Chapter 28

The Diversity of Mountain Farm Animal Resources and Conservation Concerns in Pakistan

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The mountain ecosystem in the Hindu Kush-Himalayas, of which the Northern Areas of Pakistan are a part, plays a significant role in the socioeconomic well-being of the people in the region. Mountains constitute 40 per cent of the total area of Pakistan. The northern mountains cover Malakand Division, Hazara Division, the *Murree Kahuta Tehsil*(s) of the District, Rawalpindi, Azad, Jammu and Kashmir, and the Northern Areas of Pakistan. The 96,340 sq. km. area was inhabited by 7.8 million people in 1993 (Anon 1994). Both small and large ruminants and draught animals are kept by farming communities in the area for their subsistence.

Animal Resource and Farming System Diversity

The altitude in this area varies greatly, ranging from 300m in the south to more than 8,600m in the north. In the regions up to 1,500m in elevation the pastures are grazed round the year, while at higher elevations (1500-3000m) grazing is restricted to the summer season. Thus livestock production in the northern area is dependent primarily on the availability of pastures during the summer season, in the winter there is an acute shortage of feed for livestock. During the winter, livestock is fed on hay, dried grass, stubble from cereal crops, and crop residues. The estimated livestock population in the Northern Areas in 1996-97 was 1,603,000, with an annual growth rate of 5.11 per cent. Since land availability for fodder is restricted by the competition between human and livestock populations, fodder is rarely grown as a separate crop and rangelands are used for the production of livestock, mainly cattle, sheep, goats, and yaks. In Diamir and Gilgit districts alone, rangelands cover about 3.5 million hectares, over 50 per

Table 28.1: **Estimated Livestock (Ruminant) Population of Pakistan**		
Livestock Species	**Population 1995-96 (thousand head)[1]**	**Growth Rate FAO estimate[2]**
Large Ruminants		
Cattle	17,883	2.4
Buffaloes	20,214	1.4
Camels	1,163	-
Small Ruminants		
Sheep *	29,789	2.2
Goats *	45,649	2.7
Total	**114,698**	**2.7**
Source: 1 Ministry of Food, Agriculture & Livestock, Government of Pakistan, 2 FAO, RAPA Publication, 1987 * Dominant in mountain areas		

cent of the total area of the Northern Area. Overgrazing has reduced the carrying capacity of the rangelands from 1/10 to 1/2 of the forage potential capacity.

The animal resources in the area are diversified, but because of the lack of feed, productivity is low. Small-statured cattle, possibly of *Bos taurus* origin, are found in the northern areas of Gilgit, Diamir, and Sakardu districts, while in other areas the cattle are mostly non-descript. The sheep found in Gilgit, Damir, and Sakardu are also very small. Both indigenous and crossbred flocks of sheep are found in the rest of the region.

Western Dry Mountains

The uplands of Balochistan are the main area of this mountain ecosystem which is part of an arid zone. The area includes parts of the Kohat and Bannu districts of the North-West Frontier Province (NWFP), accessible parts of Kurram, and North and South Waziristan. The estimated livestock population in Balochistan province in 1996-97 was 31,416,000. Rangeland-based livestock production is the main economic activity in the region.

The main animal resources in the area are cattle, sheep, and goats. *Bhagnari* is the major cattle breed, although *Red Sindhi* is also found in some areas. The indigenous *Lohani* cattle have now been declared an endangered breed necessitating on-farm conservation (Wiener 1990). *Harnai, Birbrik,* and *Baluchi* are the best sheep breeds, they are known for both carpet wool and mutton.

Salt Range Tract

The salt range is part of the rainfed area of Punjab. This area covers hilly districts of Khushab, Chakwal, and Jehlum. The livestock population in the district

is dominated by cattle (782,016), followed by buffaloes (285,897), and sheep and goats (3,440). The predominant cattle breed is the *Dhanni*, which is very agile and thrifty. Bullocks are used for ploughing. Camels, donkeys, and mules are used for transportation. This tract is known for coal and salt mines, and draught animals are an important source of motive power.

Indigenous breeds are well adapted to the tropical environment, particularly the ambient temperatures which are sometimes as high as 52°C. They are also more resistant to tick-born diseases than exotic stock.

The only major introductions of exotic origin are Friesian and Jersey breeds of cattle and the Rambouillit breed of sheep. Dairy breeds of cattle from irrigated parts of Punjab and Sindh, namely *Sahiwal* and *Red Sindhi*, have also been introduced to a limited extent. Crossbred animals, particularly cattle and sheep, are also found in both the Northern and Western areas in smaller numbers. Mostly exotic animals have failed to thrive in the mountain ecosystem of the region as a result of scarcity of feed, high temperatures, and high prevalence of disease.

Livestock and the Changing System of Livelihood

There has been no significant or systematic effort aimed at conservation and development of indigenous breeds, rather their role in diversity and sustainable development has remained unappreciated. Diversity remains a tool for survival, and we can hardly afford to lose the diversity of animal resources in the mountain ecosystem.

Many factors must be taken into account for sustainable rural development. These include: social and ecological as well as economic factors; living and non-living resource bases; and the long- and short-term advantages and disadvantages of different actions. The dependence of rural communities on living resources is direct and immediate. The people living in mountain areas of Pakistan depend on natural resources for their survival, their average income is less than 500 rupees (US$ 17) per month. The resources essential for human survival and sustainable development are increasingly being depleted and destroyed. At the same time, human demand for more livestock is growing fast. There is a threat to the sustainable use of livestock resources; the challenge of increasing food production to help keep pace with demand while retaining the essential ecological integrity of the production system is colossal. Livestock diversity and indigenous knowledge and practices should contribute a great deal to solving these problems.

An important change in human settlement during the 20th century has been their rapid urbanisation. Previously, this rapid urbanisation was relatively insignificant in the Pakistan mountains. During the last century, however, a distinct

set of forces has generated the growth of specialised urban centres. Urbanisation has been particularly rapid in some of the more economically dynamic areas; e.g., the population in Peshawar (NWFP) has been growing at the rate of 8.4 per cent per annum (Anonymous 1986).

Bullocks are being replaced by tractors in modern agriculture, and this could lead to semi-intensive livestock farming. Bullocks, however, will continue to provide the main motive power in the region as they are genetically suited to the needs of marginal ecosystems.

NGOs and Changing Livelihood Systems

Numbers of NGOs are now operating in the region, for example, the Agha Khan Rural Support Programme (AKRSP), the Sarhad Rural Support Corporation (SRC), and the Balochistan Rural Support Programme (BRSP). The interventions of NGOs have led to a change in the farming systems and the livelihoods of custodians of animal resources. For example, the availability of such things as credit facilities, extension, and training has led to changes in herd size, input levels, and marketing, and these are contributing towards a changing livelihood system. AKRSP/SRC propose better management of resources in the ecosystem, without compromising the diversity of the system. Conservation of agrobiodiversity should thus remain a priority on the development agenda.

Let me conclude with what Mahammed Amin wrote in 'The Last of the Masai': *"The Masai community's entire culture is rooted on cattle in legends, love and even language. In Maa, there are 30 words to describe the shape and hue of cattle"*. Thus conserving animal resources also implies conserving folk heritage and culture.

References

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