

## Double-humped camels of Ladakh: stranded between the stakeholders

The double-humped camel or the Bactrian camel (Figure 1), a large even-toed ungulate native to the steppes of central Asia, is a critically endangered species<sup>1</sup>. It is restricted to four subpopulations in China and Mongolia, presently restricted in the wild to remote regions of the Gobi and Taklimakan Deserts of Mongolia and Xinjiang<sup>1,2</sup>. According to IUCN, a domestic form, considered under a separate species name (*Camelus bactrianus*), exists in Iran, Afghanistan, Pakistan, Kazakhstan, Mongolia and China<sup>2</sup>. In India, the population of *C. bactrianus* is restricted to the Nubra valley of Ladakh region (a high-altitude, cold, arid desert in the Trans Himalaya), Jammu and Kashmir as remnants of the famous silk route. These camels have two humps on their backs, in contrast to the single-humped Dromedary camel.

According to the National Research Centre on Camel, Bikaner<sup>3</sup>, a small population of Bactrian camels exists in the Nubra valley. The unique features of these camels are as follows. The humps are plump and pliable, and during late winter when the pastures are sparse insufficient, the humps collapse. The skull bone is comparatively shorter and wider than the Dromedary camel; body is short and stout; long hairs grow on the top of the head, along the lower part of the neck, hump and legs; adult body weight varies from 450 to 550 kg.

The Bactrian camel can carry loads up to 1 quintal and can work for 6–8 h daily<sup>3</sup>, because of which these camels were earlier used by traders as pack animals to load spices, fruits, clothes, etc. After the drawing of the national boundaries and closure of the famous silk route trade, these camels were left

behind in the Nubra valley (restricted to Hunder and Deskit villages).

According to the farm owners, there are approximately 150 camels in the Ladakh region and most of them live in the wild<sup>4</sup>. On the contrary, according to the State Department, Leh, their population is more than 150.

Due to development in modern transport facilities, the role of these camels has been limited. Importantly, it is perceived that these animals are stranded between a diversified group of stakeholders. Therefore, a stakeholder analysis was carried out to know the major stakeholders; who has the right and responsibility over these camels and what is the relationship between them (Figure 2). The primary data were collected through randomly selected personal interviews and participatory focus group discussions.

The 3Rs (right, responsibility and revenue) matrix analysis identified the owners of these camels as the main stakeholders with significant existing rights for their management. They are the sole custodians of the animals and have exclusive rights to use the animals.

The Village Administrative Body (VAB), a local institution headed by a 'Goba' has been in operation for at least the last 170 years<sup>5</sup>. In the case of the Bactrian camels, VAB is the custodian of the community grazing land, which is the major source of feed for these animals. This resource comes under the property regime of the common property resource

(CPR), for which there are norms enacted by VAB regarding who, when and how to extract from CPR<sup>6</sup>.

The camels are owned and managed by the owning households themselves. The responsibilities of the state departments are limited to providing some medical support and similarly, institutions involved in biodiversity and conservation of these animals have a specific interest in scientific research trials. The tourists, and local people enjoy riding on them. However, the owners get some income out of this activity and are thus interested in keeping these camels.

In the community grazing land the camels compete with domestic livestock and presently, there do not exist any institutional norms with regard to the use of CPR by the camels. Therefore, a low level of conflict exists between VAB and these animal owners.

These animals are voracious feeders and pull out the whole plants from the roots while feeding on them. And because of their height, they easily cross the low-lying fences (biofence of seabuckthorn). Hence, the private land owners and the Forest Department are in conflict with the camel owners because the animals trespass their fences and cause damage to their resources. There have been instances of camels being hurt in the process of driving them away from the private lands.

The relationship between VAB and the tourists is one of alliance, because



Figure 1. Bactrian camel.

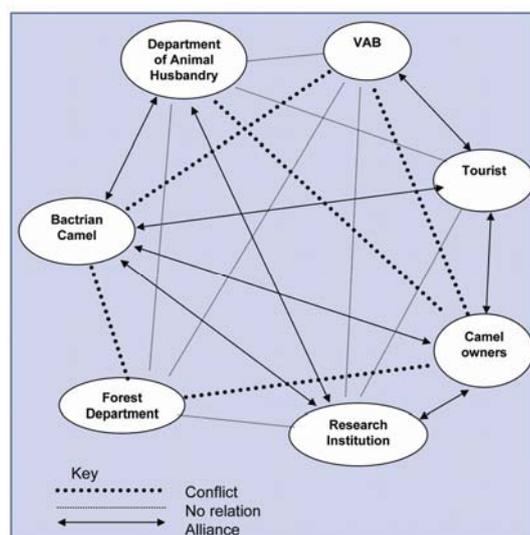


Figure 2. Relationship map of stakeholders.

tourists help the villagers earn money by running guest houses, hotels, restaurants and shops.

The important diseases prevalent among these animals are actinobacillosis, pneumonia, eye diseases associated with corneal opacity, hydro-pericardium and ectopic pregnancies<sup>3</sup>. The State Department of Animal Husbandry (DoAH) provides medical support to the camels. However, there is conflict between the camel owners and DoAH due to lack of help from the state administration.

Various researchers approach the camel owners to pursue their research projects, from whom the owners receive material and non-material benefits for exchange of information and providing their animals as a study subject.

Thus the Bactrian camels in the Nubra valley are presently bred from a tourism point of view, which is not a sustainable industry in the Ladakh region because of its sensitive strategic location and fragile environment<sup>7</sup>. This was proven during the Kargil conflict in 1999 and the cloudburst in 2010, when the tourist influx into this region reduced drastically.

Therefore, the following measures need to be undertaken:

- Bring out diversified products (camel-based) which would act as a buffer to sustain these animals in case the tourism industry suffers, e.g. hair quality attributes suggest its usefulness in fibre processing for the village cottage industry.
- Studies should be made to understand the animal and how to conserve it.
- Proper institutional norms need to be enacted so that minor conflicts between the stakeholders could be sorted out locally.
- State departments need to play a more active role.

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3. <http://nrccamel.res.in>

4. *The Hindu*, 30 June 2011; [www.thehindu.com/sci-tech/energy-and-environment/article2147329.ece](http://www.thehindu.com/sci-tech/energy-and-environment/article2147329.ece)
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7. Executive Councillor (Agriculture & Animal Husbandry), Ladakh Autonomous Hill Development Council, Leh, pers. commun., 2011.

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