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Market Chain Analysis of Honey: A Review

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Abstract
In Ethiopia, owing to population pressure, the average farm size has shrunk from over two hectares a few years ago to less than one hectare in recent years. A rise in agricultural output and farm income seems to have limited scope in view of the structural constraints; and therefore, subsidiary enterprises can be helpful in augmenting household incomes. In this context, beekeeping is considered to be an income-yielding activity that fits well with the concept of small-scale agricultural development. Besides, it is also eco-friendly and does not compete for scarce land resources, and provides off-farm employment and income generating opportunity. Beekeeping is one of the most important agricultural sub-sector that enables to utilize natural resources that otherwise would be wasted. It is also believed to play a significant role in the food security of the country through honeybee pollination services of major cultivated crops. The aim of this paper is assessing the honey marketing channels, structure-conduct-performance of honey marketing and factors affecting honey market chain and to suggest directions for future improvement of honey marketing
Keywords: Market Channel, Market Chain , structure-Conduct - Performance, honey.

INTRODUCTION

Honey production in beekeeping activity is a very long-standing and deep-rooted household activity for the rural communities of Ethiopia. There is an ancient tradition for beekeeping in Ethiopia that stretches back to the millennia of the country's early history. It seems as old as the history of the country and it is an integral part of the life style of the farming communities (Adebabay *et al*., 2008). According to Ayalew and Gezahegn (1991), no country has a longer tradition of beekeeping than Ethiopia. At the time of king Ezana, around the 3rd century, wax was needed for religious ceremonies, honey for nobility and the social elite making traditional beverages. Despite its long history, beekeeping in Ethiopia is still an undeveloped sector of agriculture. The knowledge and skill of honey production and beeswax extraction of Ethiopian farmers is still very traditional (MoARD, 2006).
Ethiopia is the largest honey producer in Africa and 10th largest honey producer all over the world. Also considerable amount of wax is produced in the country. On a world level, Ethiopia is fourth in beeswax (Girma, 1998). Ethiopia produces around 23.6 percent and 2.1 percent of the total Africa and World's honey, respectively.

In many regions of the country beekeeping is considered as one of the income-generating activities for poor farmers, women, youth and unemployed sectors of the community. It also provides attractive options for rural employment and income generating in harsh agro-ecosystems where crop production is marginal and the risk of crop failure is high. There is great potential in the country for working with communities by introducing minor and easily adaptable beekeeping production system leading to considerable gains in productivity beyond family consumption needs. The potential for improvement of the traditional honey and wax production has led to beekeeping promotion as part of policy initiatives taken by the government of Ethiopia although they have been in the past defeated by the impact of major constraints and lack of appropriate research (Desalegn, 2007).

Hence, this paper examines the market chain of honey, the role of marketing agents and their linkages, marketing margins, and market structure and factors affecting amount of honey supplied.

Honey Production and Marketing Worldwide

Apiculture is one of the fastest growing sectors worldwide. A number of countries have made strategic moves towards the development of this industry. Recent developments show a shift from a situation where beekeeping was considered a hobby and not business enterprise. In Northern Ireland, for example, mostly old and retired men practiced beekeeping. To-date Ireland produces one of the best honeys in the world (UEPB, 2005).

Honey is the major product of apiculture industry worldwide and produced in nearly all countries. This is attributed to the qualitative nature of honey produced from different floral / nectar sources in different geographical regions. According to ITC (2003), the total world production of honey is estimated at 1.3 million metric tons (MT) per annum, valued at US$ 452 million. However, only about 400,000 MT of the honey is traded in the export market annually, indicating a dominance of domestic markets of honey is within the producing countries (about 67 percent).The major importers of honey Per annum are EU (150,000 MT), USA (100,000 MT), and Japan (50,000 MT). USA market alone consumes about 45 percent of the globally traded honey. The top exporters are China (100,000 MT), Argentina (70,000 MT), Mexico (40,000 MT) Australia, India, Canada, and New Zealand. Developing Market Economy's exports represent 60% of world exports (ITC Interactive Trade Map). The trend in world's supply has continued to rise, but the earnings have declined by about US$ 20 million. Asia is the main producing continent, followed by Europe and America in the third place.

African honey has generally been traded locally and exports into the major countries have been low. Cooperative organizations and Non-governmental Organizations have spearheaded small and medium investments in apiculture and encouraged local trade.

Table 2: Honey production per continent, 2004

Continent	Percentage (tone)
Africa	11.2
Central America and Caribbean	1.2
South America	10.0
North America	13.2
Asia	38.3
Europe	23.3
Oceania	2.7

Source: FAO, 2004

From 2006-2011, global imports of honey (excluding intra-EU trade) increased by 7 percent from 352,581 MTs to 378,994 Mts. Over the same period, global import values increased dramatically from $583.9 million to $1.17 billion or by 102 percent. European Union, USA, Japan and Middle East countries are the major importers of honey. As world honey imports continue to increase at a modest rate, and world honey prices rise much faster, the outlook for honey production and commercialization appears to be promising (http://www.ethiopia-ciafs.org).

Honey and Beeswax Production and Marketing in Ethiopia

Honey production and marketing in Ethiopia

In Ethiopia, beekeeping has been a tradition since long before other farming systems practiced. Even though it is one of the important and the oldest farming activities in the country, there are no available records, which confirm when and where beekeeping was first started (Chala, 2010).It is traditionally a well-established household activity in almost all parts of Ethiopia. In addition, Ethiopia has perhaps the longest tradition of all African countries in marketing of bee products. Immense natural resources and diverse agro-climatic conditions create conducive environmental conditions for the existence of many flowering plants. This enabled the existence of more than 10 million honeybee colonies in the country (Gezahegn, 2001). The country has the potential to produce 500,000 tons of honey and 50,000 tons of beeswax per annum (MOARD, 2008). But currently, the annual honey and beeswax production of the country has been estimated at 53,680 and 3,658 tons respectively (CSA, 2010/11). This makes the country one of the largest honey producers in Africa and the fourth largest beeswax producers worldwide.

Ethiopia, having surplus honey sources of flora and the highest number of bee colonies, is the leading producer of honey and beeswax in Africa (MOARD, 2005). In 2010/11 there are about five million traditional, half a million transitional and 0.2 million frame hives in Ethiopia. Ninety-five percent of honey production comes from traditional hives. Furthermore, honey was harvested on average 1.55, 1.65, and 1.52 times during the reference period from traditional, intermediate and modern hives (CSA. 2011).

With regarding export of beeswax, Ethiopia is one of the biggest wax exporters to the world market. An average of 270 tones was exported per year over the period 1984-1994 which in turn generated over ETB 2 million per annum to the national economy. Currently, the annual turn-over of the apicultural industry varies between 185 and 450 million ETB, of which only 5 million Birr worth beeswax exported (EEPD, 2006).

Although the annual production of both honey and wax is large compared to other African countries, the system of production commonly exercised in the country is traditional. Productivity of honey bees is very low and only on average of 5-6 Kg of honey could be cropped per hive per year. However, in areas where improved technology has been introduced, an average of 15-20 Kg per hive per year has been recorded. The major constraints that affect apiculture in Ethiopia are lack of beekeeping knowledge, shortage of trained manpower, shortage of beekeeping equipment, pests and predators and inadequate research works to support development programs (FAO, 2006).

The national average honey production of Ethiopia was increased from 28.5 thousand tons in year 2001 to 42.1 thousand tons in 2007/8 respectively. Honey bee colony population of the country also increase from 0.3 million in year 2001 to 4.6 million in 2007/8, respectively. This accounts over 23 percent of the total African production and about 2 percent of the world honey production (MOARD, 2006; CSA, 2008; Beyene and Phillips, 2007).

Ethiopia is one of few countries in the world with a long tradition of beekeeping that gave an opportunity of supplying honey and honey products to the international markets. The country is estimated to have ten million bee colonies, which is the largest in Africa. The most important honey and beeswax producing regions in Ethiopia are Oromia (contributing 36% of total production), SNNPR (31percent), Amhara (19 percent), Tigray (5 percent) and other regions (9 percent) (EPPA, 2003).

Beeswax production and marketing in Ethiopia

Wax is useful primarily for honey comb, cosmetic industries, candle making, ointment and cream, varnishes and polishes, creating special forms and surfaces for artistic sculptures and for queen cups preparation to be used for queen rearing to develop and multiply bee colonies. (Melaku *et al.*, 2008).

Like honey, large amount of beeswax is produced on the world and on the average about 11.3 million tons of beeswax is provided to export markets for sale per annum. Ethiopia is one of the major beeswax producing countries in the world and beeswax is one of the well-known items in generating foreign exchanges. Beeswax production of the country has increased from 2.9 thousand tons in 2000 to 3.3 thousand tons in 2008 (MOA, 2003; CSA, 2007/8). This places the country among the four largest beeswax producers in the world after China, Mexico, and Turkey (EEPD, 2006).

Ethiopia produces 24,000 tons of honey and 3200 tons of bees wax annually. Ethiopia isalso the leading producer of honey and beeswax in Africa. Moreover, the country is ranked as 10^{th} and 4^{th} in honey and beeswax production in the world, respectively. Ethiopia and Tanzania produce 2.5 percent and 1.15 percent of total world honey production, respectively. Beeswax is a valuable hive product obtained from honeybees. It is a by-product of the honey production. Honey and beeswax separation is very traditional and the wastage level is very high. Holota research institute has found out that use of press separation can help to extract 50 percent more wax than the traditional manual extraction. Holota research center found out ratios between crude honey and crude wax, crude wax and pure wax. From a beehive, 75 percent is honey and the rest25 percent is crude wax (SOS-Sahel, 2006).

Beeswax largely collected from traditional hives rather than the modern hives, which presently promoted by the Ministry of Agriculture and several NGOs. The wax yield from traditional hives is 8 to 10 percent of the honey yield, compared to 0.5 to 2 percent from modern hives. The bulk of the supply of beeswax obtained as residual from *tej* production, a mild alcoholic beverage popular throughout Ethiopia. According to ITC, report, export of beeswax have had difficult times in the last 5 years, showing an average growth rate of 1 percent and even negative in period of 1999-2002. However, exports of beeswax from Ethiopia have increased spectacularly and reached 402 tons of beeswax (1.2 percent share in world market), destined to different countries (USA, Japan, Greece, Great Britain and Netherlands etc.), generating USD 936 thousands in 2003 (ITC, 2003).

Socioeconomic importance of beekeeping in Ethiopia

Most of the poor in Ethiopia live in rural areas depending on agriculture as a source of their livelihood. Recurrent droughts coupled with environmental degradation have threatened the livelihood of the rural community for several decades. However, regardless of other agricultural activities, bees survive in a drought threatened areas and supplement the vulnerable communities with nutritious food, honey and source of income. The ranges of applications emerging from beekeeping development are enormous and it is considered as a major tool in combating food insecurity, while protecting the environment (Desalegn, 2007).

Beekeeping play important role in food security and poverty alleviation in Ethiopia. Food security means it is not only a matter of producing grains but it is also the financial power to pay for the purchase of grain. Since the products obtained from bees are high value products, the incomes generated through selling of honey and beeswax is very significant to purchase grains for family consumption. It was noticed that during the falling of the price of coffee in coffee dominantly growing areas, only beekeepers able to purchase grain from honey selling to feed their families and to withstand such hard period. Moreover, in moisture stress areas where there is failing of annual crops production beekeepers can harvest honey and earn money to purchase grain, because beekeeping does not affect this much by intermittent rainfall conditions as that of growing of annual crops (Melaku *et al*., 2008).

In creating job opportunity in the country many people are engaged in trading of honey and beeswax at different levels and also in production and selling of honey made *tej*. Based on the season of honey production (high honey flow period) a number of honey *tej and* breweries operating in different parts of the country which create job opportunities for large number of citizens. Apart from this there are also a number of people engaged in hive and hive equipment production and selling (Desalegn, 2007).

Value added products from beekeeping

The best known primary products of beekeeping are honey and wax, but pollen, propolis, royal jelly, venom, queens, bees and their larvae are also marketable primary bee products. While most of these products can be consumed or used in the state in which they were produced by the bees, there are many additional uses where these products form only a part of all the ingredients of another product. Because of the quality and sometimes almost mystical reputation and characteristics of most primary bee products, their addition to other products usually enhances the value or quality of these secondary products. For this reason, the secondary products, which partially, or wholly, can be made up of primary bee products, are referred to here as "value added" products from

beekeeping. Many of the primary beekeeping products do not have a market until they are added to more commonly used, value added products. Even the value of the primary products may increase if good use is made of them in other products, thereby increasing the profitability of many beekeeping operations (Wilson, 2006).

In some cases the traditional and early technological uses of primary bee products have been replaced by other (often synthetic products) because of better availability, lower cost and/or easier processing. But in regard to food or health products, there are no synthetic substances which can substitute for the wide variety of characteristics of primary bee products. Only when it comes to highly specialized applications and conditions, will synthetics sometimes outperform these unique and versatile products. In that sense, all products containing one or several of the primary bee products are value added products. Furthermore, the combination of several bee products synergistically increases their beneficial significance beyond their individual biological values. Since monetary resources are limited in many societies the additional value cannot always be obtained in the form of higher prices, but may show itself in the form of preferred purchases. For the same reasons though, some products may not be able to compete against cheaper synthetic products. In such cases, the added value and cost may make a product unsuitable, unless other markets can be found (FAO, 2011).

Further Beekeeping Development Factors Affecting

Assefa (2009) used robust OLS Regression analysis to identify factors affecting marketable supply of honey in Atsbi Wemberta district and found that education level of the household, size of quantity of honey output and one year lag market price of honey were the significant determinant factors of the quantity of honey supplied positively. About 43.4%, 34.8%, 14.4% and 7.4% of the total honey marketed were purchased by consumers directly from producers, honey collectors, retailers and processors, respectively in 2006/07.

According to Getachew (2009), the honey market supply analysis revealed that beekeeping experience, income from farm and off farm activities, access to different services like apiary visit, beekeeping training and improved beekeeping inputs supply are directly related to the amount of marketed surplus of honey. From this there is a need to get income, experience and services which stimulate beekeepers in order to promote quality and quantity of honey production and marketable surplus.

Melaku *et al.* (2008) conducted a study on approaches, methods and process for innovative apiculture development in Ada'aLiben district and found that knowledge and beekeeping experience, marketing information, established marketing system and institutional linkage are significant factors that affect amount of honey production and amount of honey supplied to the market positively. As the study reported, better knowledge and skill on beekeeping, access to marketing information and well established institutional linkage increases the production as well as marketable surplus on honey.

According to Kerealem *et al.*(2009), the use of improved hive is directly related with return earned by beekeeper. The result of this study revealed that the net returns from traditional honeybee production systems were Birr 17.84 for Amaro and Birr 25.40 for Enebse, which was significantly different ($p < 0.01$). Similarly, the net returns from workshops made MCTB hives were Birr 33.16 and Birr 58.98 for Amaro and Enebse districts, respectively, and this was also significant ($p < 0.05$). The net return from homemade MCTB hive was Birr 76.84, which was the highest of all production system. This indicates that there is a possibility of large-scale adoption of homemade MCTB hive improved technology increases the return to beekeepers in the study areas.

According to Embaye *et al.* (2010), the result of Heckman's procedure analysis of butter supply chain in the case of Atsbi-Wenberta and Alamata District*s*, clearly indicated that a marginal increase in butter output increases both market participation and level of supply. This was because farmers' decision to participate in the market and increase their level of participation was normally driven by the availability of surplus produce.

Rehima (2006) used Heckman two-step procedure to identify factors affecting marketable supply of pepper in Alaba and Siltie District*s* and found out that, non-farming income and number of livestock was the significant determinants of the quantity of pepper supplied negatively. Structure of pepper market indicates that four-firm Concentration Ratio (CR), that is, the share of the largest four traders in the total volume of pepper purchased. Addis Ababa, in particular, is characterized by a large number of participants and a high level of market concentration. However, the four largest traders handled 90% of the total volume of purchased pepper. This suggested that the pepper market shows a strongly oligopolistic market.

Woldemichael (2008), conducted a research on market chain analysis of dairy in Shashemane, Hawasa and Dilla districts and reported that milk market in the study area was characterized by strongly oligopolistic market type in Hawassa (62.2%) and Yergalem (53.6%), while it was found to be weakly oligopolistic market type in Shashemane (39.7%) whereas butter market was characterized by competitive market type in Shashemane (31.9%), where as it was weakly oligopolistic market type in Hawassa (37.9%) and Yergalem (44%) applying the criteria of the four firm's concentration ratio (CR4). A product method of marketing margin analysis was used for different marketing actors of milk and butter market. Dairy producers in Hawassa had the highest producer's share (62.8% %) followed by Shashemane (59%) dairy producers. Milk retailers in Yergalem obtained the highest profit (2.86 ETB/liter). The average milk producers' share was found to be 59.63%. With

regard to butter traders, retailers had the highest profit (5.84 ETB/kg).

Conclusion and recommendations

Market chain analysis revealed that, the main actors in the chain were honey producers, rural assemblers, wholesalers, processors (*tej*-makers) and retailers. The structure of the market was analyzed by taking the share of the four large firms from the total volume of trade mobilized by the sampling traders.. Suggesting that, the structure of the honey market was somewhat strong oligopoly feature.

previous year price, beekeeping training, agro-ecology, literacy status of household, size of livestock holding and number of modern hives used in production by household heads found to enhance volume of honey marketed. On the other hand, age of household heads and family size were the factors adversely affecting marketed supply of honey by smallholder farmers.

The existing situations to exploit the potential regarding honey production and marketing were not encouraging. Extension service in line with improving honey production and marketing, credit service, producers and traders' cooperatives, and formal market information were very weak. These problems can be addressed via formation of honey producer unions and cooperatives and through intervention of governmental or non-governmental organizations in terms of improving possibilities for strong and successful collective marketing of honey.

Family size of the household has negatively and significantly affected volume marketed. Even though, production is the function of labor, larger family size requires larger amounts for consumption, reducing marketed surplus. Hence, honey is a cash commodity provision of consultancy in the pattern of consumption is important in order to reduce household consumption of honey, by employing family planning intervention.

Number of modern hives used affected positively the volume of market supply of honey in Sodo Zuria district. This positive relationship indicates the need of improved beekeeping accessories supply in order to improve quality and amount of honey harvest and market supply. Access to improved modern beehives was very low in the district. Therefore, efforts should have to be geared in order to alleviate the supply shortage of modern beehives which had impact in honey production and marketing. Specifically, rural technology center in Sodo town which supplies modern beekeeping equipment should be encouraged and its complicated selling strategy should be revised.

Credit is a key input in every development program; this is particularly true for rural development because so long as sufficient credit is not provided to the development programs of poor sections of the society, the goal of development cannot be achieved. As the study results show, farmers who have access to credit increasingly participate in honey production and supply high volume to the market. This is because credit removes their financial constraint and enables them to finance the initial capital and to replace traditional equipment by modern in the sector. Moreover, access to credit enables farmers to store their honey and not to sale at peak time of harvest which in turn makes them to get high marketing margin

The enhancement of honey producers bargaining power through honey producers cooperative is the best measure that should target at reducing the imperfect nature of honey market. The support services provided by government like credit access, extension service and train on beekeeping improves honey marketed volume. Hence, improve current services can enhance income generated from honey marketing through increasing production, minimizing post-harvest loses and improving transport accessibility. However, absence of organized institutions and system group marketing has made traders in a better position to dominate the settle in pricing.

Based on the above conclusion the following recommendations are forwarded:

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References

Abbot, J.C. and J.P. Makeham, 1981. Agricultural economics and marketing in the tropics. Wing Tai Cheung Printing Co. Ltd, Rome. 58p.

Adebabay Kebede, Kerealem Ejigu, TessemaAynalem and AbebJenbere, 2008. Beekeeping in Amhara region: Amhara Regional Agricultural Reaserch Institute (ARARI). EIAR(Ethiopian Institute of Agricultural Research). DebreZeit, Ethiopia. Pp. 1-36.

Assefa Abebe, 2009. Market chain analysis of honey production: in Atsbi Wemberta district, Eastern zone of Tigray. Thesis presented to the school of graduate studies of Haramaya University, Ethiopia. Pp. (70-73).

Ayalew Kassaye and Gezahegn Tadesse, 1991.Suitability and classification of apiculture potential area: MOA. Addis Ababa, Ethiopia. Pp.56-57.

Beyene Tadesse, and David Phillips, 2007.Ensuring small-scale producers in Ethiopia to achieve sustainable and fair access to honey markets. Paper prepared for International Development Enterprises (IDE) and Ethiopian Society for Appropriate Technology (ESAT), Addis Ababa, Ethiopia.

ChalaKinati,2010.Honey production, marketing system and quality assessment in Gomma District, South Western Ethiopiaa MSc. Thesis Presented to School of Graduate Studies of Jimma University.

Cramer, G. L., and W. Jensen, 1982.*Agricultural Economics and Agribusiness*.2nd Edition. McGraw Hill Book Company, USA. 222p.

CSA (Central Statistical Authority), 2008. Statistical report on livestock and livestock products. CSA, Addis Ababa, Ethiopia.

CSA (Central Statistic Authority), 2011.Survey on livestock and livestock characteristics, (2010/11).Vol. 2, No. 505.CSA, Addis Ababa, Ethiopia.

Desalegn Begna, 2007. Apiculture master plan study phase-I. Holotta Bee Research Center, Ethiopia. Pp. 9-32.

EEPD (Ethiopia Export Promotion Department), 2006. Exports of honey and beeswax: Draftreport. EEPD, Ministry of Trade and Industry, Addis Ababa, Ethiopia.Pp.21-22.

EPPA (Export Products Promotion Agency), 2003. Honey and wax potential study, SNNPR State, Hawassa, Ethiopia.

Embaye Kidanu, Berhanu Gebremedhin and Dirk Hoekstra, 2010. Supply chain "from gate to plate" analysis of butter supply chain the case of Atsbi wonberta and Alamata districts Tigray, Ethiopia. Lap-lambert publishing house, Germany.

FAO (Food and Agriculture Organization), 2006. Agriculture and food marketing management. Rome, Italy.

FAO (Food and Agricultural Organization), 2011. Market infrastructure planning: A Getachew Beshargo, 2002. Cattle marketing in Western Shewa. MSc Thesis Presented to the School of Graduate Studies of Haramaya University, Ethiopia.

Getachew Nigusse, 2009. Honey market chain analysis: The Case of BurieDistrict, West Gojjam zone, Amhara National Regional State. Thesis presented to the school of graduate studies of Haramaya University, Ethiopia. Pp.78-79.

Gezahegn Tadesse, (2001).Apiculture development strategies, Ministry of Agriculture and Rural Development, Addis Ababa, Ethiopia.

Girma Deffar, 1998. Non-wood forest production in Ethiopia. Addis Ababa. Available from: ftp: //ftp. Fao.Org/decrep/fao/003/X6690E00.pdf. Accessed on 25, Sptember, 2007.

ITC (International Trade Center), 2003. Honey: A study of major markets. International Trade Center, UNCTAD/GATT, Geneva.

Kerealem E., Tilahun G. and Preston T. R, (2009).Constraints and prospects for apiculture research and development in Amhara region, Ethiopia.

Melaku Girma, Shifa Ballo, Azage Tegene, Negatu Alemayehu and Lulseged Belayneh, 2008.Approaches, methods and processes for innovative apiculture development; experience from Ada'a- Libendistrict, Oromia Regional state, Ethiopia. Improving productivity and market success (IPMS) of Ethiopian farmers project working paper 8, ILRI (International Live stock Research Institute), Nairobi, Kenya. , Pp.1-6.

MoARD (Ministry of Agriculture and Rural Development), 2006.Annual reports series 2005, 2006.MOARD,

Addis Ababa, Ethiopia.

MoARD (Ministry of Agriculture and Rural Development), 2006.Decree on quality control of honey and beeswax. Addis Ababa, Ethiopia, Pp.61-6

MoARD (Ministry of Agriculture and Rural Development),2008. Government of Ethiopia, 2008. Addis Ababa, Ethiopia.

RehimaMusema, 2006. Analysis of red pepper marketing: The case of Alaba and Silitie in SNNPRS of Ethiopia. MSc Thesis Presented to School of Graduate Studies of Haramaya University, Ethiopia.

SOS–SAHEL-ETHIOPIA, 2006. Smallholders' apiculture development and trade promotion project terminal report. ANRS Food Security Program Coordination and Disaster Prevention Office, Addis Ababa, Ethiopia.

The world market for honey. September 2013. http://www.ethiopia-ciafs.org.pdf, Accessed on 8 may, 2013.

UEPB, 2005.Uganda apiculture export strategy.

Wilson R. T., 2006. Current status and possibilities for improvement of traditional apiculture in Sub-Saharan Africa: Livestock Research for Rural Development. Vol 18, No.111. Bartridge House, Umberleigh, UK.

Wolday Amha, 1994. Food grain marketing development in Ethiopia after the market reform 1990: a case study of AlabaSirarao district, PhD Dissertation.

Woldemichael Somano, 2008. Dairy marketing chain analysis: The case of Shashemena, Hawassa and Dale district's milk shed, Southern Ethiopia. M.Sc. Thesis presented to Haramaya University, Ethiopia.