

NOMADS OF THE TIBETAN PLATEAU RANGELANDS IN WESTERN CHINA PART ONE: PASTORAL HISTORY

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Nomadic pastoralism has been characterized as one of the grand progressions in the evolution of human civilization. It is an acculturation by humankind to rangeland areas of the world where extensive livestock production is more supportive of human life than is cultivated agriculture. When people specialize in livestock production that requires them to follow periodic movements of their herds they are known as nomadic pastoralists, or simply, nomads.

The Tibetan Plateau, located in the western part of the People's Republic of China, encompasses a huge rangeland area where nomadic pastoralism is still widely practiced. Here, in what is undoubtedly the harshest pastoral on earth, Tibetan nomads still thrive, maintaining a nomadic pastoral legacy that is thousands of years old. The existence of nomadic pastoralism in this high plateau rangeland environment provides ex-

amples of nomadic practices that were once widespread throughout the pastoral world, but are now increasingly harder to find. As such, Tibetan pastoralism offers a rare chance to learn more about a way of life that is quickly disappearing from the face of the earth. Since many prosperous nomad groups still populate the Tibetan Plateau, there is ample proof that many aspects of their traditional, nomadic pastoral production strategies and practices are rational and sustainable means for making a living in rangeland areas.

The fact that many of the grazing lands on the Tibetan Plateau have supported nomadic pastoralism for thousands of years while sustaining a unique flora and fauna also indicates the existence of a productive and remarkably resilient rangeland ecosystem. Unfortunately, little science is known about this ecosystem. Some of these rangelands, especially in

northwestern Tibet, also represent one of the last notable examples on earth of a grazing land ecosystem relatively unchanged by man.

This article (the first in a three part series) provides information and insight about Tibetan nomads and their nomadic pastoral practices in one of the least-known rangeland areas of the world. Based on understanding gained from seventeen different trips to Tibetan nomadic pastoral areas over the last ten years by the author, the article outlines the geography and climate of the Tibetan Plateau and traces the history of nomadic pastoralism there. Parts Two and Three, which will appear in later issues of *Rangelands*, describe the present nomadic pastoral production systems and discuss the challenges Tibetan nomads are facing today as they try to maintain their unique way of life. It is also hoped that these articles

will excite more American range ecologists, livestock production and pastoral development specialists, ranchers, cowboys, and cowgirls to want to visit Tibetan rangelands in western China.

Geography and Climate

Stretching for almost 1,500km north to south and about 3,000km from east to west, the Tibetan Plateau encompasses an area of about 2.5 million km² (equivalent to one third the size of the continental USA or almost as large as the country of Argentina). Comprising one quarter of China's total land area, the Tibetan Plateau is the largest and highest plateau on earth. Over 80 percent of the land area is above 3,000 m in elevation, and about half is over 4,500 m. As such, the plateau is an extremely harsh environment—undoubtedly one of the harshest pastoral areas on earth still used extensively by nomads. Some nomads maintain permanent camps at as high as 5,100 m. Temperatures of minus 30° C are often reached in winter and snowstorms are common even

in summer. Annual precipitation varies from about 700 mm in the east to less than 100 mm in the west, with most of this falling during the summer, often as wet snow and hail.

Rainfall in many parts of the Tibetan Plateau, especially the eastern region, is usually reliable because it is monsoonal. Forage growth is predictable for many areas and the system may appear to operate in a stable manner. However, even in these regions, heavy snow fall occurs periodically that devastates livestock herds and causes the system to function in a more non-stable manner. Unlike droughts in the semi-arid pastoral areas of the world, heavy snowfall does not usually negatively affect rangeland vegetation. In fact, heavy snowfall can lead to increased grass growth the next spring. With livestock numbers often reduced because of the blizzards, there is also less subsequent grazing pressure on the rangeland and vegetation has a chance to recover from prior heavy grazing.

Unlike the vast open steppes of Eurasia, grazing lands on the Tibetan Plateau are divided by rugged mountain ranges, deep river valleys, and large lake basins that give rise to tremendous diversity in topography, climate, and rangeland types. The rangelands are diverse in structure and composition, varying from cold deserts to semi-arid steppe, and shrublands to lush alpine meadows. They display a diverse assortment of plant communities, wildlife species, and various, distinct nomad groups and nomadic pastoral production practices. Like the Great Plains of North America, the rangelands of the Tibetan Plateau also evolved with large grazing animals. Over millennia, wild ungulates such as wild yaks, Tibetan wild ass, Tibetan gazelle, and Tibetan antelope exerted an influence on the vegetation and helped create a unique symbiosis between plants and ungulates. In contrast to North America, where the livestock industry on much of the Great Plains is only a little over 100 years old, the Tibetan steppe



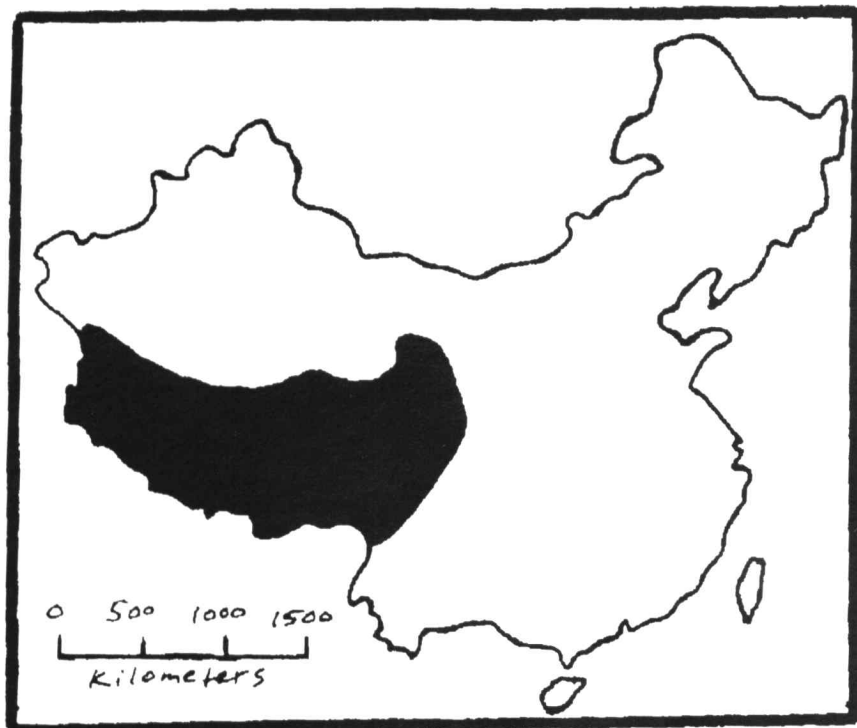


Fig. 1. *Tibetan nomadic pastoral area in western China.*

has been grazed by livestock for thousands of years. Domestic grazing animals have, without a doubt, impacted the evolution of many Tibetan Plateau rangelands.

The Tibetan nomadic pastoral area, which is a subregion of the Tibetan Plateau where pastoral nomadism is the dominant land use, encompasses a large area (Fig. 1). Within this region, there are areas at lower elevations, usually along valley floors, where cultivated agriculture is practiced and where pure pastoralism is not found. Nevertheless, over a huge area where crops cannot be grown, nomadic pastoralism is practiced.

Across this huge, pastoral region the nomads share many things in common, despite the distances and different ecosystems involved. For instance, the pastoral landscape is strikingly similar across the area. Whether it is in the alpine steppes near the headwaters of

the Yangtze River in southwestern Qinghai Province or 1,000 km away in the marshes near the first great bend of the Yellow River in



A Tibetan nomad family near Lugu in southwestern Gansu Province.

northwestern Sichuan Province, the landscape is comparable. It is a steppe landscape battered by wind, frequent changes in the weather, severe storms, and remarkable temperature changes even during the course of a 12-hour day. It is a plains and mountain environment inhospitable to

most outsiders, especially those from the lowlands unaccustomed to high elevation, cold, wind-swept steppes.

Nomadic pastoral areas on the Tibetan Plateau are complex environments that appear to function as highly dynamic ecosystems. Over much of the region, there is considerable variation in forage production from one year to another due to different precipitation patterns. There are even substantial differences in grass growth in a small geographic area within one year due to local climatic patterns. Winters on most of the Tibetan Plateau are generally dry with only light snow, and animals can usually graze all winter. However, severe winter snow storms occur periodically that bury forage, often resulting in large numbers of livestock deaths. Low temperatures that often accompany these snowstorms put additional stress on livestock and prevent snow from melting as well. These climatic perturbations add to the complexity of the pastoral system.

Pastoral History on the Tibetan Plateau

When examining Tibetan nomads and nomadic pastoralism on the Tibetan Plateau today, it is important to keep in mind the region's long pastoral history. The movements of early hunters, herders,

traders, and warriors across the Tibetan rangelands had a major impact on the later historical development of nomadic kingdoms and dynasties throughout Central Asia. They, in turn, affected how pastoral areas were used. Understanding the historical developments that took place on Tibetan rangelands is invaluable in comprehending the present ecology of the landscape. It also helps to inculcate a better appreciation for present day Tibetan nomads and their long experience herding livestock across the Tibetan steppe.

Long before the first nomads ventured into the grazing lands of the Tibetan Plateau, there were nomadic hunters present. In many places on the Tibetan Plateau, stone artifacts such as microliths, scrapers, blades, and microblade cores have been found that are possibly 20,000 to 30,000 years old.

Nomadic pastoralism originated about 9,000 years ago with the domestication of goats and sheep in the mountains of southwest Asia in what is now northeast Iraq and northwest Iran. Concomitant with cereal cultivation, which began somewhat earlier in the same general area, animal husbandry quickly dispersed from this center of origin into Central Asia.

Domestication of the yak, however, undoubtedly originated on the Tibetan Plateau, most likely by some very daring early hunters. Chinese scholars claim that yak husbandry is about 4,000 years old. Whenever it began, the domestication of the yak was the single most important factor in the development of nomadic pastoralism on the Tibetan Plateau. Domesticated yaks enabled nomads to exploit Tibetan rangelands and to earn a living there.

The development of nomadic pastoralism on the Tibetan Plateau was certainly shaped by nomads radiating into Tibetan rangelands from Central Asia to the north and west. Domestic animals such as sheep, goats, and horses were probably brought into Tibetan grazing lands from the west by Central Asian nomads moving into the area. The Tibetan black, yak-hair tent, for example, is strikingly similar to the black, goat-hair tents of nomad tribes in Afghanistan, Iran and Iraq. Nomads, believed to have originated from the Kurgan culture of southern Russia, expanded into the Indian subcontinent about 3,500 years ago. They brought with them not only the practice of nomadic pastoralism but also the Indo-European languages that they spoke.

Corridor region on the northeastern edge of the Tibetan Plateau in the second millennium BC. They must have moved into the region long before, probably following trails into the Tibetan frontier region that later became the famed Silk Route.

The Qiang, nomadic tribes believed to be the ancestors of modern Tibetans, were known to the Chinese in the Hsia dynasty (2205-1766 BC). They were numerous and widespread in the grazing lands of the northeastern Tibetan Plateau, in what is now eastern Qinghai and western Gansu Provinces of China. It is believed the Qiang originated from tribes of the neolithic Yangshao culture, based in the Wei River valley of the Upper Yellow River basin. These tribes moved west



Tibetan nomad tent and yaks at 4,800 m near Phala in the Tibetan Autonomous Region

Other Central Asian nomads started moving into the grazing lands of the northeastern part of the Tibetan Plateau. The Yuezhi, an Indo-European speaking nomadic tribe, were known to reside in the Qilian Mountains and the Gansu

into the Tibetan Plateau highlands in the fourth millennium BC and took up a mixed hunting-gathering, animal husbandry, and agricultural way of life. As early as 4,000 years ago, the Qiang nomadic tribes were known for making a fine

woolen woven material in their camps in the Kunlun Mountains on the northeastern edge of the Tibetan Plateau.

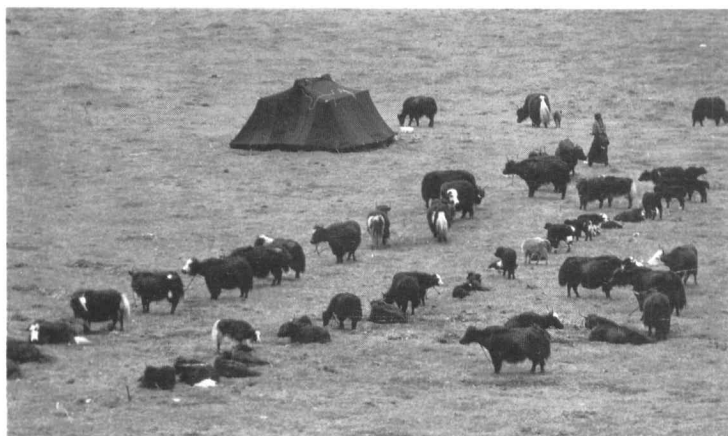
The consolidation of power among Qiang tribes on the Tibetan Plateau in the period between the Han (220 BC–202 AD) and Tang (618–907 AD) dynasties led to the formation of early nomadic kingdoms of considerable size in the Tibetan rangelands. One of these was the legendary Women's Kingdom located in the mountains south of the headwaters of the Yellow River. For long periods during the time between the Han and Tang dynasties, Tibetan tribal federations and dynasties controlled much of western China and the Silk Road.

The Silk Road skirted the edge of the Tibetan Plateau, and it was crossed by other well-established caravan routes linking China, Tibet, India, and Europe. Tibetan nomads would have supplied pack animals (horses, mules, yaks) for caravans carrying goods on the Silk Route. Annals from the Chinese Han dynasty indicate that large trade marts had been operating for centuries in the Qinghai Lake region on the northeastern edge of the Tibetan Plateau, with horses highly valued.

In the third century AD, a nomadic tribe known as the T'u-yu-hun, from eastern Siberia, moved into the northeastern Tibetan Plateau rangelands. One of their mainstays was horse breeding and by the beginning of the fifth century the T'u-yu-hun had become a powerful kingdom. Their strength and influence was due to their control of the lucrative Silk Road. The T'u-yu-hun maintained dominion over

much of the northeastern Tibetan Plateau until the seventh century when the expanding Tibetan Empire overpowered them.

During the reign of the Tibetan King, Songsten Gampo (602–650 AD), the Tibetan Empire emerged as a force to be reckoned with in Central Asia. Marching out of their capital in the Tsangpo Valley in central Tibet, Tibetan troops consolidated disparate Tibetan nomadic groups and in 660 conquered the T'u-yu-hun. In 763,



Tibetan nomad tent and yaks tied up for milking, near Hongyuan, Sichuan Province.

Tibetan troops even captured and briefly held the Chinese Tang dynasty capital at Chang-an (modern day Xian). By the end of the eighth century, Tibetan territory included vast domains in Central Asia and they controlled much of the Silk Route. Tibet's control of Central Asia and their monopoly of the major trade routes lasted well into the ninth century.

At its height in the 7th and 8th centuries, the Tibetan Empire was receiving an annual tribute of 50,000 bolts of silk from China. For much of the period of Chinese-nomadic interaction, the amount of and frequency with which goods were exchanged was often dictated by the nomads. Contrary to widely held beliefs about Chinese domination over the barbarian nomadic tribes, in reality it was often the Chinese who offered tribute to nomad

rulers. Silks and princesses were presented to the nomads in exchange for a cessation of hostilities. Homage was also made by the Chinese in order to establish trade marts on the steppe frontier. During the Tang dynasty (618–907 AD), a lively tea-horse trade developed in the northeastern Tibetan rangelands with China supplying tea in exchange for Tibetan horses, which were required by the Chinese military in large numbers.

The Tangut Kingdom, centered in what is modern day Ningxia and Gansu Provinces of China, controlled much of the northeastern Tibetan Plateau from the tenth to thirteenth century. The Tanguts, known as the Xi Xia in Chinese, were related to the Tibetans, and were a powerful force in the steppes of Central Asia until they were over run by the Mongols under Chinggis Khan in 1227.

Mongol influences in Tibetan rangelands dates back to the 13th century when Khubilai Khan dispatched Mongol troops to Tibet and set up an administration system patterned on Mongol rule in conquered territories. In the early 1600s, the Koshot Mongol chief, Gushri Khan invaded Tibet, which resulted in many Mongols settling in Tibetan areas. Mongol nomads still inhabit grazing lands in the



Nomads returning home after going on a pilgrimage to Lhasa.

Qaidam Basin and surrounding Kunlun Mountains in Qinghai Province. Many Mongols that settled in the northeastern Tibetan grazing lands have become Tibetanized over the centuries but they continue to use the traditional Mongol felt tent, or ger (yurt).

The foundation for the rise of all these tribal federations, kingdoms, and empires on the Tibetan Plateau were the rangelands. The boundless, fertile grazing lands and the livestock supported by them helped to create prosperous, pastoral-based cultures. Tibet's vast grazing lands nurtured a prolific pastoral industry based on sheep, goats, and yaks, all of which produced valuable fiber. Tibet was rich with wool, yak butter, and horses. The pastoral landscape also attracted nomads ac-

customed to tending animals. This pastoral legacy facilitated organization of mounted troops that could travel swiftly and conquer far-flung territories. Without such a pastoral setting the nomad tribes of the Tibetan Plateau would never have developed into such an extraordinary civilization.

About the Author

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Editor's Note: This is the first part of a 3-part series. Part 2 and 3 will be in subsequent *Rangeland* issues.

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