

Yak: A Unique Bovine Species of The Indian Himalayas

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“Every species is a masterpiece, exquisitely adapted to the particular environment in which it has survived.” This quote by E.O.Wilson, aptly describes the existence of the yaks in the places which it inhabits in India and around the world. Yak (*Peophagus grunniens* L.) is a bovine species that is found in Ladakh, Arunachal Pradesh, Sikkim and Himachal Pradesh. Globally, it is found in China, Tibet, Mongolia, Bhutan and Nepal. It is a most remarkable animal as it thrives in conditions of extreme harshness and deprivation (“cold winter, low oxygen content, high solar radiation, and cyclical nutrition with short growing seasons”) while providing a livelihood for the highlanders.

The roots of its origin can be traced to the cold regions of the Qinghai-Tibetan plateau over 10,000 years ago. Presently, yak husbandry is a viable and striving enterprise in the trans-Himalayan region. The yak is an integral feature of the socio-economic and socio-cultural pillars of the communities that are involved in raising this bovine species. Like any livestock enterprise, the three pillars of this are the animal-the yaks, the yak herders or rearers and the husbandry system that is commonly followed.

The yaks are reared under a free-range system and are found in alpine and sub-alpine regions usually between 3000 to 4500 m above MSL (Mean Sea level) with a cold, semi-humid climate and even at 6000 m MSL in India. Yaks are the only animals that can survive in such high altitude in extreme cold condition (up to -50°C) where scarcity of grasses is a huge challenge. The animal is equipped with a large heart and lung to cope with this challenge. The yaks consume less feed as compared to the cattle as they have small rumen (stomach chamber) with less capacity. The yaks are also reported to have the capacity to carry load of up to 25 to 30 per cent of its body weight (Deb, 2016). Among the methane gas producing bovine, the yaks are reported to produce least amount of methane.



Fig. 1: A yak herder with his yak herd at Changthang Valley, Ladakh

In India, the yaks are mainly reared by the nomadic tribes. For instance, in Ladakh, it is reared by the Changpas, a semi-nomadic tribe. It is reared by the Aho, Bho and Bhutia tribes in Sikkim. While in Himachal Pradesh, the Buddhist tribes in Spiti are engaged in yak rearing, whereas in Kinnaur and Chamba districts, the Hindu tribes are involved in rearing this bovine. The Monpas, a Mongoloid Buddhist tribe, are involved in rearing the yaks in Arunachal Pradesh (Ramesha et al, 2009). Yaks in India, are mostly reared traditionally in the transhumance system (Kataktaaware et al, 2008). This system involves the migration of the yak herds from the lower altitude to the higher altitude during summer months in search of grazing pastures and the subsequent downward migration during the winter months. The yak herders entirely depend on the animals for their sustenance. The yaks are source of both nutritional and financial security for the herders. The yaks are milked once a day and it is used to prepare the milk products like churpi (wet cheese) and mar (butter) which constitutes the staple diet of the herders. Besides, the herders also use the milk products to pay the grazing taxes for the pastures accessed by the yaks during summer and winter seasons. The herders are also reported to exchange these products for other goods and products. The fibre of the animal, which is sheared once a year, is used to

made ropes, blankets, mats, caps etc. by the herders. Also during the migration of the yak herds, some of the yaks serve as pack animals to carry the things. The dung of the animal is used as fuel by the herders. Thus, no product from the animal goes to waste. Therefore, the yaks are said to play key roles in the lives of the communities that are engaged in looking after this animal. However, the rearing of yaks poses immense challenges for the yak herders. The population of yaks in India at present is 58,000 (Fifty-Eight Thousand) as per the 20th Livestock Census Report. This is comparatively less. Moreover, the traditional system of yak rearing also known as the transhumance system (migration of the yak herds lead by the herder) is subjected to vagaries of nature and also poses untold hardships for the herders and the yaks as they are far from the villages during the migration. Yak rearing and related traditions are losing their charm in the recent era due to modernization, inbreeding and unavailability of pure yak germplasm, climate change threats, disease incidences; and decline in forests and shrinking of grazing pastures in high altitude regions (Pandey et al,2020). The most important factors threatening the future of yak farming in Bhutan according to herders and livestock professionals are forage shortage, predation and no successor to take up yak farming (Dorji et al,2020). These problems are reported amongst the yak herders in India as well. Any deviation that is an impediment to the transhumance system can lead the yak herders to give up yak rearing. During the COVID 19 pandemic, some yak herders of Arunachal Pradesh could not access the grazing grounds because of the lockdown in the border areas, as a result many of the animals died and the rest suffered from malnutrition. Some yak herders were reported to have second thoughts on continuing with this occupation because the younger generations are not open to take up this venture because of the difficulties and the disproportionately less profit it generates as compared to the hard work involved (Mepfhuo et al, 2023). However, yak rearing has a charm of its own due to its intricate binding with the lifestyle of the people involved in this unique husbandry enterprise. It is also an added feature of the flora and fauna of India.

The yak husbandry still provides ample of scope for exploration of its potential. The stakeholders have plentiful responsibility to play in the larger scheme of things to see to it that the animal is protected and also its rearing is encouraged amongst the people who are associated with it since time immemorial. ICAR-National Research Centre on Yak, established in 1989 at Dirang, Arunachal Pradesh, have since its inception been working on the conservation of the animal and through its extension outreach activities have continuously reached out to the yak herders for their socio-economic growth and progress. Likewise, the institute is trying its best to bridge the gaps between the traditional and scientific rearing of yaks for enhancing the productivity of the animals that will reflect in its productivity and judicious exploration of its potential. The yak herders need to recommit themselves to the upliftment of this animal and this requires the Govt., NGOs and other concerned institutions to come forward with sustainable solutions that involves local support with an ecumenical appeal.

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