

# Accounting for pastoralists in Pakistan



Photo: Khurshid Muhammad

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**R**ANGELANDS COVER SOME 52.3 million ha of Pakistan, or 60% of the country's land area. These rangelands are extremely diverse, ranging from alpine pastures in the Hindu Kush-Himalaya, Karakoram and Pamir ranges in the north, arid and semi-arid plateaus and scrublands in Khyber Pakhtunkhwa and Balochistan in the west, and the sandy deserts of Thal, Thar and Cholistan in southern Punjab and Sindh. These lands provide forage for nearly all of Pakistan's camels, 60% of its sheep and goats, 40% of the equines, and 5% of its buffaloes and cattle – or 35% of the country's total non-poultry livestock population.

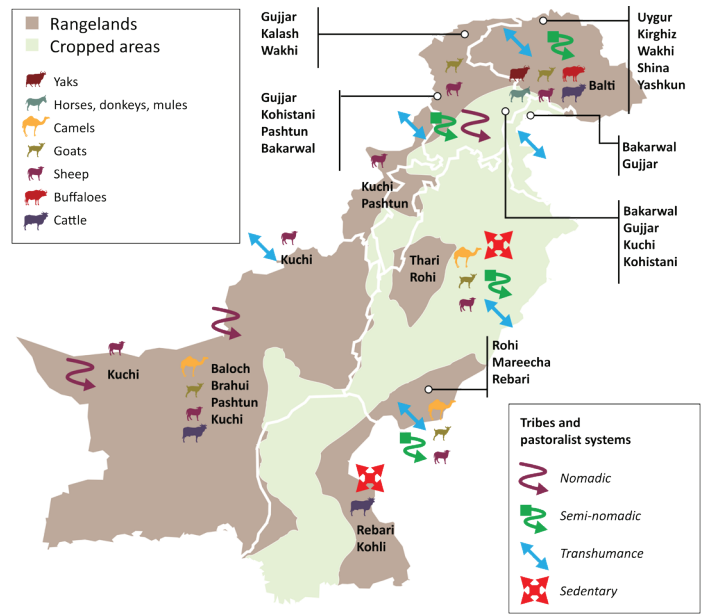
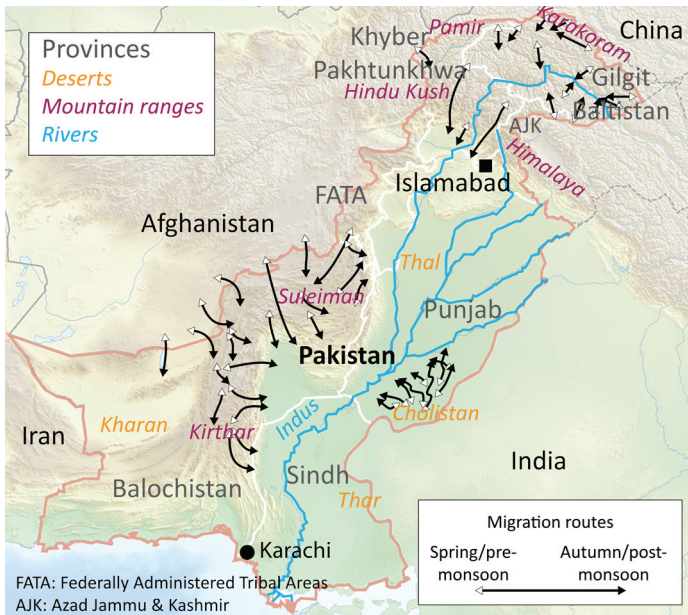
For centuries, various ethnic groups have practised pastoralism, known in Pakistan as *maldari* or *charwaha*. Pastoral systems fall into the following general types.

**Nomadic pastoralism** Nomadic pastoralism is practised mainly by landless mobile herders in the northern region, Balochistan, and the Cholistan desert of Punjab. They travel long distances along ancient trekking routes in search of grazing and water. Each family keeps up to 200 to 300 animals. In the Hindu Kush-Himalaya and Karakoram, the herders use pastures above 4,500 m during the summer months; with the first snows, they descend to lower altitudes of 400–1,000 m for the winter. In Punjab, they move across the Thal and Cholistan deserts, while in Balochistan and Sindh, they migrate between the Kirthar ranges and the surrounding areas, including the alluvial plains of Sindh.

## Key messages

- Rangelands are the main land use in Pakistan, providing forage for livestock and supporting millions of pastoralists.
- Traditional pastoralism is a centuries-old production system, sustained by nomadic, transhumant and sedentary pastoralists.
- Major pastoral regions in Pakistan include the Hindu Kush-Himalayan and Karakoram ranges, arid and semi-arid scrublands of Khyber Pakhtunkhwa and Balochistan, and the sandy deserts of Thal, Thar and Cholistan.
- Pastoralists contribute significantly to national food security, subsistence and economy.
- Pastoralists face numerous challenges: land degradation, land grabbing, socio-political marginalization and competition over natural resources, unfavourable policies, climate change and environmental hazards.
- Pastoralists are not officially recognized, so their contributions are often not accounted in official records. Reliable data is lacking.
- Pastoralism in Pakistan is declining due to various socio-political and ecological challenges.

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Selected migration routes of pastoralists in Pakistan

Rangeland areas and pastoralist groups in Pakistan

Herd compositions vary. In the rugged terrain and steep slopes of the north, pastoralists herd mainly sheep and goats, whereas in Balochistan and the Punjab deserts, they keep mixed herds of sheep, goats and camels. Like nomads in other regions, they are continuously on the move with their entire families; they have no permanent residence, and they do not own land.

**Afghani Kuchi nomadic system** Afghani nomads of the Powinda (a Pashtun tribe) are known as Kuchi. They were forced to move to Pakistan due to the Soviet invasion of Afghanistan in the 1980s. Since then, a large number of Kuchi have lived continuously in Pakistan, relying on nomadic pastoralism for their livelihoods. In addition, some Kuchi migrate each year across the Afghan border, travelling through Peshawar in Khyber Pakhtunkhwa and Chaghi and Chaman in Balochistan. Kuchi nomads typically keep only fat-tailed sheep. Each household owns an average of about 100 animals.

**Semi-nomadic pastoralism** This is common in Gilgit Baltistan, Khyber Pakhtunkhwa, the north-western region and desert areas of Punjab. The pastoralists have fixed residences to which they return in either the summer or winter. For example, in the north, they ascend to sub-alpine or alpine pastures during the summer, and then descend to permanent pastures at medium or low altitudes. They may move with their whole families or only some members. In some situations, only men and boys move with the herds, particularly when they move long distances (200–300 km) or when they reach difficult terrain. Semi-nomadic herders travel comparatively short distances, keep small herds (150–200 animals), and may grow crops and practise other livelihood activities.

**Transhumance** Transhumant herders maintain permanent residences in both the summer and winter zones. This is common in Gilgit Baltistan, Azad Kashmir and parts of Khyber Pakhtunkhwa. In Gilgit Baltistan, many members of the Wakhi and Balti tribes practise transhumance in the Hunza, Skardu, Nagar, Khunjerab, Shimshal and Misgar areas. They keep mixed herds of sheep, goats and yaks. Some keep cattle at their homes to produce milk. Yaks are found in Khunjerab, Shimshal and Chitral. The Wakhi, Kirghiz and Balti tribes are the main yak herders in these areas.

The Gujjar and Bakarwal tribes also practise transhumance in Malakand and Hazara divisions of Khyber Pakhtunkhwa and Azad Kashmir in the western Himalayan region. Their herds are mainly composed of sheep, goats and cattle, while yaks are found only in the upper Chitral district of Khyber Pakhtunkhwa. These tribes grow crops as well as keeping livestock. Some settled Gujjars produce cash crops in the uplands of Hazara and Malakand divisions. Transhumant pastoralists usually keep small herds with an average of 80–100 animals per household.

**Sedentary pastoralism** Sedentary pastoralism is a village-based herding system where the herders do not migrate but live permanently in villages near grazing areas. This is common among the Gujjar, Pashtun and Baloch tribes in Khyber Pakhtunkhwa and Balochistan. The Rohi and Rebari tribes also use this system in the irrigated plains of Sindh and Punjab. The herders raise few livestock species, mainly cattle for milk. In some regions, crop farmers collectively hire a herder to graze their animals on communal land. Most sedentary pastoralists have small herds of 15–30 animals.

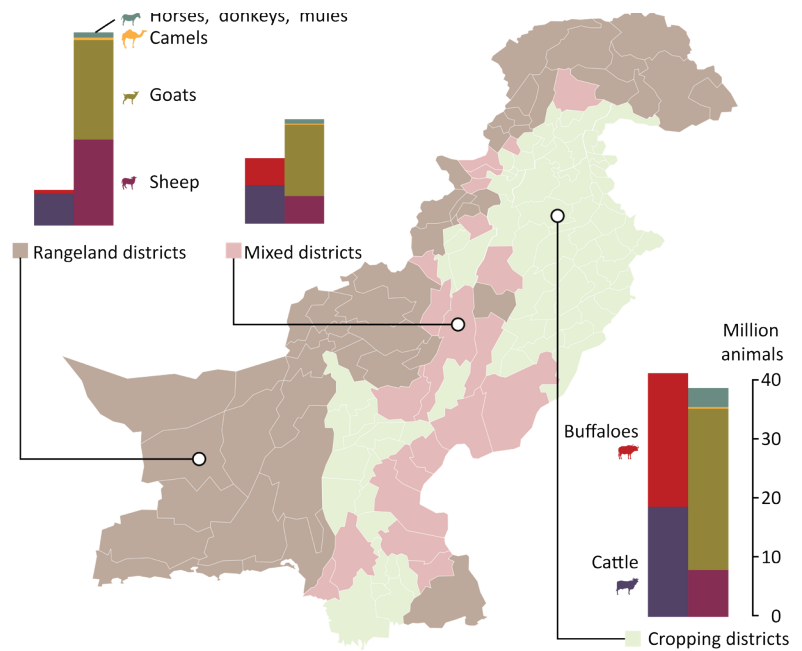
## Pastoralists and their livestock

Most of Pakistan's livestock are kept by sedentary farmers in the densely populated, cropped areas along the Indus and its tributaries. Cattle and buffaloes are particularly important. Among pastoralists, cattle, goats and sheep are the most important species. Pakistan has an estimated 15.7 million pastoralists out of a total population of around 240 million. Some 0.5 million pastoralists are landless.

**Khyber Pakhtunkhwa** Approximately 7,400 pastoralist households (50,000 people) rear about 1 million sheep and goats.

**Balochistan** This province has 14.2 million sheep, 13.7 million goats, 3.3 million cattle and 0.4 million camels. According to one estimate, nomadic and transhumant pastoralists keep about 90% of the province's livestock. Overall, about 72% of the population in Balochistan relies directly or indirectly on livestock for their livelihood.

**Northern Pakistan** This mountainous area is home to millions of pastoralists belonging to tribes such as the Balti, Wakhi, Uygur, Shina, Yashkun, Kirghiz, Bakarwal and Gujjar. More than 80% practise transhumance. Gilgit Baltistan has 0.92 million goats, 0.5 million sheep, 0.4 million cattle, 2,000 buffaloes and 16,000 yaks. Crossing yaks with cattle is common, with some 10,000 such crosses at high elevations (3500–4500 m) in the Hindu Kush-Himalaya and Pamir. Azad Jammu and Kashmir has more than 1 million pastoralists who keep 0.57 million cattle, 0.73 million buffaloes, 0.25 million sheep, 1.85 million goats, 600 camels and 20,000 horses and mules. Some 2.4 million Afghani Kuchi nomads live in the Pakistan–Afghanistan frontier and move across the border seasonally.



Data: Pakistan Bureau of Statistics (2006)

*Numbers of livestock by types of district. Rangeland and mixed districts have proportionally fewer cattle and buffaloes and more sheep, goats and camels than cropping districts.*

**Punjab** The Cholistan desert in southern Punjab covers the districts of Bahawalpur, Bahawalnagar and Rahim Yar Khan. Some 0.22 million Rohi camel-keeping families practise mobile pastoralism.

**Sindh** The Thar desert has a population of 760,000, mostly belonging to the Rebari and Kohli tribes. They keep over 2.75 million livestock.

The major sandy deserts such as Thar, Thal, Cholistan and Kharan are camel-production areas. Pakistan has about 20 different camel breeds, mainly found in Balochistan (41%), Sindh (30%), Punjab (22%) and Khyber Pakhtunkhwa (7%).

## Socio-economic and ecological contributions

Livestock play a significant role in Pakistan's economy, contributing around 62% of the agriculture sector and 14% of the country's gross domestic product. More than 35 million people are directly involved in livestock-related activities, earning about 35–40% of their household income from livestock production. In 2022, the country produced 62.5 million tonnes of milk, making it the world's fourth-largest milk producer, plus 5.2 million tonnes of meat, including 2.4 million tonnes of cattle and buffalo meat, and 0.7 million tonnes of goat and sheep meat. Meat ex-

ports (mainly to the Gulf) earned some USD 358 million in 2022.

How much of this production is by pastoralists is unknown. Pastoralists make up a significant proportion of the country's livestock keepers, but nationwide data on their numbers, herd sizes and production are lacking. They produce milk and dairy products such as yogurt, butter and oil (ghee), which they sell in nearby markets. They rear about 90% of the country's goats and sheep. In 2022, goats produced 719,000 tonnes

## Population of livestock species in Pakistan

Species	Total (000)	% dependent on range forage	Estimated population dependent on range forage (000)
Buffaloes	45,000	5%	2,250
Cattle	55,500	5%	2,775
Sheep	32,300	60%	19,380
Goats	84,700	60%	50,820
Camels	1,100	100%	1,100
Yaks	35	100%	35
Horses, donkeys, mules	5,000	40%	2,000
<b>Total</b>	<b>223,635</b>	<b>35%</b>	<b>78,360</b>

Source: Pakistan Bureau of Statistics (2006), Khan and Khan (2018)



Photos: Ilse Köhler-Rollefson



Photo: Khurshid Muhammad

of milk, 413,000 tonnes of meat, and 22.25 million skins. Sheep produced 36,000 tonnes of milk, 117,000 tonnes of meat and 10.37 million skins. About half of the meat market is supplied by sheep and goats from pastoral and agropastoral systems. Pastoralists provide millions of animals for Eid-Al-Azha, the Muslim Feast of the Sacrifice. In 2023, a total of 6.1 million animals, worth about USD 1.9 billion, were slaughtered for this annual event.

In Khyber Pakhtunkhwa, where statewide data are available, pastoralists market about 623,000 sheep and goats a year, worth at least USD 22 million to the province's economy (each animal is worth about USD 36).

The marketing system for pastoralists' livestock and their products is weak. Pastoralists may sell their livestock directly in the local markets (*mandi*), or a trader may purchase their animals.

Pastoralists have developed complex management strategies, cultural norms and ecological knowledge that guarantee the sustainable and efficient use of natural resources. Continuous mobility prevents overgrazing and stimulates regrowth. The animals disperse seeds, so promoting biodiversity. The pastoralists know the carrying capacity of pasture and manage their herds accordingly. They thus promote sustainable land management, carbon sequestration, genetic diversity and the sustainable use of resources.

## Definition and history of pastoralism

There is no formal definition of pastoralists or pastoralism in Pakistan. However, pastoralism is generally thought of as a mode of livestock production which depends primarily upon domesticated livestock herds that migrate between summer and winter pastures in search of forage and water, follow well-traversed tracking routes. This definition does not include the sedentary pastoralists described above.

Traditional pastoralism in Pakistan can be traced back to the ancient Mehrgarh civilization, around 7000 BCE. During British colonial era, unfavourable land-reform policies and forced settlement caused major changes in pastoralists' lifestyles. Since independence, pastoralists have faced new challenges, such as a weak marketing system, urbanization, land grabbing for agriculture and forestry by government and powerful elites, climate change, and land conflicts with farmers.

## Sources of data on pastoralism in Pakistan

Institution	Parameters	Area covered	Years	Availability
FAO	Province-wise rangelands and livestock statistics	All provinces	2006–16	<a href="http://landportal.org/node/50812">landportal.org/node/50812</a>
USAID	No. of pastoralists in Pakistan	Developing countries including Pakistan	2013	<a href="http://land-links.org/issue-brief/pastoral-land-rights-and-resource-governance/">land-links.org/issue-brief/pastoral-land-rights-and-resource-governance/</a>
NCCR	No. of pastoralists, livestock and economic contributions	Khyber Pakhtunkhwa	2012	<a href="http://boris.unibe.ch/17618/">boris.unibe.ch/17618/</a>
Pakistan Bureau of Statistics	Livestock census data	All provinces and districts	2006	<a href="http://pbs.gov.pk/publication/pakistan-livestock-census-2006">pbs.gov.pk/publication/pakistan-livestock-census-2006</a>
Economic Survey of Pakistan: Finance division	Estimated livestock population	All provinces	2006–23	<a href="http://finance.gov.pk/survey_2023.html">finance.gov.pk/survey_2023.html</a>
	Estimated milk and meat production	All provinces	2022–23	<a href="http://mnfsr.gov.pk/Publications">mnfsr.gov.pk/Publications</a>
Bureau of Statistics	Estimated livestock population and products	Azad Jammu and Kashmir	2019	<a href="http://pndajk.gov.pk/statyearbook.php">pndajk.gov.pk/statyearbook.php</a>
Livestock vision 2025	Rangelands, livestock and dairy development	Pakistan	2015	<a href="http://pdf.usaid.gov/pdf_docs/PA00XD26.pdf">pdf.usaid.gov/pdf_docs/PA00XD26.pdf</a>

## Data sources

Qualitative and quantitative data on general livestock production systems are available from official databases, reports and academic literature. These sources provide information on pastoralists and livestock population, breeds, production systems and socioeconomic and ecological values. But pastoralists in Pakistan are marginalized, and many are mobile. They are not recognized as a separate category in government records, so are not included in the national census, reports by the Bureau of Statistics or the government. This lack of data is a serious challenge. Estimates of pastoralists and livestock populations and descriptions of pastoral practices must be gleaned from local studies that cover a particular valley, district or village.

It is possible to make estimates of numbers of livestock in pastoralist systems by collating data from districts that are entirely or predominantly rangeland. But such estimates are unreliable because some districts (shown as “mixed” in the

map on page 3) include both rangeland and cropland. Some pastoralists reside in or move through cropped areas, while some non-pastoralist livestock keepers live in rangeland areas.

The most recent livestock census was in 2006, so the data are now outdated. The availability and accuracy of data on pastoralists could be improved by including production systems in the next livestock censuses, or through a comprehensive survey targeting pastoral communities in key regions. Such a survey should involve relevant government departments, research institutions and non-government organizations, along with local leaders and community representatives. Data is needed on demographics, livestock population, socioeconomic conditions and ecological roles, pastoral practices, livelihoods, land ownership and access to social services such as health and education. Geographic information systems and remote sensing could be used to map pastoralist areas.

## Vision

Pastoralism is a viable and sustainable livelihood system that contributes to several of the United Nations Sustainable Development Goals, especially those linked to poverty reduction, food security and production, economic growth, environmental conservation and gender equality. But pastoralism is declining in Pakistan due to various challenges:

a lack of legal status and institutional frameworks, unfavourable interventions in agroforestry and farming, socioeconomic disparities, limited access to social services, land degradation and climate change. Young people have little interest in pastoralism.

For sustainability of pastoralism, several policy shifts are needed. Pastoralists must be seen as adept custodians of the rangelands. A transition is needed to a model that integrates both traditional practices and modern market mechanisms, while ensuring sustainable resource management. Strategies to support

pastoral livelihoods include access to health, education, veterinary and other services, livelihood diversification, pastoral land management, strengthened land tenure, improved productivity through selective breeding and better management practices, and access to markets and information.

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## Accounting for pastoralists

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