



Partnership Ready Ethiopia: Honey and Beeswax

Current situation

Ethiopia is renowned within Africa for its beekeeping potential as well as its highly diverse honeybee flora and number of bee colonies (the highest on the continent). These characteristics contribute to the country being one of the largest honey producers, granting it first place in Africa and tenth worldwide. Ethiopia is also the third largest producer of beeswax. The low levels of pesticide utilisation make Ethiopian honey and beeswax potentially very attractive to export markets. The variation in Ethiopia's biodiversity as well as its agro-climatic conditions contribute to the potential for extensive honey and beeswax production. Furthermore, beekeeping and honey making are widely spread across the country. Aside from honey for table production, there is also potential for mono-floriculture honey, industrial honey and for organic and fair-trade honey.

However, there are sometimes quality problems, such as inadmissible addition of smoke and dirt. Honey quality deterioration has

been observed in the past years, due to adulteration and fraud. Further challenges are recurrent drought, which affects the supply line, and illegal cross-border honey trade. Moreover, much of Ethiopian production is highly fragmented, undertaken through individual farmers with little capacity for amalgamation of production into bulk for processing for either mainstream local markets or export. In some areas, honey production is not recognised as an income generating activity, but more as an agricultural tool in enabling pollination, for example at coffee farms, which respectively increases the yields.

Despite these hurdles, the Ethiopian Government has identified the sector as offering growth potential, including targeting the export sector as a foreign exchange earning source, one generating additional off-farm income for small-scale farmers and leading to poverty alleviation in rural areas. The sector is also seen as offering potential for job creation in rural and urban areas and has encouraged, apart from beekeeping itself, the production of beekeeping equipment and beehives amongst jobless urban and landless youth.





Importantly, following an initiative of the Ethiopian Government, the country was able to attain European Union (EU) accreditation for export of Ethiopian honey to the EU from 2008. The Government is keen to ensure that this status is maintained and has since then undertaken rigorous annual Residual Monitoring Planning for ongoing compliance. Based on this strict EU accreditation, doors are opened also for other international markets that accept the EU accreditation as exceeding their own minimum requirement levels (e.g. United States of America).

Market specifics

The country has a very high number of active bee colonies, estimated to be over 10 million colonies. Of these colonies, it is estimated that between 5 and 7.5 million are hived, with the remainder being wild. If this estimate is accurate, it shows that there remains substantial opportunity for further growth through additional hive capture. Estimates of actual honey production are also difficult to pinpoint with any accuracy – although the Ministry of Agriculture and FAO (Food and Agricultural Organization) puts production at some 53,000 tonnes of honey annually. Some estimates put the actual production even significantly higher. Annual beeswax production in the country is said to be round 3,800 tonnes. However, various sources estimate the annual production potential to be 500,000 tonnes of honey and 50,000 tonnes of beeswax.

Most of Ethiopian honey production is carried out using traditional beehives, with up to 97% of the beehive population being housed in traditional hives. This follows practice carried out in Ethiopia over many centuries and reflects mainly forest beekeeping especially in the southern and southwestern forests as well as the backyard beekeeping popular throughout the country. However, this methodology is inefficient in comparison to more modern beekeeping methods. Traditional beehives will yield between 5 and 8 kg per bee colony per year whilst more modern hives – top bar hives or frame hives – will yield up to 20 or 30 kg annually. Although the Government and NGO initiatives have sought to promote the uptake of modern hives, to date uptake has not been significant – estimates are at around the 100,000-hive level. There are several problems with traditional beehives, bee management and honey harvesting are difficult in such hives and usually the quality and quantity of honey is less. Also, during harvesting, combs are cut off and colonies often destroyed. But traditional beehives have also behoof for local farmers. Traditional beekeeping utilizes cheap and plentiful local materials for hive construction



and traditional hives are inexpensive to make. They can house large amounts of bees, are best if one is looking to get large quantities of wax. Also, varroa infestation seems to be less prevalent, and finally these hives are hard to steal as they are usually hung on tall trees.

In line with the dual rainfall season pattern in Ethiopia, there are generally two honey harvesting seasons. The primary season is between October and November with a subsequent one between April and June. Including some of the wetter areas and their more generally diverse range of flora, some areas can yield successfully even out of season, giving the country full-year production capacity.

DOMESTIC MARKET

Consumption of honey in Ethiopia is characteristically very high. It has been estimated that beekeepers consume around 10% of their total production, with the remaining 90% being sold for income generation. By far the majority of the latter is sold for “tej” – honey wine – and this is mainly prepared locally. The quality of the honey used for this purpose is not considered to be important and the sector accepts honey directly from hives without filtering or other forms of quality control. By-products of the process include the wax, which can be filtered from the raw material used for tej, although it is mainly thrown away.

Estimates for consumption into the tej sector vary substantially from 50 to 80% of total production. However, these estimates may be incomplete due to claims of informal export of honey to Sudan, Somalia and Djibouti. A significant volume (some estimates are as high as 3,500 tonnes) is also taken out informally through Addis Ababa’s Bole International Airport in people’s luggage, especially



for the diaspora markets. Smaller volumes are processed – usually at smaller scales – into table honey for sale in shops and super-markets in Addis Ababa, generally being brought to the capital in relatively small quantities that have been bulked from rural areas.

→ EXPORT MARKET

Despite the potential attraction of Ethiopian honey in export markets, actual exports are very low in relation to annual production as well as in terms of market share in target markets. Aside from the structural aspects of the sector as indicated above, a major factor is also pricing – domestic pricing generally being significantly higher than the one for export markets. Furthermore, the requirements for quality control, traceability and certifications needed to access international markets may well be considered as additional burdens that do not pay off considering the low export market pricing. Despite the existing constraints, a few honey processors and exporters have emerged; these have managed to certify their products and are able to penetrate international markets.

Including the indicated honey exports for 2017/2018 and those planned for 2018/2019, the eleven-year average remains around 635 tonnes annually. Neighbouring Sudan has remained consistently the largest formal export destination, while the EU exports have been to Norway, the UK, Germany, Italy and France – comprising approximately 15% of the average totals.

→ EU ACCREDITATION AND RESIDUAL MONITORING PLAN

Under the formal export activities and the Residual Monitoring Plan administered through the Ministry of Agriculture, the exporters prepare their plans for the year ahead. Governed by the relevant EU directive for honey (96/23/EC), the sampling levels for honey monitoring are fixed for the levels and frequencies for sampling. The number of samples collected is determined according to the formula concerned and the honey samples collected at different locations from the different members of the Ethiopian Honey and Beeswax Producers and Exporters Association (EHBPEA) to ensure that results are representative of the overall honey quality. The honey sampled from the EHBPEA members is not specific in enabling that member to sell to the EU – honey from all EHBPEA members is eligible.

After completion of testing, the samples are forwarded to an accredited laboratory for the analysis to take place. Currently, there are no accredited laboratories within Ethiopia able to carry out the required tests. Chemiphar Uganda (U) Ltd, an accredited laboratory in Uganda, has been used in the past and currently a laboratory in Germany, namely Intertec, is used. The Ethiopian Government is keen to develop the capacity of the local laboratories to ensure such tests can be carried out inside the country in the future.

Honey Exports by Major Import Partners

Country	Export Quantity in tons									9 year Average
	2009	2010	2011	2012	2013	2014	2015	2016	2017	
SUDAN	145,7	492,1	531,1	301,7	312,4	221,0	176,7	173,3	166,0	280,0
NORWAY	40,0	59,7	120,6	278,0	427,8	297,9	205,3	159,7	103,0	184,7
UK	44,1	17,4	31,1	62,6	54,4	45,3	41,8	54,4	44,0	43,9
GERMANY	0,0	20,3	0,0	20,3	20,9	86,2	83,5	43,4	62,0	37,4
YEMEN	16,0	8,5	6,0	27,9	44,3	55,0	14,8	5,7	2,0	18,8
SAUDI ARABIA	23,6	12,8	21,9	20,8	10,4	9,1	2,8	1,6	3,0	11,8
JAPAN	0,0	0,0	0,0	0,0	0,0	44,4	4,9	0,0	7,0	6,3
ITALY	0,0	0,0	0,0	0,0	0,0	21,4	20,9	0,0	0,0	4,7
FRANCE	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	42,0	7,0
SOMALIA	0,0	0,0	0,0	0,0	0,0	45,6	40,7	64,2	68,0	24,3
OTHERS	5,1	2,4	7,7	15,1	25,4	2,0	26,3	40,9	3,0	13,3
TOTAL	274,4	615,2	728,6	726,7	884,8	798,4	617,7	543,0	500,0	632,1

Source: Ethiopian Customs and ITC via Ethiopian Honey and Beeswax Producers and Exporters Association, September 2018



Quality standards

→ HONEY SECTOR STANDARDS

Standards for the honey sector have been in place in Ethiopia since 2005. However, adherence to these standards is currently voluntary. Prepared under the direction of the Agricultural and Food Technical Committee and published by the Quality and Standards Authority of Ethiopia, there are currently three Ethiopian standards applicable to the honey and beeswax sector:

- ES 1202: 2005 – Honey-Specification
- ES 1203: 2005 – Beeswax-Specification
- ES 1204: 2005 – Beehives-Specification

Honey characteristic requirements

Characteristics	Specification	Test method
Apparent reducing sugar (as invert sugar) % by mass min	65	Annex B
Apparent sucrose content % by mass max	10	Annex C
Water insoluble solids contents % by mass max	0.1	Annex D
Mineral content (ash) % by mass max	0.6	Annex E
Acidity mill equivalents acid per kg	40	Annex F
Diastase activity, 1% starch solution hydrolysed by the enzyme in 1 gram of honey in 1 hour at 40° C	3	Annex G
Hydroxymethyl furfural content mg/kg	40	Annex H

Detailed for example in the Honey Specification are the requirements for honey. Those are comparable with the current EU standards contained within Directive 2001/1/110 EU, illustrated in Table 3. The Annexes referred specify the testing methodology and are included within the Standards. Also included are hygiene requirements, packaging and labelling requirements and the determination of the moisture content.

Current EU standards within Directive 2001/1/110 EU

Characteristics	Specification	Revised CODEX 2001
Moisture %	<20	The same
Fructose + glucose %	>60	The same
Sucrose %	<5	The same
Water insoluble %	<0.1	The same
Electrical conductivity mS.cm-1	<0.8	The same
Free Acid meq. kg-1	<50	The same
Distase activity DN	>8	Honeys with low natural enzyme content >3 DN
HMF mg. kg-1	<40	Honeys of tropical climate and blends <80

For beeswax similar characteristic requirements are set out along with testing methodologies.

Regarding beehives, three different types are subjected to Ethiopian standards, namely:

- Top Bar Hives (termed intermediate)
- Zander Hives (termed modified)
- Langstroth Hives

The standard describes the above-listed hives and their construction in detail. The aim is to improve the quality of those hives, which will replace the traditional log ones.

→ ETHIOPIAN HONEY SPECIFICATION

Historical tests have been undertaken on key parameters for samples undertaken by Ethiopian authorities such as the Biochemical Laboratory of the Ethiopian Authority of Standardisation in 1988, 1994 and 1996, including details on moisture contents (Fichtl and Adi, 1994; Kassaye and Adgaba, 1988; Adgaba, 1996). These have been compared against selected national, regional and international standards.



Comparison between mean of quality state parameters of Ethiopian honey with already set national, regional and international standards (Adgaba 1996 – sourced through: “Review of progress in Ethiopian honey production and marketing” G Y Legesse)

Country / organisation	Moisture content %	Total reducing sugars %	Sucrose content %	Acidity meq/kg	Mineral content %	HMF	Diastase activity in Goethe scale
EU	21	65	5	40	1	40	3-10
FAO/WHO	22-23	65	5-10	40	0.61	80	3-10
Spain	22,5	70	3	5	0.6	-	-
Canada	20	60	8	-	0.25	-	-
Latin America Codex	20	-	8	54	0.8	-	-
Argentina	18	-	8	54	0.4	40	-
Mexico	-	63.9	9	8.52	0.25	-	-
Test samples Ethiopia							
Range	15-32	59-77	0.01-13	17.95	0.01-1.16	0.96-96	1.5-21.4
Mean	20.6	65.6	3.6	39.9	0.23	32.4	6.3

Source: Adgaba 1996

Framework conditions

→ GOVERNMENT POLICY

Government policy is geared towards encouraging the development of the honey and beeswax sector with the objective of generating additional income for smallholders, employment in rural and urban areas for the poor and generation of foreign exchange. As detailed above, this has extended to the attainment and maintenance of accreditation for honey products into EU markets, establishing standards for the honey production sector and encouraging the establishment of accredited laboratories for testing of honey and beeswax for specifications as well as residues. This latter initiative has yet to bear fruit while the adherence to the honey and beeswax production standards is largely dependent on access to foreign testing laboratories that are expensive as well as voluntary.

Government support for the sector has been strong in other areas as well. Within the Ministry of Agriculture there is a dedicated unit – the Department of Apiculture and Sericulture. This department is responsible for carrying out the Residual Monitoring Plan for the EU accreditation programme.

This department also oversees the training in apiculture in all districts in Ethiopia, including promotion of modern beehive technology. The Bureaus of Agriculture in the Regional States are responsible for the development of beekeeping in their individual respective states. These bureaus plan activity programmes, supply

required beekeeping equipment and accessories, carry out training and extension services at all levels, supervise and provide technical assistance and advice to the farmers, including those involved in apiculture.

→ LEGAL FRAMEWORK

Currently, there is no specific Ethiopian legislation covering export of honey and other bee products. Exports are covered currently under the requirements of the Department of Meat and Dairy Industry of the Ministry of Agriculture. However, the Hive Products Marketing Proclamation is now in the process of being developed through the Department of Apiculture and Sericulture with the process said to be currently 80% complete and the first draft of the Proclamation is in place. It is awaiting its turn to pass through Parliament.

With strong support for and lobbying of the Ethiopian Honey and Beeswax Producers and Exporters Association as well as the Ethiopian Apiculture Board, the overall objective is to formalise the sector. Amongst other areas, it is also expected to:

- Take steps to prevent the ongoing illegal export of honey
- Make the adherence to the three bees and honey related standards mandatory
- Establish a honey quality logo for use in hotels, supermarkets and other retail outlets, certifying that the product has met the required standards
- Establish stringent rules of export procedures based on those required for export to the EU



Specific legislation covering natural products is contained in the Forest Development, Conservation and Utilisation Proclamation 2017. This Proclamation aims to promote sustainable development, conservation and utilisation of forest and forest resources, through promotion and recognition of community ownership and public participation. Regional states remain empowered to set and collect rates of royalty payments for forest outputs.

→ EXPORT PROCEDURES

Although there is no specific legislation yet covering production, processing or export of honey and beeswax, normal export procedures for goods and commodities apply for this sector. Exporters need to be in possession of an export licence as well as the Certificate of Competency in the sector. This latter requirement is generally a one-off procedure at the Ministry of Agriculture, whereby the exporter is assessed for its facilities as well as its capacity for storage, processing, packaging etc.

The export licence is issued by the Department of Trade and Industry – this is renewable annually after initial issue and is dependent on settlement of the annual profits tax. Aside from these requirements, the export requirements will then be more dependent on the needs for the importing country, including issue of Certificates of Origin as needed (through the Chamber of Commerce) and/or phytosanitary certificates (through the Ministry of Agriculture).

→ INSTITUTIONAL FRAMEWORK

Research is carried out through two primary Government institutes – the Melkasa National Bee Research Division and the Holeta Bee Research Centre.

Melkasa National Bee Research Division

The Melkasa National Bee Research Division is a bee research division hosted under the Melkasa Agricultural Research Centre of the Ethiopian Institute of Agricultural Research (EIAR). It is the centre of excellence for overall apiculture research that coordinates all apicultural research activities at national level.

Holeta Bee Research Centre

The Holeta Bee Research Centre is hosted under the Oromia Agriculture Research Institute of the Oromia Regional State. It is the pioneer centre responsible for apiculture research in the country. It undertakes adaptive and applied research on bee botany, bee biology, hive products, bee health, bee management and beekeeping equipment. It coordinates national apicultural research projects, including honeybee diseases and pests. It seeks to develop and increase awareness in appropriate technologies. The center offers beekeeping trainings for beekeepers, development agents and other extension staff as well as for principal investors. At present, apiculture research has begun in SNNPR, Amhara, Tigray, Gambella and Beneshangul Gumuz Regional States.

Ethiopian Honey and Beeswax Producers and Exporters Association (EHBPEA)

Together with the Ethiopian Society of Apiculture Science (ESAS) and the Ethiopian Apiculture Board (EAB), the EHBPEA is an association which provides support for the development interventions in the apiculture sector of Ethiopia. It was founded in 2005 and has now more than 50 members.

Ethiopian Agribusiness Accelerator Platform (EAAP)

As part of the Ethiopian Agricultural Transformation Agency (ATA), the EAAP seeks to build two to three value chains that will meaningfully increase smallholder farmers' incomes and enable Ethiopia to become globally competitive in those commodities and related packaged products. The first value chain to be addressed under the programme is that of honey. Focusing largely on infrastructural and capacity constraints identified as the main factors hampering full potential, this programme will address:

- Incubation – professionalizing smaller enterprises using a readily scalable approach
- Acceleration – scaling relatively mature enterprises
- Ecosystem – focusing on support enterprises including input suppliers, quality testing laboratories, packaging companies



Amongst the expected outcomes of the programme by 2020 are:

- Return to growth in the Ethiopian organic honey export market
- Establishing one or two recognized and widely available domestic honey brands
- One acceleration participant successfully raised growth equity and two to three incubation participants raised seed capital
- Threefold increase in farmer yields as a result of transitioning from traditional to modern beekeeping

Business opportunities

There are a range of business opportunities within the honey and beeswax sector in Ethiopia that are of potential interest to German and other European companies. Amongst others, these include:

- Import of EU-accredited bulk honey for table use
- Opportunity to develop monofloroculture honeys for import to Germany and Europe, including specialist white honeys
- Opportunity to develop scale imports of industrial honey for import to Germany and Europe
- Limited opportunity to expand certified honey for import to Germany and Europe – organic, fair trade in particular
- Opportunity to develop fully traceable honey value chains building on the Ethiopian Agribusiness Accelerator Platform and others
- Opportunity to develop fully branded table honey in jars for the domestic markets through retail, supermarket and hotel sector
- Opportunity to develop scalable quality beeswax production for export through awareness building and enabling traceable raw material supply chains in link with smallholder honey producers
- Ultimately opportunity to develop beeswax refining capacity in Ethiopia targeting premium export markets for cosmetic and pharmaceutical sectors
- Develop opportunities for nationally branded honey-based mead wine (“Tej”) as a quality beverage that is nationally recognised and widely available
- Following on from developing of a national “Tej” brand, explore regional and possibly international export opportunities
- Sourcing honey and beeswax from naturally conserved biosphere forests

Positive current developments and enabling conditions:

- Political commitment from the Ethiopian government, which supports the sub-sector
- Investment incentives such as tax exemptions
- Support from a number of development partners which offer support for the sub-sector
- Intra-African trade agreement between 44 countries
- Various watershed management initiatives, which aim the integration of the apiculture
- Continuously growing und unsatisfied domestic market



Examples of development cooperation:

On behalf of the Federal Ministry for Economic Cooperation and Development (BMZ), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in Ethiopia carries out different projects that support beekeepers in improving the honey value chain.

More information can be found here:

www.giz.de/en/worldwide/38013.html

www.giz.de/en/worldwide/85829.html

www.giz.de/en/worldwide/32209.html



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Economic growth creates jobs, improves people's incomes, and promotes innovation. That is why the United Nations 2030 Agenda provides for the active involvement of the private sector in the implementation of the Sustainable Development Goals (SDGs). The Global Business Network (GBN) Programme encourages local and German companies to get involved in sustainable economic development in selected countries in Africa and Asia. Via Business & Cooperation Desks, the GBN-Coordinators provide information, advice and guidance for businesses on existing support, financing and cooperation instruments of German development cooperation. The GBN-Coordinators work closely with the German Chamber of Commerce Abroad (AHK) regional offices. The GBN is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

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NEW MARKETS – NEW OPPORTUNITIES: ETHIOPIA

In order to support the sustainable engagement of German companies in emerging and developing countries, Germany Trade & Invest (GTAI), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the German Chambers of Commerce Abroad (AHKs) as well as other partners combined their expertise in the publication series “New Markets – New Opportunities”.

The booklet shows companies the economic potential of future markets as well as the funding and consulting opportunities offered by the German development cooperation. “New Markets – New Opportunities: A Guide for German Companies” is supported by the Federal Ministry for Economic Cooperation and Development (BMZ). All issues are published on the websites of GTAI and GIZ. You can find selected issues, for example on Ethiopia, also at

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