

Covid-19 Pandemic and its Impact on Yak Economy of Sikkim

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Abstract

Yak is a notable species in Sikkim, contributing significantly to tourism development in the state, particularly in Tsomgo, East Sikkim, Chopta Valley in Lachen, and Lachung, North Sikkim. Yak culture and tourism in north Sikkim have been significant income and livelihood options. Apart from being a tourist attraction, the yak is a multipurpose animal. It provides milk, meat, manure, fibres, and obnubilates and is utilised as a conveyance for carrying baggage in high-altitude areas. Yak rearing is the only sustainable alternative available as a source of income to the mountain region in Sikkim. However, the Covid-19 pandemic and climate change have impacted yak culture and yak herders in the state of Sikkim. The implicative insinuation and pandemic-fighting measures, such as social distancing and lockdown, resulted in a drop in domestic and international tourists in Sikkim. Though Sikkim remained untouched by the covid-19 pandemic for a long time, the pandemic has crippled the tourism industry. In this context, the paper “Covid-19 Pandemic and its Impact on Yak Economy of Sikkim” will highlight and investigate the impact of the pandemic on the Yak economy and culture and investigate the regime’s and other prominent stakeholders’ strategies for promoting and preserving iconic species and living cultural heritage.

Keywords: Covid-19, Mountain Economy, Pandemic, Yak Economy, Sikkim

Introduction

The COVID-19 pandemic has spread quickly worldwide, wreaking havoc on the lives and livelihoods of millions of people. India’s first outbreak was announced on January

30, 2020, causing authorities to take several steps to stop the virus from spreading further. On March 25, 2020, a nationwide lockdown was imposed, bringing social and economic life to a halt in India.

The pandemic had widespread economic implications, affecting many sectors of the global economy, and India was no exception. The Covid-19 Pandemic has had a significant impact on the tourism industry around the world. International tourist arrivals (overnight visitors) fell by 72 per cent in January-October 2020 compared to the same period the previous year, according to the United Nations World Tourism Organization's (UNWTO) World Tourism Barometer. The trends of slow virus containment, low travellers' confidence, and significant travel restrictions continue through the COVID-19 pandemic. In 2020, the predicted drop in international tourism will amount to a loss of nearly 1 billion visitors and the US \$1.1 trillion in revenue (UNWTO, 2020). The announcement of the Covid-19 lockdown triggered a mass exodus and reverse migration of unskilled and semi-skilled labourers from major urban cities who walked back to their villages without food and money in India (Kumar and Choudhury, 2021; Dandeker and Ghai, 2016).

In Sikkim, tourism is primarily dependent on the use of natural resources. Sikkim is endowed with natural resources (flora and fauna), biodiversity, scenic attractiveness, and a beautiful landscape. One of Sikkim's most important wildlife species is the yak. The Yak is a versatile animal used for milk, meat, dung, fibres, hides, and transportation transporting loads in high-altitude places, and it is one of the most common livestock found in Sikkim's upper regions.

The Yak is one of Sikkim's most important species, contributing significantly to the growth of tourism in the state, particularly in Tsomgo, East Sikkim, the Chopta Valley in Lachen and Lachung, North Sikkim, and Yaksom, West Sikkim. However, the outbreak of the Covid-19 pandemic, as well as climate change, has had an impact on tourism, yak culture, and yak herders in Sikkim. As a result of the implications and measures taken to combat the epidemic, such as social separation and lockdown, the number of tourists (both foreign and domestic) visiting Sikkim has decreased.

Though Sikkim was spared from the covid-19 pandemic for a long time, the state's economy was damaged by the lockdown and social distancing efforts. The lockdown impacts the tourism industry and other industries that rely on tourists. The general goal of this work is to improve existing resources by examining Covid -19's impact on the research area. As a result, it is organised to elucidate the following two key goals:

- a. To highlight and investigate the impact of the pandemic on the Yak economy and culture.
- b. To investigate the regime's and other prominent stakeholders' strategies for promoting and preserving iconic species and living cultural heritage.

Yak Culture in Sikkim

Yaks are unique and heritage species spread across the trans-Himalayas. The Yak grazing is a traditional transhumance system of these ecologically fragile high altitudes. Yak herding is a significant part of mountain livelihood where the terrain is unsuitable for crop cultivation. Yak rearing plays a significant role in the livelihood and the cultural, religious, and social life of the trans-Himalayan people (Long *et. al.*, 2008). The yak can survive under harsh climatic and environmental conditions at high altitudes and provides a means of transport and a source of meat, dairy products, fibre, and hides. Thus, they are referred to as the "wealth" of local people because products from yak provide income sources to most people living in the highlands (Long *et. al.*, 2008).

Yak rearing is a vital and necessary component of highlander life, where other livestock species struggle to survive (Haynes *et al.*, 2014). Yaks provide a foundation on which pastoralists can support themselves in these problematic surroundings by supplying milk, fibre, meat, transportation, fuel, and labour for agriculture and tourism (Dorjee *et al.*, 2019; Wangchuk and Wangdi, 2015).

The Bhutias are the largest yak-herding population in Sikkim. However, it should be noted that yak owners and herders are not the same. The Bhutias, Lepcha and Tibetan are the yak owner, while yak are taken care of by the non-Lachungpas and non lachenpas in North Sikkim who comes from different parts of Sikkim, Darjeeling and Nepal. The Yak herder works on product sharing basis wherein the owner supplies the herders with rations and other essentials. The income from the Yaks product, meat and newborn calves are shared between the owner and herders (Sharma *et al.*, 2016)

Domestic yaks are also of tremendous cultural and religious value to the people and strongly relate to the herding groups' traditional cultures and ceremonies. The yak is said to be of celestial origin in Buddhism. The yak appears in Buddhist scriptures as a symbol in various forms and is well-known in folklore. Yaks also appear in dances, celebrations, and pantomimes (Pal, 2003). One part of the yak's near-mystical relevance is related to the components of indigenous medicine taken from the yak.

Yak blood is thought to have curative powers, and it is extracted from a juvenile's vein and administered to sick humans at higher elevations (Joshi *et al.*, 2020).

Apart from the economic significance, the domestic yak is also of great cultural and religious significance to the people living in the Asian highlands. They are closely linked to these herding communities' traditional cultures and rituals. Along with other animals, yak is also indicated in the history, legends, and mythology of the Tibetan and its neighbouring regions in both natural and mythical forms. For instance, the components of local medicine extracted from the yak are associated with one aspect of the near-mystical importance of the yak. Yak blood is regarded to have medicinal properties and is taken from a juvenile's vein and fed to weak people in Nepal, especially in the Mustang area (Degen *et. al.*, 2007; Acharya *et. al.*, 2014).

Yaks are raised primarily for meat and milk, though substantial income is realised from selling blood during two blood-drinking ceremonies and selling yaks as pack animals. Milk is used for butter/ghee and dry products, and hard curd cheese (*chhurpi*), is mainly sold and used for home consumption and making 'salty butter tea' (Degen *et. al.*, 2007).

There are many documented studies about Tibetan people, but minimal information is available for other ethnic groups in the Asian highlands. Thus, the existing traditional knowledge of the biological and cultural systems of the yak-herding ethnic groups remains to be explored. Conservation and the sustainable use of biodiversity are possible only when economies consider this traditional indigenous knowledge and when they identify benefit-sharing as one of their goals.

The majority of yak owners and herders are Buddhists who practise semi-nomadic pastoralism. They move their yaks to higher pastures in the summer and lower pastures in the winter (Ghatani and Tamang, 2016; Joshi *et al.*, 2020). Yak horns and tails are sacred, of religious significance, and ornamental. Chamar (yak tail fan) is made by washing the yak tails carefully and tying them tightly to a wooden handle with a rope. Yak skins are used for decoration and manufacturing hide, cold-resistant tents, and mura (Ghatani and Tamang, 2016).

Yak population in Sikkim

Yaks are herded at higher heights in North Sikkim's Lachen, Gurudongmar Lake, Chopta Valley, Lachung Valley, and Yumthang, in East Sikkim's Tsomgu Lake, Kupup, Thegu, Nathang, and in West Sikkim's Yuksom- Dzungri and Gyalshing. Yaks are not

herded in the south district of Sikkim because the temperature is too high for yak farming. Yaks can survive in temperatures as low as 5°C on an annual basis, with an average of less than 13°C in the hottest month. It can withstand temperatures of up to 40°C and altitudes of 3000–5000 metres above mean sea level (Tambe and Rawat, 2009).

Table No. 1: Yak Population in the four Districts of Sikkim

District	Rural	Urban	Total
East	1509	0	1509
North	3616	0	3616
South	0	0	0
West	94	0	94
Sikkim	5219	0	5219

Source: (Government of India: Ministry of Fisheries, Animal Husbandry Dairying Department of Animal Husbandry and Dairying 2019)

Map No 1 and Table No. 1 highlights the region where the Yaks are found in Sikkim. As illustrated in Table No 1, North District have the highest number of yak population compared to the East and West district as the Government of Sikkim imposed a ban on grazing, especially in forest and protected areas in 2000-2005 wherein the grazing animal was evacuated. However, in the higher area of KNP and North Sikkim (especially in Lachen and Lachung) grazing could not be entirely banned (Tambe and Rawat, 2009; Sharma *et al.*, 2016). the region. Similarly, Table No 2 illustrates the yak pollution by age and sex in the state. Female yak is comparatively greater in number as compared to male yak in Sikkim.

Map No 1: Map Showing the Region where Yaks are found



Source: DIVA-GIS and Google Earth Pro, Compiled by Authors

Table No. 2: Yak Population by Age and Sex

Sex	Under 3 Years	3 Years and Above	All-Age
Female	1017	1563	2580
Male	971	1668	2639
Total	1988	3231	5219

Source: (Government of India: Ministry of Fisheries, Animal Husbandry Dairying Department of Animal Husbandry and Dairying 2019)

Sikkim’s Yak Economy and Covid-19

Most Sikkim’s Yak herders are involved in tourism-related activities, either directly or indirectly. Tourists can stay in their homes, and yaks are frequently used for tourism purposes such as yak safaris. Yak safari is a memorable and one-of-a-kind Sikkim experience. Dzongri region in West Sikkim, Tsomgo in East Sikkim, Chopta Valley, Lachen, Lachung, Gurudongmar, and Thangu Valley in North Sikkim are some of the most popular Yak Safari paths. Yak safari rides typically cost between Rs 300 and Rs 500, depending on the season and environment of the region, and yak photo shoots cost around Rs 50.

However, tourism-related activities were prohibited following the lockdown, and yak herders and yaks suffered. Because most yak owners and herders work in the tourism industry, their livelihood security has been jeopardised—especially the Nepalese herders stranded in the state because they could not return to their homeland. Local herders bore the brunt of the economic hardship since they were unemployed for an extended period. The centralised construction activities include Roads & Bridges, Pradhan Mantri Gram Sadak Yojana (PMGSY), Sikkim Garib Awaas Yojana (Sikkim Garib Awaas Yojana) came in. They offered local herders the opportunity to serve as labourers in this scheme (NDMA, 2021). But the Nepalese herders could not work since this plan was only authorised to operate with local labour.

Yak is a beast of burden at higher altitudes in Sikkim as a mode of transportation to carry essential materials. Yaks are also used in trekking in Thangu, Phalung and Chopta Valley, North Sikkim, while in the case of West Sikkim, Yak is used in trekking in Goechla and Dzongri trek route. However, to covid restrictions, trekking routes were closed for tourists wherein the yak owners, tourist guides and tourist porters also lost many jobs.

The yak owner could only sell yak meat to the local communities, but not other by-products like local cheese (Churpi), Kullu or wool-made garments, or chamar (a fly whisker) costs roughly Rs 5000-6000. As part of the high-altitude biosphere, Yaks in Sikkim have been impacted by climate change. Their natural habitat is at stake; their grazing areas have been encroached upon by anthropogenic activities. Reduced grazing spaces and lockdown-induced fodder crunch has added to their plight. In Sikkim, there is no coordinated market strategy for Yak by product. As a result, income generated through yak herding and rearing is low, and the Covid-19 lockdown dipped the trend further.

Role of Government in Yak Conservation

The cross-border movement of yak and herders has played an essential role in securing quality species to sustain yak production. However, geopolitical changes in the region that began in the late 1950s limited the movement of yaks and herders across borders. The closure of the Indo-China border since the 1962 war has reduced cross-breeding between Sikkim and China's Yak (Subba, 1989 and Chakrabarti, 2011). The Chinese Yak is regarded as one of the best and healthiest breeds of Yak. As a result, there is no cross-breeding among the Yaks, and same-breeding Yaks are not always healthier than cross-breed Yaks. Yaks of mixed breeds are more substantial, healthier, produce more milk, and can withstand colder climates. This restriction has isolated the yak population for nearly 60-70 years. And this inevitably led to inbreeding, which resulted in reduced productivity and health of yak populations, mainly through the southern Himalayas, Nepal, Bhutan and India (ICIMOD, 2020).

However, to deal with this fiasco, India and the Bhutan government have agreed on a transboundary germplasm exchange to improve the species gene pool. The gene flow from one population ensures genetic diversity in the yak population and produces healthy offspring that can produce more milk, meat, and fibre (Ghosh, 2020). In 2019, around 300 yaks were reported dead in North Sikkim due to starvation after heavy snowfall. To tackle or avoid such a situation in the future Department of Animal Husbandry Livestock Fisheries and Veterinary Services (A.H.L.F&V.S), the Government of Sikkim conducted various interactive and capacity-building programmes with stakeholders, primarily yak shepherds, yak owners and Pison.¹ of Lachen Dzumsa²to make the most of available infrastructures such as Hay Godown

¹Pison: The Pison, originally called as Chipons (spyidpon) which means 'king of the public' is the village chief to look after the overall well-being of the village in Lachung and Lachen in North Sikkim (Thapa and Sachdeva, 2017).

²Dzumsa: It is a traditional local self-government system in Lachung and Lachen in North Sikkim. The term Dzumsa means a 'gathering place', a council of villagers assigned with the duty of carrying out the

and Yak Shelter. Two yak centre was established in Chopta and Zema in Lachen under yak conservation (Government of India, 2019).

Sikkim Government along with the World Wide Fund for Nature (WWF) and other research Institutes like The International Centre for Integrated Mountain Development (ICIMOD), Nepal and GB Pant National Institute of Himalayan Environment (GBPNIHE) Gangtok, have identified several transboundary conservation issues such as resource extraction, land-use systems, livelihood options (mainly cross-border grazing/tourism), and policies which could in the yak conservation process (Sharma *et al.*, 2016).

The Government of Sikkim's Department of Livestock and Animal Husbandry has been aiding yak owners and herders by providing feed and fodders and organising Yak festivals. Through sensitisation and skill development programmes, the Sikkim government, in collaboration with the WWF and local governments, provides training and organises carrying capacity programmes to build a critical mass of informed and skilled youth for harnessing tourism potential and working for yak conservation.

Other Challenges to Yak Economy and Yak in Sikkim

Younger generations are quitting yak farming and migrating to metropolitan regions to seek a better life. Despite its vast potential, the yak economy has failed to meet its economic potential. Similarly, due to dwindling habitat due to climate change, there is insufficient territory for yak grazing. Yaks are sensitive to pollution, and when yaks are used for tourism, noise pollution and air pollution have a physical and mental impact. The reduction in grazing land due to changing climatic variation and an increase in extreme events is another serious issue related to yak culture in Sikkim. The reduction in grazing land had led to competition between the semi-domesticated and wild ungulated wherein the wildlife animals like Himalayan Thar and Blue sheep migrate to lower elevation in search of good pasture. When these wildlife animals migrate, predator species like Tibetan wolf and Snow leopard also migrate following their prey which has resulted into the case of livestock depredation and increased human-wildlife Conflict (Sharma *et al.*, 2016)

Army installations have also hampered yak herding in North and East Sikkim. The Farel dogs are attracted to the leftover food discarded by the army, and these dogs

administration of the village community. This unique system of self-governance is said to have been established during the first half of the 19th century. It was designed to provide unity and consistency in structure and function for societies in Sikkim, which were remotely located but within the jurisdiction of the central authority of Sikkim (Thapa and Sachdeva, 2017).

occasionally attack the yak herds and sometimes kill the calves. The army's presence has introduced newer forms of dynamics in the trans-Himalayan biocene, increasing the predator ratio in fragile ecosystems. This border issue has necessitated coordinated efforts or transboundary issues involving China, Bhutan, Nepal, and India.

Some Closing Observations and Suggestions

The COVID-19 pandemic has wreaked havoc on economies worldwide, affecting all sectors. The Covid-19 pandemic has harmed the tourism industries all around the world. The tourism industry is regarded as the lifeblood of Sikkim's economy. More than 2 lakh people gain directly or indirectly from tourism-related activities. Despite suffering significant losses due to the epidemic, Sikkim tourism is slowly recovering as the government relaxes the lockdown at its entry points, allowing tourists from other countries to visit the state. In Sikkim's districts, awareness and community sensitisation campaigns have been launched. The Sikkim government also gave immediate help to Sikkimese, who were economically disadvantaged, through the Public Distribution System. The government of Sikkim is analysing the economic targets that will help the state recover from the loss of the Covid-19 epidemic on a sector-by-sector basis. In the upper altitudes of North, East, and West Sikkim, the yak economy and culture are also vital. Yaks provide employment not just for the owners but also for the herders. However, climate change has impacted yak rearing in Sikkim, with many households abandoning the yak sector due to low returns. It is impossible to overlook the efforts of local governments and the government of Sikkim to promote yak culture and the economy. To further improve and promote the emblematic species of the Himalayas, the government can implement measures such as child support in terms of education for the wards of yak owners and herds. Government policies should also target and entice young people who are quitting the yak economy and culture in favour of other industries and migrating to metropolitan regions to seek better job opportunities.

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