

## CLUSTER PROFILE HONEY, KARAK



### **Turn Potential into Profit**

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## **1 Description of the Cluster**

### **1.1 History and Background of the Cluster**

The harvesting of honey is as old as written history with its consumption and reverence conspicuous in the texts of the ancient Egyptians, Greeks and Romans. In Spain, cave paintings have been found depicting the process of ‘bee-keeping’ or apiculture (for the purpose of harvesting honey) and are said to be around 7000 years old. Indeed, fossilized remains of honeybees dating back some 150 million years confidently suggest that the existence of honey is older than that of humanity itself.

The earliest record of keeping bees in hives for the purpose of honey production is attributed to the Egyptians, originating nearly four and a half thousand years ago in 2400BC. Equally, the Greeks regarded honey just as important for humans, not only as a significant source of nutrition, but for its pharmaceutical and medicinal qualities. Honey played an important role in ancient Greek cooking and confectionery.

Demand and production of honey and beeswax increased with the onset and establishment of the Christian faith that needed the wax for making church candles. Over the following centuries, the demand for honey increased ever further, and the bee-keeping industry flourished.

In KP/FATA, the Honey beekeeping was first started on commercial bases in 1982 by UNICEF. They took keen interest and developed this business. With the passage of time local people also got motivated in this sector and now there are about 80% Afghani and 20% Pakistani people engaged in honey business. Owing to the seasonal floral nectar requirements, these Apiarists started movements within the promising areas of the AJK, FATA, KP, and Punjab. Their visits to the district Karak can be traced back to the year 1995, mainly for the Bair (Jujube) Floral nectar. Today about 500 migratory honey bees keepers place their honey bee colonies throughout the district Karak. Apart from these, the bulk traders from Punjab also bring their honey to the district for selling to the local exporters.

### **1.2 Description of Products**

There are about 15 types of honey which are produced within the country but those which are produced and used in a large number are Jujube (Beri), Calocacia (Palosa), Shautal, Shwa (Sheesham), Orange (Malta), and Mustard (Sarso). The areas which can be best exploited for the honeybee farming are Karak, Kohat, Bannu, Attock, Nowshera, Azad Kashmir, Swat, Islamabad, Jhelum, Tallagang, Haripur, Kahota, Chakwal, Sahiwal, Mundi Bahauddin, Bhalwal, Sargodha, Faisalabad, Sialkot, Gujranwala, Multan and





Kasur, North Waziristan Agency, South Waziristan Agency, Tank and D.I.Khan. The Apart from these, the honey bee also works upon the Accacia, Mangroves, Olive, and Sugarcan. The areas for these sources are Hyderabad, Badin, Mirpur Khas, Sajawal, Saanghar, Tando Adam, Tando A. Yar, Nakka Kharri, Uthal, Bela, and the Coastal Belts of Sind and Baluchistan. The products in the district Karak can broadly be classified as the Honey Combs, and the Raw Honey.

### **1.2.1 Wild Honey Combs**

Due to the existence of groves and abundance of honey nectar, the honey bees of types, Apis Dorsata and Apis Malifera have been visiting the district. Initially, the honey collectors from Punjab would visit the district and cut the wild honey combs on the condition of 50% of the product to them as labor. Now some of the villagers have gained expertise in the subject and they collect wild honey combs from trees in houses, groves, and mountains. The honey combs from Apis Dorsata are sold to the wholesalers, who extract the honey from them and sell them either in local or exports. As compared to this, the combs from Apis Florea are brought to the Karak and Meetha Khel market by the harvesters and sold to the local people or to the exporters. The exporters simply pack the hives in containers covered by polythene sheets and export.

### **1.2.2 Raw Honey**

The commercial apiaries visit Karak during Bair season and majority of them leave for other destinations after the season's end. As the Jujube (Bair) honey is readily accepted in the Middle East without processing, so the honey from the district is all in raw form. Other varieties of honey are mainly produced by the Apis Florea, Apis Dorsata, and Apis Cerena in mountains, home trees, and groves. The sale of these varieties due to the limited production, is not reported from the district.

Nectar Source	Honey Produced
 <p>Acacia Modesta/Palosa</p>	<p>This is also a floral honey collected by honey bees from the Palosa (Local name) tree. Due to the lower selling prices and small number of groves, fewer farmers visit the district for this product.</p>
 <p>Jujube (Beri)</p>	<p>The Abundance of Beri Trees within the district makes the area to be the most attractive one for migratory honey bee farmers. The Beri floral honey is one of the most expensive one in Pakistan, and has huge exports to the Middle East. The Honey Bee Keepers place their colonies in the district during the last week of August and the First week of September. Their first production is known as the “First Cut”, whereas the honey produced by the end of the September is known as the “Third Cut” honey. The third cut honey is regarded as superior quality than the first cut honey.</p>
 <p>Lachi (Eucalyptus)</p>	<p>Though this type of honey is also reported to have been brought to the market for selling but due to its bitter taste it could not gain market acceptance. However, it can be introduced for baking and sausages purpose.</p>
 <p>Sarso (Mustard/Rapeseed)</p>	<p>Few of the local apiarists stay at Karak for the production of this type of honey.</p>

### 1.3 Core Cluster Actors

#### 1.3.1 Detail of Apiaries in Terms of Scale of Business

##### 1.3.1.1 Small Scale Apiaries

The small scale honey bee keepers have around 80 to 100 honey bee colonies with an average investment of around Rs. 1.4 Million.

#### 1.3.1.2 Medium Scale Apiaries

The Medium scale honey bee keepers have from 150 to 300 honey bee colonies. This scale of honey farming required Rs. 1.5 Million to 3 Million investment.

### 1.3.2 Detail of Trading Units by Scale of Business

#### 1.3.2.1 Small Scale Organizations

The local General Store and Grocery Stores selling honey as one of several other products are considered as the small scale honey traders. Their focus remains on the forest bair honey with an estimated turnover of about Rs. 0.2 Million to 0.5 Million per year. The investment by this category is from Rs. 0.1 Million to Rs. 0.3 Million which is mainly in the purchase of honey.

#### 1.3.2.2 Medium Scale Organizations

The traders of the Medium scale are the middlemen from Punjab and the local retailers having honey as the main product and peanuts as secondary product. The estimated honey sales of this category are about Rs. 2.5 Million to 4 Million. The required initial investment for this category is Rs. 1 Million to Rs. 2 Million.

#### 1.3.2.3 Large Scale Organizations

Currently there are only two local wholesalers mainly supplying to the Afghani exporters from Pakistan to Saudi Arabia. The estimated investment by them is about Rs. 280 Million.

### 1.3.3 Total Employment Generation

Business	Number	Average Employment	Total Employment
Apiaries	500	03	1,500
Honey Retailers	25	02	50
Wholesalers	02	05	10
Wild Honey Collectors	05	01	05
<b>Total Employment in Cluster</b>			<b>1,565</b>

#### **1.3.4 Total Production**

The total production of Jujube Honey from commercial apiaries of the district is estimated to be about 900 Tons per year. In addition to this, the estimated honey from wild bees is around 10 Tons per year.

#### **1.4 Geographical Location**

Prominent areas for the existence of Bair of the district Karak include, Ali Khel, the Bogara, Chokaara, Ghundi Mir Khan Khel, Isuq Chauntra, Meetha Khel, Sarat Khel, Tarkha Khoi, Tor Mrich, Tukht Nusrati, Sabirabad, and Palosa Sir.

#### **1.5 Current Cluster Scenario**

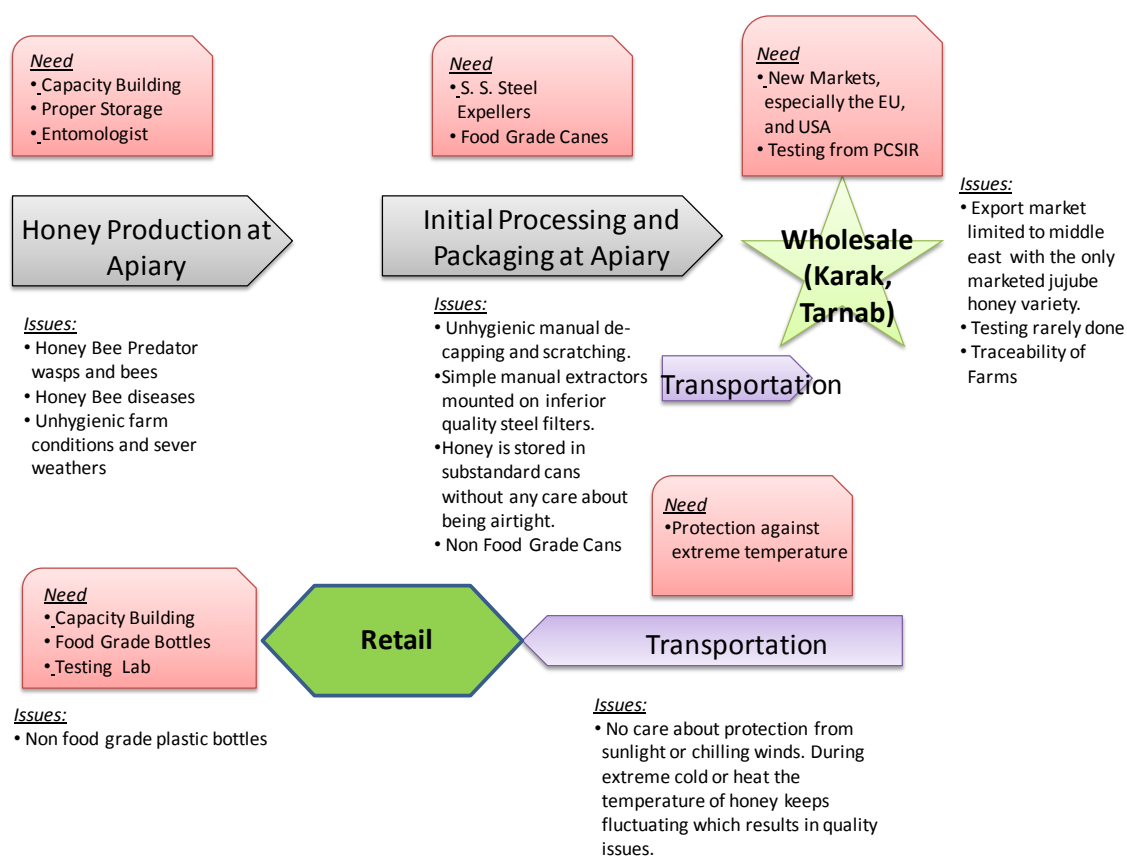
The honey cluster is growing in terms of number of apiaries and hence the honey production and exports. The Bair honey is supplied throughout the country but major export market is the Middle East. Due to the concentration of apiaries in the Bair flora season in the district, the honey from Punjab is also brought and sold to the exporters. Road side honey kiosks on Indus Highway are also increasing in number.

The exploration of oil and gas within the district has resulted in the availability of gas for the cooking purpose. This has reduced the deforestation of the Bair groves, but still there are villages without gas, so the process could not be eliminated. In addition to this, the cutting of trees for land fencing purpose and leaves for the ruminants' feed poses a danger to the Bair trees population.

The Jujube honey production from the district during the year 2015 was adversely affected by the hailstorms during the flora season. The apiarists had to conclude the season with low quantities of the first and second cut bair honey and only about 10 of them were able to get the third cut honey in limited quantity.

## 2 Analysis of Business Operation

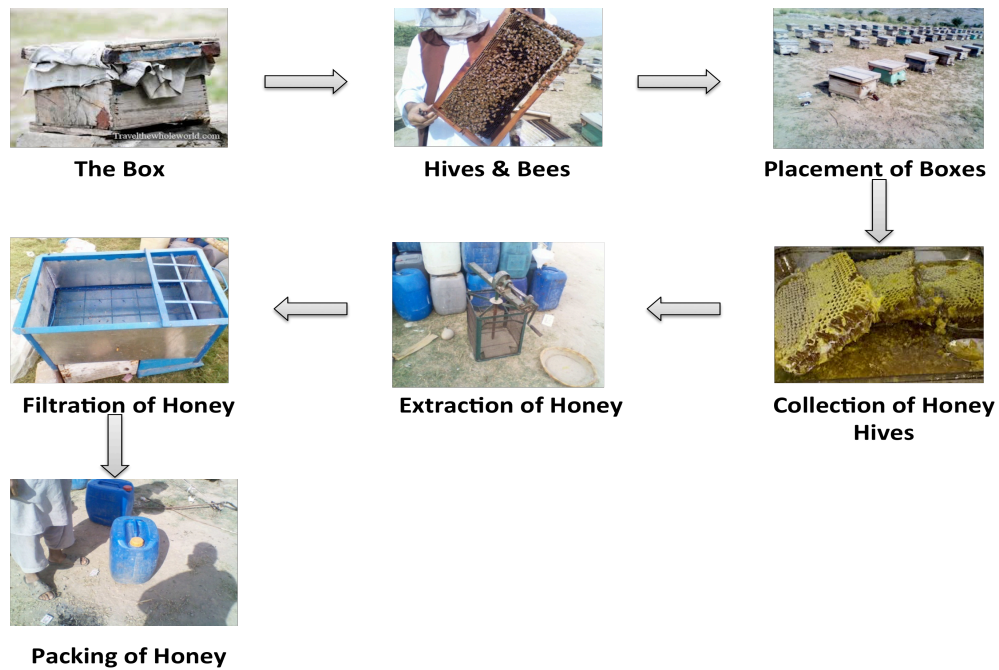
### 2.1 Honey Value Chain of the District Karak



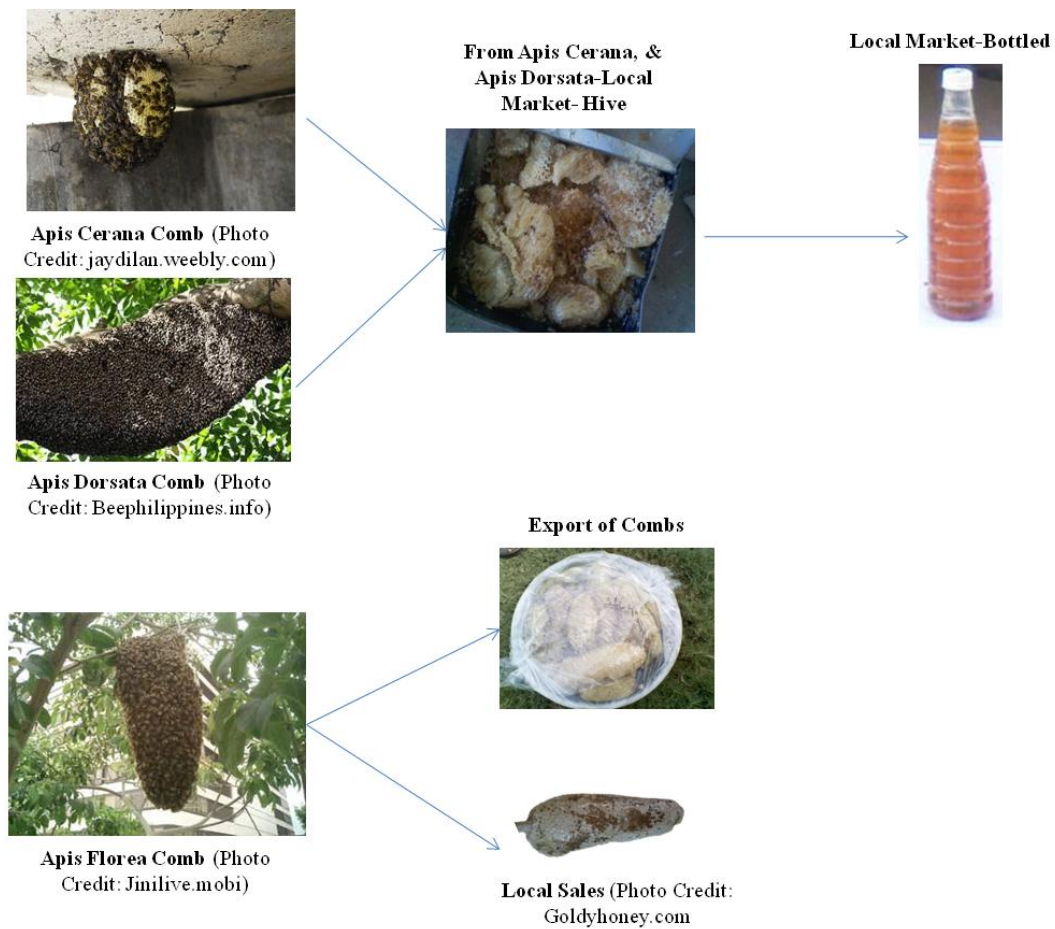
### 2.2 Production Process Flow of Commercial Apiaries

The production of these Apiaries is limited to the Jujube (Bair) honey in the district Karak. Few of the local apiarists stay beyond this season for Mustard and Palosa. All of the apiarists simply extract the honey through substandard expellers and then either filter it through a fine cloth or in an inferior quality steel filter still using the cloth. There is no processing facility within the district because of the ready acceptance of the Jujube honey in the Middle East in raw form. The main reasons for using substandard expellers is that due to the tent based infrastructure, the apiarist prefer to use the low cost expellers and filters so that to minimize the risk of fixed assets' theft.





### 2.3 Process Flow Honey Combs from Undomesticated Wild Bees



## 2.4 Raw Materials Availability

The honey production raw material is totally indigenous, i.e. the nectar from specific flowers collected in groves of the district. The packaging material is purchased in bulk from the markets of Peshawar and Lahore. Similarly, the honey bee medicines are also easily available from the Tarnab Market of Peshawar.

## 2.5 Technology Status

The apiarists rely upon the conventional bee keeping, so the technology they use is decades old and very simple. Honey is extracted manually through cold press and then either filtered through a clean cloth or substandard steel sieves with cloth on it.

## 2.6 Quality Assurance

The absence of testing labs within the district makes the quality assurance to be a very difficult task. This is the experience and expertise through which the honey buyers ensure good quality honey.

## 2.7 Marketing and Sales

Product (Nectar Source)	Production Source	Target Market	Packaging	Price/Kg (Rs.)
<b>Raw Honey</b>				
Bair A1 Quality	Commercial Apiary	Domestic High End Exports	Plastic and Glass Bottles 1/2 Kg and 1 Kg Food Grade Cans (7, 9, & 30 Kg)	3,000
Bair A Quality	Commercial Apiary	Domestic High End	Plastic Bottles of 1/2 Kg and 1 Kg	2,000
Bair Normal Quality	Commercial Apiary	Domestic	Plastic Bottles of 1/2 Kg and 1 Kg	1,500
Palosa Honey	Commercial Apiary	Domestic Market	Plastic Bottles of 1/2 Kg and 1 Kg	300-400
Ajwain/Spirkai	Commercial Apiary	Domestic Market	Plastic Bottles of 1/2 Kg and 1 Kg	300-400
Laachi Honey	Commercial Apiary	Domestic Market	Plastic Bottles of 1/2 Kg and 1 Kg	250
Karanda/Granada	Commercial Apiary	Domestic Market	Plastic Bottles of 1/2 Kg and 1 Kg	600-700
<b>Honey Combs</b>				
Bair (Bari Makhi)	Wild Honey Bee	Domestic High End	Plastic Bottles of 1/2 Kg and 1 Kg	1,800-2,000
Bair (Choti Makhi)	Wild Honey Bee	Exports	Steel Trays Covered by Transparent Polythene Sheets	2,500-3,000
		Domestic High End	Comb alongwith Twig	2,500-5,000

## 2.8 Financing

Normally the financing is the equity of the sole proprietor. The financing scheme offered by the PM Youth business loan is the option for the investors, but the number of beneficiaries did not appear in KP.

## 2.9 Human Resources

Working at an apiary is a skill and the existing labor learnt it after some donor funded projects and then started transferring it to others. Currently the academic trainings of longer duration are absent. However, the efforts for short duration courses are done by the livelihood projects of donors, one day training programs by the SMEDA, and Honey Bee Keepers Associations.

On the retail side, the owners of the businesses rely upon their personal experience and the limited exposure to formal training sessions.

## 3 Institutional Setup

### 3.1 Entrepreneurs Associations

The honey bee keepers of the province are well organized and registered under the “**All Pakistan Honey Bee Keepers and Traders Association**”. As compared to them the local traders are still to be registered with this organization.

### 3.2 Government & Semi-government Organizations

The honey bee keepers have to get the honey bee transportation from local authorities. The SMEDA mainly acts as a facilitator and stimulating agent for the capacity building through individual and group interactions. For honey quality testing, the PCSIR laboratory is available on certain official fees. The export market access services of the TDAP can also be considered by the investors.

## 4 SWOT Analysis

### 4.1 Strengths

- Groves of Jujube spread throughout the district
- Production of Export Quality Mono floral Jujube/Beri honey.
- Large number of commercial apiarists visiting during the season.
- Jujube honey recognized and demanded in the Middle East due to its quality.
- Local honey traders situated on main Indus Highway ensuring high at point sales.
- Geographic Location of the district Karak.
- Recently, one of the local organizations has successfully started the Jujube honey sales with glass packaging and proper labeling.

- The roadside Kiosks sell other Karak specific product of peanuts. The presence of these two items often attracts the customers for one and then the buyers are motivated to purchase the other item as well.

## 4.2 Weaknesses

- Uneducated Apiary owners and awareness problem about the efficient farm management techniques.
- Use of poor quality expellers and sieves for filtration.
- Post harvest handling adversely affects the honey quality.
- Poor packaging and labeling. The use of non food grade plastic bottles results in shorter shelf life and fermentation problems are also observed when stocked over 1 year period.
- High bee feeding costs during off season due to the higher rates of sugar.
- Local market finds it difficult to compete against the processed honey due to the consumers' awareness problem about honey.
- Absence of honey testing trend, and mere reliance upon the experience based checking of product quality.

## 4.3 Opportunities



- Only Pakistan and Yemen are known to have the Jujube honey production.
- The lucrative markets of the European Union are still not approached by the Pakistani exporters.

## 4.4 Threats


- ✱ The major threat is the climate change. The recent year 2015 observed severe damage to the Jujube flora during the season and the honey production dropped drastically.
- ✱ The uncertain situation at Saudi Arabia with reference to Yemen may remain to be a threat for exporters until this is converted into opportunity by increased brand awareness about Pakistani product.
- ✱ The predator birds, wasp and a killer bee (robber fly) killing the honey bees. In terms of money, the loss to a bee keeper may range between Rs. 20,000-25,000/-
- ✱ Absence of Entomologist resulting in the medication to honey bees without efficient diagnosis.

## 5 Investment Opportunities

- Investment in small scale unit of food grade cans and bottles production.
- Honey marketing backed by HACCP and standard machinery for honey extraction and filtration.
- Exports to the Europe with strong brand image.
- Local investors to consider honey apiaries with backward investment in high quality jujube varieties to start flowering for honey and fruits for sale after 5 years. Further, the areas with sufficient water can be utilized for the following dual purpose crops.

Nectar Source	Honey Production Potential
 <p>Alfalfa (Lucerne)</p>	<p>It is a perennial flowering plant produced as a forage crop. In addition to this it can be a great source of honey throughout the summer. Currently, the North America is producing honey from its blue or purple blossoms.</p>
 <p>Berseem (Egyptian Clover)</p>	<p>In Pakistan, this is grown as green fodder and the apiarists keep visiting the areas with sufficient crops during winter season.</p>

Apart from this, the Bhekar bearing areas can be utilized for honey production.

Nectar Source	Honey Production Potential
 <p>Bhekar/Malabar Nut</p>	<p>The Bhekar plants exist in the Sabirabad, and Shakardara regions but the commercial scale honey production is not reported in the area. The main reason is the preference of the commercial apiaries movement to other districts of KP and the Punjab.</p>

- Establishment of Honey Trade Centre on the main Indus highway by bringing the cluster under one roof. The model of International Honey Centre, GT Road, Peshawar is an example. The ever increasing intercity and intracity traffic will be the main advantage for early bird.