

Status Paper of Shey Phoksundo National Park

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Abstract

Shey Phoksundo National Park is the largest park in the country and represents the Trans-Himalayan ecosystem. As a result of the extreme climatic variation, the park has more than 1,300 species of plants, 30 species of mammals, 200 species of birds, 6 reptiles, and 1 amphibian species. Approximately, 2,600 people live within the park boundary and 5,000 around the park in the buffer zone. The local economy is mainly based on highland agro-pastoralism. Livestock rearing is the main source of income, food, and transportation. Over 70% of the park area is covered by grassland, of which nearly half is estimated to be inaccessible as a result of the steep rocky topography. Grazing and livestock-wildlife competition are important management issues. During summer, local residents graze their cattle in specific pasturelands delineated according to traditional norms. This paper discusses whether grazing competition between livestock and wildlife, and grazing by livestock, can function as a management tool or not.

Introduction

Shey Phoksundo National Park (SPNP), legally gazetted in 1984, is located in the Dolpa and Mugu districts of the Mid-western Development Region of Nepal. It covers an area of 3,555 sq.km, is the largest national park in Nepal, and represents the Trans-Himalayan ecosystem. As in Langtang and Sagarmatha National Park, local people inhabit the park. More than 2,600 people reside within the national park and nearly 5,000 in its buffer zone area.

Animal husbandry is the second major activity in Dolpa after agriculture and is more popular in the northern part of the district. Livestock are an integral part of the social, religious, and agro-economic life. There are an estimated 1,300 households in and around the national park. The average animal holding per household is estimated to be 2.2 cows, 8.9 sheep/goats, 0.15 buffalo and 1.0 yak (Dhakal 1998). People residing in the park and buffer zone graze their cattle both within the park and the buffer zone. The people of Kaigaun, Rimi, Pahada, Tripurakot, Raha, and Dho VDCs in the buffer zone have traditionally used different pasture areas within and around the SPNP. At the same time, these areas are equally important for wildlife populations. The common herbivorous species found in SPNP are ghoral (*Nemorhaedus goral*), jharal (*Hemitragus gemlahicus*), great Tibetan sheep, Tibetan antelope (*Pantholops hodgsoni*), bharaal or blue sheep (*Pseudois nayaaur*), and possibly wild yak (*Bos grunniens*).

Grasslands: Status and Use

Grasslands cover about 70% of the total area of the national park. However, most are inaccessible as a result of the steep, rocky topography (Mandal 1990), the remainder are used by local people to graze their livestock.

Grassland Management Practices

The common practice of pastureland management is rotational grazing managed according to traditional norms. The pasture areas needed by people residing within and around the park were separated historically. Each settlement has its separate pastureland for grazing livestock at different times. The cattle graze on different pastures in different seasons. Livestock grazing during summer facilitates shrubs and forbs, which are the winter diet of blue sheep. If unchecked, forbs and shrubs would degrade pasture quality reducing regeneration of grass for livestock because of their priority effects. In several places, blue sheep and livestock graze together, and yak protect blue sheep from other predators, which suggests a positive relationship between livestock and blue sheep.

Management Issues

Wildlife-livestock interaction

Grazing and livestock wildlife competition are the important management issues in SPNP and have been discussed widely (Miller 1987; Bajimaya 1990; Yonzon 1990). The main question is how severe the situation is? Observational evidence suggests that wildlife –livestock competition for grazing is not very marked.

- There is a relatively low density of livestock (compared to pasture area) and decreasing number, probably as a result of the changing socioeconomic conditions (Pandey 1996) and increasing frequency of predation by wildlife (pers. comm.).
- The unit area biomass and number of pasture species are higher in lower Dolpa (18 to 21 species) than in upper Dolpa, (13-17 species). This shows that there is a sustainable grass supply for the present livestock and wildlife populations (Basnet 1996).
- Except in a few small spots in the Shey Gompa, Perikapuwa, Pungmo, and Jagdulla areas, where livestock are kept continuously for several weeks during the summer months, there are no overgrazed and degraded pastures. Rather, a positive relationship seems plausible (Basnet 1996).
- Pasture productivity (biomass per unit area) and vegetation cover are quite high (Basnet 1996).
- The common herbivorous species (like blue sheep) are well adapted to the very steep, rolling, and broken alpine terrain near rugged cliffs (Schaller *et al.* 1994; Wilson 1981), and they graze in the upper meadows where the majority of livestock are rarely healthy. During winter, blue sheep congregate on snow-free slopes and forage on the shrubs and forbs which emerge after livestock grazing. Livestock grazing alters the community structure and composition resulting in higher numbers of the shrubs and forbs that compose the winter diet of blue sheep (Basnet 1996).
- Stable populations of blue sheep in the Shey Gompa area (Yonzon 1990), Perikapuwa (Richard 1994), Naure, Namdo, and Kagmara (personal observation) also suggest that the competition between blue sheep and livestock is not pronounced.

Despite these observations, it is known that people residing in the buffer zone area occasionally graze their animals inside the park though they do not have the right to do so. This may result in competition for food between livestock and wildlife in these border areas.

Table 7. The common pasture species particularly used by wildlife and livestock

Species used by both wildlife and livestock	Major winter food species for blue sheep)
<i>Agrostis</i> sp.	<i>Anaphalis contorta</i>
<i>Arundinella nepalensis</i>	<i>Berberis</i> sp.
<i>Deschampsia nepalensis</i>	<i>Caragana brevifolia</i>
<i>Pedicularis siphonophyta</i>	<i>Cotoneaster microphyllus</i>
<i>Danthonia schneideri</i>	<i>Ephedra gerardiana</i>
<i>Plantago</i> sp.	Ferns
<i>Festuca</i> sp.	<i>Juniperus</i> sp.
<i>Poa pagophila</i>	<i>Lonicera spinosa</i>
<i>Potentilla atrosanguinea</i>	<i>Polygonum</i> sp.
<i>Potentilla</i> sp.	<i>Rosa sericea</i>
<i>Potentilla phurijuga</i>	<i>Rumex nepalensis</i>
<i>Potentilla cuneata</i>	<i>Sumex nepalensis</i>
<i>Potentilla fruticosa</i>	<i>Thermopsis barbata</i>
<i>Primula sikkimensis</i>	
<i>Pteroccephalus lepidotum</i>	
<i>Sedum</i> sp.	
<i>Senecio</i> sp.	
<i>Spirea arcuata</i>	
<i>Thalictrum</i> sp.	
<i>Trisetum</i> sp.	

Research Gaps

Research has been conducted on the following topics.

- Baseline survey of SPNP
- Socioeconomic tourism survey of SPNP
- Biodiversity survey
- Sustainable use of medicinal plants
- Traditional system of grazing in highland pasture

The findings of the above research programmes were not well documented and are not available in the park office. In addition, follow-up research and monitoring should be carried out.

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