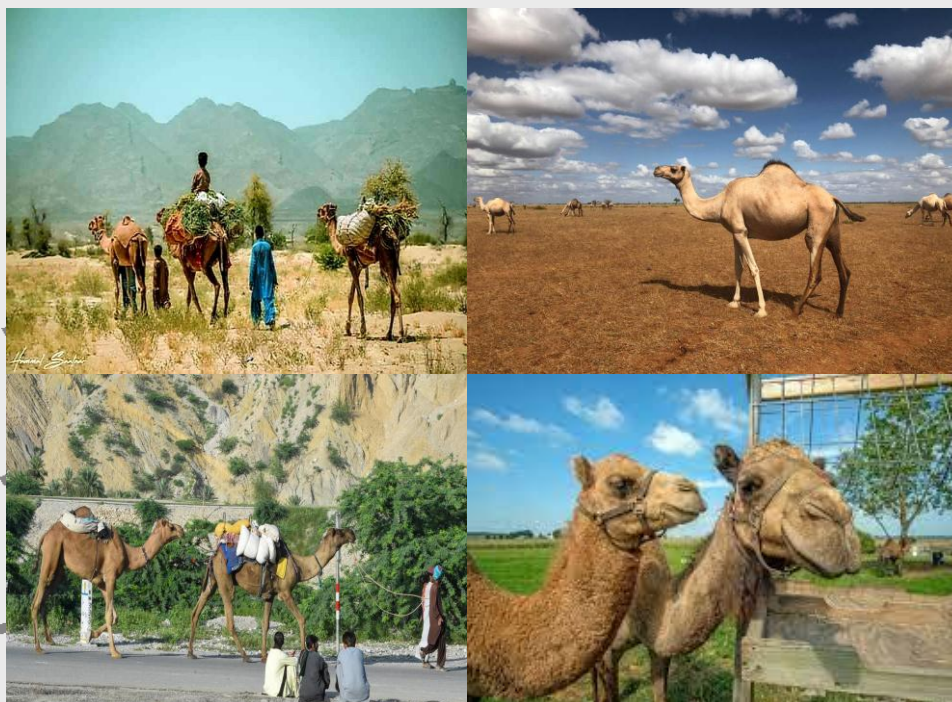


# CLUSTER PROFILE

## CAMEL FARMING POTENTIAL INVESTMENT SECTOR OF BALOCHISTAN



**Small and Medium Enterprise Development Authority**  
**Government of Pakistan**

[www.smeda.org.pk](http://www.smeda.org.pk)

HEAD OFFICE				
3rd Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road Lahore, Tel: (042) 111-111-456 Fax: (042) 36304926-7 <a href="mailto:helpdesk.punjab@smeda.org.pk">helpdesk.punjab@smeda.org.pk</a>				
REGIONAL OFFICE PUNJAB	REGIONAL SINDH	OFFICE	REGIONAL OFFICE NWFP	REGIONAL OFFICE BALOCHISTAN
3rd Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road Lahore, Tel: (042) 111-111-456 Fax: (042) 36304926-7 <a href="mailto:helpdesk.punjab@smeda.org.pk">helpdesk.punjab@smeda.org.pk</a>	5 <sup>TH</sup> Floor, Bahria Complex II, M.T. Khan Road, Karachi. Tel: (021) 111-111-456 Fax: (021) 5610572 <a href="mailto:Helpdesk-khi@smeda.org.pk">Helpdesk-khi@smeda.org.pk</a>		Ground Floor State Life Building The Mall, Peshawar. Tel: (091) 9213046-47 Fax: (091) 286908 <a href="mailto:helpdesk-pew@smeda.org.pk">helpdesk-pew@smeda.org.pk</a>	Bungalow No. 15-A Chaman Housing Scheme Airport Road, Quetta. Tel: (081) 2831623, 2831702 Fax: (081) 2831922 <a href="mailto:helpdesk-qta@smeda.org.pk">helpdesk-qta@smeda.org.pk</a>

**March, 2023**

# TABLE OF CONTENTS

<b>1</b>	<b>DESCRIPTION OF CLUSTER.....</b>	<b>1</b>
1.1	INTRODUCTION, HISTORY & BACKGROUND OF FANCY BIRDS SECTOR. ....	1
1.2	<i>DEFINING THE PRODUCT.....</i>	2
1.3	<i>GEOGRAPHICAL LOCATIONS .....</i>	4
1.4	<i>CORE CLUSTER ACTORS .....</i>	5
1.4.1	<i>Size of Sector.....</i>	5
1.4.2	<i>Current Cluster Scenario.....</i>	5
<b>2</b>	<b>ANALYSIS OF BUSINESS OPERATIONS .....</b>	<b>6</b>
2.1	<i>MARKET MECHANISM .....</i>	6
2.2	<i>HUMAN RESOURCE .....</i>	7
<b>3</b>	<b>INSTITUTIONAL SETUP.....</b>	<b>7</b>
3.1	<i>ASSOCIATIONS .....</i>	7
3.2	<i>GOVERNMENT SUPPORT INSTITUTIONS / EDUCATIONAL INSTITUTIONS .....</i>	7
<b>4</b>	<b>SWOT ANALYSIS .....</b>	<b>7</b>
4.1.	<i>STRENGTHS.....</i>	7
4.2.	<i>WEAKNESSES .....</i>	8
4.3.	<i>OPPORTUNITIES .....</i>	8
4.4.	<i>THREATS.....</i>	8
<b>5</b>	<b>INVESTMENT OPPORTUNITIES.....</b>	<b>8</b>
<b>6</b>	<b>STRATEGIC RECOMMENDATIONS TO UPLIFT THE QUALITY &amp; PRODUCTIVITY .....</b>	<b>9</b>

## **1 DESCRIPTION OF CLUSTER**

### **1.1 Introduction, History & Background of Fancy birds Sector.**

Camel, (genus *Camelus*), any of three species of large ruminating hoofed mammals of arid Africa and Asia known for their ability to go for long periods without drinking. The Arabian camel, or dromedary (*Camelus dromedarius*), has one back hump, while the domesticated Bactrian camel (*bactrianus*) and the wild Bactrian camel (*ferus*) have two.

These “ships of the desert” have long been valued as pack or saddle animals, and they are also exploited for milk, meat, wool, and hides. The dromedary was domesticated about 3000–2000 BCE in Arabia, the Bactrian camel by 4000 BCE in the steppes of Central Asia. Most of today’s 13 million domesticated dromedaries and roughly 97 domesticated breeds are in India and in the Horn of Africa. Wild dromedaries are extinct, although there is a large feral population in interior Australia descended from pack animals imported in the 19th century. About one million domesticated Bactrian camels range from the Middle East to China and Mongolia. The International Union for Conservation of Nature (IUCN) has classified the wild Bactrian camel as a critically endangered species since 2002. The largest population numbering approximately 650 adult animals lives in the Gobi Desert.

Camels have an unmistakable silhouette, with their humped back, short tail, long slim legs, and long neck that dips downward and rises to a small narrow head. The upper lip is split into two sections that move independently. All three species are about 3 meters (10 feet) long and 2 meters (6.6 feet) high at the hump (itself 20 cm [8 inches]). Males weigh 400 to 650 kg (900 to 1,400 pounds), and females are about 10 percent smaller. Color is usually light brown but can be grayish. Domesticated Bactrian camels are darker, stockier, and woollier than the wild form. Heavy eyelashes protect the eyes from blowing sand, and the nostrils can be squeezed shut. The dromedary has horny pads on the chest and knees that protect it from searing desert sand when it lies down, but the Bactrian camel lacks these callosities. Camels are generally docile, but they will bite or kick when annoyed. When excited, camels huff so sharply that spit is incidentally expelled.

During catastrophic droughts, herdsman may lose all of their cattle, sheep, and goats while 80 percent of the camels will survive, owing to the camel’s ability to conserve water and tolerate dehydration. In severe heat a camel survives four to seven days without drinking, but it can go 10

months without drinking at all if it is not working and the forage contains enough moisture. Even salty water can be tolerated, and between drinks it forages far from oases to find food unavailable to other livestock. The body rehydrates within minutes of a long drink, absorbing over 100 liters (25 gallons) in 5–10 minutes. Cattle could not tolerate such a sudden dilution of the blood, because their red blood cells would burst under the osmotic stress; camel erythrocyte membranes are viscous (that is, sticky and flow-resistant), which permits swelling. A thirsty camel can reduce its urine output to one-fifth of its normal volume and produce feces dry enough for herders to use as fuel for fires.

Balochistan is area-wise largest and southwestern province of Pakistan. It has an area of 3, 48,000 Sq km, which is about 43 percent of the total area of Pakistan. The climate of the province is arid and semi-arid. The province has been divided into various ecological Zones i.e. Tropical Thorn forest, Sub Tropical Broad leaves Evergreen forest, Dry Temperate Forest and Arid Desert. Furthermore, only four percent of the area is cultivable land while rest is comprised of arid grazing lands, rangeland mountain forests, barren rocky mountain, and deserts (Nagy et al., 1989).

The traditional livestock production system in Balochistan is broadly categorized into settled, transhumant and nomadic. The local ecological conditions make it necessary for livestock owners to migrate in search of grazing areas. The available data demonstrates that migratory livestock constitutes about 90% of the total livestock population in Balochistan Khan et al. (2018) and Khan et al. (2018). Furthermore, 60% of the migratory livestock is transhumant while remaining 30% is nomadic livestock production system (Jasra et al., 2001). However, the animals raised on farm are either for household consumption or for sale near religious festivals, when the prices are high. This supplementary livestock production accounts for major portion of household income and helps to improve farm productivity.

## **1.2 Defining the Product**

There are three extant camel species living in the world currently.

### **1. Bactrian Camel (*Camelus bactrianus*)**

- Also known as the Mongolian camel or domestic Bactrian camel, the Bactrian camel is a large, even-toed ungulate native to the Central Asian steppes. Their name is derived from the historical ancient region of Bactria.
- In comparison to the single-humped dromedary camel, it has two humps on its back.
- Its two million populations exist predominantly in the domesticated form.
- Since ancient times domesticated Bactrian have acted as pack animals in Inner Asia.
- Bactrian camels are resistant to cold drought and high altitudes.
- Bactrian camels have a remarkable ability to go without water sometimes for months at a time, but they can drink up to 57 liters at once when water is available.
- Bactrian camels are also said to be great swimmers.
- The Bactrian camel is the largest living camel.
- The height of the shoulders is 180 to 230 cm (5.9 to 7.5 ft), the length of the head and neck is 225-350 cm (7.38-11.48 ft), and the length of the tail is 35-55 cm (14-22 in). The average height at the top of the humps is 213 cm (6.99 ft).
- Bactrian camel weight varies between 300 and 1,000 kg, and males are often much larger and heavier than females.
- The color of its long, woolly coat ranges from dark brown to sandy beige. There is a long-hair mane and beard on the neck and throat, with hair up to 25 cm (9.8 in) long.

### **2. Arabian Camel or Dromedary (*Camelus dromedarius*)**

- Also known as the Arabian camel or desert camel, the dromedary is a large, even-toed ungulate of the *Camelus* genus, with a hump on its back.
- Also known as the Arabian camel or desert camel, the dromedary is a large, even-toed ungulate of the *Camelus* genus, with a hump on its back.
- Typically, males weigh 400 to 600 kg, and females weigh 300 to 540 kg
- Its long, curved body, narrow chest, single hump, and long hair on the throat, shoulders, and hump are distinctive features of Dromedary species.
- The coat is a shade of brown in general.
- The hump is made of fat bound together by fibrous tissue, 20 cm high or more.

- During daylight hours, dromedaries are primarily active
- They form herds of approximately 20 males, led by a dominant male.
- This camel feeds on foliage and desert plants, allowing it to survive in its desert habitat through many adaptations, such as the ability to withstand losing more than 30% of its total water content.
- In the semi-arid to arid regions of the Old World, mostly in Africa and the Arabian Peninsula, the domesticated dromedary is usually found, and a large feral population exists in Australia.

### **3. Wild Bactrian Camel (*Camelus Ferus*)**

- A critically endangered species of camel living in parts of northwestern China and southwestern Mongolia is the wild Bactrian camel.
- It is closely related to the camel of Bactria (*Camelus bactrianus*). They are both big, double-humped, even-toed ungulates native to the Central Asian steppes.
- Today, only around 1,000 camels survive. Most live in China's Lop Nur Wild Camel National Nature Reserve, and a smaller population lives in Mongolia's Strictly Protected Great Gobi Forest.

### **1.3 Geographical Locations**

Camel farming represents the best opportunity in the rural areas of Pakistan. The country has large amount of favorable conditions and climate for farming of camels in rural area of the country for instance Balochistan provides perfect weather conditions. Some Areas in Punjab, Sindh, and Khyber-Pakthunkhwa may represent the best breeding environment; however the habitat of the camels is critical factor and location of the breeding farms for the camel, which must be adjacent to its natural habitat.

## **1.4 Core Cluster Actors**

### **1.4.1 Size of Sector**

Global Camel Meat Market 2022-2026 the analyst has been monitoring the camel meat market and it is poised to grow by \$ 74.5mn during 2022-2026, accelerating at a CAGR of 5.26% during the forecast period. New York, Sept. 19, 2022 (GLOBE NEWSWIRE), Reportlinker.com announced the release of the report "Global Camel Meat Market 2022-2026" [https://www.reportlinker.com/p05377646/?utm\\_source=GNW](https://www.reportlinker.com/p05377646/?utm_source=GNW).

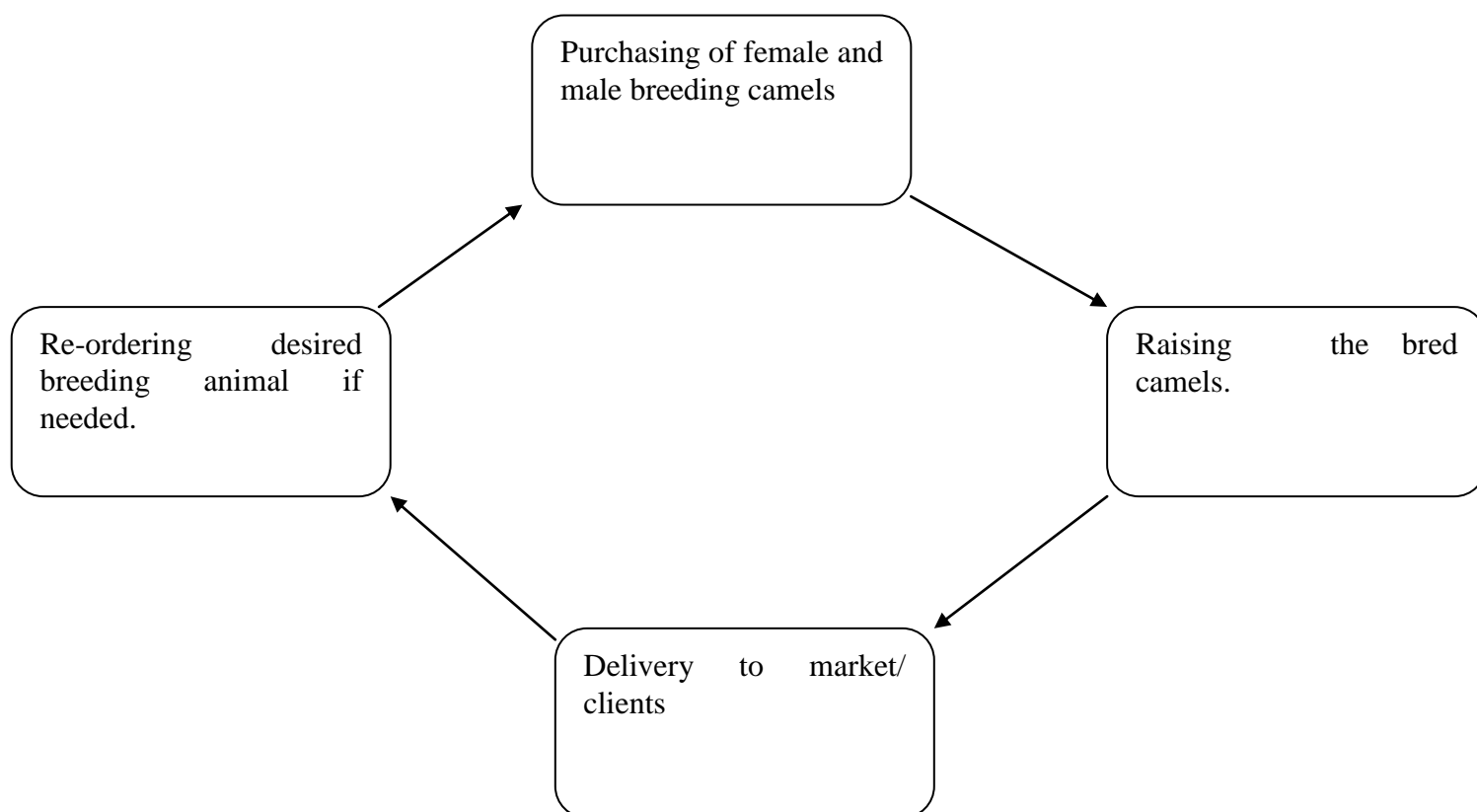
### **1.4.2 Current Cluster Scenario**

Pakistan, with the sixth largest population of camels in the world, has the potential to become a globally significant exporter of camel meat and camel milk, according to livestock sector experts. These surprising views were expressed at a one-day seminar held at the University of Agriculture Faisalabad (UAF), which was organized in conjunction with the Camel Association of Pakistan. The 'experts' claimed to have hit upon an industry which might benefit some of the most impoverished families in Pakistan, particularly Balochistan.

Dr Muhammad Afzal Hussain, assistant professor of animal nutrition and feed technology at the UAF, claimed that the global trade in camel meat is worth \$10 billion and the trade in camel milk is worth another \$7 billion.

Therefore to promote livestock in Balochistan, a three-day Balochistan Livestock Expo was organized by the Livestock and Dairy Development Department (GoB) in collaboration with the Food and Agriculture Organization (FAO) of the United Nations, the University of Balochistan (UoB) and Balochistan Board of Investment and Trade. The first ever Livestock Policy and Strategy was also launched which provides the roadmap to stimulate rapid growth in the livestock sector and deliver prosperity and wellbeing to the families and businesses involved in its targeted livestock value chains. The expo was held till 20 November 2019. The purpose of the Expo was to open new prospects for livestock entrepreneurs, investors, traders, processors, male and female livestock farmers and other value chain actors from across Balochistan as well as other provinces and various international investors to invest in the livestock sector in Balochistan.

## 2 ANALYSIS OF BUSINESS OPERATIONS



- Stage 1: purchasing of breeder camels from certified distributor/ importer.
- Stage 2: New born camels are raised for two years and controlled environment is provided as per their biological needs.
- Stage 3: After successfully raising the raising of the camels for two years fully grown camels are sold in market or delivered to a particular client.
- Stage 4: After successfully selling the raised animals a re-ordering of breeder camels takes place if needed.

### 2.1 Market Mechanism

The demand for camel meat has been on rise ever since the rise in prices of meat. Camel meat is now far more acceptable and can be seen sold at commercial level moreover it is used in

preparation of traditional dishes likewise karhai, palao ect these days. An internationally demand for camel meat also exists in Arab countries likewise UAE, KSA, Kuwait and Qatar. Through government intervention new camel meat market may be explored and government assistance may be provided to potential investor.

## **2.2      *Human Resource***

Human resource is locally available however advance techniques and technology may be adopted through government interventions.

# **3    INSTITUTIONAL SETUP**

## **3.1      *Associations***

Camel association of Pakistan (CAP) is working for the well-being of camel herders and is involved in research activities in collaboration with different universities all over Pakistan. The platform comprises specialist from all over the country.

## **3.2      *Government Support Institutions / Educational Institutions***

Faculty of Veterinary and Animal Sciences, Lasbela University of Agriculture, Water & Marine Sciences, Uthal Balochistan-Pakistan, Livestock and Dairy Development Department Balochistan-Pakistan, Food Department Balochistan-Pakistan, are to name a few institutions/ educational institutions/ government departments working on camel status, farming practices and camel centered measure in Balochistan.

# **4    SWOT ANALYSIS**

## **4.1. *Strengths.***

- Availability of niche market
- Camels are versatile
- Medical value of the milk and meat produced likewise treatment of high blood pressure, dry cough, boosts immune system, fat of the hump used for massaging.
- High profitability margins.

#### **4.2. Weaknesses**

- Camels physical features
- Unpleasant smell coming from the camel
- Management of camel stock
- High initial investment cost
- Less awareness likewise lack of modern knowledge about the husbandry practices

#### **4.3. Opportunities**

- Less competition
- Employment creation
- Already available (localized) in the region
- Adoptive to climate/ weather conditions
- Poverty eradication

#### **4.4. Threats**

- Less familiarity with the product
- Taboos associated with camel
- Dangerous during breeding period
- Resistance to change by some communities to accept camel meat/milk products

## **5 INVESTMENT OPPORTUNITIES**

The camel meat cluster itself is very lucrative sector for investors in Pakistan and is fast emerging as a profitable business and about a dozen of farms are now operating across Pakistan. However as reported by different investors already involved in this sector, there's still market gap between demand and supply. Moreover there is great demand for camel meat in international markets. Through government intervention investors may be supported and awareness may spread.

## **6 STRATEGIC RECOMMENDATIONS TO UPLIFT THE QUALITY & PRODUCTIVITY**

- Private investors need to be mobilized by formulating a legal framework for investment.
- The government may finance investors through commercial banks and on subsidized rates.
- Awareness sessions may be conducted by the government and potential investor may be motivated to invest in this sector.
- Through government intervention new international markets may be explored and information may be passed to the investors.