The mean annual temperature range is 10-30 ^{o}C. The total area of the district is 475.6 km^2. Climatically, the district is categorized into two: high land (Dega) which account for 40% and mid high land (weynadega) which is cover 60% of the district. The major soil types found in the district are black soil (11%), red soil (46%) and mixed soil (43%). Mixed crop and livestock faming system is the mode of agriculture in the district. The main cereal crops cultivated by farmers are teff, barley and wheat and the pulse crops cultivated are including chicken bean, bean, pea, lentil and haricot bean. They are also cultivated cane crops such as maize, sorghum and the oil crops cultivated are lean seed, reap seed and Guizotia Abyssinica. The main vegetable crops cultivated by farmers in the Wonchi district are: tomato, potato, onion and garlic. They are also cultivated fruit crops such as: avocado, mango, papaya, and apple. The root crops cultivated in the district by the farmers are: enset, sweet potato and carrot.

There are 23 Peasants Associations (PAs) and two urban kebele in the district with a total population of 1, 19736 with the proportion of 58,671 male and 61065 female. The major religions found in the Wonchi district are Protestant 51%, Orthodox 47.2% and Muslim 1.8 %. The population of the study area composed of Oromo ethnic group (98.8%) and Amhara ethnic group (0.84%).

Wonchi district is bordered on the South West by Ameya district, on the North West Ambo district, North East Dendi district and on the South East by Waliso district.

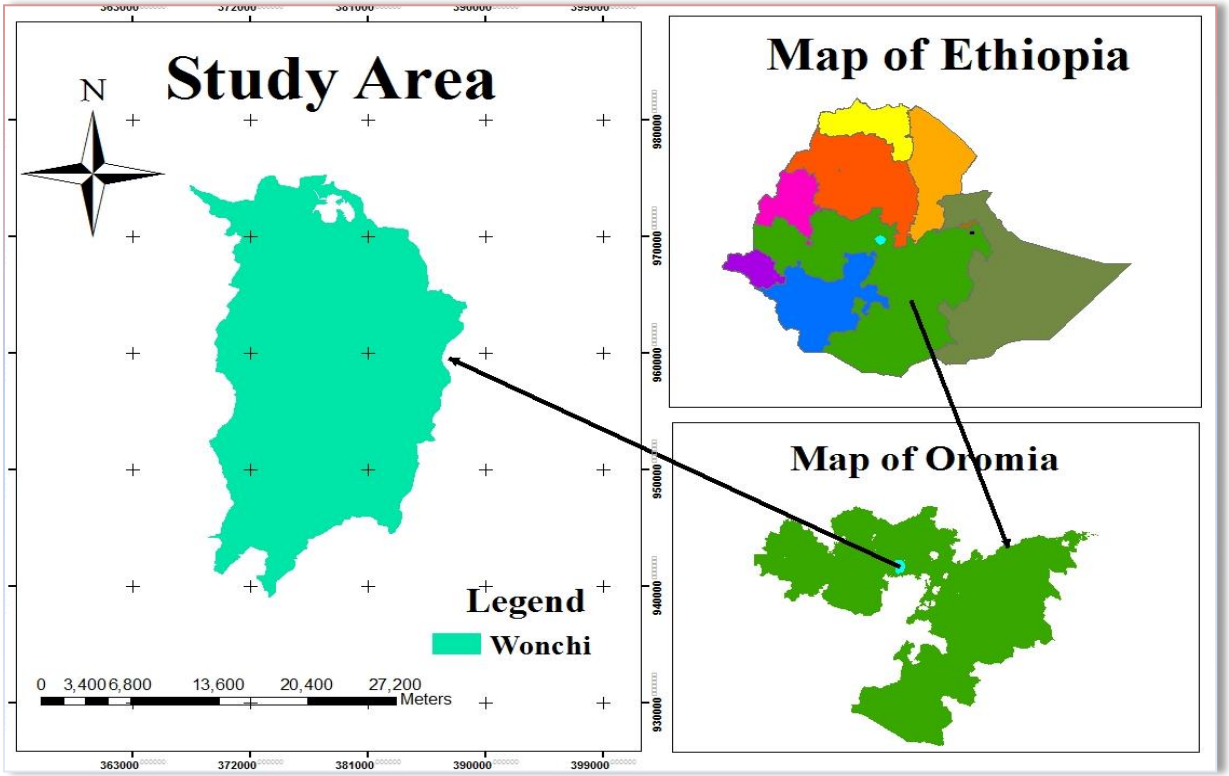

Figure 4: Map of the study area

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Land allocation in district

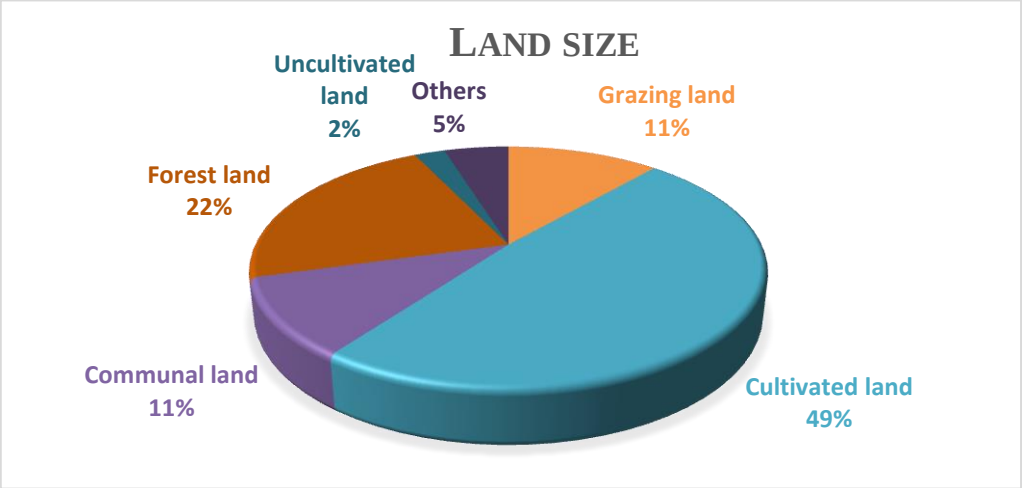


Figure 5: Land allocation in Wonchi district

Wonchi district has huge number of livestock population such as cattle, sheep, goats, horses, mules, donkey, poultry and bee colonies. The district relatively has high forest coverage and thus there is huge numbers of bee colonies with huge number of beekeepers.

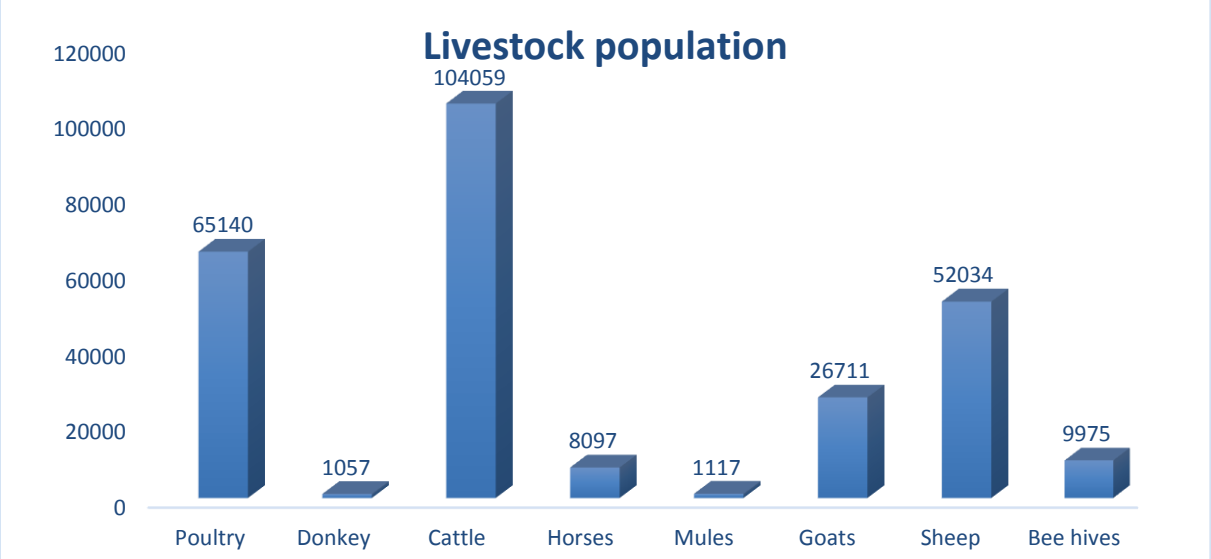


Figure 6: Livestock population in wonchi district in 2012or 2013

Source: Wonchi district livestock resource, development and health office

3.2 Type of research

The research consists of case study and survey**.** Both quantitative and qualitative data was collected from honey producers, district livestock resource, development and health office, district cooperative development office and beekeepers association staff like general manager, salesperson and honey retailers.

3.4 Method of data collection

3.4.1 Desk study: This approach was used to generate data from the existing literatures such as books, special scientific journal, articles, proceedings; published and unpublished empirical data and internet sites help to conceptualize the research problem clearly and accurately. Secondary data was also collected from the district livestock resource, development and health office and district cooperative development office.

3.4.2 Case study: For this field research, different honey value chain actors and supporters were interviewed to collect the required important information on the over view of honey production in Wonchi district and services provision of Wonchi beekeepers association. For that reason, the following stakeholders involved in honey value chain were interviewed by using structured questionnaire to collect the required information.

Table 2: List of different stakeholders interviewed during field study

No	Different stakeholders	Number of interviewees	Their role in honey value chain
1	Beekeeper farmers	36	Chain actors
2	Wonchi beekeepers association	2	Chain actors
3	District livestock resource, development and health office	1	Chain supporter
4	District cooperative development office	1	Chain supporter
5	Retailers	2	Chain actors
Total		**42**	

Interview conducted with Wonchi beekeepers association general manager

Depth and extensive discussion was made with the general manager of Wonchi beekeepers association to gather relevant information on the cause of less participation of beekeepers into association, the services of the association providing to the beekeepers, membership criteria, the capacity of the association has to accept new members, the current status of the association and other related issues which can hinder the performance of the association. Furthermore, the interview was also conducted with the association salesperson to gather information on the selling price of honey at different sites, volume of honey sold in different years, the cost incur, the revenue generated from the selling of honey and the trend of honey collected.

Interview conducted with district livestock resource, development and health office

Interview was conducted with the head of district livestock resource, development and health office to collect secondary data on livestock population of the district, constraints and opportunities of honey production and honey marketing situation in the district, the support they give for the district beekeepers and Wonchi beekeepers association and trends of honey production in the district.

Interview conducted with Wonchi district cooperative development office

Interview was conducted with Wonchi district cooperative development head office to collect information on the total numbers of beekeepers association found in the district, the relation between the district cooperative development office and Wonchi beekeepers association, the way in which beekeepers' association organized in the district, the criteria need to be a member of the association, the support district cooperative office give for district beekeepers and Wonchi beekeepers association and other related issues.

Interview was conducted with honey retailers

The interview was conducted with honey retailers located in Addis Ababa city and Woliso town to gather the necessary information on the types of bee products they trading, purchasing price, selling price, major suppliers and major buyers. There are no honey whole sellers in honey value chain in wonchi district but beekeepers association works as wholesaling function to distribute the processed honey to the retailers in the city like Addis Ababa and Waliso town.

3.4.3 Survey

The survey was conducted in the Wonchi district from the mid of July to August 5 to assess honey production potential, problems related with honey production and marketing, trend of honey production and marketing, the services provision of Wonchi beekeepers association, reason for why beekeepers not enter beekeepers association, supporters involved in the honey value chain in the wonchi district, the relationship between the district beekeepers and Wonchi beekeepers association and other related issues. The assessment was conducted by interviewing of beekeepers both from the members of Wonchi beekeepers' association and non members of the association. The assessment was conducted using structured questionnaire.18 beekeepers who are members of association and 18 who are not members of beekeepers association were interviewed.

Sample size and sampling procedure

Before conducting field research, discussion was conducted with the head of Wonchi district livestock resource, development and health office and Wonchi beekeepers association to select the respondents. Based on the information of district livestock resource, development and health office and Wonchi beekeepers association, 36 beekeepers were purposively selected to collect the required information. Following this, 18 beekeepers who are members of beekeeper' association and 18 who are not members of beekeepers' association were selected and interviewed. The interview was conducted with the selected respondents to generate the relevant data by using structured questionnaire. For case study, Wonchi beekeepers association, district livestock resource, development and health and district cooperative development agency and honey retailers were purposively selected to collect the required information with the help of research field interview guide line questionnaire.

3.5 Data processing

The collected quantitative data was checked, rearranged, coded, entered SPSS statical soft ware of version 19 and edited before analyzed. The qualitative data was summarized, rearranged and narrated.

3.6 Data analysis

To process and analysis the collected data value chain mapping, SWOT, Spider web model, microsoft office excel workbook pre-designed excel and SPSS statical software version 19 were used. Value chain mapping was used to have visual representation of the whole chain in the Wonchi district with its price and volume label at each actor's level and to show the quantitative and qualitative data collected during the field research. Microsoft office excel workbook pre-designed excel was used to draw some graphs of district livestock population, land allocation of the district and for calculating financial data. SWOT analysis tool was used to analysis the strengths, weakness, opportunities and threats of Wonchi beekeepers' association. On the other hand, spider web model was used to evaluate the performance of Wonchi beekeepers association. The field survey data collected through structured questionnaire was analyzed using descriptive statics such as percentages, frequencies, mean and statical test such as independent sample t-test. These analysis results were presented in the form of tables and graphs. Moreover, data collected through interview was analyzed through narration and interpretation.

CHAPTER FOUR: SURVEY & INTERVIEW OF HONEY VALUE CHAIN STAKEHOLDERS

This chapter has two sections: One is the result of case study and the other section is the result of survey. Each section was separately presented under title and sub titles.

4.1 Wonchi beekeepers association and its role in honey value chain

Wonchi beekeepers association was established in 2006 by 21 local beekeepers (19 male and 2 female) in Wonchi district with the support of German Cooperation (GTZ). GTZ was trained the organized beekeepers association and dispatched modern bee hives and accessories for every farmers. Until 2010 Wonchi beekeepers association was part of the WETA but in 2010 a group of 40 beekeepers have created an independent association called Wonchi beekeepers association with the proportion of 38 male and 2 female with the help of NGO called Slow Food foundation. The main objective of the establishment of the Wonchi beekeepers association was to help the local beekeepers to rationalize honey production, improve honey quality, to create market linkage for their product, to improve the income of the smallholder beekeepers and to protect the surrounding forest. To achieve this objective, the association has organized training course for its members, provides input supply such as modern bee hives and honey extractor in order to practice modern apiculture and improved final presentation of the honey. Currently, the association is doing different activities such as honey producing; collecting, processing, packing, labeling and sold processed honey in glass labeled jars in the national and international market (Personal discussion with the association general manager, 2013).During the field survey time, there are 9 workers who working in the wonchi beekeepers association. The association also has begun to collect and process beeswax and has started to export to foreign market such as Italy. When Wonchi beekeepers association was established, each member of the association was bringing two traditional hives with bee colonies from their home to the established of the association's apiary site. After each farmer brought two bee colonies from their home at established of the association's apiary site, they were transferred the bee colonies from traditional hives to modern bee hives and doing colony management activity together. The beekeepers also bring their individual honey produce at their home and sell to the beekeepers association. According to the general manager of Wonchi beekeepers association the average honey production per hive and honey quality is improved due to the provision of training and input supply such as modern bee hives and accessories for the members of the association.

During its establishment, Wonchi beekeepers association had an initial capital of 500 birr which was collected from the members. Currently the capital of the association is reached about 500,000 ETB. Starting from 2007 the amount of honey collected by the association and revenue generated from honey sold was also increased.

Table 3: Volume of honey and beeswax sold and the revenue generated

Years	Volume of honey sold in (kg)	Revenue generated in (Birr)	Volume of bees wax sold in (kg)	Revenue generated in (Birr)
2007	500	30,000	-	-
2008	750	45,000	-	-
2009	1000	75,000	-	-
2010	1500	120,000	100	10,000
2011	2500	200,000	250	30,000
2012	3000	300,000	500	60,000

Source: Wonchi beekeepers association,2013

In 2007, the amount of honey collected by association was 500 kg but this volume was increased to 3000 kg in 2012. This volume is the maximum capacity of the association process since the association procurement low volume and work under its capacity.

In 2012, the association was sold 2500 kg of processed honey at the national market and 500 kg at foreign (international) market. From this volume of the sold honey the association obtained 2, 50,000 and 80,000 ETB profit at national and foreign market respectively. Wonchi beekeepers association has its own brand name for its product which called <Wenchi volcano's honey>. This name came from the name of Lake Wonchi found in the area. This lake was created by volcanic eruption and the name of volcano directly came from this name.

Photo 1: Sample of processed& bottled honey by wonchi beekeepers association

Wonchi beekeepers association is open type association. Which mean everyone who fulfills the criteria of the association can join to the association. In 2006, the members of the association were 21 beekeepers and this number increased to 40 in 2010. But after 2010 nobody was joined to the association. According to the general manager of Wonchi beekeepers' association the association has the capacity to receive up to 100 new members and collect and process 8000 kg honey per year. Due to high entrance fee, inadequate information and less profit to the members, the members of the association are limited to only 40 members and the volume of honey collected 3000 kg per year. Even currently, members who started the association were fragmented in to three groups with 13, 13 and 14 members as a result of poor coordination, lack of transparence, accountability and less benefit to the members of the association and conflict rise among the members of the association. Some of the members of the association are started to sell their honey to local market and tourists.

4.1.1 Services of Wonchi beekeepers association

According to the general manager of Wonchi beekeepers association, the association is giving different services to the members and the district beekeepers. The services of Wonchi beekeepers association giving to the members are:

Provision of input supply

Wonchi beekeepers association is providing different input supply such as modern bee hives with accessories, bee equipments such as honey extractor, wax printer and refined beeswax.

Technical services

Wonchi beekeepers association provides different technical services such as training on bee management, bee colony transferring, honey harvesting, processing, packing and handling and experience sharing with other beekeepers and arranging visiting other similar producers.

Market services

Wonchi beekeepers association providing different market services such as provision of market information, link beekeepers to potential buyers, advertizing or promotion local honey to national and international market

4.1.2 Wonchi beekeepers association membership criteria

Wonchi beekeepers association is open type of association that means every beekeeper who fulfills the criteria of membership can be a member of the association. The Ethiopian cooperative society proclamation No. 147/1998 allow any person who has interest and above 20 years to become a member of any cooperative voluntarily. In Ethiopia, it is possible to establish open or close cooperative or association membership depending upon the type of cooperative or association, willingness of new entrants and annual budget. Of the total agricultural cooperative, 92% are with opened membership on the condition that the new entrants pay share capital and registration fee. Wonchi district cooperative development head officer revealed that, there are settled criteria to be fulfilled by the new entrants to become a member of the association. These criteria are: the age of the applicants should be 14 and above, the applicants should be a resident of the same area or village, the applicants should have enough capital to pay registration fee and purchase share, the new applicant should have also interest to work with others and the new applicants should have similar work or bee hives from their home. The registration fee and share payment will be dash when it comes to the members. The amount of registration fee and share purchase will be decided by the agreement of members of the association. Currently, the entrance fee of the association for new entrant is 5000 ETB and this limited many new entrants not being a member of the beekeepers association.

Photo 2: Interview conducted with Wonchi beekeepers association general manager

4.2 Bee products retailers

There is one hotel called Savana hotel located in Addis Ababa city. This hotel purchased most processed of honey from Wonchi beekeepers association and resell to the city consumers. They explained during the interview time that they were purchasing one kg of processed honey by 160 ETB from the association and resell at 200 ETB in Addis Ababa city. In 2012, they were purchased about 500 kg of the processed honey from wonchi beekeepers association. The retailers stated during the interview honey from wonchi beekeepers association have good quality and high medicinal value. Thus, this honey has high demand by consumers in the city and the retailers have plan to increases the volume of honey purchasing and trading in the next year.

4.3 Honey value chain supporters and their roles

There are different honey value chain supporters in the study district that were indentified during the field study.

Wonchi district livestock resource, development and health office

The interview conducted with Wonchi district livestock resource, development and health office revealed that, district livestock resource, development and health office is giving different technical support such as training and advice on beekeeping problems, bee management, bee transferring, honey harvesting, honey processing, handling and quality control. The office is also giving different input supply such as modern bee hives with accessories, bee equipments such as wax printer, honey extractor and refined beeswax for beekeepers to improve honey production and their position in honey value chain in the district. Moreover, the district livestock resource, development and health office is also giving support such as conduct feasibility study with district cooperative development office for organizing beekeepers in to the association.

Honey production is the main source of income for many farmers in the district next to crop production. In the district, beekeeping is mostly practiced by traditional method in which different traditional hives are used. These are large cylinders made of interwoven bamboo covered by leaves of false banana and closed at one end by a circular piece of wood, which allows bees to enter through two lateral openings. The other end is closed with straw. The main honey harvesting season in the study area is at the end of rain season between October and December. According to the secondary data of district livestock resource, development and health office, there are 8500 traditional, 330 transitional and 1145 modern bee hives in the district. On average 5kg, 10kg and 15 kg of honey is produced from traditional, transitional and modern bee hives respectively. From the total traditional hives 42,500kg of honey, from the total transitional 3,300 kg of honey and from the total modern bee hives 17,175 kg of honey was harvested in the district in 2012. The yield gained from traditional hive in the study is very low in quantity and quality when compared to the other types of hives because of the hives has no enough space for bee colonies to produce high volume of honey and modern equipments such as honey extractor and queen exclude are not use for honey quality. The following photo shows when interview was conducted with wonchi district livestock resource, development and health office.

Photo 3: Interview conducted with district livestock resource, development and health head office.

Wonchi district cooperative development office

Wonchi district cooperative development office is giving different supports to the district beekeepers to improve honey production and their position in honey value chain. The services Wonchi district cooperative development office provides to the district beekeepers are: input supply such as modern bee hives with accessories in collaboration with different NGOs, technical support such as training farmers on the cooperative rules and regulation, market services such as market information, search market outlet for farmers' products, collecting farmers' interest for the association establishment, conduct feasibility study and check the potentiality of the area for honey production before organizing the farmers in to association, check farmers registration and share payment, purchasing share for the organized farmers, organizing exhibition and festival in collaboration with NGOs to advertise farmers products to potential buyers. The following photo shows when the interview was conducted with the Wonchi district cooperative development head officer.

Photo 4: Interview conducted with district cooperative development head office

The role of different stakeholders honey value chain in Wonchi district

Some role of different governmental organization, nongovernmental organization and privet body that collaborated with beekeepers association was indicated in the table 4.

Table 4: Roles of different actors in honey value chain in Wonchi

No	Stakeholders	Their roles in honey value chain
1	NGOs	Input supply, training and financial support
2	District local extension	Training and information provision
3	Honey processors	Testing the quality of honey
4	Export companies	Testing of honey quality and give comment on the quality of honey
5	Wonchi beekeepers association	Training provision, input supply and create market outlet Honey producing, assembling, processing, packing &labeling and retailing and exporting
6	District livestock resource, development and health office	Provision of technical support such as training and advice, Input supply such as modern bee hives, refined beeswax
7	District cooperative development office	Purchasing share for the members of the association, creating market outlet, giving license for the organized farmers and training and advisory on association rules and regulations

4.4 Honey value chain analysis

Different honey value chain actors and supporters who deal with honey value chain in Wonchi district were interviewed during the field study to indicate their position and role in honey value chain. Following this, Wonchi beekeepers association, Wonchi district livestock resource, development and health office and Wonchi district cooperative development office were interviewed during the field study to analysis the relationship among Wonchi district livestock resource, development and health office, Wonchi district cooperative development office and Wonchi beekeepers association and honey retailers, position of Wonchi beekeepers association in honey value chain and the present situation of honey value chain in Wonchi district. The results were indicated in the following honey value chain map.

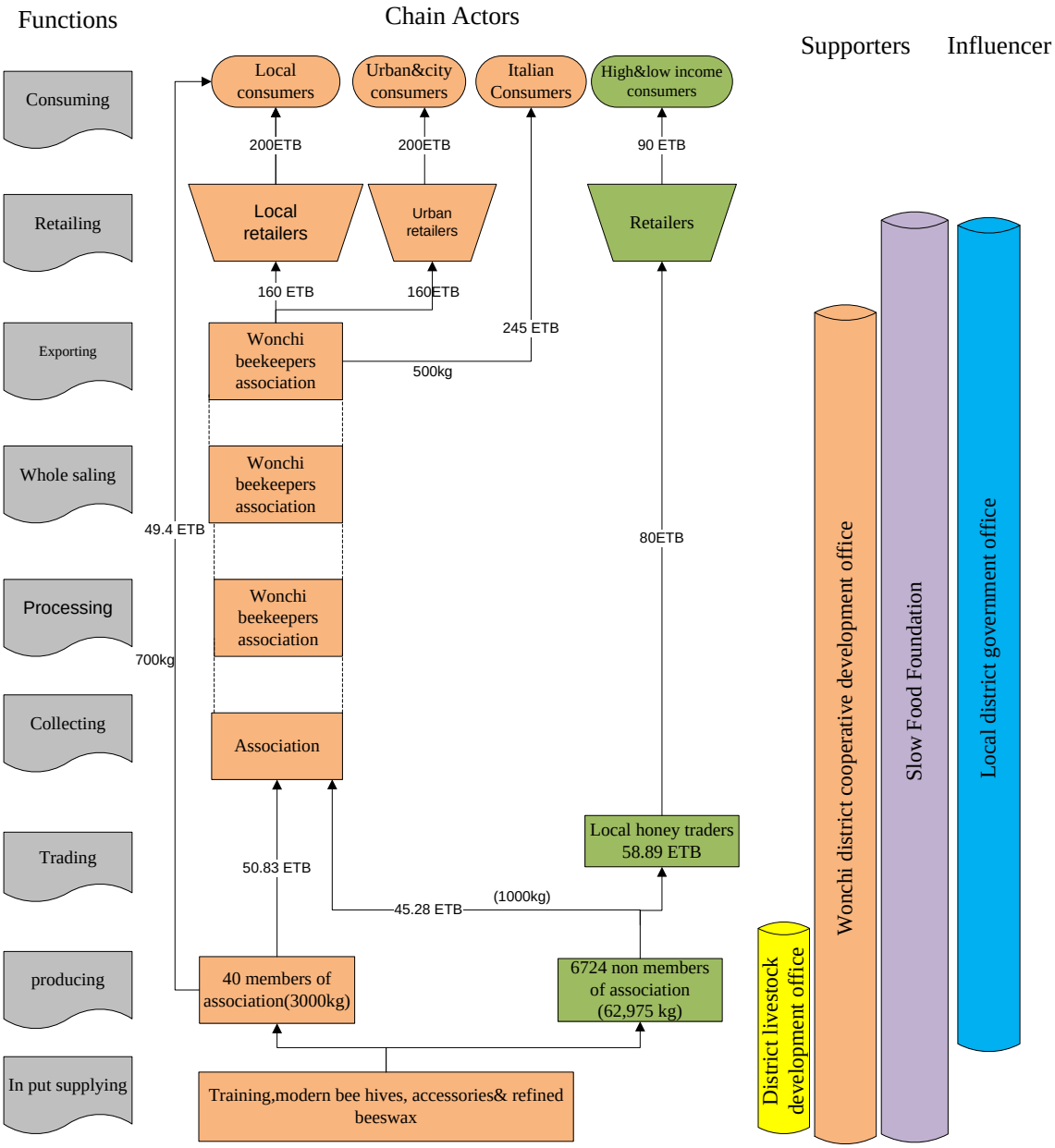


Figure 7: Honey value chain in Wonchi district

4.5 Survey of Beekeepers in Wonchi district

4.5.1 Demographic characteristic of the respondents

Characteristic of the sample honey producer farmers interviewed with the help of structured questionnaire during the field study is presented in the following section

Sex of the respondents

Regarding the sex of interviewed farmers, 34 respondents (94.4%) were male and 2 respondents (5.6%) were female. The survey indicates that beekeeping activity in the study area is dominated by male. In the district beekeeping activity is mostly practiced with the traditional method of honey production by using local bee hives. The traditional hives are hanging on big tree branches in which some of trees are as long as 50 meters and above. Female cannot climb up such big trees to do beekeeping activity and as a result female are not encouraged to participate in beekeeping activity in the traditional method of honey production.

Age of the respondents

Table 5 shows the age of the respondents. According to the result, the age of both beekeepers' who are members of beekeepers' association and who are not members of beekeepers' association fall between 15 and 64 year old. The members of the beekeepers association had an average age of 47.5, whereas non members of the association had an average age of 48.89 years old.

Table 5: Age distribution of the respondents

	Frequnecy	Minimum age	Maximum age	Mean	Std.Davision	Std.Error
Members	18	26	65	47.56	2.861	12.138
Non members	18	27	80	48.89	4.101	17.398

Family size of the respondents

The beekeepers that have different family size were engaged in beekeeping activity. The minimum and maximum family sizes of the respondents are 2 and 16 respectively. Moreover, the chi-square taste of the association indicates that there is no relation between family size of the respondents and being a member of the beekeepers association.

4.5.2 Characteristic of the respondents

Religion of the respondents

Regarding to the religion of respondents, 36 respondents (100%) are orthodox followers. The survey result indicates that orthodox religion is the most dominate religion in the study district.

Educational background of the respondents

The result revealed that the number of members of the beekeepers association who can write and read were 18 (100%). All of the members of beekeepers association were attended primary and secondary school. On the contrary, the numbers of non members of beekeepers association who can write and read were 12 (66.7%) and the rest 6 respondents (33.3%) were illiterate or who cannot read and write (Refer figure 8).

Bar chart

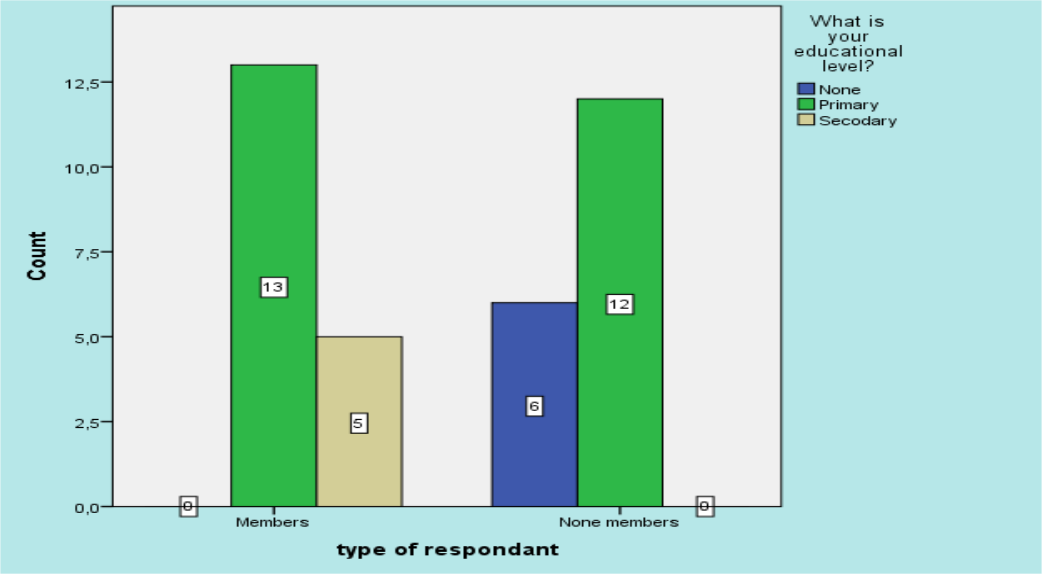


Figure 8; Educational background of the respondents

The survey result indicates that, there is relation between educational level of the respondents and being a member of the beekeepers association.

Recognition of the availability of beekeepers association in the study district

Table 6: Distribution of the respondents by recognition of the availability of beekeepers association in the district

Type of respondants		Do you know beekeepers association in your district?		Total
		Yes	No	
Members	Count	18	0	18
	% within type of respondant	100,0%	0,0%	100,0%
Non members	Count	15	3	18
	% within type of respondant	83,3%	16,7%)	100,0%
Total	Count	33	3	36
	% within type of respondant	91,7%	8,3%)	100,0%

All the interviewed the members of beekeepers' association replied that they know the existence of beekeepers association in the district. From the total interviewed beekeepers 15 respondents (83.3%) of non members of the beekeepers association stated that they know the existence of beekeepers association in the district and the rest 3 respondents (16.7%) stated that they have no any information about the existence of beekeepers association in the district. The survey indicates that, there is less communication between beekeepers and the others bodies regarding to information exchange. Moreover, information technology such as tell communication is not widely developed and available in the district.

4.5.3 Economic characteristic of the respondents

4.5.4 The main source income of the respondents

The main livelihood of both members and non members of association was asked during the field survey. Accordingly, 26 respondents (72.2%) have ranked crop production as their first source of income, whereas 7 respondents (19.4%) have ranked beekeeping activity as second source of income. The survey indicates that crop production is the first source of income followed by beekeeping activity in the study district.

Table 7: Rank of main source of income by the respondents in Wonchi district

Activities	Freqency of ranks						Wieghted index point	Rank
	1st	2nd	3rd	4th	5th	6th		
Livestock	0	8	20	7	0	1	142	3rd
Tourisim	3	2	4	15	3	9	104	4th
Petty trade	0	0	1	3	1	31	46	5th
Beekeeping	7	20	7	2	0	0	176	2nd
Crop production	26	6	4	0	0	0	202	1st

4.5.5 Land size owned by the respondents

The majority of the respondents hold land is below one hectare. However, to check whether there is an average land size difference among members and non members of beekeepers' association independent sample t-test was applied. The test result shows that there is significant difference among the members and non members of the association regarding the total land holding of grazing land. The average total land hold by the members of the association is 1.522 hectare but, the average of total land hold by non member of the association is 0.076 hectare. On the other hand, the average grazing land hold by the members of the association is 0.55 hectare and the average grazing land hold by non members of the association is 0.28 hectare. Referring to table 8 members of the association had more total land and grazing land size than non members of the association. This will give good opportunity for members of association to expand more honey production in the future on their own land by allocating their land for hives settlement in the area of chemical free and developing different bee forages so that their bee colonies can get enough bee forage.

4.5.6 Frequency of honey harvesting

From the interviewed farmers, 83.3% were harvesting honey only once per year. It was observed that most of these beekeepers use traditional hives. The reaming 16.7% of the respondents were harvesting honey twice per year. These respondents were able to harvest honey twice per year because of they are practicing provision of supplementary feed for their bee colonies during the dry season and also manage their bee colonies properly.

4.5.7 Place of honey selling by the respondents

Respondents who are members and non members of the association were asked the place they were selling their honey. Accordingly, for the question do you sell your honey to the Wonchi beekeepers association? 16 respondents (88.9%) of the members of the association responded that, they were selling their honey to association and the rest 2 respondents (11.1%) replied that, they were not selling their honey to association but they were selling their honey at local market and to local consumers. In the same way, 8 respondents (44.8%) of non members responded that they were selling their honey to association and remaining 10 respondents (55.6%) replied that they were not selling their honey to association but they sell their at local market and farm gate. The survey indicates that most of the members and non members of beekeepers association were selling their honey to association because of the association proximity to beekeepers and observed the product of many beekeepers. Similarly for the question do you sell your honey at local market? 5 respondents (27.8%) from members of the association responded that, they were selling their honey at local market, whereas 13 respondents (72.2%) replied that they were not selling their honey at local market. On the other hand, 3 respondents (16.7) from non members of the association responded that they were selling their honey at local market, whereas 15 respondents (83.3%) replied that they were not selling their honey at local market because mostly they were selling their honey at farm gate and to tourists. Finally for the question do you sell your honey at farm gate? 4 respondents (22.2%) from members of the association responded that, they were selling their honey at farm gate and the rest 14 respondents (77.8%) responded that they were not selling their honey at farm gate because they were selling their honey to the association and tourists. On the other hand, 7 respondents (38.9%) from non members of the association responded that they were selling their honey at farm gate but the rest 11 respondents (61.1%) replied that they were not selling their honey at farm gate because mostly they were selling their honey at local market and beekeepers association. The following photo show when the interviewed was conducted with members and non members of association.

Photo 5: Interview conducted with members and non members of association

4.5.8 Customers of beekeepers in the study area

36 sample respondents who produce honey were asked their main customers. Accordingly, for the questions are local honey consumers your main customers? 4 respondents (22.2%) from members of the association have replied that local honey consumers were their main customers and the rest 14 respondents (77.8%) responded that local honey consumers were not their main customers but their main customers were tourists and Wonchi beekeepers association. Similarly for the questions are local honey traders your main customers? 7 respondents (38.9%) from the members of the association responded that local honey traders were their main customers but the rest 11 respondents (61.1%) replied that local honey traders were not their main customers. Their main customers were beekeepers association. On the other hand, 12 respondents (66.7%) from non members of the association responded that local honey traders were their main customers and the remaining 6 respondents (33.3%) responded that local honey traders were not their main customers. But their main customers were tourists, local consumers and beekeepers association. Finally for the question is beekeepers association your main customers? 13 respondents (72.2%) of the members of the association responded that beekeepers association was their main customers and the rest 5 respondents (27.8%) were responded that beekeepers association was not their main customers. In the same way, 8 respondents (44.4%) of non members of the association have responded that beekeepers association was their main customers and the rest 10 respondents (55.6%) have replied that beekeepers association was not their main customers. They stated that, local honey traders, tourists and local consumers were their main customers. The survey indicates that the main customers of both members and non members of the beekeepers association were beekeepers association and local honey traders.

4.5.9 Trends of honey price in the study area

36 sample respondents those who produce and sell their honey were asked the current status of honey price in the study district. Accordingly, all have replied that the selling price of honey is increasing from year to year. This is will encourages and create good hope for many beekeepers in the study area for those who want to produce more honey in the future.

4.5.10 Availability of transportation services to beekeepers in the study area to supply honey to the market

Beekeepers in the district were asked during the field survey whether they have transport service or not to supply their honey to the market. Accordingly, 14 respondents (77.8%) from the members of the association stated that they have transport facility to supply their honey to market. In the contrary, 4 respondents (22.2%) stated that they have no transport service to supply honey to the market. On the other hand, 7 respondents (38.9%) from non members of the association stated that they have transport service. The rest 11 respondents (61.1%) stated that they have no transport facility to supply their honey to market. The interviewed beekeepers stated that due to unavailability of the road, there is no transportation service in the district to supply their honey on right time and the required volume. The survey indicate that non members of the beekeepers association have more challenge regarding to transport facility compare to members of association since they sell their honey mostly at local market.

4.5.11 T-test of continuous variables between members and non members of beekeepers association

Referring to table 8 there is a significant difference among members and non members of the beekeepers association at ($p<01$) level regarding to the number of modern bee hives they owned. The members of beekeepers association were adopted modern bee hives in 2006 with the help of non-governmental organization GTZ that participated in the rural development activities in Wonchi district and other part of the country. This NGO was contacted the district agricultural and rural development office to train and support beekeepers by providing input supply for those who organized as association. Referring to table 8, the average of traditional hive honey yield was also showed significant difference among members and non members of the association at ($p<05$) level. Moreover, the average of modern hive honey yield was also showed significant difference among members and non members of the association at ($p<01$) level. The survey indicates that the average honey production from traditional and modern hive of the members of the association is more than those of non members of the association because of different input supply such as training and advice were giving for the members of the association with the help of NGO and beekeepers association. The average honey production per traditional hive of the members of the association was 11.44 kg. On the contrary, the average honey production per traditional hive of non members of the association was 8.22 kg. The interviewed members of the association stated that input supply such as training, advice and modern bee equipments they got from NGO and beekeepers association help them to improve honey production.

Referring to table 8 the markets distance members and non members of the association traveled has significant effect at ($p<01$) level. In addition, the transportation cost of members and non members of association expensed to sell their honey was also showed significant difference at ($p<05$) level. The average of market distance members of the association traveled was 9.28km to sell their honey; whereas the average market distances non members of the association traveled was 21.5 km. The average transportation cost of non members of the association was 42.2 ETB, whereas the average transportation cost of members was 19.67 ETB. The survey indicates that non members of the association were traveled long distance and expensed much money for transportation cost compare to members of the association because they sell their honey mostly at local market. The purchasing price of honey per kg of members and non members at association center has significant difference at ($p<01$) level. The average purchasing price honey per kg of the members of the association at association center was 50.83 ETB. On the contrary, the average purchasing price of honey per kg of non members at association center was 45.28 ETB. The association is purchase the honey of members by high price because the association knows the history and quality of the members' product than the honey of non members of the association since they are the members of the association. The association also makes favor the members of the association to encourage and attract them for honey delivering to the association.

Table 8: T-test of continuous variable between members and non members

Variable of compar	Member ± SE (N=18)	Non member ± SE (N=18)	T-value
What is your age?	47.56 ± 2.861	48.89 ± 4.101	0.791
How many family members do you have?	7.94 ± 0.693	6.83 ± 0.466	0.192
How many hives with bees do you have?	6.11± 0.727	5,28±1,093	0.530
How many hives without bees do you have?	3,22±,515	2,89±,536	0.657
How many traditional hives do you have?	9,33±1	7.94±1.181	0.376
How many transitional hives do you have?	0	0.22±0.222	0.324
How many modern hives do you have?	1.06±0.308	0	0.002***
How many times do you harvest honey per year?	1.11±0.076	1.22±0.101	0.386
What is the average yield of a traditional hive (in kg)?	11.44±1.106	8.22±0.083	0.026**
What is the average yield of a modern hive (in kg)?	8.67±2.420	0.000±0	0.001**
What is the total honey production per year (in kg)?	77.83±11.487	48.736±5.642	0.003***
What is the selling price of a kg of honey at local market	58.89±1.833	55.28±2.507	0.253
How far is the market from your home in km?	9.28±2 .969	21.501±3.104	0.007***
How many Ethiopian birr do you pay for transportation?	19.67±4.528	42.2±27.085	0.011**
What is the selling price of honey per kg at farm gat?	46.94±2.585	43.67±1.793	0.075
What is the selling price of honey per kg at local market?	58.89±1.833	53.61±2.280	0.08
What is the selling price of honey per kg at the association?	50.83±1.774	45.28±1.028	0.010***
What is the selling price of honey per kg at nearby town?	61.39±1.799	57.22±1.772	0.108
Total land area hold	1.522±0.34	0.076±0.093	0.04**
Area of crop land	0.95±0.28	0.49±0.06	0.11
Area of grazing land	0.55±0.09	0.28±0.05	0.015**

*** Significant at α=0.01, ** Significant at α= 0.05, *Significant at α=0.1

4.5.12 Members' view on the services of Wonchi beekeepers association

Those 18 sample respondents who get the required services from the beekeepers association were asked about the services they get from the beekeepers association. Accordingly, as indicated in table 10, 13 respondents (72.2%) replied that they were received better services that help them to improve honey production from the Wonchi beekeepers association. The reaming, 5 respondents (27.8%) have responded in negative which mean they did not get the services they need from the beekeepers' association. The interviewed farmers explained that they did not get the services they need including training, input supply, market information and advices on the time because the association service is biased approach and based on kinship relation. The survey shows that the association is not giving the required uniform services for all its members.

Table 9: Distribution of the respondents answer on the services of wonchi beekeepers association

Type of respondant		Do you get better services from beekeepers association?		Total
		Yes	No	
Members	Count	13	5	18
	% within type of respondant	72.2%	27.8%	100%
Total	Count	13	5	18
	% within type of respondant	72.2%	27.8%	100%

4.5.13 scoring the services of Wonchi beekeepers association by the members

Table 10: Distribution of the respondents' scores on the services of Wonchi beekeepers association

Type of respondant		How do you evaluate the services of the Wonchi beekeepers association?				Total
		Bad	Good	Very good	Excellent	
Members	Count	6	7	5	0	18
	% within type of respondant	33.3%	38.9%	27.8%	0	100%
Total	Count	6	7	5	0	18
	% within type of respondant	33.3%	38.9%	27.8%	0	100%

Out of the total interviewed farmers, 6 respondents (33.3%) of the members of the association have replied that, they were dissatisfied with the services of Wonchi beekeepers association because the association remains weak and infant for long period of time and hence they were scored the services of the association as bad. On the other hand, 7 respondents (38.9%) responded that they were satisfied with the services of the Wonchi beekeepers association because they got the services they need such as in put supply, training, market information and advices at time they need and hence they were scored as good. The rest 5 respondents (27.8%) of members of the beekeepers association replied that they were very satisfied with the services they received from the Wonchi beekeepers association because they were got honey purchasing center at nearby, modern bee hives, training and market information so that they were scored the services of the association as very good. The survey shows that significant numbers of beekeepers believe that the services of beekeepers association is not help them to improve production and their income.

4.5.14 Roles of Men and Women in honey value chain in Wonchi district

Table 11: Roles of men and women in honey value chain in the wonchi district

Link	Activities	Men	Women	Children
Production	Hives preparation	✓		
	Smearing hives with cows dung	✓	✓	
	Cleaning hives	✓	✓	
	Fumigating hives with bee attractants materials	✓	✓	✓
	Hanging hives on tree branches	✓		
	Giving of supplementary feed and water for bee colonies in the dry season	✓	✓	✓
	Inspection of bee colonies	✓		✓
	Monitoring of bee hives for pests and predators invasion	✓	✓	✓
	Honey harvesting	✓		✓
	Honey processing and storing	✓	✓	
Link	**Activities**	**Men**	**Women**	**Children**
Marketing	Selling of honey	✓	✓	
	Utilization of income	✓	✓	

4.6 Factors influence beekeepers for not being a member of the beekeepers association.

Out of the total sample interviewed non members 47.2% were responded that high entrance fee is the main reason for not being a member of beekeepers association. On the other hand, 30.6% respondents stated that not fulfilling the criteria of membership of the association is the main reason for not being a member of the beekeepers association. In addition, 19.4% respondents have replied that application unaccepted by the association is the main reason for not being a member of the beekeepers association. About 13.9% respondents were stated that unavailable adequate information in the area is the main reason for not being a member of the association. Finally 5.6 % of the respondents have indicated that absence of their interest is the main reason for not being a member of the beekeepers association.

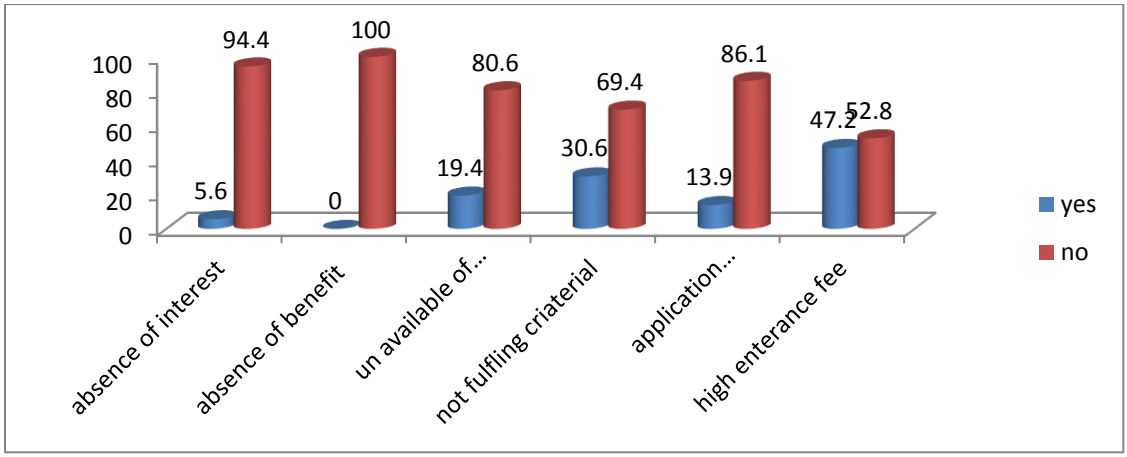


Figure 9: Factors influence farmers for not being a member of the beekeepers association

4.7 Evaluation of the performance of Wonchi beekeepers association

To evaluate the performance of Wonchi beekeepers association, Spider web model (MIDCA, 2010) was applied. The result of performance evaluation of Wonchi beekeepers association is shown in the following figure 10.

	Organization:	Wonchi Beekeepers association		
		Max	Score	%
Production	Membership Base	15	8.50	57%
	The Product	30	19	63%
	The Services	15	6	40%
Internal Organization	Staff Capacity	25	15	60%
	Financial Management	35	23,75	68%
	Long Term Perspective	15	7	47%
Market	Sales	25	16	64%
	Relationships	25	13	52%
	Total	185	99,75	54%

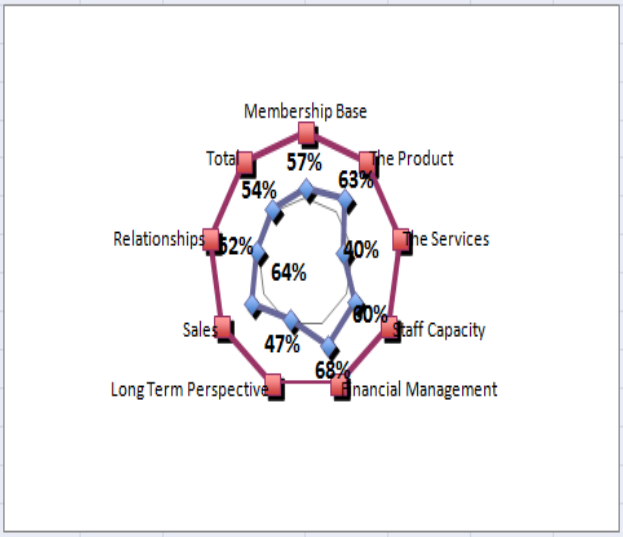


Figure 10: Results of the performance evaluation of wonchi beekeepers association

The spider web model was applied to evaluate the performance of the Wonchi beekeepers association. Different indicators such as membership base, product, services, staff capacity, financial management, long term perspective, sales and relationships for producer association were used to score which parts of the association are performing well and where the gaps are there. The scoring is done by using MIDCA checklist formats by interviewing the association general manager and sell person (See annex6, A, B&C). Based on the performance of the association, the following discussion was made.

Membership base

There are 100 potential beekeepers lake base membership who have fulfilled the criteria of organic honey production. But the numbers of beekeepers that joined to Wonchi beekeepers association were only 40 with the proportion of 38 men and 2 female. Out of the total members, the numbers of active members who actively participate in the association activities were 20 and the remaining 20 were inactive members who are not actively participate in to the association. According to the general manager of Wonchi beekeepers association, the members of the association will get payment according to their work performance i.e less active members will get less payment and more active members will get more payment. According to the interviewed beekeepers, this is always creating conflicts among the members and the association.

Products

The productivity of honey per hive was improved because the association was giving different input supply such as modern bee hive with accessories and technical support such as training and advice to the farmers. The average price paid to the members is also increased. The association general manager explained during the interview, even though the average honey production per hive of the members of the association improved, compare to the potentiality of the area, the production is still low. For this there are different factors. One factor is unavailability of improved bee technologies such as modern bee hives. Other factors are pests and predators, application of agrochemicals. There are different hives products that can diversify the income of farmers but the association involved only in honey and beeswax production and processing

Services

Wonchi beekeepers association is providing different services for its members. These services including input supply such as modern bee hives with accessories, refined beeswax, training on bee management, honey production, honey harvesting, honey and beeswax processing and trading. Even though Wonchi beekeepers association provide different services to the beekeepers, the services of the association are biased approach and based on kinship relations because all members of the association not got the uniform services and benefit from the association. Some of the interviewed members of the beekeepers association stated that, the one who can get better services and benefit is the one who have good relation with the management staff of the association compare with the one who have no relation. Thus, some members of the association were disappointed to the services of association and they scored the services of the association as bad.

Staff capacity

The association has 9 workers who are currently working in Wonchi beekeepers association. Most of the association management staffs not got long term and short term training. Thus, they were not well qualified and technical sufficient to discharge their task and responsibility to serve the members of association in proper way. As a result of limited training skills, there is poor coordination among the association management staff and members of association.

Financial management

The association is well manage and utilize its own financial resource. According to the general manager of the beekeepers association, the association is use its own financial resources for business activities by planning and accountability. Also the association access to local bank or financial institutions to get credit during the financial shortage for its business activities. The association is audited once a year by the external auditors but the audit result is not announced to the members of the association. Most of the members of the association are not being informed the progress and financial status of their association.

Long term perspective

The association has no written declaration of mission and vision to define the fundamental purpose of the association and description of the long term achievement of the association. This has negative impact on the association to achieve its objective because the association is moving without strategic plan.

Sales

Small scale honey producer farmers generally have interests in organizing themselves in order to get market access and better selling prices. The association was giving different market services such as provision market information, link beekeepers to potential buyers, advertizing bee products to national and international market by organizing exhibition and festival. Starting from 2007, the volume of honey sold and the price received from honey sold increases. In 2007, the association was sold 500kg of honey with the average unit selling price 60 birr at association center but in 2012 the volume of honey sold was increased to 3000kg with the average unit selling price 160 birr.

Relationship with stakeholders

The association has relationship with different stakeholders such as the district livestock resource, development and health office, district cooperative development office, slow food foundation, research center, honey processor companies and honey retailers. But there is low cooperation and weak relation among the association and these stakeholders.

4.8. Actors shares in honey value chain

Based on the collected data, the share value of each actor involved in formal and informal honey value chain were calculated. The data used to calculate variable cost of beekeepers incurred to produce 15 kg of honey per hive per year is indicated in table 12. To produce this volume of honey, on average beekeepers provided 2 kg of sugar, 2kg of bean floor and 1.5 of honey per hive per year. Survey data, case study and secondary data was used to calculated the value share of different actors involved in formal and informal honey marketing channels.

For calculation simplified gross margin and value share the following parameters were used

- Gross output: honey produced by the beekeepers
- Variable cost: the cost that directly relate to the volume of honey produced
- Fixed cost: the cost incurred on durable asset including depreciation cost, interest cost and maintenance cost
- Gross margin: gross output minus variable costs
- Profit or loss: gross output minus total costs (total variable cost +fixed cost)

Farmers and other chain actors in the study area do not have recorded data because of this estimation of incurred cost is used for calculation of net profit.

Table 12: Profit or loss of beekeepers in wonchi district per hive per year

S/No	Gross output	Unit	Quantityty	Average unit price at local market	Total
1	1.Average honey produced	Kg	15		15
2	Total Revenue	Birr	15	58.89	883.35
3	2.Variable cost	_	_		_
4	2.1 Cost of sugar	Kg	2	21.38	42.76
5	2.2 Cost of bea floor	Kg	2	12.46	24.92
6	2.3 honey for colony feeding	Kg	1.5	58.89	88.33
7	2.4 Cost of transport	Birr	_		100
8	2.5 Total variable cost	Birr			**256**
9	3.Gross margin	Birr			**627.35**
10	4. Fixed cost	-	-	-	-
11	4.1 Cost of hired labor per day	person	1	50x4	200
12	4.2 Cost of traditional hive	Birr	1	100	100
13	4.3 Total fixed cost	Birr			**300**
14	5. Over all cost	Birr			**556**
15	6. Net profit	Birr			**327.35 birr per hive per year**

Most beekeepers of the district take away their bee colonies from their home place to other area during the dry season for searching bee forage. During this time they hired labor who takes their hives to the area of bee forage is available.

Table 13: Profit or loss of wonchi beekeepers association per year

S/No	Gross output	Unit	Quantity	Average unit price at association	Total
1	1.Average honey purchase per year	Kg	3000.00	50.83	152,490.00
2	Selling of honey at foreign market	Kg	500.00	245.00	122,500.00
3	2. Selling of honey at domestic market	Kg	2500.00	160.00	400,000.00
4	3. Selling of beeswax at foreign market	Kg	500.00	120.00	60,000.00
5	Total Revenue				**582,5000**
6	4.Gross profit				**430,010**
7	5.Variable cost	-	-	-	-
8	5.1 Cost for honey processing like filling and packing bottle	Pcs	6000.00	4.00	24,000.00
9	5.2 Transport cost				20,000.00
10	5.3 Total variable cost	Birr			**44000**
11	6. Fixed cost	_			-
	7.1 Cost for bottel purchase	Pcs	6000.00	15.00	90,000.00
12	7.2 Salary for guard per year	Person	2	4800.00	9600.00
13	7.3 honey extractor purchase	Pcs	2	5000.00	10,000.00
	7.4 Wax printer	Pcs	1	6000.00	6000
14	7.5 Total fixed cost	Birr			115,600
15	8. Over all cost	Birr			159,600
16	9. Net profit	Birr			**270,410 birr/ year**

Table 14: Profit or loss of honey retailer per year

S/No	Gross output	Unit	Quantity	Average unit price	Total
1	1.Average honey purchase per year	Kg	500	160.00	80,000
2	2. Selling of honey to consumers	Kg	500	200.00	100,000
2	Total Revenue	Birr	500	200.00	**100,000.00**
	3.Gross profit				**20,000**
3	2.Variable cost	_	_		_
4	2.2 Cost for plastic purchase	Pcs	1000	0.50	500.00
5	2.3 Transport cost				1050.00
6	2.5 Total variable cost	Birr			**1,550.00**
7	4. Fixed cost	_			_
8	4.1 Cost of shop rent	No	1	800	9600
9	4.3 Total fixed cost	Birr		0	9600
10	5. Over all cost	Birr			**11150**
11	6. Net profit	Birr			**8,850 birr per year**

Table 15: Value share of beekeepers association in honey value chain per kg

Chain actors	Variable costs(ETB)	Revenue	Gross income (ETB)	Added value	Gross margin	Value share
Beekeeper	2.02	50.83	48.81	50.83	70.4%	25.4%
Association	125	160	35	109	21.87%	54.5%
Retailer	175	200	25	40	15%	20%

The value share of honey produces obtained when they sell their honey directly to local consumers is depicted in table 16

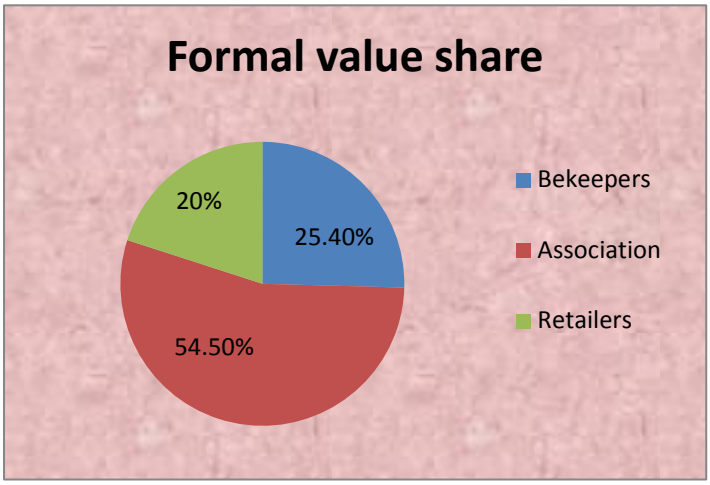
Table 16: Value share of beekeepers involved in informal honey marketing channel

Chain actors	Variable costs(ETB)	Revenue	Gross income (ETB)	Added value	Gross margin	Value share
Beekeeper	2.02	58.89	56.87	58.89	96.57%	65.4%
Local honey trader	65	80	15	21.11	25%	23.5%
Retailer	75	90	15	10	27.78%	11.1%

Table 17: Value share of honey producers sell their honey to local consumers

Chain actors	Variable costs(ETB)	Revenue	Gross income (ETB)	Added value	Gross margin	Value share
Beekeeper	2.02	49.4	47.38	49.4	95.9%	100%
Local consumers	49.4	0	0	0	0	0

Data from Survey, case study and secondary data was used to calculate the value share of different actors involved in formal and informal honey marketing channels.



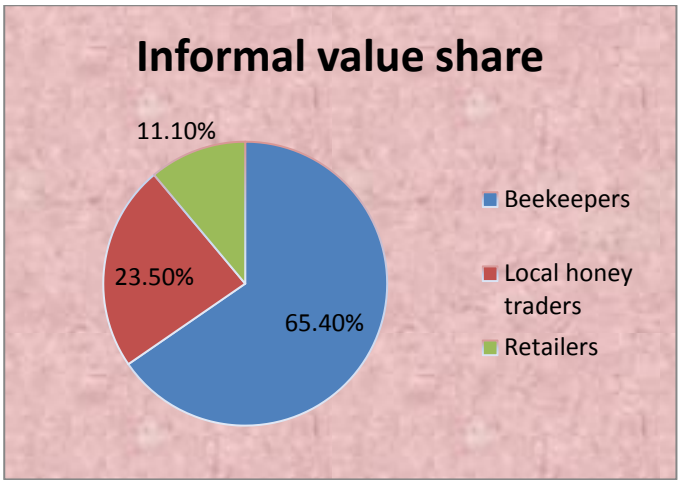


Figure 11: Formal and informal honey value share in the study area

4. 9 Beekeeping constraints and opportunities in Wonchi district

Constraints of beekeeping

1. Low quality of honey product

Inadequate of production knowledge and poor post-harvest handling system often results in poor of honey quality. Excessive using smoking materials during honey harvesting and inappropriate storage containers are the main problems in honey quality. Since honey producers have limited knowledge of the preference of their target market, they do not want to improve the quality of their honey.

2. High cost of modern bee equipments and accessories

The interviewed beekeepers responded during the field survey that some of the bee equipments such as modern bee hives, wax printers and honey extractors are very expensive and thus farmers are unaffordable to buy and use these equipments. Currently the cost of one modern bee hive ranges from 900-1000 ETB, the cost of honey extractor 4000-5000 ETB and the cost of wax printer is ranges from 5000-6000 ETB.

3. Shortage of bee forage

This problem is directly related with deforestation of forest coverage from time to time for timber making, construction, fire wood and expansion of agricultural lands. This is cause shortage of bee forage especially during the dry season. Most beekeepers of the district have been taking away their bee colonies from their home place to other area during the dry season for searching bee forage. This will increase the expense of farmers in the form of wage.

4. Problems of agrochemical

The district farmers are producing mainly wheat, barley, teff, chick pea and different horticultural crops. They use chemical spray such as pesticide and herbicide without considering damage it cause on bee colonies. The interviewed farmers stated that a number of bee colonies either die or absconded from their hive due to extensive use of agro-chemical in the district. The chemical spray used by district farmers is also destroying bee forage like herbs and shrubs which is used as source of bee forage.

5. Infustructure

Lack of infrastructure development: the availability of infrastructure is very poor compared to others zone districts. There are no rural roads that connect different peasant association to the main town of district. In the district, information technology such as tell communication is not widely developed

Opportunities of beekeeping in the study district

Although there are many constraints in the study area, there are also opportunities for future honey production improvement in the study area.

1. Presence of huge numbers of traditional bee hives

Wonchi district has 8500 traditional bee hives. These huge bee colonies will give great opportunities for the district beekeepers for those who want to produce more honey in the future

2. Presence of tourists in the area

The area is appreciated by foreign and the country visitors because of the presence of Crater Lake with steep green sides and a deep blue lake at bottom is called Wonchi Lake and monastery built on Small Island. This area is visited daily by many foreign and country tourists. Fortunately this is created good market opportunity for the Wonchi beekeepers' association and the surrounding beekeeper farmers because they sell their honey to the tourists who come to visit the area.

3. Increasing the demand of honey from local honey traders and consumers

The consumption of honey increase with the income of people. Currently the incomes of local people have been improving and the demand for honey consumption is also increasing.

4. Proximity of the area to big city and towns

Wonchi district is close to big city such as Addis Ababa and big towns such as Waliso and Ambo. This will create good market for the district beekeepers to sell their honey

5. Presence of wonchi beekeepers association

Availability of establishment of wonchi beekeepers' association at nearby who purchase bee products from the local beekeepers and link the farmers to potential buyers

CHAPTER FIVE: DISCUSION

5.1 Function of Wonchi beekeepers association in honey value chain

Wonchi beekeepers association is one of the largest associations in South West Shoa zone. It has 40 members who supply honey to the association. The association is involved in different beekeeping activities such as honey producing; assembling, processing, packing& labeling, marketing the processed and bottled honey and distributed to retailers live in Addis Ababa city and Woliso town. Bargaining association enhance the economic benefit for small scale producer by horizontal integration, i.e, collectively and selling the members' produce (Bijman&Wollni, 2008). Some bargaining associations also engage in processing or retailing but do not take ownership of the final product (Bijman, 2002). The association is also started to process beeswax and export to foreign market such as Italy. In 2012, the association was collected 3000kg of honey. It was collected 2000 kg from members and 1000 from non members of the association. The volume of honey procurement by the association is low compare to the potentiality of the area. As a result of low members and side selling of honey by the members, the association works under its capacity. From the total interviewed beekeepers (11.1%) of members of the beekeepers association were selling their honey directly to local market and tourists because the average purchasing price of association per kg is less than the average of purchasing price of local market and tourists.

5.2 Factors influence beekeepers not being a member of the beekeepers association

5.2.1 High entrance fee

Out of the total interviewed beekeepers (47.2%) of non members of beekeepers association were stated that high entrance fee is the main reason for not being a member of association. Currently the association's entrance fee for new entrant is about 5000 ETB. Woldegerbrial (2010) stated that high entrance fee is highly influence farmers being a member of the cooperative. According to the district cooperative development head office, the cost of share payment and registration fee will be dish when it comes to the association. The amount of share payment and registration fee will be decided by the agreement of the members of the association. The association general manager was explained that, in 2006 when the beekeepers' association was established, GTZ was distributed two modern bee hives with accessories for every members of the association. These hives were registered as fixed asset of the association. Every new entrant should pay the cost of these hives to be a member of the association. This increase the cost of entrance fee and limited new members not being a member of the beekeepers association.

5.2.2 Not fulfilling the criteria of membership

From the total interviewed beekeepers 30.6% of non members of the association stated that not fulfilling the criteria of the membership of the association is the main reason for not being a member of the association. According to the district cooperative development head office there are settled criteria that the new entrants should fulfill to be a member of association. These criteria are: the new applicants should have similar work with the association, the applicants should have enough capital to pay entrance fee, the applicants should be 14 years old and above and the applicants should be the resident of the same village. Most of the interviewed farmers stated that they were not fulfilled these criteria for being a member of the association.

5.2.3 Unavailable adequate information

Out of the total interviewed beekeepers 19.4% of non members of the beekeepers association stated that unavailable adequate information is the main reason for not being a member of the beekeepers association. The interviewed beekeepers explained that they do not know the existence of beekeepers association and the function of this beekeepers association. The survey shows that most of the district beekeepers not got adequate information from extension workers and other bodies. Moreover, information technologies such as tell communication is not widely developed in the study area. Wonchi district has low information technology development compare to other districts in the Zone. This is highly influence the farmers to get update information and communicate with other persons to develop positive attitude towards of association and get awareness about the benefit of the association. Woldegerbrial (2010) indicated that availability of information technologies is highly influence new entrants for being a member of the cooperative. Similar research of Bilgic et al. (2006) stated that the membership probability increase with increases high communication level with cooperative and higher interaction with personnel or manager of cooperative.

5.2.4 Application unaccepted

From the interviewed beekeepers 13.9% of non members of beekeepers association stated that unaccepted application is the main reason for not being a member of association**.** The interviewed beekeepers explained during the field survey that some of the beekeepers were submitted their application for being a member of the association but their application was not accepted by association. The reason why the beekeepers association was not accepted application of the beekeepers were that some of the beekeepers were not fulfill the criteria of the association. Moreover, the association was demarked the honey production site called haro village close to Lake of Wonchi. This site was studied and confirmed by the slow food foundation NGO because of this area has indigenous tree species such as Egynia Abyssinica. They believe that honey from this area has high medicinal value and organic in nature. The association is organizing beekeepers only from this specific area and accepts only the application of beekeepers of this area. According to the general manager of the Wonchi beekeepers association, beekeepers from other villages and sites cannot join to the association.

5.2.5 Absence of interest

Out of the total interviewed beekeepers 5.6% of the non members of beekeepers association stated that lack of interest and awareness is the main reason for not being a member of the beekeepers association. The interviewed beekeepers stated that they have no interest and awareness regarding to the benefit of the association because they were not developed positive attitude towards the benefit of the association. This is due to lack of education, training and communication with the manager of the association. Bilgic et al. (2006) reported that less membership willingness of farmers to wards of a cooperative play a key determining for being a member of the cooperative. This finding is similar with the finding of Woldegerbrial (2010) reported that awareness of the rural people on the importance of cooperative is highly influence new entrants for being a member of the cooperative.

5.2.6 Less educational background

Education enables farmers to get awareness, perception about the benefit of association. It is also help farmers to develop positive attitude to wards of the benefit and importance of association. Educated people are always search information from different sources that help to have good idea and awareness. The survey results show that 33.3% of non members the association who has not been in school did not become a member of the beekeepers association but all who have been in school were joined to the beekeepers association. Bilgic et al. (2006) stated that being a member of cooperative will increase with increase of education attainment.

5.2.7 Inadequate technical and input services

Out of the total interviewed beekeepers 27.8% of members of beekeepers association stated that they did not get adequate services they need from Wonchi beekeepers association to improve honey production and income. Most of the beekeepers were disappointed to the services of association because of the services of the association were biased approach and based on kinship relation. Some of the interviewed farmers were stated that, the one who can get the required better services is the one who has good relation with the management staff of the association compare with the one who has no relation. The interviewed farmers were also added that, the farmers who located at nearby of the association center were getting more training, input supply, market information and advice compare to the farmers live in the remote or far area.

5. 3 Place of honey selling by the respondents

Farmers sell their honey at different place and the average of unit selling price is also various from place to place. The profit farmers got at different selling place is also various.

Honey selling to association

Out of the total interviewed beekeepers 88.9% of the members of the association responded that they were selling their honey to the association and the rest were selling their honey to the local market and tourists. The average purchasing price of honey per kg at association was 50.83 ETB. The individual farmer got 46.90 ETB profit per kg when they sell their honey to the beekeepers association. The average unit purchasing price of honey per kg of the association is less than the average purchasing unit price of honey at local market. Hence most farmers prefer to sell their honey at local market rather than beekeepers association.

Honey selling at local market

Out of the total interviewed beekeepers 27.8% of the members of the association responded that they were selling their honey at local market. The average unit selling price of honey per kg at local market was 58.89 ETB. When the farmers sell their honey at local market, they got 54.75 ETB profit per kg. Due to price difference what Wonchi beekeepers association is paid for its members, the members always looking for better price to sell their honey products.

5.4 Performance of Wonchi beekeepers' association

Membership base

There are 100 potential beekeepers lake base membership who have fulfilled the criteria of organic honey production. The slow food foundation was studied and demarked the area of Lake Wonchi for organic honey production. Only beekeepers of this area become members of association. But beekeepers from other areas can not join to the association. This one of the factors influences farmers not being of members of association.

Products

The productivity of per hive was improved because the association was given different input supply such as modern bee hives with accessories and technical support such as training and advice for farmers. There are different hives products that can diversify the income of farmers but the association involved only in honey and beeswax production and processing.

Services

Wonchi beekeepers association is providing different services for its members. These services including input supply as such modern bee hives with accessories, refined beeswax, training, honey producing, trading and saving. Even though Wonchi beekeepers association provides different services to its members, the services of the association are biased approach and based on kinship relations.

Staff capacity

There are 9 workers who are currently working in wonchi beekeepers association. Most of the association management staffs not got long term and short term training. Thus, they were not well qualified and technical sufficient to discharge their task and responsibility to serve the members of association properly.

Financial management

The association is well manage and use its own financial resource for business activities by planning and accountability. The association is audited once a year by the external auditors but the audit result is not announced to the members of the association. Most of the members of the association are not being informed the progress and financial status of their association.

Long term perspective

The association has no written declaration of mission and vision to define the fundamental purpose of the association and description of the long term achievement of the association. This has negative impact on the association to achieve its objective because the association is moving without strategic plan

Sales

The association is giving different market services such as market information, link beekeepers to potential buyers and advertizing their products to national and international market. The volume of honey sold to national and international market by association is increasing from year to year. In 2007, the volume honey sold was 500kg but in 2012 this volume was increased to 3000kg.The price received by the members also increased. The association has sufficient diversified client portfolio including tourists, local consumers, honey retailers and foreign market.

Relationship with stakeholders

Wonchi beekeepers stakeholders are: district livestock resource, development and health office, district cooperative development office, slow food foundation, research center, honey processor companies and honey retailers. But there is low cooperation and weak relation among the association and these stakeholders.

5.5 SWOT analysis of Wonchi beekeepers' association

Based on the result, the following are the strengths, weaknesses, opportunities, and threats of wonchi beekeepers association in the honey value chain in wonchi district

Table 18: SWOT analysis of wonchi beekeepers association

Strengths	• The association has its own brand name • Create strong market linkage for beekeepers products • The association depend on its own financial resource • Export bee products to foreign market such as Italy • Involvements in honey production and processing activities • Good quality of honey
Weaknesses	• Limited staff skills in management • Less accountability and transparency from the association to inform its members on the selling price of honey and the financial status of the association • Low members participation in to the association • Low commitment from the association members to deliver all the produce honey to the association • Lack of laboratory equipments at the association center for honey quality control
Opportunities	• Increasing of honey price from year to year at national and international market • Availability of tourists in the area who will buy honey • Presence of good government policy which help beekeepers association to improve its position in honey value chain • Acceptance and better perception organic local honey by tourists • Presence of huge numbers of traditional bee hives in the area • Increasing of honey demand by tourists, local consumers and traders • Proximity of the area to big city such as Addis Ababa and big towns such as Woliso and Ambo
Threats	• Deforestation of natural resources in the area • Extensive use of agrochemical in the district • Presence of pests and predators that attack bee colonies in the area • High competition for local honey from local market and local honey consumers • Increasing the cost of modern bee equipments and accessories

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

From the field survey results the main reasons low members of Wonchi beekeepers association were indentified and indicated as follow.

1. High entrance fee is one of the main reasons of new entrants for not being a member of beekeepers association. Currently the entrance fee of the association for new entrants is about 5000ETB. Even though the majority of beekeepers in the study area have high interest to be a member of the association, high entrance fee is the main challenge of farmers since most beekeepers of the district are resource poor and unaffordable to pay this amount of entrance fee to be a member of association. In 2006 when Wonchi beekeepers association was established, GTZ was helped members of association by providing two modern bee hives with accessories. These hives were registered as fixed assent of the association. Everybody who wants to be a member of association need to pay the costs of these hives.

2. Not fulfilling the criteria of member is the other reason for not being a member of the association. The area of near Lake Wonchi was studied and confirmed by slow food foundation. The honey harvested from this specific area is believed organic in nature and has high medicinal value. The honey harvested from this area has high demand on foreign market such as Italian. Only the beekeepers of this area will be selected and become the members of the association. On the other hand, the new entrants could have enough capital to pay entrance fee. The new entrants are also need to have interests to work in agreement with other members.

3. In adequate information available for farmers in the study area are influence farmers not being members of the beekeepers association. In the district, information technologies such as tell communication is not widely developed. Hence, there is no information exchange with other people regarding to the existence of beekeepers association and its contribution in honey value chain. Moreover, there is no adequate extension service to the farmers. Hence farmers of the district were not access to adequate information services.

4. Absence of interest is negatively influence farmers for not being a member of beekeepers association. Some beekeepers were not developed positive attitude to wards of the benefit of the beekeepers association because they did not get intensive awareness creation training, work shop and public meeting to develop positive attitude and perception towards of the importance of beekeepers the association.

5. Non members of the association were traveled long distance and expensed much money compare to members of association to sell their honey. The average of market distance of non members of association was 21.50 km, whereas the average of market distance of members of association was 9.28 km. Regarding to transportation cost, non members were paying 42.2 birr for transportation cost to sell their honey, whereas members of association were expensing 19.67 birr to sell their honey.

6. Most of members of association were disappointed to the services of Wonchi beekeepers association because of the services of the association were biased approach and based on kinship relation. Some the interviewed farmers were stated that, the one who get the required better services is the one who has good relation with the management staff of the association compare with the one who has no relation

7. Training and input supply has significant effect on honey production as well as honey quality

6.2 Recommendations

Referring to the performance results of wonchi beekeepers association (refer to figure 10), the association was underscored specially in the area of services provision, long term perspective, membership base, relationship and staff capacity. The following new spider web model is proposed for the association to improve its performance and the result under scored. Based on the proposed new spider web model for the association the following recommendation was given at association and district level

Organization		*Wonchi Beekeepers association*		
		Max	Score	%
Production	Membership Base	15	11	73%
	The Product	30	22	73%
	The Services	15	9	60%
Internal Organization	Staff Capacity	25	18	72%
	Financial Management	35	23,75	68%
	Long Term Perspective	15	11	73%
Market	Sales	25	18	72%
	Relationships	25	15	60%
	Total	**185**	**127,75**	**69%**

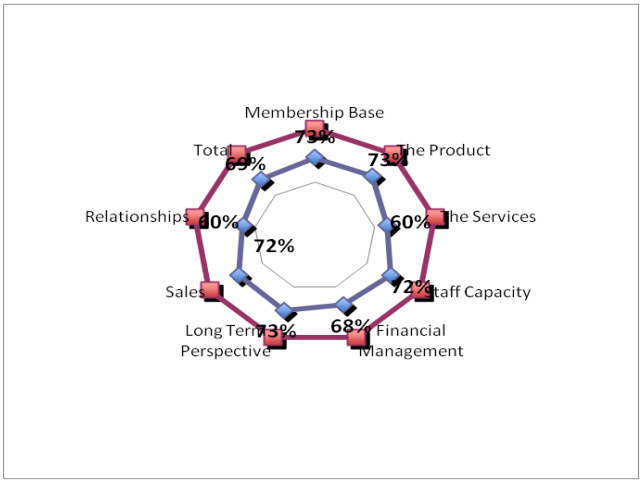


Figure 12: The new proposed spider web for wonchi beekeepers association

Membership base

- High entrance fee is the main reason for new entrants for not being a member of the beekeepers association. Reducing entrance fee is required to expand the members of association.

Services

- All members of association were not getting uniform services from the association. There should be member-oriented services to attract, encourage and satisfy all its members because of commitment of the members are very important for the success of the association.

Staff capacity

- Arranging short and long term training for management staff needs to capacitate and improve management skills to improve the area of under scored.

Financial management

- Due to low purchasing price of honey, the members of beekeepers association got low profit and they started to sell their honey at local market. This in turn has negative impact on the income of members and the honey supply to the association. The association should improve purchasing price of honey in order to increase the profit of its members and to prevent side selling
- The association is audited once a year by the external auditors. The audited result is need to announce officially to the members of association in order to build trust and transparency among the members and the association

Long term perspective

- The association has no written mission and vision to define the fundamental purpose of the association and long term objective achievement of the association. Having written mission and vision need to achieve its objective.

Partner ship

- Identify stakeholders willing to work with the association need to assure services provision to beekeepers

At district level

- Accessibility to extension services was found to be weak. There is need strong extension services in the district with respect to beekeeping activity to make aware farmers of the district
- Awareness creation intensive training and work shop is required for the district farmers in sustainable manner with respect to beekeeping activities and benefit of association.
- Farmers' accessibility to information infrastructure such tells communication is low because the information technology is not widely developed in the district. There is need to develop information infrastructure such as tell communication to assure information share
- The district cooperative need to follow up and monitor all the activities and services of Wonchi beekeepers association

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Annexes

Annex 1: Interview guide line questionnaire for members and non members of Wonchi beekeepers the association
A. Respondent information

1. Sex_____ Village_____

2. Religion_____

3. Age_____

4. Education back ground_____

5. Number of family members_____

6. Land Size_____

7. Crop_____ grazing land_____ total_____

8. 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) _____

9. How many family members engaged in the honey production?

_____

10. How many years of experience do you have in bee keeping activities? 1. below 5 years 2. 6-10 years 3. Above 10 years

11. Do you know beekeeping association in your district? 1. Yes 2. No

12. If your answer to the above question is yes, have you ever been beekeeping association member? 1. Yes 2. No

13. If your answer for question no 12 is yes since when? _____

14. Is there deference in benefit of beekeeping before and after joining to the association?

1. Yes 2. No

15. If your answer is yes explain the actual benefit you get from the member ship._____
_____

16. If your answer to question No 12 is no, why you are not a member of the beekeepers association? 1. I don't want to be member ship 2. There was no better benefit for the members 3. I don't pre informed during the formation of the association 4. The association was not accept my application to be membership. 5. I don't fulfill all criteria of member ship 6.The initial entrance fee is high 7. Others

17. Are you the member of other association/cooperatives in your district? 1. Yes 2. No

18. If yes why you prefer this association than beekeeper association 1. I get better from this association 2. This association is located at nearby 3. I know most members and their background in this association than bee keeper association 4. I get different input supply and credit service from this association than beekeeper association 5. Low entrance fee 6.Others

18. Do you get any kind service from honey producer association? 1. Yes 2. No

19. From question no18 if your answer is yes what type of services do you get from the association?_____
_____
_____

20. If your answer for question No 18 is no from where do you get support to improve honey production? 1. Research centers 2. District livestock development, health and marketing office 3. NGOs 4.privet sectors 5. Honey exporters 6. Others

21. How do you evaluate the service of the wonchi beekeepers association?

1. Bad 2. Good 3. Very good 4.Excellent

22. What do you suggest to improve the service of beekeepers association?
_____
_____

23. Who mostly provide you with information about honey production and marketing?

1. District Extension service 2. Beekeepers association 3. Honey traders 4. Other farmers 5. Research center 6. NGOs 7. Mass media

2 .Production information

24. How many hives with bees and without bees do you have? With bees_____ without bees_____

25. What type of hives and numbers do you have? Traditional #_____ transitional #_____ modern #_____

26. How many times do you harvest honey per year? 1. Once 2. Twice 3. Three times 4.more than three

27. What is average yield per hive (in kg)? traditional_____ transitional_____ modern ____

28. What is the total honey production per year (in kg) _____

29. What costs do you incur per year for honey production?

Particular	Amount/number	Single cost	Total costs
Sugar for colony feeding/ kg			
Bea floor for feeding/ kg			
hives			
Hives accessories and equipments			
Cost of transport			
Labor workers			
Others			

30. What are the major problems in honey production in your locality and measures taken so far by association?

Major problems _____

_____

_____

Measures taken

_____

_____

31. Do you want to improve the quantity of honey production? 1. Yes 2. No

32. If yes how 1. By increasing the amount and quality of feed supply 2. By using modern bee hives 3. By joining beekeepers association 4. Others

33. If no why 1. There is no potential in the district 2. There is shortage of bee forages in the district 3. There is no access to modern bee equipment in the district 4. Others

34. Where do you sell your honey? 1. At farm get 2. Nearby town 3.to local drink makers 4. Bee keeper association 5. Local honey traders 6. Tourists 7.Others

35. The selling price of honey per kg_____ ETB

36. How do you see the pattern of an average selling price for honey per kg? 1. Increasing

2. Decreasing 3. Remain the same

37. What are the major constraints and opportunities in honey marketing in your locality?
constraints_____

_____

Opportunities_____

_____

_____

38. How do you sell your honey? 1. As it produced 2. By making Semi process 3. After processing 4. Others

39. Who are your main costumers? 1. Local consumers 2. Local honey traders 3. Local drink makers 4. Beekeeper association 5. Tourists 6. Others

40. How long is the distance of the market from your home (km)? _____

41. How much time does it take to reach the market (in Hrs) on foot_____ by car_____?

42. Is transportation cost affordable? 1. Yes 2. No Amount in _____ETB

43. What is the mode of honey transportation? 1. Car 2. Cart 3. Animal back 4. Hand carrying 5. Others

44. What is the selling price of honey at farm gate and town? At farm gat per kg_____ ETB at town per kg _____

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

1**.** Kinsperson 2**.** Bank 3**.** Microfinance 4. Informal institutions 5. Trader

Annex 2: Interview guide line questionnaire for Wonchi beekeepers association

1. By how many members the wonchi beekeepers association was established? male_____ Female_____
2. How many members does the association has at the moment? Male ___Female_____
3. How do you evaluate the members of the association from year to year? 1. Increasing 2. Decreasing 3. Remain the same
4. For all give the reseon_____
   _____
5. What are the major problems do member beekeepers have?
   _____
   _____
   _
6. Which problems were solved by the beekeepers association?
   _____
   _____
7. Are there members' dropout? 1. Yes 2. No
8. How many was the initial capital of the association? _____
9. How many capitals do the association currently has? _____

7. How many kg of honey does the association collect per year from its members?
_____

8. How do you observe an average honey production per hive compare to the average yield of the area? 1. Increasing 2.Decreasing 3. Remain the same

9. For your answer give the reason?
_____
_____

10. How does the association evaluate average dividends to the members from year to year?
1. Increasing 2. Decreasing 3. Remain the constant 4. Others specify

11. What was the main objective (s) to establish the beekeepers association?
_____
_____

12. How is the success of the association in achieving its objective?
_____
_____

13. What problems do the association faced to achieve its objective? 1. Shortage of budget.2.Low members' participation 3.high turn of members 4.others

14 .Where the association get support for its business?_____
_____
_____

15.what your comment on support you are currently getting from different sources?_____
_____
_____

16. What kinds of services does the association give for its members?_____
_____
_____

17. What is the role of the following stakeholders in honey value chain in Wonchi district?

A. Farmers.1 honey produces 2. Assembling 3. Processing (semi-processing) 4. Others

B. Association.1. Honey produces 2. Assembling 3. Processing 4. Packing& labeling 5. Retailing

C.NGOs 1. Input supply 2.training 3. Financial supporting 4. Others

D. District livestock resource, development and health office 1.market information 2. Training 3. Input supplying 4. Others

E. Processors and traders 1. Collection and bulking 2. Processing 3. Grading and labeling 4.retailing 5. Others

F. Export companies 1.input supply 2. Collection and processing 3. Grading and labeling 4. Retailing 5. Others

Beekeepers association1. Training and input supplying 2.Collection and bulking 3.Grading4. Final processing 5.Packagingand distribution 6.whole selling7. Retailing 8. Others specify

18. What are the main activities performed by the association (if possible indicate in figure)

Years	Training(no. of farmers participate)	members	Input supply (indicate quantity and type)	assembling		Grading		Processing		Packing	
				Honey	wax	Honey	wax	Honey	Wax	honey	Wax
2006											
2007											
2008											
2009											
2010											
2011											
2012											

Years	Selling		labeling		Revenue generated		Distribution	
	honey	others	honey	others	honey	others	Honey (specify place)	Others (specify the place)
2006								
2007								
2008								
2009								
2010								
2011								
2012								

19. Purchasing & selling price of honey: Purchasing price per kg _____selling price per kg_____

20. How the benefit is distributed to the members of the association?

_____
_____

21. Where does the association sell honey? 1. at selling unit in the nearby town 2.at big city 3.collection and processing center 4.Others

22. from where the association collects the honey?

1. from the members 2. From non members 3. From traders 4. Others

23. Who are your main costumers? 1. Local consumers 2. Local traders 3. Local drink makers 4. Honey Exporters 5. Foreign market 6. Tourists 7.others

24. In which season of the year the honey collection is maximum? 1. Summer 2. Winter 3. Autuman 4. Spring

25. What is your activity in the rest of the season?

_____

26. What are the major constraints and opportunities in honey marketing in your locality?
constraints_____
_____
_____

Opportunities_____
_____
_____

Annex 3: Interview guide line questionnaire for Wonchi district livestock resource, development and health office

1. What are the total number beekeepers in the district?

Male _____ female _____

2. What is the total number of bee hives in the district in 2013?

Traditional hives_____ transitional hives _____ modern hives_____

3. What is the average product of the different hives in the district?

Modern _____ (kg) transitional _____ (kg) traditional _____ (kg)

4. What is the trend of honey production for the last five years? 1. Increase 2. Decrease

3. Remains Constant

For your answer give the reason_____
_____

5. What major problems do district beekeepers have?

6. What support do you give to smallholder beekeepers to improve their honey production?

8. Do you think farmers association can improve their income or profits? 1. Yes 2. No

Explain

9. What do you think the reason why most beekeepers do not want to participating in the wonchi honey producers association?

10. What are the major constraints and opportunities in honey production and marketing in your locality?
Constraints:

Opportunities:

Annex 4: Interview guide line questionnaire for Wonchi district cooperative development office

1. What kinds of support do you give for Wonchi honey producer association?

2. What support do you give for wonchi beekeeper farmers in order to improve their products and market competitiveness?

3. How beekeepers association organized in your district?

6. What do you think the reason why most smallholder beekeepers do not want join to beekeepers
association?

7. How many beekeepers associations are established in your district?

8. What are the criterial to be membership of beekeepers association?

10. How do you control the activities of Wonchi beekeepers association?

Annex 5: Interview guide line questionnaire for honey whole sellers and retailers

1. What types of bee products are you trading?

Actors	bee products	Purchasing prices	Selling prices	Variable cost	Volume/day	Major of suppliers	Major buyers
Whole sellers	1.						
	2.						
	3.						
Retailers	1.						
	2.						
	3.						
Local Traders	1.						
	2						

Annex 6: Summary of association analysis results
A. production

No	Type	Concept	Indicator	Criteria	Max. Score	Comments	Score
1		**Membership Base**			**15**		8.50
1,1	F	Active Membership	% of active members out of total members	Percentage (%) * 5	5		2.50
1,2	F	Certified members	% of members that are certified	Percentage (%) * 5	5		5.00
1,3	O	Actions to increase membership	The actions to increase (active) membership are the appropriate and have resulted in increments of active membership.	Range: Def yes, 5 Def no=0	5		1
2		**The Product**			**30**		19
2,1	F	Production Volume	Productivity per hive is growing	Increased: 5 points remained the same: 3 points, lowered: 0 points.	5		2
2,2	F	Average Price paid to producers	Average price paid to members increases	Increased: 5 points remained the same: 3 points, lowered: 0 points.	5		5
2,3	F	Quality of Product.	% honey sold as non-conventional	Increased: 5 points remained the same: 3 points, lowered: 0 points.	5		5
2,4	O	Quality Management	A good Quality Management System (QMS) is in place and guarantees good quality honey.	No QMS=0 points; QMS in place, but not able to measure improvement=3 points; QMS in place, constant monitoring of quality and measurement of improvement= 5 points	5		5
2,5	F	Productivity	Average production per hive compared to averages in the area (province, department etc).	More=5, same=3 less:0	5		0
2,6	O	Environmental measures	The organization has a written plan and implements measures and techniques to minimize the impact of its operations on the environment.	Range: Def yes, 5 Def no=0	5		2
3		**Services**			**15**		6
3,1	F	Additional value offered to producers	Extra price producers received in comparison to local market/commercialization conditions.	More=5, same=3 less:0	5		3
3,2	F	Commercialization services	% of honey produced by the producers that is exported via the organization.	Percentage (%) * 5	5		1
3,3	O	Quality of Services Evaluation	Internal clients (producers) are satisfied with the services provided by the organization (quality and range).	Range: Completely satisfied = 5 points Definitely not satisfied= 0 points	5		2
				Maximum score	**60**	Total score obtained	35
							58%

B. Market

	Type	Concept	Indicator	Criteria	Max. Score	Comments/ Observations/ Information	Score
1		**Sales**			**25**		**16**
1.1	F	Average sales price	Average sales price received for honey sold increases	Increased: 5 points remained the same: 3 points, lowered: 0 points.	5		5
1.2	O	Marketing activities	The organization efficiently executes marketing activities to broaden the client portfolio.	Range: Definitely Yes=5 Definitely No=0	5		3
1.3	O	Flow Harvest - Sales	Time from harvest to sales is the appropriate and allows the organization to function properly and fulfill obligations to internal and external clients.	Range: Definitely Yes=5 Definitely No=0	5		2
1.4	O	Diversified product offer	The organization offers a sufficiently diversified product range (honey qualities and/or different products) so that the organization is not overly dependent on one single product.	Range: Definitely Yes=5 Definitely No=0	5		2
1.5	O	Diversified client base	The organization has a sufficiently diversified client portfolio so that they are not overly dependent on a few clients.	Range: Definitely Yes=5 Definitely No=0	5		4
2		**Relations with stakeholders**			**25**		**13**
2,1	O	Producers	What is the relationship of the organization with each of the parties. To be evaluated in terms of constructive cooperation, transparency, trust, mutual respect, win-win, long term.	Range (per category): Very strong=5 Improvements needed urgently=0	5		3
2,2	O	Clients			5		3
2,3	O	Financers,			5		2
2,4	O	Supporters (NGO's)			5		3
2,5	O	Community			5		2
				Maximum score	50	Total score obtained	29
							58%

C. Internal organization

No	Type	Concept	Indicator	Criteria	Max. Score	Comment	Score
1		**Staff capacity**			**25**		**15**
1,1	O	Management Staff (office)	There is sufficient management staff and they are well trained for their tasks and responsibilities.	Range: Definitely Yes=5 Definitely No=0	5		3
1,2	O	Technical Staff (field)	There is sufficient technical staff and they are well trained for their tasks and responsibilities.	Range: Definitely Yes=5 Definitely No=0	5		2
1,3	O	Technical staff coverage	The needs of all producers in terms of Field Technical Assistance are covered.	Range: Definitely Yes=5 Definitely No=0	5		3
1,4	O	Organizational (operational) structure evaluation	Does the current organizational structure works?	Range: Definitely Yes=5 Definitely No=0	5		3
1,5	O	Governance structure evaluation	Is the current governance structure sufficient and does it performs well?	Range: Definitely Yes=5 Definitely No=0	5		3
2		**Financial management**			**35**		**23,75**
2,1	F	Trade Finance Needs	Percentage of financial needs covered.	Percentage (%) * 5	5		0,75
2.2	F	Access to local financial resources	The organization has access to local bank/financial institutions to cover their financial needs.	Yes=5, No= 0	5		5
2,3	F	Organized and up-to date administrative processes, audited statements	Financial information of the last three years is available and audited	Yes=5, No=0	5		3
2,4	F	Financial Performance: solvency	Good score on solvency ratio, above 30%	Above 30%=5, less than 30% is 0	5		5
2,5	F	Financial performance: liquidity ratio	Good score on liquidity ratio, every month is above 1	Yes=5, No= 0	5		0
2,6	F	Financial Independency between Departments	Each organ, committee, department operates with its own budget and financial resources.	Yes=5, No= 0	5		5
2,7	F	Funding Sources	The organization's dependency on sources of grant funding.	% of operations costs covered by donations 1/(%*5)	5		5
3		**Long-term perspective**			**15**		**7**
3,1	F	Vision and Mission	The organization has written vision and mission.	Yes=5, No= 0	5		0
3,2	F	Long term strategy	There is a Long term strategic plan	Yes=5, No=0	5		5
2,7		Strategic long term financial vision	The organization has a clear vision on building capital and self-sufficient in the long term.	Range: Definitely Yes=5 Definitely No=0	5		2
				Maximum score	**75**	**Total score**	**45,75**
							61%

D.Basic Facts Last update:

Name organisation	Wonchi Beekeepers Association
Contact person	Miressa Hailemeskel
E-mail address	
Tel. Number	+251(0)910652023
No producers	40
Number hives	100 traditional& 65 modern
Production volume(kg)	3000
Total sales (kg)	3000
Total sales (USD)	21,447.721
Export sales (kg))	16.7%
Export sales (USD)	4,289.544
National sales (kg)	83.3%
National sales (USD)	17,158.176
Certifications	Wenchi honey Volcano
Services offered to members	Information, training, input supply, saving and create market linkage
Organizational chart	

Annex 7: Some summarized beekeepers group statical parameters
A. Group Statistics

	type of respondant	N	Mean	Std. Deviation	Std. Error Mean
How many family members do you have?	Members	18	7,94	2,940	,693
	None members	18	6,83	1,978	,466
How many family members are engaged in honey production?	Members	18	1,50	1,043	,246
	None members	18	1,39	,608	,143
How many years of experience do you have in beekeeping activities?	Members	18	2,61	,698	,164
	None members	18	2,78	,548	,129
How many traditional hives do you have?	Members	18	9,33	4,243	1,000
	None members	18	7,94	5,011	1,181
How many transitional hives do you have?	Members	18	,00	,000	,000
	None members	18	,22	,943	,222
How many modern hives do you have?	Members	18	1,06	1,305	,308
	None members	18	,00	,000	,000
What is the average yield of a traditional hive (in kg)?	Members	18	11,44	4,693	1,106
	None members	18	8,22	3,524	,831
What is the average yield of a moder hive (in kg)?	Members	18	8,67	10,267	2,420
	None members	18	,00	,000	,000
What is the total honey production per year (in kg)?	Members	18	79,83	48,736	11,487
	None members	18	38,72	23,936	5,642
What is the selling price of a kg of honey at local market?	Members	18	58,89	7,775	1,833
	None members	18	53,61	9,672	2,280
How far is the market from your home in km?	Members	18	9,28	12,597	2,969
	None members	18	21,50	13,170	3,104
How many ethiopian birr do you pay for transportaion from your home to market place?	Members	18	19,67	19,211	4,528
	None members	18	42,22	30,060	7,085
What is the selling price of honey per kg at farm gat?	Members	18	49,44	10,966	2,585
	None members	18	43,67	7,608	1,793

B. Independent samples T-test between the members and non members of the association

Independent Samples Test

		t-test for Equality of Means				
					95% Confidence Interval of the Difference	
		Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
How many family members are engaged in honey production?	Equal variances assumed	,699	,111	,285	-,467	,689
	Equal variances not assumed	,699	,111	,285	-,472	,695
How many traditional hives do you have?	Equal variances assumed	,376	1,389	1,548	-1,756	4,534
	Equal variances not assumed	,376	1,389	1,548	-1,759	4,537
How many transitional hives do you have?	Equal variances assumed	,324	-,222	,222	-,674	,229
	Equal variances not assumed	,331	-,222	,222	-,691	,247
How many modern hives do you have?	Equal variances assumed	,002	1,056	,308	,431	1,681
	Equal variances not assumed	,003	1,056	,308	,407	1,704
What is the average yield of a traditional hive (in kg)?	Equal variances assumed	,026	3,222	1,383	,411	6,033
	Equal variances not assumed	,026	3,222	1,383	,403	6,042
What is the average yield of a moder hive (in kg)?	Equal variances assumed	,001	8,667	2,420	3,749	13,585
	Equal variances not assumed	,002	8,667	2,420	3,561	13,772
What is the total honey production per year (in kg)?	Equal variances assumed	,003	41,111	12,798	15,103	67,119
	Equal variances not assumed	,004	41,111	12,798	14,740	67,482
What is the selling price of a kg of honey at assocation?	Equal variances assumed	,010	5,556	2,050	1,389	9,722
	Equal variances not assumed	,011	5,556	2,050	1,351	9,760
What is the selling price of a kg of honey at local market?	Equal variances assumed	,080	5,278	2,925	-,667	11,222
	Equal variances not assumed	,080	5,278	2,925	-,677	11,232
What is the selling price of honey per kg at farm gat?	Equal variances assumed	,075	5,778	3,146	-,616	12,171
	Equal variances not assumed	,076	5,778	3,146	-,645	12,200

Annex 8: Summary of interview results
Interview at wonchi district livestock resource, development and health office

Beekeeping activities

According to the data obtained from the wonchi district livestock there about 1, 19736 household and among of these 6724 house hold are involved in honey production activities. The main type hives beekeepers use in the district are traditional, transitional and modern hives. The average productivity of traditional, transitional and modern hives 5kg, 10kg and 15kg respectively.

The services wonchi district livestock resource, development office gives to beekeepers

Input supply such as modern bee hives, accessories and bee wax

Provision market information and find buyers for bee products

Training on bee conies management, honey harvesting, processing and handling

Constraints in honey production in wonchi district

Lack of infrastructure development: the availability of infrastructure is very poor compared to the others zone district. There is no rural road that connect different peasant association to the main town of district

High cost of modern bee technologies

The cost of modern bee technologies such as modern bee hives, cost molding and honey extractor are very expensive. Most farmers of the district are not affording to buy and use modern bee technologies and hence beekeeping in the district remains traditional method.

Shortage of bee forage: According to the data obtained from the district livestock office, forest coverage in the district is decreasing from time to time. People cut tree for different purpose such as timer making, construction and expansion of cultivating land. This create shortage of bee forage

Opportunities of beekeepers in the district

Although the district has many problems, there are also good opportunities for the future

Some of the opportunities are:

- Availability of tourist that will buy honey in addition to visiting the area
- Increasing of honey price from time to time.
- Increasing of local honey demand by tourist, local consumers and traders.
- Acceptance and better perception of organic local honey by the tourist.
- Purchasing of honey by local traders at farm gat.
- Availability of establishment of wonchi bee keeper association at nearby. Availability of different NGOs like slow food foundation that will assist the honey producer farmer to export their organic honey by promoting the product to the national and international market

Interview with district cooperative development office

Wonchi district give different services to the district beekeepers and wonchi beekeepers association

These services are:

- Organizing beekeepers
- Purchasing share
- Give training for beekeepers on cooperative rule and regulation

Interview with wonchi beekeepers general manager

Wonchi beekeeper s association was established in 2006 with 21 members. The main objective to establish the association was to help the local beekeepers to rationalize honey production, improve honey quality, to create market linkage for their product, to improve the income of the smallholder beekeepers and to protect the surrounding forest. Currently the association has 40 members. The main criteria of for membership are: interest, capital, age of applicants, area and the activities engaged .The main benefit beekeepers get from association are:

Input supply such as bee hives, accessories and beeswax

Technical service: Training on bee management, bee colony transferring, honey harvesting, processing, packing and handling

Market service: provision of market information and link beekeepers to potential buyers