

# Bale Eco-Region Sustainable Management Programme (BERSMP) of FARM-Africa, SOS Sahel Ethiopia and Oromia State Forest Enterprises Supervising Agency



The Bale Eco-Region Sustainable Management Programme (BERSMP) has been operating in the Bale Massif since the end of 2006 and aims to bring local communities into a central role in sustainable natural resources management supported by government services, across the whole Bale Massif.

The programme is supported by the Irish, Netherlands and Norwegian embassies.

**Bale Eco-Region Sustainable Management Program  
(BERSMP)**

**NATURAL PRODUCTS BASED ENTERPRISES  
FOR SUSTAINABLE LIVELIHOODS**

**PRIVATE LINKAGES FOR BEES PRODUCTS  
PRODUCERS IN BALE**

**FEASIBILITY STUDY & INVESTMENT PLAN PROPOSAL**

**By  
APM Consult**

**April, 2008  
Addis Ababa**

## Executive Summary

This Business plan of linking the private sector with honey and bee products producers (farmers and communities) has been prepared with the understanding that important institutions and development activities are set up or under establishment including;

- The Goba Natural Products Center (as part of the Natural Products Based Enterprises for sustainable livelihoods)
- Bale Mountains National Park: General Management 10 year Plan (2007-2017)
- Bale Eco Region Sustainable Management Program
- The Natural Resource Products in Bale Mountains (study)

The above institutions and projects are desirous of seeing the private sector enter the honey and bee products sector to energize the production through improved inputs and management training, product handling, value addition and marketing nationally and internationally. A parallel development of Farmers Organizations (multi and primary cooperatives and their respective unions) is also seen essential to work in concert with the private sector

Current efforts at local and Woreda level to establish Cooperatives are yielding good effects, such as the Association of Retired Civil Servants. Most of these show some weakness in organization management and financing. Linking them with the private sector and the continued assistance of the above Projects, especially BERSMP greatly facilitate the proposed linkage.

Following the Field Study, the APM Consult Team considered several Private sector firms in honey/beeswax and bee products. The Team short-listed BEZA MAR and APINEC as potential private companies to enter the Bale and Arsi Zone areas covered by the BERSMP. BEZA MAR expressed its readiness to invest in the Bale Area while APINEC is interested to invest in the South Arsi Zone area of the Project. APINEC stated its readiness and interest to do capacity building, using its experience and doing this in partnership with APM Consult (currently conducting **queen rearing courses**). APINEC's initial investment is in the South Arsi Zone Area in the Adola-Dodola Development Cluster requiring 60 ha (including areas for the processing area and investment headquarters).

BEZA MAR is willing to invest immediately the sum of birr--- from its own and Bank Loan. The company needs and requests land for establishing apiaries and establish its processing plant at the following **Development Cluster Areas**, namely: **(1) Delo Mena town for the dry land savanna cluster, (2) Harena forest at Rira, (3) Goba/Robe/Dinsho cluster.** A total of 240 ha is required (80 ha per Development Cluster) for Beza Mar investment. Cluster 2 (Harena forest) includes forest Coffee as this large forest has 80,000 ha forest coffee at a density of 1,200 coffee trees/ha.

# Introduction to the Business Plan and Management

The study has established the decline of beekeeping in the Bale and Arsi Zones as elsewhere in the country. The key reason is that beekeeping has remained traditional and the role of the private sector is recent and not significant.

The overall purpose of the business plan and management, presented here is based on forging linkage between the producers and their rural based organizations with the private sector. Two private business firms have been identified who have subsequently expressed interest to invest and work with local producers and their organizations.

The Ethiopian/Oromia government, through BERSMP and the Woreda Agriculture and Rural Development (especially the Cooperative Desks at all levels) are expected to facilitate this new development partnership. Capacity building at all levels, especially that of farmers and their organization hold the key to the success of this private-communities link program.

## Products & Services

**The Products:** The products through the private sector linkage with the producers in the Bale Region are:

1. Unrefined and Refined organic honey
2. Beeswax
3. Other Bee Products (pollen, royal jelly, propolis, venom, etc)

Derived from the first product is tej and birz and to a lesser extent, honey liquor. But the primary export products are honey and beeswax at present.

**Services (covering the value chain):** One of the key rationales of assisting and enabling the private sector to enter into the sector and work with the local producers and their organizations is that the private sector is able to provide many of the essential services through formal and informal linkage with local producers more efficiently and economically. The Private sector will gradually reduce and replace the contribution of the public (government) sector. The services that will be provided include:

1. Production inputs (top bar & box hives and credit services)
2. Harvesting and primary processing tools, equipment & credit
3. Value addition
4. Product labeling & certification of primary and export products
5. Market information and practical training and demonstration
6. Trained manpower development at all levels and along the value chain

The government and BERSMP are currently attempting to provide the services above except 4 and 5. The private sector with its linkage with the primary products producers will make the above products globally competent and Ethiopia will be able to export and at the same time is able to substitute imported honey

## **1. INTRODUCTION & BACKGROUND**

Beza Mar Plc's objective is the production, processing and marketing of apiculture products (especially honey and bees wax) and organic forest coffee. This business plan is for a new venture in the Bale areas.

Bez Mar has already made the business decision to engage in the activities. However, there has been the need for a well prepared business plan, which will serve both to guide the activities of the company in Bale and to apply for a short period bank loan. The business plan focuses on strategies of production, marketing and product mix definition in addition to stipulating techno-economic aspects of the venture.

This business plan document presents the technical and financial feasibility of the project. Background and justification for the project, description of the project area, overview of the market for honey and beeswax, details of the project requirements and the main activities for the production and collection of honey and beeswax export of the processed honey and beeswax and the financial analysis for the project are explained in detail. The study report (undertaken by BERSMP) contains field information which provides technical information and justification for investment by the private sector.

Current efforts to improve roads, air links and improve energy supply and improve communication make the investment plan timely.

## **2. RATIONALE & JUSTIFICATION**

### ***2.1. General***

#### ***Honey/beeswax***

Different studies indicate that the current annual average productions of honey and beeswax in Ethiopia are estimated at 43,000 and 5,000 tones respectively. More than 95% of the production system is very traditional with low productivity and inferior quality. However, it is also indicated that there is a potential to increase this production many folds by adopting improved beekeeping and processing technologies. Despite such potential the apicultural production sector of the country is not yet well developed to fully benefit. From the many factors for such under utilization the absence of a well developed value chain for the farming, collection and processing and marketing of bee products is the major ones.

Beza Mar was established in response to the above gap in the apiculture sub-sector. Its operational philosophy is establishing and using linkages with bee farmers and their organizations. Its core activities are:

- (a) Field level collection/production,
- (b) Processing of honey, bees wax and natural forest coffee,
- (c) Marketing of the products in EU countries and others
- (d) Assist the BERSMP and local government in capacity building

The strategic interest and core business of the new Bale Venture is to:

1. Establish a sustainable link between the traditional Bale area bee farmers to carry out successful business in Api products (honey and beeswax) as well as in the production and export of organic coffee.
2. establish modern apiaries in the Bale areas and introduce modern beekeeping management to the beekeepers in the area
3. Develop and operate efficient sales outlets both domestically and abroad, especially the EU countries and the Middle East.

4. Introduce technologies in the beekeeping sector experience in seasonal beekeeping methods, pollination and queen rearing services as well as in extraction, processing and marketing

Establish a quality control laboratory in the Bale Region in close collaboration with the Ethiopian Standards & Quality Control Authority and Certifying Private firms

## ***2.2. Investment Rationale and Justification***

Honey, coffee and beeswax have been traditional items of trade in Ethiopia, while wax is also exported. The traditional methods of both production and handling of these products, however, have remained unchanged until now. Quality and standards of honey and coffee for domestic and export market have hardly been developed. What has changed drastically over the years is that bee forage species, especially trees and woody perennials are gradually disappearing from the landscape, and the vegetation is degrading in many areas. As a result, honey production hardly meets national demand and there is even some import of table honey from other countries.

Both the global and national demand for honey and coffee is growing at a very fast rate making it possible to enter into enterprise in honey and beeswax production, processing and marketing. Local knowledge and experience in beekeeping and coffee growing in Ethiopia is a good base to launch into modern beekeeping and coffee enterprise. The rationale for this Bale business venture is the huge potential volume of crude honey and coffee from the BERSMP region.

The government and BERSMP in beekeeping is a good starting point for private sector and the local producers working together enabling farmers in getting involved in better beekeeping and related livelihoods and farm enterprise. This serves as source of diversified additional income, hence bringing increasing and continuous supply of honey to the market. In terms of demand, there is a great change in the attitudes of consumers towards natural products such as honey which

is increasingly becoming a preferred natural product. There is also a growing consumption of table honey, displacing sugar consumption.

This business venture is composed of two major production and marketing lines. These are the production, collection and processing of honey and beeswax and the production of organic forest coffee. The management of forest coffee has a dual role; it serves as a nectar source (pollination) for the bee colonies established in the forest coffee groves as well as to directly contribute to the income of the company and communities through increased yield of the coffee beans and honey/beeswax as well.

### **3. MARKET STUDY**

#### **3.1. Honey and Beeswax**

##### ***3.1.1. Product Description and Target Market***

The main products of the company in close linkage with the cooperatives are:

- Refined honey (bottled) for domestic market (20%) and for export
- Bulk honey for export market (80%)
- Bees Wax for export
- Forest and plantation Coffee for export

An integrated api chain control is vital for the export markets and that opportunities lie in: 1) Organic honey; 2) Special honey like “monoflora coffee honey”; multiflora Bale zone honey etc. and 3) Other api products like organic cleaned wax, pollen, propolis, royal jelly etc. The venture will export api products including wax, organic “Bale-honey”, organic forest coffee etc. and it will provide professional services to farmers in beekeeping and coffee growing and processing. Also it will be processing quality honey branded and packed in different types of honey sold in different types of sales outlets: hotels/restaurants, institutions, supermarkets, trade fairs, airport, and personal orders. Creative packaging system will be used to meet the demands of different tastes of customers. The EU market will be the first target market.

### **3.1.2. Demand Situation**

Market opportunity studies indicated that quite large amount of honey is imported to European Union (EU) and non- EU countries, like the Middle East countries, Japan and USA, from Australia, Canada, Argentina, China and Mexico. It is also shown that the importers have high inclination and interest to import Ethiopian honey. However, different countries have different standards and preferences in terms of color, floral origin, and organic nature of honey. So it is very essential to get adequate information on customers' preferences, which is very important to penetrate into the European, USA and Middle East market and get some of the share.

#### **World Honey Imports**

World honey imports amounted to almost 360 000 tones in 2001. The main import market is the European Union, which absorbed 44% of global honey import in 2001. Almost 75% of the EU's total honey imports in 2001 went to Germany (92 000 tones) and the United Kingdom (23 000 tones). The EU has a honey deficit and must usually import about half of the honey consumed, self- sufficiency in 2001/02 being 45.9%.

With regard to beeswax, it has been a major valuable export commodity for Ethiopia. From 1994-96, Ethiopia has been exporting an average of 320 tons of beeswax generating an average of 8 million Birr. There is high demand for Ethiopian wax in the world market, due to its high quality. With improvement in the processing of api products, the firm would be able to produce a quality of beeswax to generate more export and revenue for the country and reverse the downward trend seen in the past few years. The company plans to export 60 tons (3 containers per year) of Beeswax to generate about over1.3 million Birr.

Global imports were declining in the period 1999-2003 -in value terms- and showed a negative average annual growth of 0.1 percent. However, in terms of volume, beeswax imports had a positive average annual growth of 2.4 percent in the same

period. Imports of beeswax were declining from USD 40 million in 1999 to 35 million in the year 2002, but showed growth again in 2003 and amounted USD 42 million.

As indicated in a study this recession of imports can be explained by the decline of the entire beekeeping market caused by the pest and viral attacks. The Share of developing countries (DC) in Global imports slightly decreased in 2003 (44.2 percent) by 1.8 percent, compared to the year 2002 (46 percent).

### **Principal Importing Countries**

Total imports in 2003 were worth USD 47 million; increasing 22 percent compared to 2002. The imports are finally recovering from difficult times, as important over the period 1999-2003 have been (growing) only 1 percent per year on average.

The USA was the largest import market for beeswax in 2003, valuing USD 7 million or 2 thousands tones. It increased its imports in value terms by 55 percent in 2003, compared to 2002. Other major markets are situated in the EU: Germany (USD 6 million), France (USD 4 million), the UK (USD 4 million) and Greece (USD 3 million). In general, it is an attractive product for DC. They have significant shares in the imports of these major markets, with Germany being the relatively best buyer. It purchases 70 percent from DC. For Ethiopia, Greece is the major client, as 7 percent of its imports, in value terms, originate in this country. Tanzania, Algeria and South Africa are the most important African markets, although volumes are not very significant yet. It is possible that some part of these imports is used for re-exports.

### **Supply Situation**

The past five years some enterprises have been active to introduce table honey to super markets in Addis Ababa. Sales estimates for Addis Ababa are approx. 150.000 kg yearly and increasing by 15-20% per year. In other large cities a similar trend is observed though with a smaller initial volume. The Addis market imports 3% of its annual consumption.

No official export of honey from Ethiopia is to Europe until now. Some limited quantity of export is recorded to Sudan and to Yemen. With this partnership, Beza Mar will have a better chance of exporting honey to Europe and the Middle East. This partnership would work to get the necessary standards and organic certificate to attract both the European and Middle East markets. The process has already been started.

The world's major producer region is Asia, followed by Europe and Northern and Central America. In the context of world trade, China is the major exporter and the European Union is the major importer. According to FAO statistics, world honey production in 2002 totaled over 1.2 million tones. It increased by 6.8% in the period 1998-2002. In 2002 the European Union was the third largest producer, with 112 000 tones, after China (258 000 tones) and the Newly Independent States (136 000 tones). Other major Producers are the United State (100 000 tones) and Argentina (85 000 tones). World trade accounts for about one third of total honey production according to FAO figures.

### **World Honey Exports**

Global exports of honey were 360 000 tones in 2001. China exported 41% of its output in 2001, accounting 30% of total world trade. The main markets for Chinese honey are, in order of importance, Japan, the United States and Germany. However, health restriction imposed on Chinese honey following the discovery of banned substances in animal products from China, and smaller harvests in the past few years, have contributed to changes in world export flows.

The EU's three major honey producers are Spain, Germany and France, with 33 000 tones, 26 000 tones and 25 000 tones of honey respectively in 2001/02. Honey production in the European Union was steady from 1999 to 2002. While honey imports remained stable in 1998-2002 overall, Argentina became the EU's leading supplier, accounting for 36% of total community honey imports in 2002, and China

slipped into fourth place (9%), behind Mexico (12%) and Hungary (10%). The EU exports about 8000 tones, representing just 6% of output in 2002.

### **Principal Suppliers**

China dominates supplies EU countries Germany, France and Greece. Japan buys its beeswax from Tanzania (38 percent), Vietnam (17 percent, re-exporter for China during the ban) and Ethiopia (13 percent). The USA's main suppliers are Canada (28 percent), Germany (15 percent) and China (13 percent).

### **Price and Other Elements**

The price of processed table honey at supermarkets in Addis Ababa varies from supermarket to supermarket. There are several kinds of honey products including imported honey (for example from Greece). For example, 455 gms. Of Greek honey is sold for Euro 8 at Bambis supermarket, while the Ethiopian honey is sold for only Euro 1.4 -1.6 per 500 gm.

During the production season, beekeepers in the project area normally get 11-14 Birr per kg for unrestricted, unrefined honey (crude comb of which 70% honey is extracted). The price of home - processed (un-bottled) honey on the roadside outside Addis Ababa varies from 12 to 16 Br/kg. Although it's difficult to find quality honey from those roadside traders, the processed honey has good taste and strong flavors. Local retail average price per kg from 1999 till today remained almost constant at 25-35 Ethiopian Birr (about 2.5-3.5 EURO) per kg.

The overseas price depends on quality and the country's harvesting methods. The highest price for Ethiopian beeswax was USD 2,800 per ton, while the lowest was USD 2,450. When comparing prices, it can be said that Ethiopian exporters can compete with other exporters of beeswax, like china and Tanzania and also to some extent Australia, certainly when distance are taken into account, which obviously increase C&F prices.

Beside these prices, CIF prices could give a very rough indication of the price level in the world market. By dividing the value of imports of a country by the corresponding volumes, a very rough idea can be obtained of the CIF-value per ton. However, when comparing prices and drawing conclusions, one should be extremely cautious, because many factors may play a role. These factors are, for example, the type of beeswax, quality, variety, added value, packaging, distance to the market, distribution channels, competition levels, end-users (which are industries) and demand in the destination country. Nevertheless, a very rough indication can be given.

### ***3.2. Forest Coffee***

To increase the market share of organic grown coffee in the EU markets, much more attention must be paid to branding and promotion, in addition to quality. It is estimated that consumers in the 11 major EU member states used approximately 27.4 million kilograms of certified organic coffees in 2004, constituting more than 1 percent of total coffee sales in Europe. Fair trade will continue for at least a few years to be the volume leader among these coffees in Europe while organic certification is growing at a faster rate. Eco-friendly and shade-grown or bird-friendly certifications have just begun to reach Europe.

Germany is Europe's largest market for sustainable coffees (organic and Fair Trade) followed by The Netherlands and the UK. Market share is highest in Denmark (3.4%), followed by the Netherlands (2.9%). Sweden and Germany take an intermediate position with market shares of 1.6 and 1.1 percent respectively. The market share of organic coffee is much lower in France and Italy (0.4 and 0.3 % respectively). However, recently the sustainable coffee has become more widely available in both countries and future growth is expected. The UK market is a special case due to the very high market share of soluble coffee. Increased quality and professionalism have earned both fair trade and organic coffees more space in retail outlets. In the Scandinavian countries the market is already highly

concentrated, with the largest roaster accounting for 90 percent of the organic coffee market.

Although the price differential over conventional coffee is large, the proportion of organic coffee is steadily growing. However, since more retailers and more brands offer organic and fair trade coffees, competition will bring down prices. According to a survey conducted among industry sources, most important factors for future expansion are consistency of supply followed by quality and awareness. More than 80 percent of organic coffee is sold through the retail channel, 20 percent through the catering sector. Many of the speciality retailers including coffee shops, fair trade stores, health food stores, have seen their market share decrease. Certified organic coffee will find buyers in these markets. Volume of production may be of concern here in Bale region. The firm will need to establish strategic partnerships with other big volume coffee exporters.

### ***3.3. Marketing Strategies***

Grading, labeling, quality packaging and advertising will be key elements of the marketing strategy. The company also wants to have an innovative approach of marketing by displaying its quality products at the Addis Ababa International airport. On the average, about 49 tons of honey was transported by a number of passengers to various countries of the world over the years between 1994 -2000. If the company arranges certification of export from the concerned agencies easing the problem of customs, more honey would be sold, also at the airport. Conventional marketing and promotion strategies will be adopted both for the local and export markets as appropriate. This may include: advertising, participating in trade fairs, distribution of promotional leaflets and other documentation in appropriate locations and events.

### **Competitive Analysis**

Generally, competitors and their pricing will have a direct effect on the potential of firm's trade opportunities. It is, therefore, important to learn more about the competitive environment. The company shall continually follow up the competitive

environment through different means. It will also prepare a list of all the competition and then pinpoint who the main competitors are. To learn more about competition secondary research study can be done by asking customers and suppliers for their opinions. Although price will always remain an important competitive tool, it is certainly not the only instrument to use as a competitive tool. The following instruments, as mentioned by leading importers of food ingredients in some EU countries, are equally important, namely:

Consistent and high product quality according to specifications of importers

- Steady supply of products
- Appropriate certifications
- Reliability in supply and honoring agreements with EU and other trade partners
- Complete product specifications
- Good packaging and effective logistics system
- Quality of shipment conforming samples sent
- On time delivery according to agreed delivery terms
- Well organized paperwork and clear communication with importers

### **Compliance to Environmental and Market Requirements**

Environmental aspects of products have become a major issue in Europe in recent periods. Depending on the product group in question, environmental aspects can play a vital role in preparing for exports to the European market. Besides governmental actions (legislation), a strong consumer movement is noticeable especially in some parts of the EU. Several instruments are used to show environmental compliance to particular market requirements, like for example labels, management systems and codes of conduct.

During the last few years, several food scandals erupted in some EU countries. Consumers became increasingly concerned about food safety, leading to substantial decline in sales of products affected. In order to reassure consumers and restore confidence in food products, legislation on food products has become more stringent and increasingly complex. Moreover, there are legislative requirements concerning

packaging and labeling, products' composition, additives, contaminants, environments and for a number of product groups legislation concerning on the product itself. Specifically the EU, Directive 2001/110/EC lays down requirements relating to honey. The Directive lays down composition criteria and labeling requirements for honey marketed in the EU.

Social requirements, focusing on improving labour standards mainly in developing countries, are of growing importance. These could be requested through instruments such as product labels, policies and codes of conduct, suppliers' declarations and management systems. The requirements and instruments make up the company's Corporate Social Responsibility (CSR) policy. The growing awareness of social issues has resulted in initiatives like social labels, codes of conduct and management systems. These are considered 'voluntary' instruments because they are a response to market incentives (including the demands of business partners) rather than to public law or legislation.

Thus, the company will be aware of the above market and environmental requirements and take necessary steps to constantly comply with such requirements.

## **4. TECHNICAL STUDY**

### ***4.1. The Project Area***

The new investment program is the BERSMP operation area in Bale Zone. This choice is based on the results of the “ Study on Private sector linkages for Honey and Bee Product Producers in Bale” . Both beekeeping and forest coffee production potentials are said to be good for the private sector to enter in partnership with the local producers and their organizations. The BERSMP area is well suited for the production of quality honey (i.e., table honey, wine/tej making, and medicinal properties). Endowed with abundance species of trees, fauna and flora, the region is nationally considered high potential producer of honey when compared to other regions. In addition, there is a semi-skilled labor force that has a relatively good knowledge of honey production, collection and processing. The company would reduce the cost of production and bulking by processing a good portion of the honey on site and ship the finished products to both domestic and export outlets. While the production, processing and packing of the products would take place in Bale Zone (one of the three clusters), most of the marketing would be in Addis Ababa and the EU market.

### ***4.2. Production Process***

The main ingredient used to produce a) refined honey, b) bulk honey and c) wax is crude honey:

- Produced at Company’s apiary sites and by its out growers using modern production and harvesting techniques, and
- Bought from other targeted area farmers trained and supported by the company and BERSMP.

#### ***4.2.1 Production***

The company will have 1000 box hives to produce on average a total of 40,000 kgs of honey per year. In each apiary site, there will be 100 hives, each producing an average of 40 kg/hive. The company will buy a total of 100,000 kgs of honey from

local honey producers starting from year 1, and increasing to 260,000 kg in subsequent year. The honey will be processed using internationally accepted modern processing and packing equipment (see attached specification). About 20% of the processed honey will be bottled and labeled for sale in local markets, while 80% of the honey will be exported in bulk for international markets. The company will also process about 60,000 kg of the highly demanded Ethiopian beeswax every year for the international market.

Beza Mar will work closely to enhance the production of forest honey by the current producers, especially in Harena forest. The company will also plant and manage coffee at its apiary sites. At present there is an estimated 80,000 of forest coffee with an average density of 1,200 coffee trees. The average yield per tree is at present very low (under 300 kg/ha or 3 qt/ha). The new enrichment coffee production will begin after the 4th year with estimated production of more than three times current yield (to 9 to 10 qt/ha). Coffee yields will continue to improve as the trees mature after the 6th year from planting (up to 25 qt/ha).

#### ***4.2.2. Purchasing and Collection***

This is the key function that Beza Mar will perform, and will guarantee to buy honey at a fixed and fair price with in the Bale zone. The company will pay farmers cash on the spot at the time of collecting the honey. This will be important in providing the farmers with the incentive to take up and continue with beekeeping. In addition to this commitment to offer the farmers a fixed price for their honey year round through long-term contracts will help to bolster farmers' confidence and provide an important incentive for them to take up modern beekeeping.

#### ***4.3. Honey Processing***

The processing units will be equipped with the necessary latest machineries, equipment and accessories and other materials, which are suitable for processing of high quality table honey that meets honey market standards. Moreover, the honey-processing plant will have storage and marketing containers such as retail jars large size plastic barrels for bulk export.

The honey brought from the collection centers will be stored in suitable storage room depending on the need of the plants operation calendar. If it is for immediate utilization it should be directly kept in the warming room and should be treated to avoid complete and hard crystallization and to keep the honey in viscose form.

Then the honey is placed in a double jacketed, thermostatic stainless steel mixing tank to facilitate the flow of honey to the next step. The honey heater and mixer will be equipped with thick stainless steel sieve and agitator to stir the honey while it is warming.

The next step is to drain the honey into filtration. While the liquid honey is drained to the next step it is allowed to pass through different filters. On line filters retain impurities and allow passing the liquid honey. After filtration the honey is pumped to settling tank up to fillings in retail jars.

A mini- size quality control laboratory for the analysis of honey will be arranged along with the honey - processing unit. But most of the quality problems will be avoided at farm gates through necessary training. Some of the tests, which required advanced equipment, will be done by the Ethiopia Quality and standard Authority laboratory at Addis.

The intended honey processing and packing plant will have an annual capacity of processing 300,000 kg of pure honey in its full capacity which is an average of 1000 kg per day for approximately 300 working days (8hrs a day) in a year. The plant would increase its annual capacity either by increasing its working hours or by upgrading the capacity of the machine, which will depend on the market demand and production in the area.

#### **4.4. Out-growers Scheme and Production Schedule**

##### **4.4.1. Out-growers Scheme**

Beza Mar Agro-Industry will work with out-growers in the area mainly in two aspects. The first one is directly providing support in the form of improved beehives. The other is by providing training and demonstration services in modern bee keeping to the farmers in the area. Beza plans to establish an out-growers scheme with the support of a revolving fund to be used for the distribution of improved beehives.

Beza shall distribute 1000 beehives in the first year to selected farmers. The arrangement with these farmers shall be for them to pay back the cost of the hives in 2 years with the sale of the honey they produce. The income to be generated from this arrangement shall be channeled to the revolving fund so that every year some 330 additional hives can be distributed. If this is continued until the tenth year of the project, it will make the total number of hives distributed to 11,000. This will obviously contribute the volume and quality of honey to be produced with in the area. Appropriate contractual arrangements and extension services shall be accorded to make this scheme viable. This may require transparency and continually collaborating with the out-growers in a participatory manner.

##### **4.4.2. Production Schedule**

The table below shows the production schedule for the first ten years. It shall be noted here that the proportion of quality honey purchased from Beza's out-growers increases significantly towards the tenth year.

Year	1	2	3	4	5	6	7	8	9	10
-Total number of own hives	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
-Total number of out growers hives	1,000	1,330	1,660	1,990	2,320	2,650	2,980	3,310	3,640	3,970
Average Honey production from own apiaries kg/year	-	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
Total honey collected from local market/kg/year	100,000	110,000	160,000	260,000	260,000	260,000	260,000	260,000	260,000	260,000
-Honey purchased from out growers	15,000	19,950	26,534	35,290	46,935	62,424	83,024	110,421	146,860	195,324
Total honey produced and collected from local market kg/year	100,000	150,000	200,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Total bees wax collected from the local market kg	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Forest coffee produced kg/year	0	0	0	9600	17,600	25,600	25	600	25	600

## 5. ORGANIZATIONAL STRUCTURE AND MANAGEMENT

### 5.1. General

The overall management of the project activities will be carried out from the office in Bale with some assistance from the Adama situated head quarters. There will also be an office in Addis which will liaison on the project's behalf on issues of procurement, marketing and export operations.

As depicted on the organizational structure below, the project will have the following main functional units:

- the manager with an accountant, a procurement and export assistant, and a secretary and office manager for the Addis Ababa office,

at the Bale office the operations manager, finance and administration head, a processing operations and technique assistant, and technicians for

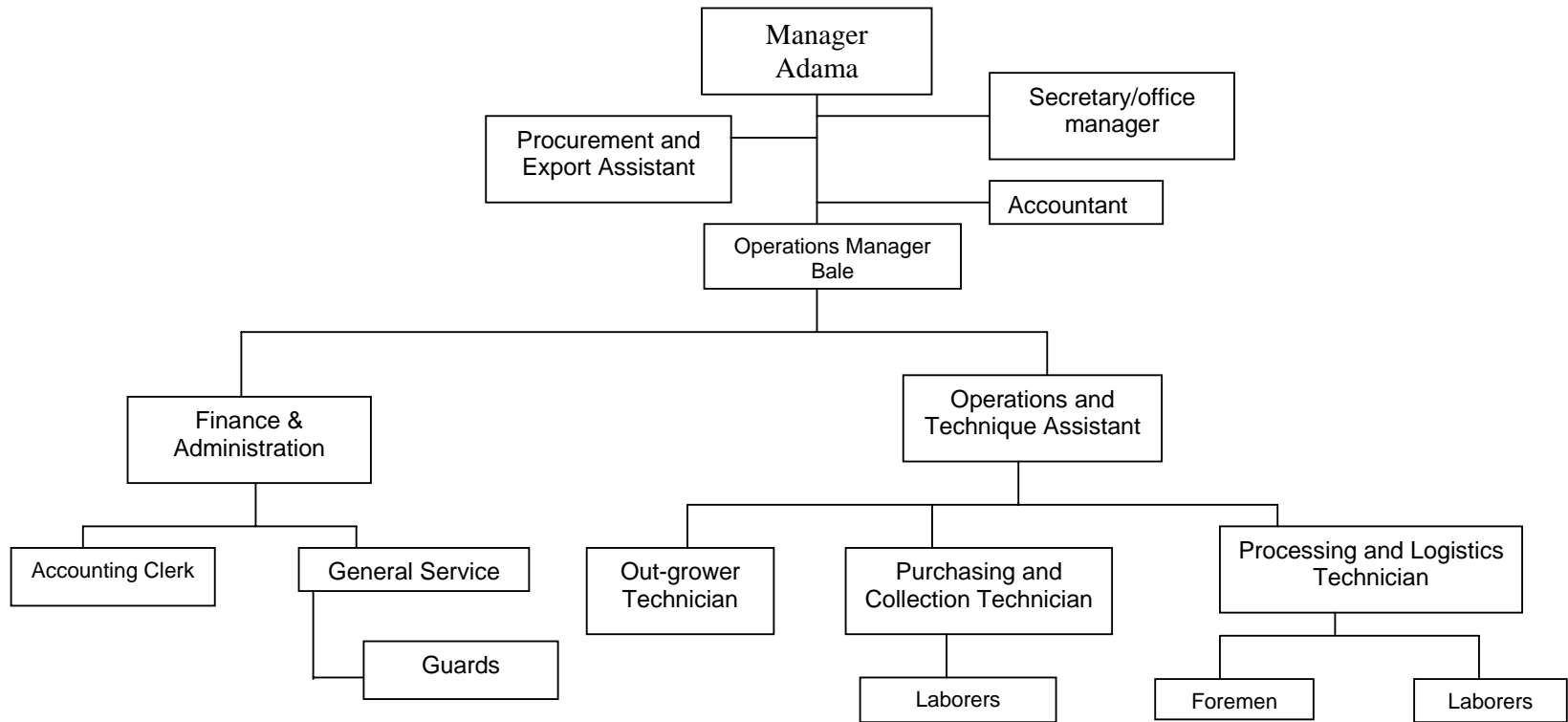
purchasing, collection, processing and out-grower support operations will be stationed.

The major functions of the units in the organizational structure are presented in the next sections. The detailed job descriptions, qualifications and manning levels shall be worked out during implementation of the project

### ***5.2. Office of the Manger***

The manager of the project shall work from the Adama office with frequent travel to Bale. In general the office shall undertake:

- planning, coordination, and control of the overall activities of the project
- major procurements
- marketing for local and export markets
- representing the company in legal matters with advise from a legal expert to be held in retention.
- report and deal with the shareholders and other stakeholders of the company in matters pertaining to the overall implementation and management of the project



The units/teams directly accountable to the manager will generally be responsible to provide technical assistance to him/her for the successful financial and operational management of Beza, export and marketing and local and international procurements.

The unit/team comprises the operations manager, the procurement and export assistant, the accountant, and the secretary/office manager and shall assist the manager the following main activities:

- Overall management of the direct operations,
- Accounting and financial management of Beza
- Plan and follow-up local and international procurements for Beza
- Planning and follow up of the export operations of Beza and coordinating it with the Bale operations.

### **5.3. *Office of the Operations Manager***

The organizational structure of the office of the operations manager has been designed to attend to the main activities of Beza. The following are brief descriptions of the units and sub units under the operations manager.

- Finance and administration: this unit will oversee the administrative and financial operations. It will be responsible for the personnel management, the financial management and accounting, property administration, farm clinic and general support service provision to other units.
- Operations and technique Assistant: this unit has three technicians responsible for the out-grower activities, purchasing and collection and processing and logistics operations. Each shall have the required number of laborers and foremen.

## 6. PROJECT REQUIREMENTS AND COSTS

INVESTMENT PLAN	Total	Equity	Loan
<b>FIXED INVESTMENT</b>			
Land Development	100,000	100,000	0
Honey and wax processing equipment	616,096	386,096	230,000
Honey production equipments	530,000	530,000	0
Extraction and honey handling	145,775	145,775	0
Laboratory equipments	10,504	10,504	0
Vehicles ( pick up and truck)	1,069,900	269,900	800,000
Buildings ( civil works)	779,938	200,000	579,938
Office furniture and equipments	32,000	32,000	0
Out grower Scheme Fund	230,000	0	230,000
<b>Total Fixed Investment</b>	<b>3,514,213</b>	<b>1,674,275</b>	<b>1,839,938</b>
<b>PRE-OPERATING INVESTMENT</b>			
Bill of quantity, design approval	18,188	18,188	0
Consultancy	35,000	35,000	0
Machinery transportation and commissioning	130,000	130,000	0
Land Tax during project implementation period	17,482	17,482	0
Project management	75,000	75,000	0
<b>Total Pre-Operating Investment (POI)</b>	<b>275,670</b>	<b>275,670</b>	<b>0</b>
<b>TOTAL INVESTMENTS</b>	<b>3,789,883</b>	<b>1,949,945</b>	<b>1,839,938</b>
<b>WORKING CAPITAL</b>			
<b>DIRECT OPERATING COST</b>			
Direct Operating cost			
Labor	50,000		
Raw Materials	1,993,150		
Export Expenses	63,000		
Administration Expenses	132,482		
Sales promotion activities	52,000		
Organic certification	78,000		
<b>Total Direct Operating Costs</b>	<b>2,368,632</b>		
<b>INDIRECT OPERATING COSTS</b>			
Indirect Operating Cost			
Salary & Wage	304,200		
<b>Total Indirect Operating Costs (1)</b>	<b>304,200</b>		
<b>TOTAL ANNUAL OPERATING COSTS</b>	<b>3,554,832</b>		
<b>WORKING CAPITAL REQUIRED</b>	<b>1,647,104</b>	<b>494,131</b>	<b>1,152,973</b>
<b>TOTAL PROJECT COST</b>	<b>5,437,887</b>	<b>2,444,976</b>	<b>2,992,911</b>
DEBT TO EQUITY SHARE (%)	100%	45%	55%

<b>KEY FINANCIAL ASSUMPTIONS</b>	
Start up year	2008
Annual Turn Over	2.2
Percent of Working Capital Loan (in decimal)	70%
Sales for Year 1	3,629,320
Sales Growth	7%
Annual Increases in Cost Items	10%
Interest Rate Long-term	7.5
Interest Rate Over draft	7.5
Terms of Loans (Years)	7
Cash Sales Percent	100%
Tax Rate	35%
Tax Holiday (Years)	5
Sensitivity test	
Reduction in Sales	10%
Increase in Cost of Production	10%
Increase in Investment cost	50%
Depreciation and Amortization	
Land Development	5%
Extraction and honey handling	5%
Laboratory equipments	5%
Vehicles and Others	5%
Buildings ( civil works)	3%
Outgrowing Scheme Fund	5%
PRE-OPERATING INVESTMENT	5%

### **6.1. Sources of Finance**

The required investment of ETB 5,437,887 for initial capital investments and initial working capital will be financed with a bank loan and with Beza Mars's own equity. The bank loan will be ETB 2,992,911 (55%) and that the remaining amount of ETB 2,444,976 (45%) is financed with Company's own equity.

### **6.2. Bank Loan and Repayment Schedule**

The bank loan will be for a period of 7years, with an annual interest rate of 7.5%. Repayment will start at the beginning of the 1st production year. The repayment schedule and interest payments are shown in the table below.

**Loan Repayment Schedule and Interest Payments**

Year	Fixed Investment	Principal repayment	Working capital	Principal repayment	Interest	Total Payment
0	1839938		1,152,973		224468	224468
1	1577088	262848	988260	164710	207603	635191
2	1314240	262848	823550	164710	192060	619618
3	1051392	262848	658840	164710	177656	605214
4	788544	262848	494130	164710	164332	591890
5	525696	262848	329120	164710	152007	579565
6	262848	262848	164710	164710	140606	568164
7	-	1839938	-	164710	-	427558
				1,152,973	1258762	4251673

From the annual cash flow of the project for 15 years period it can be seen that the repayment of the bank loan as well as the interest payments can easily be paid.

The cash flow calculation shows a positive cash flow throughout the project. The NPV and IRR are also calculated to be as follows.

<b>After Tax</b>		<b>Before Tax</b>	
NPV at 7.5 % Discounting factor	12,774.936	NPV at 7.5 % Discounting factor	17,830.819
IRR (%)	25.52	IRR (%)	30

**6.3. SENSITIVITY ANALYSIS**

The sensitivity analysis shows what will happen to the profitability of a project when there are changes in the most sensitive parameters that have an influence on the results of the project. Hence, it also shows the risks of the investments that have to be done.

The factors that will cause the highest risks for the profitability of the project are: (1) Reduction in Sales, (2) Increase in Cost of Production and 3) Increase in Investment cost. The sensitivity analysis carried out with the effect of these three parameters on the NPV and IRR of the project is shown below.

(1) Reduction in sales: 10% reduction in sales revenue.

<b>After Tax</b>		<b>Before Tax</b>	
NPV at 7.5 % Discounting factor	IRR (%)	NPV at 7.5 % Discounting factor	IRR (%)
1,916.240	10.4	2,496.314.66	15

(2) Increase in cost of production: 10% increase in production costs.

<b>After Tax</b>		<b>Before Tax</b>	
NPV at 7.5 % Discounting factor	IRR (%)	NPV at 7.5 % Discounting factor	IRR (%)
7,281,713	19.9	10,163.566	24.3

(3) Increase in investment cost: 50% increase in investment costs.

<b>After Tax</b>		<b>Before Tax</b>	
NPV at 7.5 % Discounting factor	IRR (%)	NPV at 7.5 % Discounting factor	IRR (%)
11,369.04	19.4	16,226.045.29	21.9

From the above tables it can be seen that investment is more sensitive to reduction in sales revenue and less sensitive to increase in investment costs. In all cases the project is profitable.

## 7. PROJECT IMPLEMENTATION PLAN

No	Activities	Months starting from 2008															
		1	2	3	4	5	6	7	8	9	10	11	12				
1.	Procurement of Machineries and Equipments																
2.	Construction of Processing Complex																
3.	Establish apiary sites																
4.	Out-grower scheme																
5.	Installation of machineries and equipments																
6.	Purchase of honey and beeswax																
7.	Processing and Marketing																

## 8. SOCIO-ECONOMIC ASPECTS

The main socio-economic benefits that Beza is going to generate can be categorized into four: 1) Livelihoods and food security of the area via being source of income/market for the surrounding farmers and generation of employment, 2) enhancing the productivity of apicultural production in the region by way of technology transfer, 3) contributing to the regions income by way of taxes and other payments, 4) conservation of the natural forests of the area, through the protection of deforestation as the vegetations would be sources of forage for bees.

In particular the project:

- generates foreign exchange to the nation by exporting api products,
- generates substantial revenue to state treasury in the form of business income tax which amounts to ETB 15,117,069.3 throughout the projects life
- generates profit for the owners of Beza
- Avails employment opportunities to about 79 permanent and over 900 indirect workers.
- Promotes modern be production: out-grower farmers will have around 4,000 improved beehives.
- Contributes to the enhancement of the productivity of honey value chain.
- Contributes to the conservation and sustainable use of natural resources through the promotion and training provided to the farmers in the area. It also contributes to the conservation and expansion of bee colony in the area.

Remarks: The cost and income from Forest coffee is not factored in the investment financing part but is well covered in the narrative. The forest coffee will only increase the profitability of the venture and thus must be included in the implementation process.