

HONEY VALUE CHAIN

Introduction

Bee keeping in Kenya has been practiced since time immemorial. Currently there are two million hives in the country. Most bee keepers in Kenya base their practice on indigenous knowledge which has been passed from one generation to the next.

Areas covered with bees in the country include the mountainous areas, the savannah area, the coastal region and the drier parts of northern Kenya.

Development of Bee Keeping In Kenya

The government of Kenya attempted to introduce modern bee keeping to communities who were already practising the art back in the 1950's. The government further initiated a training program to train honey and beeswax inspectors, with the resultant establishment of beekeeping demonstration centres in various parts of the country.

Between 1967 and 1969, the government of Kenya received a grant from Ox-Farm through Freedom from Hunger Council of Kenya, to carry out a feasibility study to determine the viability of beekeeping as an income generating activity with specific focus on the drier parts of the country.

In 1971 the government of Kenya obtained assistance from Canadian International Development Agency (CIDA) to establish a national project on beekeeping. The project spearheaded the establishment of beekeeping co-operatives, honey refineries and equipment workshops especially of Kenya top bar hives. A major milestone was the establishment of the National Beekeeping Station in 1982.

The structural adjustment programs of the 1990's paved way to liberalization of the beekeeping industry which in turn encouraged privatization and commercialization of equipment and services, with both private and public sector partnerships with respect to equipment manufacture and delivery of extension services.

Several individuals operate at various levels of the value chain as producers, processors and marketers.

The Kenyan government has provided an enabling environment for the implementation of beekeeping activities services in collaboration with the private sector, research and training institutions as well as development partners.

Beekeeping contributes close to 4.3 billion Kenya Shillings annually and production is estimated at, 100,000 metric tons annually. It has therefore become an important enterprise in the livestock sub-sector and there is a ready market for bee products , both locally and internationally.

Inputs for honey

The main inputs required in bee keeping are bees, bee forage, bee hives, equipment and water

Bees



A bee is a social insect which lives in a colony. The bee colony is made up of 3 types of bees as follows:



The Queen

In a bee colony there is only one queen whose function in the hive is to:

- Lay fertile eggs — The queen can lay about 1,500 — 2,000 eggs per day. The eggs are laid only when conditions are favourable and after being mated by the drone. Mating takes place in the air and about 5-7 drones are required. The queen stores the sperms in a spermathaeca and hence requires mating only once in her life time.
- Control the colony behavior and functions through a pheromone (queen substance) which maintains the cohesiveness of the colony.

The Drones

Drones are usually about 300 in number in a colony. Their functions in the colony are:

- To fertilise the queen.
- To control the temperature or to cool the hive. This they do, by flapping their wide wings at a very high speed.

The drones are killed by the worker bees after fertilizing the queen.

The Worker Bees

In a colony, the worker bees are about 60,000 in number. They are the soldiers and are normally female bees. Their functions in the hive are to;

1. Feed the queen, the drones and the brood (young bees).
2. Protect the hive from intruders.
3. Collect nectar, pollen, trees resins, gums and water.
4. Build combs and seal the cracks and crevices in the hive.
5. Clean the hive.

Life Cycle of a Bee

In the development of bees the following takes place:

Fertilized queen moves from one cell to another laying an egg in each. The warmth and moisture generated by a cluster of worker bees, causes eggs hatch after three days.

Larvae are initially fed on royal jelly by nurse bees, then on a mixture of pollen and honey. Each larva spins a cocoon and after two days moults into a pupa.

The pupa becomes a young bee after ten days and emerges from the cocoon.

Eggs, larvae and pupa form what is called the brood. In this development, it takes twenty-one days to produce a worker bee, twenty-four to produce a drone and fifteen to produce a queen from the brood.

Bee Forage

Honey bees depend on a number of plants for nectar, pollen and propolis. They make honey from nectar while pollen is fed to brood as a source of protein. Propolis is used to seal any unwanted openings in the hive.

Key bee Plants



Bottle brush
(*Callistemon citrinus*)



Eucalyptus stricklandii



Acacia xanthophloea



Croton megalocarpus


Erythrina abyssinica



Sunflower (*Helianthus annuus*)

Bee Hives

A hive is a box or some other container where bees live. In Kenya there are three types of hives:

TYPE	ADVANTAGES	DISADVANTAGES
<p>Log Hive</p> 	<p>Materials for construction are locally available, cheap and in most cases they are free.</p> <p>The hives are easily occupied by bees.</p> <p>Beeswax and propolis are relatively high.</p> <p>Hive lasts long due to the hard wood used to make it.</p>	<p>Combs are destroyed during harvesting which forces the bees to build new combs all over again.</p> <p>Swarming is often common due to limited space.</p> <p>Loss of brood during harvesting.</p> <p>Honey production is limited.</p> <p>Honey quality is usually low (mixed with brood , pollen and ashes)</p> <p>Colony disturbance during harvesting</p>

Top Bar Hive



Only one critical dimension in construction i.e. the top bars. Other measurements are not too critical, thus hives can be made with simple tools from relatively cheap local materials, including concrete.

It is easy to lift individual frames to inspect the comb and/or harvest the honey.

It is relatively easy to remove the honey crop and the uniform shape of the honeycomb in the frames makes it easier to extract the honey.

Every comb is accessible without removing the others.

Fewer disturbances to the colony reducing the number of bees flying around when the hive is opened.

The brood can be inspected easily which keeps the beekeeper real control over the management of the hive.

The beekeeper can judge the exact time when combs are ready for honey harvesting.


Quality honey as the combs can be selected free of pollen and brood.

Combs are cut during harvesting, and bees have to make new combs after each harvest.

Bees naturally build comb in deep, catenary curves (the shape made by a chain or rope suspended by its ends).

But the use of preformed foundation inside rectangular frames forces bees to build comb according to *our* requirements, not theirs.

Bees prefer to adjust the size of cells according to their needs.

<p>Langstroth Bee Hive</p> 	<p>Easier to manage</p> <p>Foundation can be plastic or wax(material easily found)</p> <p>More honey is harvested per honey flow season</p>	<p>Slightly difficult to make.</p> <p>A very expensive hive thus unaffordable to many beekeepers.</p> <p>Little or no beeswax is harvested from this hive.</p>
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Bee Equipment

Protective Clothing

This is a set of clothing that is used to protect the beekeeper while inspecting the hive or harvesting honey. It is composed of the veil (headgear), coverall (protect the torso), gloves (protect the hands) and gumboots (protect the feet). The clothing can be made of cotton, nylon or gunny bag material. Materials of light colour are preferred because bees are less attracted to light colour.



b) Smoker

This equipment is used to emit smoke when opening a hive to inspect or harvest honey.



c) Hive tool

This is a curved metallic plate about one foot and it is sharpened at both ends. It is used to pry apart (lever open up) the top bars which may have been glued up by the bees using propolis making it difficult to separate them by hand. It is also used to scrap off propolis stuck on top bar sides.



Bee Brush

While working bees it is important to use a bee brush to gently wipe off bees from the combs, honey containers and the body of the person working on the bees.



Production

The honey production is carried out in an apiary system where farmers have one to several beehives in a portion of the land or on a large scale basis covering a huge area with many beehives. The empty hives are placed high up on trees or suspended between poles and are occupied by passing swarms or stocked.

Siting of the Apiary.

In siting the apiary the following factors are considered:

- Availability of water — where water is not available in a 3 km radius, sugar solution or syrup is placed close to the hives in containers.
- Availability of flowers.
- A sheltered place – The bee hives should be protected from strong sun and wind.
- A place which is free from noise and other disturbances.
- Away from human beings and livestock. The apiary should be sited away from homesteads, pastures and busy roads.

Stocking the Hive; encouraging bees to enter an empty hive or actually putting them in it.

- (i) *Use of Swarm Net* —this is made by fixing a strong wire ring to a bamboo pole. A piece of mosquito netting is sewn onto the ring. Such a net is used for catching a swarm high up on a tree or telephone poles.



The bees which have been caught up by darkness or cold weather during swarming form a nesting swarm by hanging from a tree branch. These can be trapped using a swarm net when inactive and unlikely to sting. Trapped bees are then transferred to a hive.

- (ii) *Use of a Catcher Box* - A catcher box is a small hive which is movable. It is

kept where it is likely to attract bees. In it, there are old combs and wax to attract bees. A week after bees have occupied it, they are transferred to the main hive. Placing a hive in a permanent place and waiting for swarming bees to occupy it. Some old combs, wax and sheep sorrel are placed near and in the hive to attract the swarming bees.

In transferring bees from the net or box after catching them, it is important to know that on a sloping surface, they always move upward. The hive is placed at a higher position than the box containing the swarm and the two are connected by a sloping board.

A few puffs of smoke towards the swarm makes bees move towards the hive on their own. Alternatively the roof of the hive is opened and the swarm shaken into the hive. This is followed by returning the roof to cover the hive.

A honeybee starts the honey making process by visiting a flower and gathering some of its nectar and pollen which is carried into beehives. The nectar is regurgitated into the hexagonal cells where enzymatic reactions convert the nectar into honey. The pollen is used as every day food by the bees. Once honey is ready (capped honey cells) it is harvested by the beekeepers.

Feeding Bees

Bees feed on nectar and pollen from flowers. When flowers are not available, they are fed on sugar made into syrup with water at a ratio of 1:1 by volume. The jar containing syrup is placed about ten meters from the hive and should be cleaned regularly to avoid fermentation of sugar.

Reasons for Feeding Bees

- To maintain the colony. Well-fed bees do not have the tendency to swarm or leave the hive.
- To encourage multiplication. A well fed queen breeds regularly.
- To supplement what bees get from flowers. This is done during dry seasons when flowers are fewer.

Pests and Diseases Control

Pests and disease control is important for farmers to have profitable enterprises.

TYPE	RISK	CONTROL
Wax Moth	They make tunnels in the combs and contaminate honey with their excreta.	Remove and burn all infected combs. Old combs or wax left after harvesting honey should

		immediately be melted
Bee Louse	<p>This is a parasite of bees.</p> <p>The larvae are hatched in the wax and spoil the Combs. The adult louse is found on the thorax of bees. Several can be seen on the queen.</p>	Smoke out the hive using a smoker that has some creosote to control the pest.
Honey Badgers	These are small strong animals which spoil hives and eat honey	Hung hives with wires so that they swing when the badgers climb on them. This makes the badgers to fall therefore discouraging them.
Man	This is a serious pest. Bees make honey as their food but man steals it from them.	Education and enforcement of the law.

HONEY BEE DISEASES

NAME OF DISEASE	CAUSATIVE AGENT	SYMPTOMS	CONTROL/ TREATMENT
NOSEMA	<p>PROTOZOA</p> <p><i>Nosema apis</i></p> <p>It develops within the cells of the epithelium of the mid-gut of adult bees</p> <p>Spreads by bees drifting and package bees</p>	<p>Adult bees of all ages are infected</p> <p>Affects the alimentary canal of the adult bees</p> <p>Infected bees have swollen abdomen.</p> <p>Bees are unable to fly but only crawl.</p> <p>Faeces in and around the hive due to inability to work.</p> <p>Sudden fall in colony strength through shortening of life of individual bees.</p>	<p>Good management – sunny well drained apiary sites.</p> <p>Requeening and strengthening by giving additional capped or emerging brood, sometimes allows population increase and overcomes colony weakness.</p> <p>Treat with 0.1gms of fungillin or fumidil “B” once or twice per year.</p> <p>Routine feeding of Fumidil-B to colonies being moved for pollination purposes would be useful in suppressing Nosema.</p>
ACARINE	INTERNAL MITE	Adult bees of younger age.	Treat by fumigating infected colonies with

	<i>Acarapis woodi</i> (Minute mite which crawls into the bee's thoracic spiracles, choking off its supply of air and possibly secreting a toxin which paralyzes the wing and flight muscles).	Discolouring of tracheal system of bees. Inability of bees to fly Wings held in abnormal position.	chlorobenzilate at 0.5g/colony. Prevent by practising high standards of Sanitary management.
VARROA	EXTERNAL MITE Mites normally seen on abdomen of workers and drones. They are dark brown and hairy measuring 1-1.5mm long.	Stunted growth of young workers and drones. Mortality rate 10-30%.	Use of acaricides e.g. phenothiazone and Paraformeldehyde + naphthalene at 100-150g/colony. Hive entrance should remain open during treatment.
BEE PARALYSIS OR BLACK BEE	VIRUS Acute Bee Paralysis Virus (A.B.P.V) Chronic Bee Paralysis Virus (C.B.P.V) Method of spread is unknown.	Black bee paralysis leading to crawling instead of flying. Shivering of bees. Diagnosis difficult.	None
DYSENTERY	Poor feed and associated with nosema infection Spread by drifting bees, but little or no spread except when nosema is directly involved.	Bees void faeces while in flight. If bees take food containing excess water, the bees are unable to fly, thus faeces are voided within the hive- spotting it.	Provide good feed – avoid poor food such as granulated honey or honey of high water content. Prevent nosema infection Use Fumidil-B

Handling Bees

Bees should not be frightened as doing so makes them wild and sting.

- Beehives should not be approached from the front.
- A smoker must be used properly. Two or three puffs are first blown round the hive. After a few minutes smoke out directly through the entrance holes.
- Bees should not be crushed during handling. This makes the whole colony excited.
- Movement towards the hive should be made quietly to avoid alerting them.
- If stung, the beekeeper should not run away or throw the combs down.
- A bee sting should not be rubbed. A sharp nail or a razorblade should be

used to scrape it off. Pressing causes the poison bag of the sting to release more poison.

- In handling bees, always wear protective clothing. These are a veil, an overall, glove and gumboots.

Cost benefit analysis 20 log hives

Fixed costs of log hives apiary

Fixed Cost	Unit	Unit Price	No. of Units	Input Costs	Depreciation Cost/Year
Log hives	No.	1000	20	20,000	2000
Bee Suit (without gloves)	No.	3000	2	6,000	600
Pair of gloves	No.	380	2	760	76
Pair of Gumboots	No.	800	1	1,600	160
Bee brush	No.	190	1	190	19
Smoker	No.	850	1	850	85
Bucket	No.	200	20	4,000	15
Knife	No.	150	1	150	15
Total Fixed cost				33,550	3355

Variable costs for log hives apiary

ITEM/YEAR	1	2	3	4	5	6	7	8	9	10
Labour (Kshs.)	6300	6615	6946	7293	7658	8041	8443	8865	9308	9773
Transport Kshs.)	500	550	605	666	732	805	886	974	1072	1179
Incidentals (Kshs.)	680	717	755	796	839	885	933	984	1038	1095
TOTAL (Kshs.)	7480	7882	8306	8754	9229	9730	10261	10823	11418	12048

Total costs for log hives apiary

YEAR	1	2	3	4	5	6	7	8	9	10
Fixed Costs	3355	3355	3355	3355	3355	3355	3355	3355	3355	3355
Variable costs	7480	7882	8306	8754	9229	9730	10261	10823	11418	12048

Total Costs	10835	11237	11661	12109	12584	13085	13616	14178	14773	15403
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Income from Sale of Crude Honey

Assumption:

- No. of harvests per year = 3
- Occupation rate = 80%
- Yield per hive per harvest = 10kg

Honey Yield:

$$20 \text{ hives} \times 0.8 \times 10\text{kg} \times 3 \text{ harvests/ year} = 480\text{kg}$$

Revenue:

$$480\text{kg} \times 500/= \text{ per kg} = \text{Kshs}240,000 - (\text{total cost})$$

$$\text{Average Monthly income} = (\text{Kshs. } 240,000 - \text{Total cost}) / 12$$

From the analyses, 20 hives can give a rural farmer some reasonable income. But, with the intricacies of managing traditional log hives (e.g., placement of hives high on trees), and environmental concerns (number of trees to be felled so as to construct them), it will not be very easy for the farmers to manage them in such large numbers. It will be more viable to set up parallel apiaries with the modern hives. They are not only easier to manage, but also produce more than the traditional hives.

Harvesting of Honey

Honey is harvested early in the morning or late in the evening when bees are less active. Following steps are followed:

- Approach the hive quietly and blow smoke around the hive and later through the entrance holes using a smoker. The smoke makes the bees to start eating honey thus becoming heavy and inactive.
- Lift the hive lid and puff smoke into to the surface of the top bars
- Using a hive tool, gently knock upper surface of the top bars to find out where the building of the combs ends. Lift off the last build comb and inspect for ripe honey.

- Cut the combs from each top bar three centimeters from the surface and put them in a clean container rubbing off the bees using a twig/brush.
- The 3 cm of the comb left is for attachment of new combs.
- Place back the bars and do not disturb the brood.

Aggregation and Processing

Aggregation

Aggregation is the collection, gathering and transportation of harvested honey to the refineries for processing. Most beekeepers in Kenya are rural based while processing plants are located in urban areas. Harvested honey is put in plastic containers (jerricans) and loaded onto lorries and trucks for transportation to processing centres.

Honey produced is gathered by individual beekeepers and collected through self-help groups and cooperatives for deliverance to the processing plants. Quality assurance is expected to be adhered to in the factories.

Processing

There are three common methods of extracting honey from the combs which include:

- Using heat to melt the honey.
- Crushing and straining.
- Using a centrifugal extractor

Using heat to melt.

- Heat some water in a sufuria.
- Put honey combs in an enamel basin or any other container which is not made of iron.
- Put the container with honey combs on the boiling water.
- Heat until most of the honey melts.
- Separate the melted honey from the combs by straining through a muslin cloth.
- Keep honey in a container to cool down.
- Remove the wax layer that may form on the surface of the honey.

Crushing and Straining

This method produces the highest quality honey. The following should be done:

Honey combs are crushed and strained using a muslin cloth into the enamel basin. The scum formed is removed with a wooden spoon. The pure honey is put

in a suitable container (plastic or glass jars) that is tightly closed.

Using a Centrifugal Extractor

A centrifugal extractor is used in large scale production. The combs are decapped and placed in the extractor. The rotary motion forces out honey and combs are left clean.

Marketing

The local market for honey is significant and demand in urban areas outstrips supply. Trade opportunities for other bee products are also growing. However, inefficiencies in the supply chain and the low capacity of producers to negotiate markets, limits capacity to exploit the country's full potential.

Cooperatives, individuals and self helps groups are involved in marketing of the honey

Honey is sold both locally and internationally. Locally, it's sold in the supermarkets and shops. It is also hawked along the main roadsides (in the areas where it is produced), in towns and villages. Export markets include US, Japan, and European Union.

Honey is also traded within the EAC and COMESA trading blocks and to be able to penetrate the market traders have to adhere to EAC sanitary and phytosanitary measures, and export and import guidelines

Honey marketing in Kenya

Honey is a natural sweetener and its naturalness is its main selling point. Therefore every effort must be made to maintain the delicate flavour and aroma found in newly extracted honey.

Majority of small scale beekeepers usually consider honey as a product for home consumption instead of a cash crop, thus missing out on the income benefits. Honey has a high cash value relative to its weight and bulk. Properly stored, it is essentially a non-perishable product. These characteristics make honey an attractive crop suitable for small scale producers.

There are various factors that affect honey marketing;

1) **Quality:**

Quality of honey is a key factor in ensuring a niche in the market. Various factors identified as key determinants in honey quality are harvesting methods, processing procedures and storage.

2) **Blending Of Honey:**

Most traders practise honey blending. This is either to provide uniformity of the product or to meet certain trade requirements.

3) **Packaging:**

It is important to observe proper packaging hygiene practises to avoid post contamination.

Liquid honey must portray a clean attractive appearance and remain free from crystallisation for a market period of at least 6-9 months. Honey packaging should be done in airtight containers. Ensure uniformity in packaging in terms of, weight, volume, package size and shape.

Packing containers used include:

- Glass containers
- Plastic containers
- Stainless steel containers

The size will depend on the demand they can be 250gm, 500gm, 750gm, 1 kg. 300kg, 500kg depending on market segments. The containers should also be:

- Attractive
- Appropriate (convenient) shape
- Affordable.
- Easy to transport.
- Clear so as to show the colour of honey for retail market.

4. **Labelling:**

The label should be attractive and descriptive of the product; it should include expiry date, address, weight, nutritive value and any other relevant information.

- The size of the label should be proportional to the bottle/jar or any package.
- Cost of label should be reasonable to ensure the price of the product is competitive.

5. **Pricing:**

The price of honey is determined by analysing the following.

- Cost of production, processing, packaging, transportation, labour and miscellaneous.
- The price should be competitive and the profit margins reasonable.

6. **Promotion:**

This involves creating awareness and interest in a product. The following are different ways of promoting honey in the market.

- Labelling
- Attractive Packaging
- Free samples
- Advertising through:
 - ✓ Electronic and print media
 - ✓ International and National publications
 - ✓ Sign boards, roadside adverts
 - ✓ Promotional leaflets/brochures
 - ✓ Introduction letters
 - ✓ Word of mouth
- Marketing representatives

Promotional corners outside food stores, supermarkets, shopping malls

Honey in the market is presented in several forms:

1. **Unprocessed Honey**

This is honey in its raw form, with combs that have been broken to release the honey from the cells. Demand for this honey is high. The main market outlet is traditional brewers and herbalist. Price depends on supply and demand. Currently farm gate prices range from Ksh70-150 per kg.

2. Semi-Refined Honey

This is mainly honey where most of the combs have been manually removed leaving the liquid honey with few impurities. Demand is very high mainly from processors and packers. Price ranges from Ksh80-170 per kg depending on the season.

3. Refined/Liquid Honey

This is honey that has been strained to remove all the foreign particles. It is normally packed in plastic or glass jars of 350gm, 500gm or in any other convenient pack. Retail price range between Ksh150-300 for the 500gm jar.

4. Chunk Honey

This is honey that has a piece of comb honey immersed in refined liquid honey. Packages used are normally glass jars. This form of honey is not very common in the market however; consumers who like both comb and refined honey will usually pay a higher price for this special chunk honey pack.

Creamed Honey

This is honey that has been made to solidify under specific conditions. The crystals are very fine and not visible, therefore can be spread easily like butter. The marketability has not been fully exploited due to inadequate skills for its preparation and low consumer awareness.

5. Comb Honey

This is honey contained in the cells of the comb in which it is produced. Good comb honey is to the beekeeper and consumer a product of beauty. The comb honey should be kept intact until it ready for market. Preparation for market involves cutting sections of the comb into various shapes and sizes depending on the package.



Comb honey

POLICY

The current policy on Apiculture is broadly to develop a modern beekeeping industry in the country to provide additional income to rural households.

- The policies guiding the sector are as follows:
- National livestock policy (2008)
- Beekeeping policy (2010)

Service Providers/Stake Holders

Below, is a table of major stake holder in honey value chain

Name Of Organisation	Service	Contact Address
Honey Care Africa	<ul style="list-style-type: none"> • Processor/Packer • Langstroth Hives • Protective Kits and other accessories 	P.O BOX 24487, Tel. No. 574448, NAIROBI
Gatanza Enterprises	<ul style="list-style-type: none"> • Processor/Packer/Retailer • Langstroth Hives • Protective kits and other accessories 	P.O. Box 1569-00502, Tel. No. (0722)757598, NAIROBI
Makambu Investment	Processor/Packer/Retailer	P.O. Box 60085, NAIROBI
Tomyln Products	• Processor/Retailer	P.O. Box 60601, Tel.No.263653, NAIROBI
Emma Food Processors	• Processor/Packer	P.O. Box 56129, Tel.No.512479,NAIROBI
Ruai Beekeeping Co-operative Society	• Processor/Packer	P.O. Box Private Bag, NARO MORU
Baraka Beekeeping Development Unit	<ul style="list-style-type: none"> • Processor/Packer • Langstroth Hives • Protective kits and other accessories 	P.O. Box52, Tel.No.0363 21091, MOLO
Wedakin Honey	• Processor/Distributor	P.O. Box 60424, NAIROBI
National Beekeeping Station	<ul style="list-style-type: none"> • Processor/Quality Analysis • Hives-Kenya top Bar Hives, Langstroth hives. Protective kit and other accessories e.g. Smokers, Hive tolls, bee brushes. Feeder boxes, 	P.O. Box 34188, Tel.No.564302,NAIROBI

	observation hive, catcher boxes etc.	
Mbeere Honey Products	• Processor/Packer	P.O. 2339, Tel.(0161) 20629, EMBU
Green Forest	• Processor/Packer	P. O Box 18870, NAIROBI
Ngandu Beekeeping Workshop	• Langstroth Hives • Protective and other accessories	P.O. Box 1052, THIKA
Manor House Agricultural Centre	• Kenya Top Bar Hives	P.O. Box KITALE
Christian Intermediate Training Centre	• Kenya Top Bar Hives • Protective kits and other accessories	P.O. Box KAPSABET
Christian Intermediate Training Centre	• Kenya Top Bar Hives • Protective kits and other accessories	
Kerio Valley Development Authority	A Government Institution involved in supply of Bee Equipment and Marketing of Honey	P.O. Box ELDORET
ETANG	• Training in Bee Keeping • Produce Beekeeping Equipment	ELDORET