

CHOLISTAN

A Potential Resource for Agro-Livestock Development

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Preamble

Cholistan Desert (also locally known as *Rohi*) sprawls thirty kilometers from Bahawalpur, covers an area of 16,000 km². It adjoins the Thar Desert extending over to Sindh and into India. The word Cholistan is derived from the Turkish word Chol, which means Desert. Cholistan thus means Land of the Desert. The people of Cholistan lead a semi-nomadic life, moving from one place to another in search of water and fodder for their animals. The dry bed of the Hakra River runs through the area, along which many settlements of the Indus Valley Civilisation have been found. The present day Cholistan is a part of the ancient Hakra civilization (Hakra River), one of the oldest civilizations of the Aryan settlers in the Indian subcontinent.

Falling in the southern Punjab, Cholistan is one of the largest deserts of the country and part of the Great Indian Desert. The Cholistan comprises of three districts Bahawalnagar, Bahawalpur, and Rahim Yar Khan. The total area of Cholistan is 66,55,360 acres. The largest area of Cholistan is present in Bahawalpur which is 40,28,217 acres. The temperature ranges in Cholistan from 6 to 50°C. The length of Cholistan is 480 km and width ranges from 32 to 192 km. Human population of Cholistan is 1,55,000 where as the livestock population is 13,18,000. Table 1 shows some more facts about this desert.

Table 1. A glance on some basic facts about Cholistan.

S #	Particulars	Units
1	Area	16,000 km ²
2	Area spread (kms)	480 x 32-192
3	Area in acres	66,55,360
4	Bahawalnagar	10,11,200 acres
5	Bahawalpur	40,28,217 acres
6	R Y Khan	16,15,965 acres
7	Lesser Cholistan	33,00,000 acres
8	Greater Cholistan	17,55,360 acres
9	Human Population	1,55,000 heads
10	Livestock population	13,18,000 heads
11	Cholistani Cattle	6,67,000 heads
12	Camel	80,000 heads
13	Goats	2,20,000 heads
14	Sheep	3,51,000 heads
15	Temperature range	6-50°C
16	Ground water	Mostly brackish

17	Latitude	28.25
18	Latitude (DMS)	28° 15'0 N
19	Longitude	70.75
20	Longitude (DMS)	70° 45'0 E

The ground water for these populations is mostly brackish. The inhabitants of Cholistan are called Rohi and the main tribe of the camel herders is Mareecha. The camel that belongs to Mareecha tribe is known as Mareecha breed. The other tribe which usually resides on the peripheries of the desert adjoining to irrigated lands is called Malgade. Malgade usually keeps the Brela camel. Cholistan is the homeland of many precious animal genetic resources i.e. camel, cattle, sheep and goat. Most of the Cholistan is covered with wide range of nutritious and drought tolerant species of vegetation. Deep in desert the camel mostly rely on Khar, Lana, Jand and Kareer, while in the peripheries mostly kikar is available along the water courses and road side (Table 2).

Table 2. Vegetation available for camel in Cholistan desert.

Trees		Bushes	
Local Name	Botanical Name	Local Name	Botanical Name
Kareer	<i>Capparis aphylla</i>	Khar	<i>Suaeda fruticosa</i>
Jand	<i>Prosopis cineraria</i>	Lana	<i>Haloxylon salincomicum</i>
Kikar	<i>Acacia nilotica</i>	Lani	<i>Salsola foetida</i>
Mallah	<i>Zizyphus nummularia</i>	Jand	<i>Prosopis cineraria</i>

Visit to Desert

Under the able guidance of the honorable Vice Chancellor, **Prof Dr Iqrar Ahmad Khan**, our team visited the Cholistan desert along with our guests from the University of Kassel, **Prof Dr Andreas Burkert**, Faculty of Organic Agricultural Sciences, and **Prof Dr Eva Schlecht**, Animal Husbandry in the Tropics and Subtropics and **Mr Mumtaz Khan Manais**, the former Minister of Livestock, Govt of the Punjab was also among the team members.

The purpose of this visit to check availability of camel herders in desert area for gathering first hand information on the pastoral life of the herders, their socio-economic status and the role of their livestock in food security.

Leaving Faisalabad Campus on Aug 19, 2010 (Thu) at 8 am, our team reached at Mr M Mumtaz Khan Manias Farm at 1.00 pm. There we visited his Agro-Livestock Farm at Tiba Sultanpur, Vehari. We saw well-fed and managed herd/flocks of the cattle, sheep, goat, deer, peacock, Angora and dancing Nachi goats. Water buffalo also present in this farm which remains most of the time in water even they sometimes calve in water and young one starts floating just after birth. We saw the different agriculture machinery which was all in operation. Mr. Mumtaz Khan Manais was kind enough to extend his traditional hospitality to our group and also presented some gifts to our international guests. Having thanked him for his warm welcome and heart touching entertainment, we left for next destination and reached at Islamic University Bahawalpur. Where we were warmly welcomed by Rao Abdul Qadeer Khan and the larger family of CDA officials lead by Dr(s) Ali Raza Abbasi and Muhammad Arshad.

Cholistan Development Activities

Our day on Aug 20, 2010, started with a visit to the desert areas under management and guidance of Cholistan Development Authority (CDA) officials. Dr Ali Rza Abbasi and Dr Muhammad Arshad

escorted us through the sand dunes and we entered the desert area after a traveling of 2 hour journey near Khairpur Tameywali.

We enjoyed the beautiful scenes of desert which presented the beauty of the nature. Every where sand and its brownish color increased the beauty of desert. The water sources available in the desert are comprised of Toba system and water supply provided by Cholistan Development Authority and that of PCRWR. Toba is a pond, where rain water is collected and stored after rains and camels and other animals will gathered for drinking before stating their browsing of the day. This water is also used by all the inhabitants of desert until it dries up. The Tobas (watering points) Jam Sar, Noor Sar, Dolu Sar and Kala Pahar were seen. Camel concentrations were seen near all these Tobas and the herders were waiting for this visit. Where all herders of camels, cattle and small ruminants were interviewed to know more about them and their livestock. Newly inaugurated facilities for community livestock housing were visited. The Director Livestock Farms, Punjab, Dr M Ashraf Mughal, was there to explain these housings, their needs, utility and use of these structures and even their further expansion programs in the desert. Solar Energy installations were shown which have been given to the herders for their community as well as household uses.

This was a detail visit of their Gopas, living life, ladies were interviewed, photography of their houses, stores, water storage, hand pumps were seen. Living history was collected and information was gathered on certain aspects of common interests. ICDD students survey was also in mind of the visiting Prof from the Germany. Their livestock and especially the role of camel in desert area was the hot topic and main thrust of the proposed study including medicinal plants project on ground and the steps to be taken for the use and welfare of their livestock.

Next visiting place was the Government Livestock Farm, Jugiat peer, where we were welcomed by Dr Falak Sher, the Farm Superintendent. Briefing to our group, he narrated the main objective of this farm which was to conserve the Cholistani cattle breed. For this purpose they also run a project for Cholistani Cattle Breed Development. The total area of this Farm is 5200 acres. The soil type is sandy and sandy loam. The quality of sub soil water is unfit for irrigation. The temperature ranges in winter from 19 to 31°C and in summer from 33 to 50°C.

The last visiting place was Lal Suhanra National Park which is one of the largest Parks of Pakistan. We were greeted their by the forest staff and were given a detailed tour of the Zoo at the park. We were taken to show the feeding of Black Bangal Bucks at evening hrs. Our day ended at a cup of tea a Wispering Hill Rest House established in 1989 which is a piece of paradise on earth. Our international guests were very much impressed to see the cleanness, calmness, beauty and natural scene and landscape at the rest house.

Having done from the visits, we were taken to deep desert for overnight stay. We enjoyed a lot in dark and cool night, brightness of stars and moon with their cultural and folklore show by the local performers.

On next morning of Aug 21, 2010 (Sat) at 9 am, the group left for visits to the remaining Tobas namely Sohaib Wala. On our way to Drawer Fort, we visited the wool shearing center and collected the relevant and pertinent information on wool, shearing schedule, procedure, charges, marketing and ultimate it's utility. Later we visited the Cholistan Livestock Project near Drawer Fort, historical graveyards, camel ride, Drawer Fort and its remnants. It took almost full day to see these installations, project activities, herders and their animals.

Before dark we started moving to Bahawalpur. Next day we came to University of Agriculture, Faisalabad Campus as our guests were suppose to take more interviews of potential students for ICDD program.

Problems and Constraints

Squeezing lands is one of the major problems for camel production systems in Pakistan especially Cholistan desert. The desert had already brought under cultivation and the land allotted in majority of the cases to the influential people of the country. The Brela camel herders and other livestock keepers were replaced and never compensated for their losses. Because of no representation in the policy making organizations and legislatures, they couldn't raise their voice against this cruelty. The small ruminants and cattle breeders already left the occupation of livestock husbandry but the camel herders adapted a new way while moving long routes with their camel and traveling up to the desert of Cholistan. The Cholistan is also squeezing in size, the land grabbing is one of the important issues and the grazing lands are decreasing every day.

Suggestions

From scientist's perspectives, we suggest that Camel is the animal of the future and can be an important tool to combat the new challenges like: draught, environmental changes, global warming and creeping desertification, threats of disease and competition on feed & water resources.

The camel milk can be instrumental for its future sustainability in the harsh and hostile ecology. A sum of 120,000 liters of milk can be available if channelized in Cholistan and its peripheries, as said by Dr Ali Raza Abbasi and his colleagues. The milk can be pasteurized, chilled and packed for value addition. Many by-products can be made from camel milk and plenty of markets are available around Cholistan and even at over the waters. Conduct of fairs and milk contests can also provoke the camel herders to improve milk production. Value addition is another tool to make camel production profitable i.e. kurth, sorain, ice cream, chocolates and other products can be made from it. With the collaboration of ICDD, WHO the milk products can be made available for the school going to fight with malnutrition on one hand and to support camel herders on the other. Camel milk can also be used as a tool for poverty alleviation. Work on racing ability of Mareecha breed should be another avenue to develop Camel husbandry because there is a high demand for racing camels at home and in the rich Gulf countries. The camel also has a good potential as meat export to the rich Gulf countries.

With these questions in mind, we returned to see and explore on these topics in the days to come. These challenges are big with enough potential. We are sure that if dedications and commitments is firm, the resources and allocations are bound to come. This will require a holistic approach on all faucets of camel production by all players on ground with the help of Rohi people to make a difference in their lives and also convert this future food basket into greener and greener. How early it can be done, will depend how serious we are to bring this dream into reality.