Exploring the potential of non-timber forest products: the case of Ethiopian honey export to Denmark

Aravindakshan, Sreejith and Janka Negawo, Worku and Humayun Kabir, Mir and Galib, Md. Waliul

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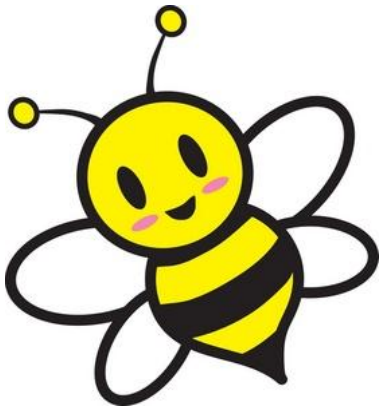
Research report

Exploring the Potential of Non-timber Forest Products: The Case of Ethiopian Honey Export to Denmark



by

Sreejith Aravindakshan
Worku Janka Negawo
Mir Humayun Kabir
Md. Waliul Galib

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The Authors

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List of Acronyms

°C - Degree Celsius
A/S - Aktieselskab
B2B - Business to business
BoARD: Ethiopian Bureau of Agriculture and Rural Development
CBI - Centre for the Promotion of Imports from Developing Countries
CSE - Centre for Science and Environment
EC - European Commission
EHBPEA: Ethiopian Honey and Beeswax Producers and Exporters Association
EU - European Union
EUROSTAT - European Statistical Division
FAO - Food and Agriculture Organization of the United Nations
FAOSTAT - Statistical division of Food and Agriculture Organization
GM - Genetically Modified
HMF - Hydroxy methyl furfural
ITC - International Trade Center
MARD - Ministry of Agriculture and Rural Development, Ethiopia
MT - Metric Tonnes
MTI - Ministry of Trade and Industry
NGOs: Non-governmental Organizations
NTFP - Non-timber forest products
UEPB- Uganda Export Promotion Board
UN - United Nations
UNCTAD - United Nations Conference on Trade and Development
UNDP - United Nations Development Programme
WHO - World Health Organization
WTO - World Trade Organisation

Executive summary

Its diverse agroecology has endowed Ethiopia with enormous honey production potential in Africa. Nevertheless, due to the undeveloped production system and poor market linkage with the global arena, the country could not fetch proportional benefits from this resource. To enhance better understanding on the problem and recommend appropriate improvement measures for the sector, prevailing opportunities and constraints were explored in relation to honey export to Denmark. Major honey stakeholders were contacted to assess the opportunities and constraints of Ethiopian honey export. Semi-structured interview, participatory appraisal technique and short questionnaire interview were adopted for data collection. The results show improving opportunities for exporting companies through creating conducive policy and support from the government of Ethiopia and NGOs. On the other hand, current supply of honey by producers in terms of quantity and quality are major constraints for the exporters. In relation to importer, there are growing demands for Ethiopian honey due to its organic source. Similarly, consumers' survey showed that the demand for organic honey has the highest priority in contrast to origin and price. However, most consumers lack information and have concern over Ethiopian honey; especially in terms of quality and characteristics. Development strategy that improves smallholder honey production capacity, better business communication with potential Danish honey importers and promotion of organic honey to consumers may make a significant contribution to enhance Ethiopian honey export to Denmark.

1. Introduction

Globalization and trade liberalization has facilitated the movement of exotic or off-season commodities to developed country markets from developing countries. Many countries have reaped the benefits of this trade expansion. However, countries like Ethiopia are yet to gain from these in spite of its huge export potential with respect to non-timber forest products. One of the challenges for the NTFPs is to find ways to open markets to Ethiopian honey and in that way improve local development and ensure honey exports for the future, together with ensuring sustainable forest use (Chowdhury et al., 2005). Thus the goal of this study is to highlight the situation of opportunities and constraints for enhancing the export of Ethiopian non-timber forest products to developed country markets. Due to lack of time and resources, a comprehensive understanding on the export potential of entire Ethiopian non-timber forest products is limited. Hence we attempt to study the potential of non-timber forest products of Ethiopia by taking the export potential of Ethiopian honey to Danish markets.

Ethiopia is one of the poorest countries in the world. Among 169 countries of the world, it was placed '157' with respect to Human Development Index in 2010 (UNDP, 2010). In spite of the disadvantages like poverty and low human development, the country is blessed with enormous natural resources and its products. Honey and other honey bee products obtained from forests are prominent among them. Contextually, Ethiopia has the potential to produce 500,000 tonnes of honey and 50,000 tonnes of beeswax per annum, but currently production is limited to 43,000 tonnes of honey and 3,000 tonnes of beeswax (MARD, 2008). Meanwhile, there is large and growing demand for honey and other bee products worldwide. As large unmet demand for organic/tropical honey in European countries exists and, according to the International Trade Centre (UNCTAD/WTO), East Africa, particularly Ethiopia has good potential for beekeeping. In the past few years, increasing demand has provided Ethiopia with opportunities to export small amounts of tropical honey to neighbouring countries such as Yemen, Djibouti, and Israel. In Denmark, honey and other bee products find several uses in food and beverages and only half of it is home produced. Though Ethiopia is an approved supplier of honey to EU (Oxfam, 2011), there remains an untapped potential.

To tackle the above mentioned issues, knowledge on the demand of Ethiopian honey in global market has paramount importance. In addition, information on the capacity of Ethiopian honey sectors to compete in global market enables to make necessary decision by producers,

government and other stakeholders. Particularly, information on developed countries consumer demand for forest honey, potential country's preconditions to import honey and capacity of Ethiopian honey exporters are vital issues to develop the sector in sustainable manner. Therefore, this project will investigate the opportunities and constraints of Ethiopian honey export to Danish market.

1.1 Background information

Owing to its diverse flora and climatic conditions, Ethiopia is the largest honey producer in Africa (24%) and the 9th in the world (FAO, 2005). The annual honey production of the country amounts to 24,000 tonnes (FAO, 2005). Nevertheless, the untapped potential of this sector is much greater in Ethiopia (Kebede and Lemma, 2007). Honey production in the country is most often related with the availability of natural forest and in Ethiopia there is high possibility to produce good quality forest honey.

Throughout the country there is an estimated 10 million traditional and modern beehives owned by farmers. However, farmers often benefit a little margin from honey production. The major constraint to increasing the welfare of smallholders is their inability to access markets and fair prices (Abebe, 2009).

Currently, developing the ability of smallholder farmers through training and facilitating access to markets are pressing issues. In addition, promoting the export of honey will improve farmers' income and also the export earning of the country. At the same time, studies pertaining to Danish honey markets and consumers have been rarely attempted in the recent past and there exists a dearth of literature. This is one limitation of our project, yet, this project will attempt to investigate the possibility of honey export from Ethiopia to Denmark and its contribution to Ethiopian farmers' income as little is known on these relevant issues.

2. Literature review

The production and marketing of non-timber forest products (NTFP) for livelihood and poverty alleviation among rural poor of developing countries is not a new idea but has been a subject of discussion and research for many years. Nevertheless, the focus of these researches were mainly on exploiting the domestic market of NTFPs and yielded less benefit with respect to livelihood and poverty alleviation. Considering this inability of local markets of NTFPs to provide substantial benefits for rural poor owing to reduced domestic prices (Donovan, et al. 2006), this project attempts to explore the export potential of NTFPs, especially taking potential of Ethiopian honey exports to Denmark as the case. This section,

first gives a brief overview on the definition of honey, its importance as NTFP and historical aspects of honey production in Ethiopia, then reviews the various modes of production, honey uses in Ethiopia and landuses from which forest honey in Ethiopia is produced. Third section deals with the role of honey in Ethiopian economy. The next section is on global market outlook of honey. It is followed by a section on comparative export advantage of Ethiopian honey. Finally, introduces to the Danish honey market and preference for tropical honey.

2.1 Definition, history and importance of honey as NTFP

2.1.1 What is honey?

According to the Codex Alimentarius (Standards, codes of practice & guidelines for food products established by the FAO / WHO of UN in 1963), *"Honey is the unfermented, natural sweet substance produced by honeybees from the nectar of blossoms or from secretions of living parts of plants or excretions of plant sucking insects on the living parts of plants, which honeybees collect, transform and combine with specific substances of their own, store and leave in the honeycomb to ripen and mature. Honey shall not have any objectionable flavour, aroma or taint absorbed from foreign matter during its production, harvesting, processing and storage and shall not contain natural plant toxins in an amount that may constitute hazard to health."*

2.1. 2 Honey an important NTFP

Non-timber forest products can be defined as "all tangible animal and plant products other than industrial timber, which can be collected from forests for subsistence and for trade" (Ros-Tonen et al. 1995). The NTFPs play significant role, especially for the rural poor by providing products for food, medicines, construction materials, utensils, etc. Apart from serving the subsistence needs, NTFPs have important gap filling or 'safety net' functions and a few provide regular cash income (Angelsen et al, 2003). At present, at least 150 NTFP's are significant in terms of international trade, among them honey and bee products fetch high prices as a high value commodity (Baumann, 2002) of universal demand.

2.1.3 History of honey production in Ethiopia

Honey production and beekeeping is one among the oldest ways of subsistence in Ethiopia which stretches back into the millennia of the country's early history (Deffar 1988). Among all countries of the world, probably no country has a longer tradition of beekeeping than Ethiopia (Hartmann 2004). Ethiopia in former times has been known as 'Abyssinia' and evidences from Hieroglyphics in Egypt, dated 5000 years ago suggests that in Abyssinia,

honey production and beekeeping used to be an age-old tradition (Belie, 2009). Later with the spread of Christianity in the country, the use of honey and beewax candles became part of the Orthodox Church (Greiling, 2001). Apart being a domestic item, honey was treated as an export commodity since centuries in Ethiopia when other items were not exportable (Gezahegne, 2001). However, in modern times Ethiopia lost its charm as honey exporter and produced largely to serve the demands of local markets and those in neighbouring countries.

2.2 Honey production in Ethiopia and its uses

Honey varies in taste and colour according to the plants upon which the bees forage for nectar and pollen. Several products result from beekeeping and honey is the most important one. Honey has four main applications: honey for direct consumption, honey as an ingredient in products, industrial honey and honey as a raw material. Approximately 15% of all honey is processed into other products; an estimated 85% is used for direct consumption (CBI, 2009). As for indirect consumption, honey is also processed into many other products varying from honey wines, sweets, cosmetics, candles, cereals, tobacco, pharmaceuticals and bakery products.

Only a small portion of the honey produced in Ethiopia is marketed, and the remaining 80% goes into the production of local *Tej*, a honey wine widely consumed in Ethiopia (Hartman 2004). With average honey production estimated to be around 26000 tonnes per year, Ethiopia is regarded as a potential beekeeping giant (Hussein 2000). With this production level Ethiopia improved its position from the tenth largest honey producer in the world (Hussein 2000) to ninth largest world producer of honey and in Africa, Ethiopia is the largest producer of honey and beeswax (FAO, 2005). Only a small portion of the honey produced is marketed, and the remaining 80% goes into the production of local Tej, a honey wine widely consumed in Ethiopia (Hartman 2004). Today Ethiopia owns, with around 10 million of bee colonies, the largest bee population in Africa.

In Ethiopia, honey is produced in different land use types (commercial beekeeping, home gardens, primary forest, secondary forest and grazing land (Hartman, 2004) but, the main way of income-generation for rural population in Ethiopia is collections from forests (Hartman 2004) in a traditional way. The small-scale farmers in forest fringes are using the system of collection from primary forests because of the low management effort, low investment (only a knife is used) and the high efficiency (Hartman 2004), however, some major disadvantages of this system can be mentioned: high time demand for manufacturing the beehives (only natural

materials used), low yields (c.a. 5kg honey/ colony), no reproduction of the bee colonies, destruction of the bee population during honey removal, high competition (more beehives in the forest, land-use rights) and the dangerous nature of the job (Hartman 2004).

2.3 Role of honey in Ethiopian economy

Beekeeping is a promising non-farm activity for the rural households in Ethiopia. It contributes to the incomes of households and the economy of the nation. The direct contribution of beekeeping includes the value of the outputs produced such as honey, bee wax, queen and bee colonies, and other products such as pollen, royal jelly, bee venom, and propolis in cosmetics and medicine (Gezahegn, 2001). It also provides an employment opportunity in the sector. The exact number of people engaged in the honey sub-sector in Ethiopia is not well known. However, it is estimated that around one million farm households are involved in beekeeping business using the traditional, intermediate and modern hives (Gidey and Mekonen, 2010). It could also be observed that a large number of people (intermediaries and traders) participate in honey collection and retailing (at village, district and zonal levels), and thousands of households are engaged in *Tej*-making in almost all urban areas, also hundreds of processors are emerging and exporters are also flourishing (Beyene and David, 2007). Honey and beeswax also play a big role in the cultural and religious life of the people of Ethiopia (Gidey and Mekonen, 2010).

The basic economic pillars of the current land use system are the use of non –timber forest products for cash, especially beekeeping for subsistence in southwest Ethiopia (Hartmann, 2004). On average, households in southwest Ethiopia own 20-30 beehives (Adilo et al, 2005). Although the yields vary with the rainfall, in good years one hive can produce about 5-6 kg of honey, and household production from honey can reach 100-200 kg per year and fetches price per kg of 8-10 Birr[1] (Adilo et al, 2005). Thus the potential annual income from honey can reach 800-2000 Birr (Adilo et al, 2005). According to Pol (2001), Ethiopia's annual honey production in 2001 was 24,000 MT, equal to about one third of the total honey production in Africa (Pol ,2001), and it rose to 43,000 tonnes in 2007 (MARD, 2008) . Of the total domestic production, around 20% is used as table honey in rural areas and only a small portion of the product is marketed (Adilo et al, 2005). An average of 3.05 tonnes per annum has been exported to neighbouring countries over the years 1984- 1994 (MTI, 1995). On average,

[1] 1 USD = 17 Birr (as per the exchange rate in 2011)

between 1998 and 2003, 307.22 tonnes of honey, worth 88,679 Birr has been exported yearly (Table 1), indicating a 300% increase compared to that of 1984-1994 (Adilo et al., 2005).

Table 1.

Export of natural honey from Ethiopia (1998-2003)

Year	Natural honey (tons)	Value (Birr)
1998	178.1	78188
1999	100.8	29245
2000	761.2	221363
2001	129.0	30922
2002	333.9	93269
2003	340.3	79087
Total	**1843.3**	**532074**
Average	**307.22**	**88679**

Source: Adilo et al., 2005

Most African communities were practising beekeeping long before they cultivated coffee, cotton or cocoa and for generations, honey has been produced by traditional communities, using local low cost methods to meet the local needs (Haaren and Zunderdorp, 2008). It is therefore originally not a commercial product. African honey is mostly tropical honey and is known to be darker, more watery (18-21%) with relatively high HMF (Hydroxy methyl furfural), and it can have a 'smoky taste' due to excess smoke use while harvesting (Haaren and Zunderdorp, 2008). Beekeeping is often promoted as being a pro-poor income generating activity for poor communities.

2.3.1 The pro-poor benefits

The pro-poor benefits of producing honey collection or beekeeping are several as follows (adapted from Haaren and Zunderdorp, 2008) :

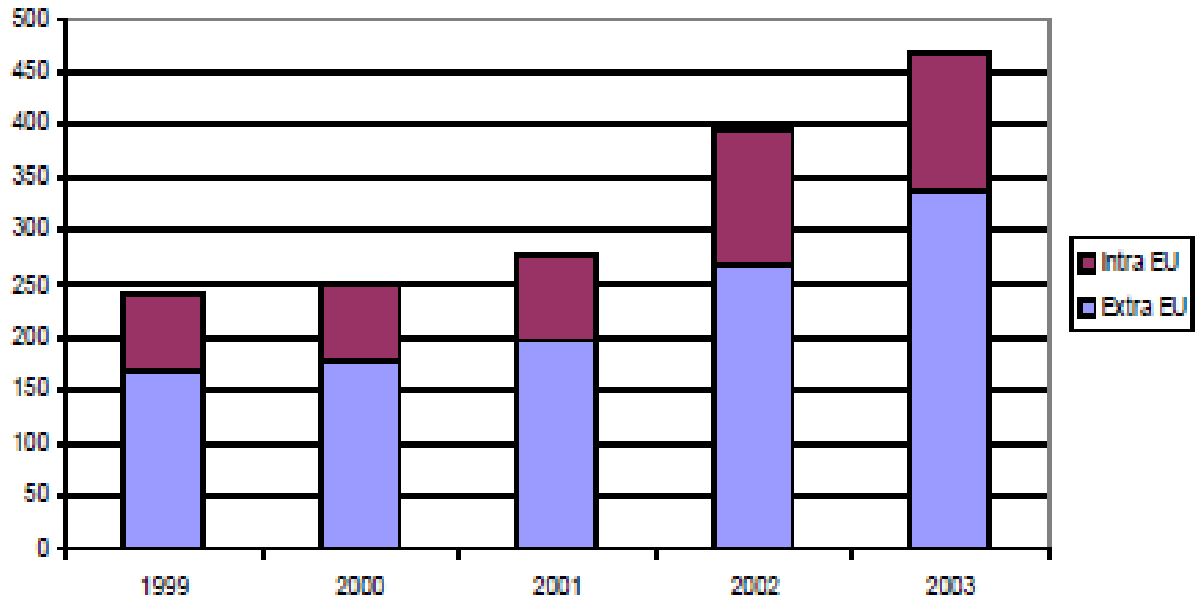
- Low start-up costs (only little investments are needed) and no risk of debt;
- Little land and labour are needed; many farmers conduct beekeeping as a secondary activity and income next to their major production in for example coffee or tea. Even individual beekeepers can achieve significant individual production levels;
- Honey is harvested by some of the poorest and most vulnerable households living in remote places and sales of the produced honey generate income for these communities;
- Beekeeping is increasingly a gender inclusive activity; also because low-technology bee keeping can be done near the homestead and modern methods make the production easier and safer.
- The products of beekeeping are relatively easy to keep process and transport when hygienically packed using dry buckets;
- The products of beekeeping are nutritious;
- The products (honey and beeswax) require little further processing which enables the producers to capture relatively more of the end value of the final product;
- Effective processing of honey (from traditional hives) can be achieved using simple tools such as a sieve and a bucket.
- Beekeeping has the potential to create livelihoods for several other sectors, such as trading, and manufacturing equipment for artisans;
- Apiculture can be entirely sustainable and does not compete with any other form of agriculture;
- Honey has multiple market opportunities, unlike many other commodities. If an export market collapses, people still have some chance to sell or use the honey within towns and villages at home, or create secondary products;
- Beekeeping can have a positive effect on the conservation of biodiversity (because of pollination).

2.4 Global outlook on honey market

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 tonnes (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%). The EU accounts for approximately 20-25% of global consumption and in 2007, apparent honey consumption in the EU amounted to 310 thousand tonnes (CBI, 2009). The other two major consumers of honey in the world are China and the USA. China accounts for approximately 15% of global consumption and the USA for 10% (CBI, 2009). 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% of the globally traded honey, and the top exporters are China (100,000 MT), Argentina (70,000 MT), Mexico (40,000 MT) Australia, India, Canada, and New Zealand (UEPB and ITC, 2005). Developing Market Economy's exports represent 60% of world exports (UEPB and ITC, 2005). The trend in world's supply has continued to rise, but the earnings have declined by about US$ 20 million. Figure 1., shows the value of honey in Euros imported by EU from 1999 to 2003. Asia is the main producing continent, followed by Europe and America in the third place (UEPB and ITC, 2005) and African honey has generally been traded locally and exports into the major countries have been low (ITC, 2003).

Figure 1. Value of honey imports in EU from 1999 - 2003 [(000') €]



Source: Eurostat, 2009

The EU consumes approximately 22% of the world's annual honey production (Haaren and Zunderdorp ,2008) and total consumption of honey in the European Union was estimated at about 265,000 tons in 2003 (Loon and Koekoek, 2006). Total EU25 consumption of honey amounted to 305 thousand tonnes in 2004. The Honey consumption is increasing slightly in the EU countries (Loon and Koekoek, 2006). Over a period of 10 years, EU consumption

increased by 1.6% and an important factor contributing to the growth of the market is the health trend in which honey has a role as a natural health product (Loon and Koekoek, 2006).

The average annual consumption of honey per capita in the European Union amounts to about 0.7 kg (Loon and Koekoek, 2006). Consumption differs greatly among EU countries. Greece and Austria have the highest consumption per capita, but because of their population size, they rank sixth and seventh, respectively, in the list of honey markets in Europe. Overall, Europeans seem to prefer light, crystal free honey with a subtle taste. Technological advancements in Ethiopian honey processing in the recent times have improved the colour and composition of honey (Loon and Koekoek, 2006). Thus with increased diffusion of technological improvement in honey processing among the Ethiopian honey sector could possibly tap the growing EU demand for honey.

There is especially a growing market for certified organic honey and fair trade honey, for which a higher price is paid (CBI, 2009). An estimate of the total market for organic honey in Europe is around 6,500 tons per year; 2% of the total honey market and at the same time, the price of honey has also increased for the past 25 years globally (Loon and Koekoek, 2006).

2.5 Comparative advantage of Ethiopian forest honey in global markets

In 2011, the European Court of Justice ruled that honey containing a tiny bit traces of pollen from genetically modified (GM) plants could not be sold in the EU bloc without proper approval. This could affect the EU import of honey from traditional honey exporting nations like china and Argentina since several of the honey production in these countries depends on GM plants. Besides, there is a global demand for organic or toxic residue free products and many of the leading producers of honey such as India has been accused of streptomycin residue in its honey products (CSE, 2010). In Ethiopia, the honey from forest areas is free of pesticides and other agrochemical (Hartmann 2004) which gives it a comparative advantage over other major exporting companies when new food safety and quality regulations are increasingly in place in developed country markets.

2.6 Danish honey market and preference for tropical honey

Historically Denmark has put environmental issues to the top of the domestic and international agenda (Oxford Research, 2008). The Danish population is characterized by a high interest in environmental friendly products like organic foodstuffs and beverages (Oxford Research, 2008). During the tree year period from 2003 to 2006, there was an increase of 48% in the import of organic honey from outside Denmark (Oxford Research,

2008). Though there is higher demand for light coloured honey in Denmark, there exists a demand for marketable volume of dark coloured honey of tropical origin (Tradecarft, 2007). In 2002 it was 0.4 kg (FAOSTAT 2005). A study by Bartos (2008) showed that the percapita consumption of honey in Denmark is 1.1 kilograms. In 2007, Denmark imported honey amounting 682 tonnes from developed countries (Eurostat, 2009) and the demand is expected to grow in coming years.

Hence, based on the problem analysis & literature review, the following objectives & research questions for the project are developed.

General objective

To assess the prospect of Ethiopian honey for exporting to Denmark

Specific objectives for the study are:

- To assess the opportunities and constraints of honey exporters in Ethiopia.
- To identify criteria used by Danish honey importers.
- To explore Danish consumers preference in terms of buying honey.

Main research question:

What are the main opportunities and constraints for enhancing the supply of Ethiopian honey on the Danish market?

Research sub questions:

1. What are the major opportunities of honey exporters in Ethiopia?
2. What are the major constraints of honey producers in Ethiopia?
3. What criteria do Danish honey importers consider importing honey?
4. What is the preference of Danish consumers in terms of buying honey?

3. Methodology

The research methodology adopted for the project is divided in to three (a) Semi-structured interview (b) Participatory appraisal technique (c) Short questionnaire interview.

(a) Semi-structured interview

Semi-structured interview method was adopted to assess the opportunities and constraints of honey exporting companies in Ethiopia. Each interview schedule comprised

nine semi structured interview. Honey exporting companies in Ethiopia were contacted to conduct the interview. There are in total four major honey exporting companies in Ethiopia and all of them were asked for their consent for interview. Among them, two of the managers of exporting companies were willing to give interviews. Besides, manager of Ethiopian Honey and Beeswax Producers and Exporters Association (EHBPEA) was also interviewed. In total, three interviews were conducted by phone to get information on the opportunities, constraints and overall situation of honey export in Ethiopia. Condensation approach was adopted to analyze the interview data.

Semi structured interviews were also conducted with Danish honey importers to gather various relevant information pertaining to honey imports.

Sampling method

The real population of honey importers in Denmark is very few. So the purposeful sampling method was used for the qualitative research because the sample sizes were likely to be too small for generalization. According to Euromonitor International, Scandic Food and Jakobsens are the key stakeholders of honey exporting market in Denmark. This information was also justified by the expert member of the Danish Beekeepers' Association.

Data analysis

The positivistic approaches were used to analysis the qualitative data. First, the main interview text was condensed into a brief form. Then the information was organized into data matrices and categorized by opportunities and constraints context.

(b) Participatory appraisal techniques

The participatory appraisal techniques were applied to analyze the Danish Consumer behavior about honey preferences.

For this, we selected four Danish consumers using purposeful sampling method.

Place: Gimle, Frederikdberg C, Denmark

Time needed: one and half hour

(c) Short questionnaire interview

For assessing the Danish consumer preference of Ethiopian honey, both qualitative and quantitative methods were employed. This qualitative data collection technique was employed in order to get better understanding in consumer behavior about honey preferences in

Copenhagen, Denmark. Under the qualitative method, samples were selected using non-probability judgment sampling. A total 20 consumers were selected for the interview and these interviews were conducted at different places in Copenhagen area.

In this study, primary data was collected. Firstly, for a better understanding of the background and problems related to the context of the consumer preferences, the literature review was written based on paper review by one of our group member. Then the primary data was gathered using qualitative questionnaire interviews, which were then quantitatively validated through frequency analysis.

Data analysis

Frequency distribution, contingency tables and graphs were used to define and present the results and the data was analyzed using spreadsheets in MS Excel.

4. Results and discussion

4.1a The opportunities and constraints of Ethiopian honey exporters

There are eight honey and beeswax producers and exporters in Ethiopia which together formed Ethiopian Honey and Beeswax Producers and Exporters Association (EHBPEA) in 2006. Among the members of the association four of them export honey and beeswax whilst the rest four export only beeswax.

As observed from the interviews, companies majorly buy honey from producers in local markets and process, pack and export and also sale for domestic consumption. Small scale merchants and few honey producer associations also supply a small proportion of honey to processing and exporting companies. On the other hand, recently some companies like Apineck and Beza Mar are targeting out-growers to get sustainable supply and quality honey. Training and extension services are provided for the out-growers by these companies.

As stated by the companies' managers, honey processing and exporting companies involve extensively in honey purchase during harvest seasons. During this time they can buy large quantity of honey per market visit for lower price. But the companies claim that in the remaining time of the year they run out of supply and often work under full capacity. According to the interviewees, Ethiopia has very huge potential in honey production. For instance, currently there are more than 11.5 million bee colonies in Ethiopia which is about four times the bee colony in USA according EHBPEA manager. However, the honey production of Ethiopia per annum is only about 60% of the US annual production

(FAOSTAT, 2009). He states that the lower honey production of Ethiopia is attributed to the lack of improved beekeeping technology in terms of beehives used, skilled man power and management.

In terms of quality, the processor and exporter companies complain that the current honey quality needs to improve much more. The problems related to quality are high moisture content and different impurities which occur mostly during harvest and in post harvest handling and storage. According to these companies managers, the problems emanate from lower utilization of modern beehives, limited knowledge of farmers on beekeeping and the lack of extracting and storage equipments similar to the factors that stated above for low honey production. The high moisture content of honey has been creating difficulties to the processing companies as they have no machineries which can reduce the moisture content to meet the level needed by importer companies. However, Yeshi Mar Plc, a honey and beeswax exporting company, has reached an agreement with an Italian company to buy new machinery which is expected to reduce this problem.

According to the interviewed managers of EHBPEA and honey processors and exporters of Ethiopia, there are increasing attention and involvement from production to marketing of honey by the government of Ethiopia and international NGOs. Ethiopian Bureau of Agriculture and Rural Development (BoARD) provide farmers with extension services, credits to buy modern beehives and facilitate collaboration between honey processing factories and farmers. NGOs like gtz, Farm Africa and SOS Sahel provide training, honey extracting equipments and facilitate market linkage with honey companies. Other NGOs also provide loan to build the capacity of honey producers and their association. For instance, Self Help Africa gave 10,000 USD for East Shoa Beekeepers Association for distribution of improved beehives for farmers to increase yield and quality of honey.

EHBPEA members export honey to Africa, Middle East, Europe and USA. Sudan is the major importer of Ethiopian honey with 65% of total annual export from Ethiopia based on EHBPEA manager. The remaining share goes to UK, Norway, Saudi Arabia, Yemen, Kuwait, UAE and other countries. EHBPEA manager said that the increase in honey export since the establishment of the association rose from 53 metric ton per year to 512 metric ton in 2010; nearly 10 fold increase in 5 years. Recently Italy, Denmark, France and Japan based companies are showing interest to import honey from Ethiopia. Yeshi Mar Plc manager says his company is considering exporting honey to European countries in the coming years as the

demand will surge. According to him, the production of honey in Euro zone will fall by 25% in the near future due to colony collapse disorder.

As stated by the managers of honey processor and exporter companies, the government of Ethiopia encourages them through export and import tax waiver from honey and machineries directly related to the processing of honey. In collaboration with NGOs, BoARD is supporting processing and exporting companies to participate on international exhibition and seminars for experience sharing and promoting their products.

4.1b The opportunities and constraints of Ethiopian honey exporters

The export of honey from Ethiopia is done by honey and beeswax processing and exporting companies organized into association to engage in the competitive international market. Over the past five years, fast development have been gained in the honey export sector in relation to creating demand for Ethiopian honey and increase in volume exported.

The existing situation shows that honey companies involve directly in honey collection from farmers and to some extent from producers association. This finding complements the study conducted by Abebe (2009) on market chain analysis of honey in Tigray region of Ethiopia, where he observed that the processing company in the region directly purchase honey from farmers and local collectors. Obviously, this condition appears to create a huge task on the companies in addition to the main work on processing and marketing. Moreover, given the wide distribution of the producers throughout the country and high supply for only limited period (during harvest season) requires high resource and time investment by the companies. Nevertheless, this scenario could also create a condition where the companies buy honey in lower price from local market.

Even though the country is said to have high potential in honey production, the processing and exporting companies frequently face a problem of short supply and quality. The shortage in supply arises from the lower yield of honey per hive as the most farmers use traditional beehives and limited beehive management. According to Tadesse and Phillips (2007), the average national yield of honey per year from traditional hive is only 5kg whilst the yield from modern beehive is 15-20kg/year. The Central Statistical Authority of Ethiopia (CSA) (2002) census indicates that about 95.5% of beehive was traditional while the rest is transitional and modern beehives. Similarly with the quality, the problem source is from the type of beehives used.

In this study, we have sought to look at a number of government incentives for honey companies in Ethiopia that may be important for exporting honey. The major incentives identified were the exemption of tax from export of honey and import of honey processing machineries. Such exemptions are proclaimed for all export goods to enhance the price competitiveness in the global market (Federal Democratic Republic of Ethiopia Ministry of Foreign Affairs, 2007).

Furthermore, the collaboration of government and NGOs in supporting the companies to participate at international level on honey market will certainly help in strengthening their capacity. The fast growth rate recorded in the past half decade on exported honey volume could be partly from the contribution of those initiatives.

Generally, the resource base of beekeeping, the export policy of the country, support from NGOs and demand for Ethiopian honey by importing countries demonstrate the existence of broad opportunity for Ethiopian honey exporting companies. However, the present way of honey production system, handling and marketing in Ethiopia by honey producers present a bottle neck for the exporting companies.

4.2 Opportunities and constraints of Ethiopian honey in view of Danish honey importers

We have taken a semi-structured interview of the product manager (Honey purchase) of Scandic Food A/S and Jakobsens A/S. The interviews have been taken over telephone. The overall interview did not able to record due to lack of interest of the importers. All the relevant information was noted down in paper to reach the project objectives. After getting the valuable information from the importers, we tried to summarize the opportunities and constraints of Ethiopian honey getting entered into Danish market.

4.2.1 Meaning Condensation of the Interviews

A brief text of the two interviews as follows:

Scandic Food A/S:

They do not have any special preferences as to origin, as long as the quality and taste of the honey as well as the price are acceptable to Scandic Food. They presently import honey from European countries, South American countries and China.

They mainly pack and sell honey, which is crystallized and mild tasting as well as light in colour, a honey type, which can get from all the above mentioned countries.

The honey must fulfill the criteria which are as follow:

- Total sugars will be minimum 45 – 60 %.
- HMF: maximum 40 mg.
- Humidity: maximum 20%
- Shelf-life: minimum 18 months from packing date, Set honey should preferably be stored at temperature between 12 – 18 °C and clear honey should preferably be stored at room temperature between 8 – 30 °C.
- No additives are used for packing of natural honey.

Scandic Food A/S packs poly-flora as well as mono-flora honey, like e.g. sunflower, acacia, orange blossom etc. They pack both conventional and organic honey as well as specialties, like mountain and forest honey, white bell honey, blue borage honey etc. Mostly the honey imported from South America, Europe and other countries. They have been contacted by exporters over the years in those places.

Their experience with Ethiopian honey is that it is too strong tasting for their purpose and not suitable for packing as a crystallized honey. So they don't export any honey from Ethiopia.

Jakobsens A/S:

They export honey from different parts of the world. They are also the biggest honey buyer of the Danish Beekeepers' Association. Jakobsens has different own brand honey in most of the super markets in Denmark. Presently they import honey from Spain, Russia, Mexico, USA and China.

In term of choosing importing countries, it must be approved by European Union (2004/432/EC) and also maintain the honey quality criteria which is set up by EU council directive 2001/110/EC.

They also import both poly-flora and mono-flora honey but their main focus point is on organic honey.

For the present market demand and expansion of business, they need to increase honey importing in the coming years. As Ethiopia is approved by EU for honey exporting, it can be a nice place to buy honey in future for Jakobsens. They heard that Ethiopian honey has a strong flavor and taste, so it can be a new product segment into the market.

4.2.2 Categorization of meaning

From the condensation text, the information is categorized into positive (+) and negative (-) correlation with importing Ethiopian honey into Danish market. This categorization will give indication about the opportunities and constraints of the incident.

+ (Positive)

1. Ethiopian honey import is approved by EU
2. It is organic forest honey
3. It has a unique taste and flavor
4. High market demand than the local production
5. It can fulfill the basic biochemical criteria
6. Low price level

- (Negative)

1. Poor marketing communication
2. Too strong taste for Danish consumer
3. Not suitable for packing as a crystallized honey

4.2.3 Discussion

From the categorized data, it shows that Ethiopian honey has lots of opportunities for Danish market. By the impression of the interviewees we understand, organic honey is a vital point for honey purchasing which is the key feature of Ethiopian honey. By the approval of EU, it is also easy for it to enter in Danish market. With that, it has some constants as well. Ethiopian honey exporters have very poor communication with the Danish importers. This honey is not crystal and has very strong taste which may not liked by Danish consumers.

4.2.4 Summing up

In the importers' point of view, Ethiopian honey has a positive attitude due to organic production system exists in Ethiopia. If the Ethiopian honey exporters can make a good business communication (B2B) with the importers, then Denmark will be a big potential market in future.

4.3 Consumer behavioral factors about honey preferences

Through the participatory appraisal techniques, we tried to find out what factors influence the Danish consumers for purchasing honey. The main purpose of the technique was to find out the factors by the consumer themselves and rank them with their views.

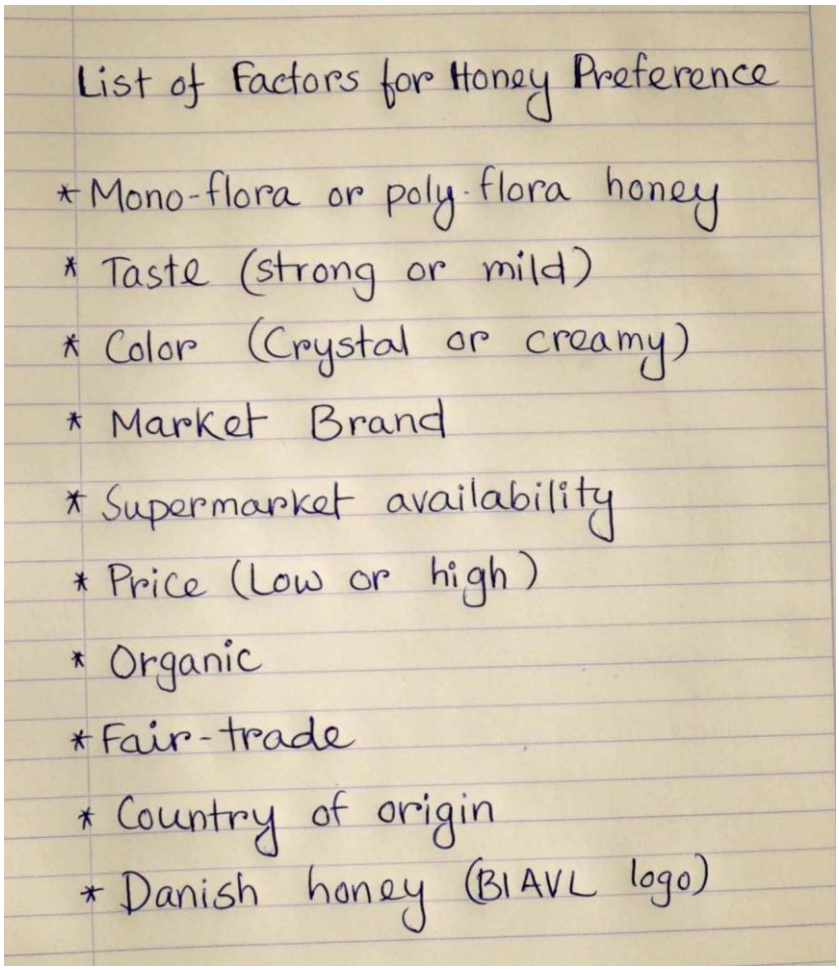
The process was divided into two stages:

1. Listing the factors
2. Ranking the factors

For each of the stages different tools were used.

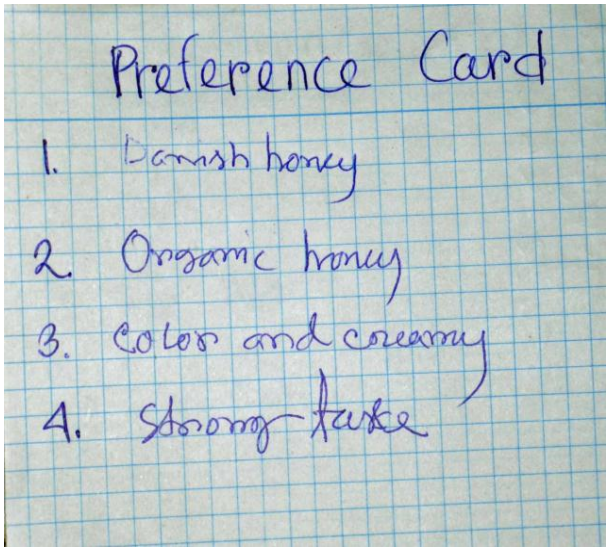
Stage 1: Listing the factors

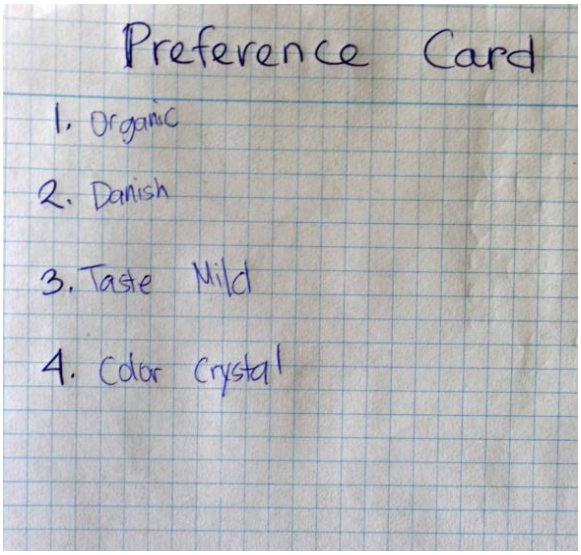
In this stage, we acted as the facilitators. We gave a short speech about the project and let the participants to discuss and identify the factors. Each participant wrote his thoughts on a paper. Finally one participant combined them on a single paper and taped it on a wall that everyone could see it. It is as follows:

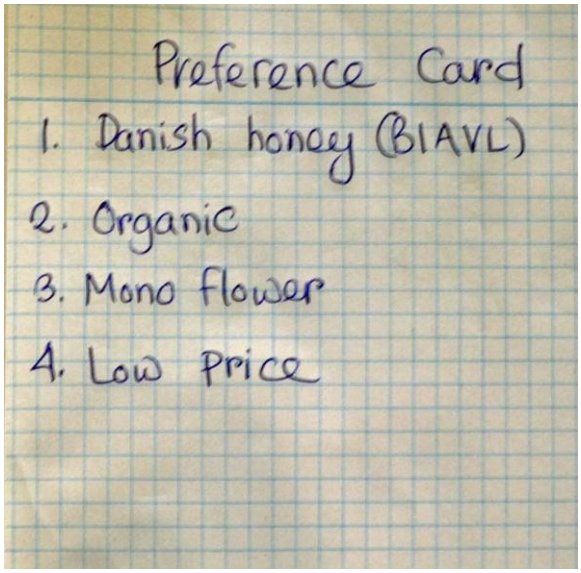


Stage 2: Ranking the factors

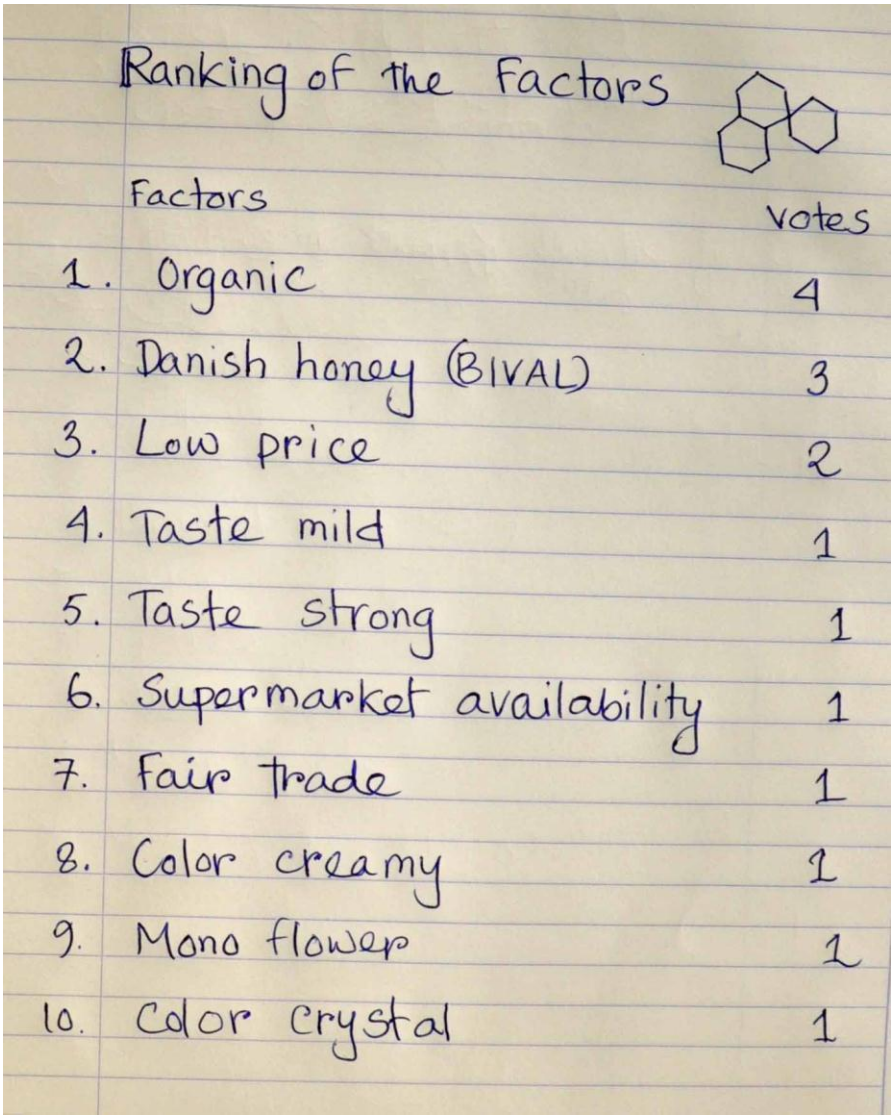
"Card method" was used for the ranking. We handed out each participant a card on which he/she ranked four factors. They are as follows:







The votes were then counted and the factors ranked according to the vote obtained. The result is as follows:



Ranking of the Factors

Factors	votes
1. Organic	4
2. Danish honey (BIVAL)	3
3. Low price	2
4. Taste mild	1
5. Taste strong	1
6. Supermarket availability	1
7. Fair trade	1
8. Color creamy	1
9. Mono flower	1
10. Color crystal	1

Outcomes

The ranking shows that organic honey has the highest appeal to the Danish consumer. The local honey especially with BIVAL logo is also a vital factor for purchasing honey. Price and other factors play some role on it as well. In conclusion, we can say that most of the Danish consumers buy local organic honey.

4.4 Short questionnaire interview to the consumers

To find out what consumers think about different kinds of honey available in Denmark, a short questionnaire interview was conducted in different places in Copenhagen area. The key findings of the questionnaire interview regarding different issues are discussed below.

1. What kind of honey do you buy most?

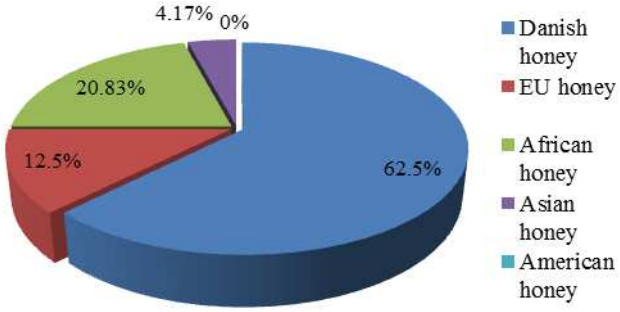


Fig. 1. Origin of honey preferences by the consumers

Contingency table 1.

Age group	Below middle		Upper middle		Total	
Opinion	N	%	N	%	N	%
Danish honey	8	61.53	5	71.42	13	65
EU honey	3	23.07	2	28.57	5	25
African honey	2	15.38	0	0	2	10
Asian honey	0	0	0	0	0	0
American honey	0	0	0	0	0	0
Total	13	100	7	100	20	100
Below middle=<30, Upper middle=>30						

2. What are your criteria when purchasing honey?

(Quality, Price, Flavor and Color, Origin of Honey, type of honey)

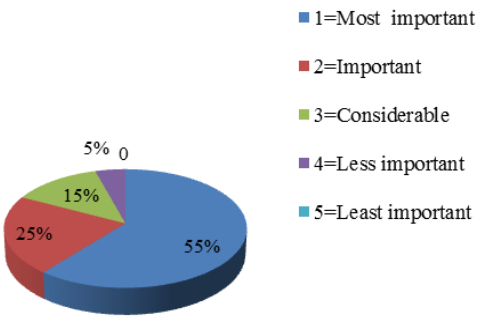


Fig. 2. Consideration of quality when purchasing honey

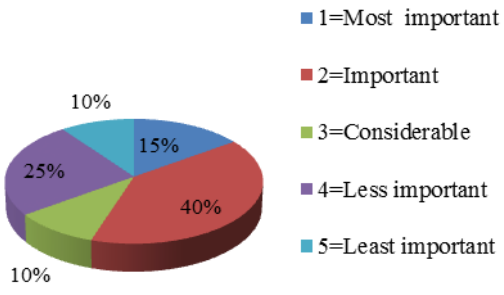


Fig. 3. Consideration of price when purchasing honey

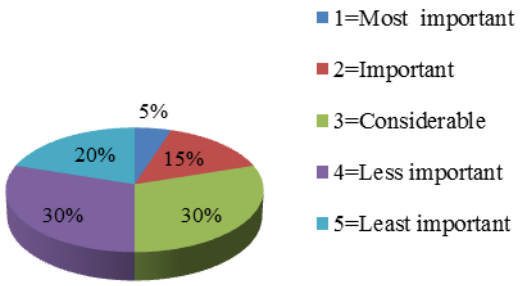


Fig. 4. Consideration of flavor and color when purchasing honey

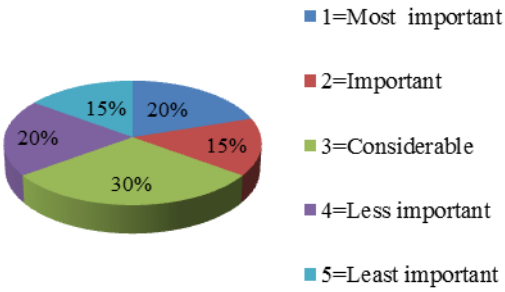


Fig. 5. Consideration of origin when purchasing honey

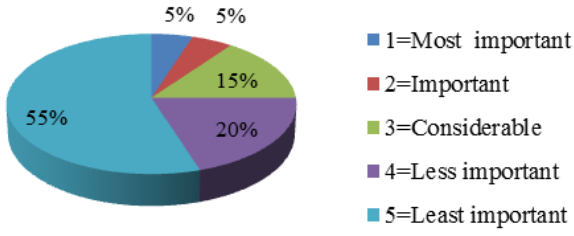


Fig. 6. Consideration of type of honey when purchasing

3. How much honey do you buy per month?

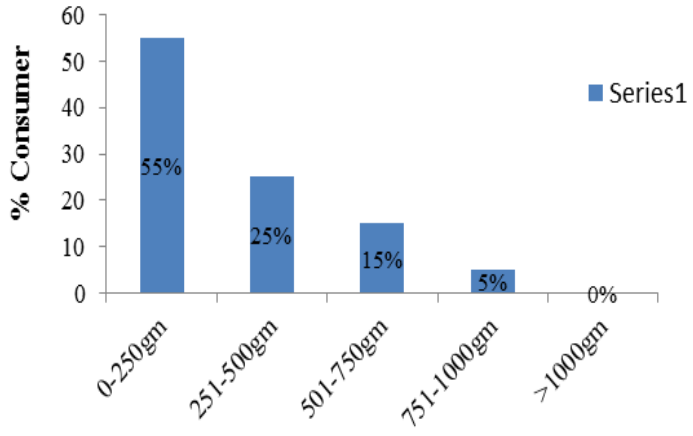


Fig. 7. Honey purchased quantity by consumer

4. Is the Danish origin of honey important for you?

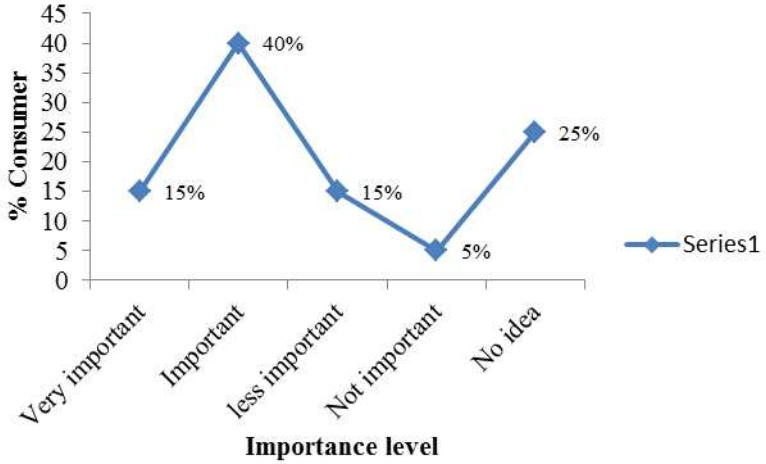


Fig. 8. Importance of Danish honey

5. Do you like other origin of honey suppose African honey?

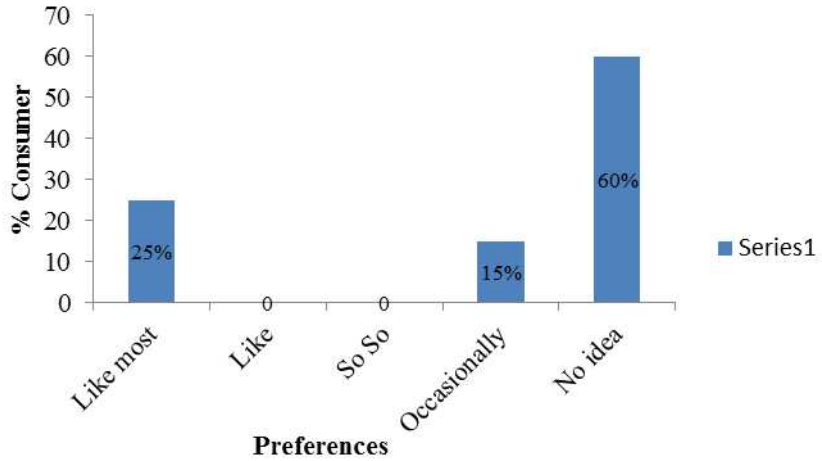


Fig. 9. Preferences of African honey

6. If you do not like other origin of honey which things make you more interest less?

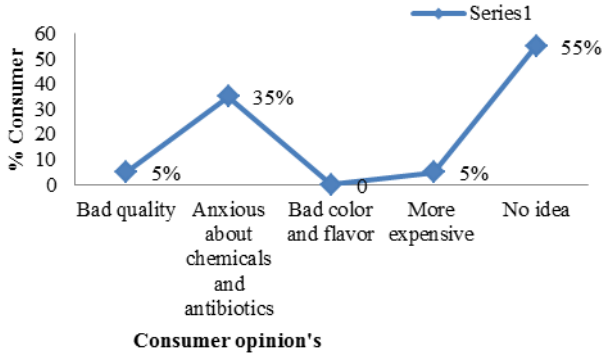


Fig. 10. Reasons of disliking other orgin of honey

7. What is your opinion about the price of Danish honey?

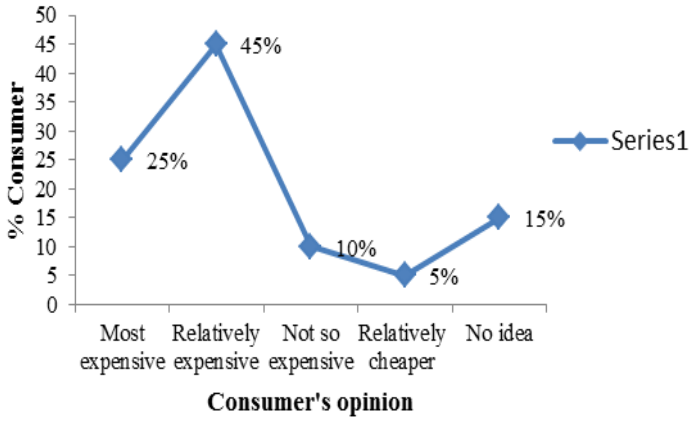


Fig. 11. Price of Danish honey

8. Considering Danish honey expensive, do you like to more access of their origin of good quality and less expensive honey?

Contingency table 2.

Age group	Below middle		Upper middle		Total	
Opinion	N	%	N	%	N	%
Access more	6	46.15	6	85.71	12	60
Not so much	4	30.77	0	0	4	20
Little	2	15.38	0	0	2	10
Not at all	1	7.7	1	14.29	2	10
Total	13	100	7	100	20	100
Below middle=<30, Upper middle=>30						

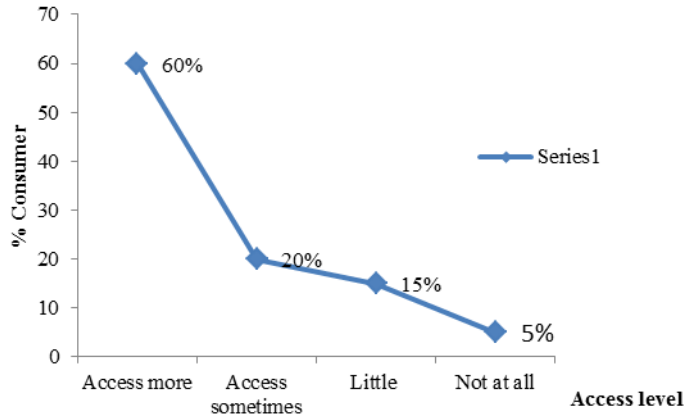


Fig. 12. Access other origin of good quality and other less expensive honey

9. What factors could increase the quantity of honey to be purchased?

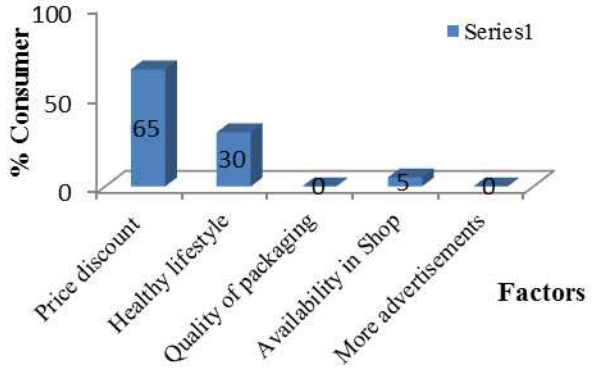


Fig. 13. Factors could increase the quantity of honey

4.4.1 Discussion

The consumer preferences graph showed that most of them prefer to buy Danish origin of honey (62.5%) and after African origin of honey (20.83%), EU honey (12.5%), and Asian honey (4.17%) respectively. The contingency table showed that 61.53% of below middle aged consumers buy the Danish origin of honey but 71.42% in case of upper middle aged. As a total, 65% and 10% consumers buy the Danish and African origin of honey respectively. But in case of African honey, 15.38% of below middle aged and 0% of upper middle aged were found (Table 1). In terms of which criteria they prefer when purchasing honey, most of the interviewees prefers quality honey (55%), and it is the most important criteria for them. But 25% of the interviewees expressed that it is important for them but they also consider the other criteria (Fig.2). Considering price, 15% and 40% expressed that it is the most important and important criteria respectively for them but 10% opinioned that it is least important criterion when purchasing honey (Fig.3). Only 5% opinioned that flavor and color is the most important things but 30% of the interviewees opinioned that it is less important for them (Fig. 4). Origin of honey is the most important criteria of 20% of the consumers but 30% consumer said that it is considerable, but least important for 15% (Fig.5). And regarding type of honey, 5% told that it is most important for them, but most of the consumers told that it is not so important for them (Fig.6).

About the quantity of honey is required for one person/month, 55% buy 0-250gm, 25% for 251-500gm, 15% 501-750gm and so on. So, the demand of honey in Copenhagen found considerably high (Fig. 7). Considering whether the Danish honey is important for them or not, most of them marked that Danish honey is important for them due to quality and safety

purpose but some have no idea about that (Fig. 8). Only 25% of the consumers like the African honey but most of them have no idea about (60%) the African honey in Denmark (Fig. 9). Most of consumers do not have an idea (60%) about the African honey but a considerable portion (35%) said that they are more anxious due to the chemicals and antibiotics availability (Fig. 10). Most of the consumers think that the Danish honey is most expensive in the market, and considering Danish honey expensive they are more interested to get access the other origin of good quality and less expensive honey (Fig. 11&12) but the upper middle aged consumers are more interested to get access compared to the below middle aged consumers. As a total 60% are more interested to get access in the good quality and less expensive honey (Table 2). Price discount and healthy life style could make ability the consumers to buy more honey from the market (Fig. 13).

In 2008, Ethiopia received Euro Gap accreditation to export organic honey to Europe, and subsequently Ambrosia won an order from CSV International to export honey at price of 3 euro (ETB 50) per kilo. The company invests more money at the grassroots level for the improvement of quality of honey by trained and educated them about honeybee production without being depend on wholesale markets (http://www.fanrpan.org/). An evaluation report conducted in 2006 which showed that, prior to the project, the price received by producers from local traders was Ethiopian birr (ETB) 5-6 ($0.30-0.40) per kg for crushed honey. Traders also often cheated producers on weights. Through the co-operatives, the producers now receive ETB 32 ($2.46) per kg for Grade 1 pure honey and ETB 28 ($2.15) per kg for Grade 2. Co-op members also receive dividends on the sale of processed bee products to the agents, Beza and Century. These dividends range between ETB 35 ($2.60) and ETB 674 ($50) per season, based on the number of shares the producer owns. Most producers are re-investing their dividends to expand their operations and also the processing centers. So, the demand of Ethiopian honey is increasing day by day in EU and the standards of livelihoods of local farmers are increasing continuously in Ethiopia (Oxfam, 2011).

So, in conclusion we can say in consumer's point of view that they do not have enough idea about African honey; they are used to buy Danish origin of honey. They actually fear the African honey because they have a doubt it may contains the harmful chemicals and antibiotics and most of them have no idea about what is African or other origin of honey. One utmost things is always they give priority on the good quality honey, so considering Danish honey expensive they have a huge interest for the other origin good quality and less expensive honey. But still people do not have enough idea about the other origin of good quality honey

in the market, super shops but if the importers in Denmark do more advertisement in the media, local newspaper and disseminate the beneficial effect of the African good quality, safe and less expensive honey through leaflet, booklet then people will do more trust and be interested to adopt the African origin honey. If the Danish consumers adopt the African honey more intensively then there will be a big opportunity to uplift the livelihood of rural people in Ethiopia.

5. Conclusion

The project was able to identify the main opportunities and constraints in honey export from Ethiopia to Denmark. The organic nature of Ethiopian forest honey offers it the opportunity to market it as an organic product in Danish market. Furthermore, the Ethiopian honey is approved for import to the EU market by the European Union and there exists an untapped potential in this direction for the honey sector in Ethiopia. At the same time, the quality constraints owing to inferior harvesting and processing techniques can hamper the prospects of Ethiopian honey exports. Building capacity of the small farm producers by providing ample training on beekeeping and harvesting techniques as well as increasing storage facility of collected honey could reduce the quality loss while harvesting and storage. The Ethiopian honey to reach consumers in EU, the exchange of market and business information between the exporters in Ethiopia and the importers in EU should be improved. Generally, the resource base of beekeeping, the export policy of the country, support from NGOs and demand for Ethiopian honey by importing countries demonstrate the existence of broad opportunity for Ethiopian honey export to Denmark. Hence, in a nutshell, anchoring on opportunities and overcoming the shortcomings raised here could help the Ethiopian honey exports to Danish market in a perpetual manner in the years to come.

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Annexe I

Semi-structured interview with honey processors and exporters in Ethiopia

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Name of interviewer: _____. Date of interview: _____
Interview number: _____
Name of interviewee: _____. Occupation: _____.
Sex:____.Age____. Name of Company: _____
Address: _____
_____

Introductory speech and the purpose of the survey were first explained to the interviewee . The interview was conducted in Amharic (Ethiopian official language) after translating the entire interview.

1. How long since you have started honey export activity?

2. Where do you buy honey? Do you buy processed honey or you process it?

3. Do you get enough supply of honey to fulfill your annual processing/export potential?

4. What are the opportunities and constraints of the present honey marketing system in Ethiopia?

5. What kinds of problems are there with regard to quality?

6. Are the concerned government organizations helpful in facilitating procedures for export? (Concerning custom, tax and others)

7. What is the demand of other countries to import honey from Ethiopia?

8. Do you have an agreement with importers? What does the trend like in terms of exercising the agreements?

9. Do you have any other suggestion or comments to add with regard to honey marketing and export in Ethiopia?

Thank you very much.

Annexe II

Short Questionnaire Interview to Consumers in Copenhagen, Denmark

Name of the interviewee : Age:

Question 1: What kind of honey do you buy most?
a) Danish honey b) EU honey c) African honey d) Asian honey e) American honey

Question 2: What are your criteria when purchasing honey?
Rank please: 1=most important,.....5=least important respectively

a) quality b) price c) flavor and color e) origin of honey f) type of honey

Question 3: How much honey do you buy per month?

a)0-250gm b)251-500gm c)501-750gm d) 750-1000gm e)>1000gm

Question 4: Is the Danish origin of honey important for you?

a) very important b) important c) less important d) below average e) I do not know

Question 5: Do you like the other origin of honey suppose African honey?

a) like most b) like more c) not bad d) occasionally e) do not have an idea

Question 6: If you do not like African honey which things make you more interest-less?

a) quality is too bad b) anxious about chemicals and antibiotics c) color and flavor is not so good e) more expensive d) no idea

Question 7: What is your opinion about the price of Danish honey?
a) more expensive b) expensive c) relatively cheaper d) cheap e) no idea

Question 8: Considering Danish honey expensive, do you like to more access of other origin of good quality and less expensive honey?

a) access more b) more c) not so much e) little d) not at all

Question 9: What factors could increase the quantity of honey to be purchased?

a) price discount b) healthy lifestyle c) quality of packaging d) availability in shop e) more advertisements