

**Local and indigenous practices on adaptation:  
An experience from herder's life of western Bhutan**

by Nakul Chettri

Pastoralism is an age-old livelihood option for millions of people of different castes and ethnic groups and makes a significant contribution to the economy of the Hindu Kush Himalayas (HKH), both in terms of providing employment and income opportunities and in supplying nutrition to the rural poor. *Bakrawals, Gujjars, Gaddis, Kanets, Kaulis* and *Kinnauras* of the north Indian Himalayas, *Bhotias* and *Sherpas* of the Khumbu valley of Nepal, *Kirats* of eastern Nepal, *Lachungpas* and *Lachenpas* of Sikkim, *Changpas* of Ladakh and *Brokpas* of Bhutan are some of the well known pastoral communities of the Himalayas. Pastoralism in the HKH is based on transhumant practices and involves cyclical movements from the lowlands to the highlands to take advantage of seasonally available pastures at different elevations. During the summer when the snow melts in the higher alpine regions, Himalayan pastoralists move up to these areas to graze their animals. After the monsoon they move down to occupy the low altitude pastures for feeding their animals. Movements of people and their livestock proceed between previously embarked sites, which become more or less regular seasonal encampments or bases. However, the livelihoods of these pastoralists are at stake due to various external forces starting from modernization to policy imperatives. The prevailing climate is bringing new challenges to these vulnerable communities. The implications for pastoral livelihoods are yet to be fully understood and indeed two quite different opinions seem to prevail with respect to climate change. Some see pastoral groups as the 'canaries in the coalmine' of ongoing processes, as rangelands will tend to become drier and existing water shortages will worsen, thus affecting the overall sustainability of their livelihoods. Others see pastoralists as the most capable to adapt to climate change, since pastoral livelihoods are shaped to deal with scarce and variable natural resources and to tackle difficult and uncertain agro-ecological conditions, and climate change could conceivably lead to the extension of territories where pastoralism could show comparative advantages.



*15- man Bja (yak hair tent) with a solar panel (Photo-Nakul Chettri)*

It is important to know 'why people do what they do' especially in traditional societies which have remained relatively unchanged by the forces of modern technological advancement. In the high altitude areas of Bhutan at elevations higher than 3000 m above sea level, yak production has been and continues to be the main source of livelihood for people inhabiting this rugged landscape who are known as *Brokpas* in central and eastern Bhutan, *Bjops* in Western Bhutan, *Lakhaps* in the West-Central region and *Dakpas* in the remote *gewogs* of Merak and Sakteng under Trashigang Dzongkhag. All these names, in one way or other mean 'pastoralists' and underscore the dependence of the people on the pastures (known as *Tsadrok* and *Tsabrok* in eastern and central Bhutan or *Tsamjo* in western Bhutan) and the mountains (La). Yak rearing is practiced throughout the northern belt of the country extending from Haa in the west to Trashigang in the east and the production systems vary considerably from place to place. Nevertheless, there is no denying that the yak is the lifeline of all these communities and is aptly referred to as the 'camel of the snows'. It is a multi-purpose animal providing milk, meat, draught and manure. It also adds to the aesthetic value of the Himalayas. Without it, one cannot imagine how humans could survive in this beautiful but hostile region.



*6-man Bja used by herders (Bjobs) in the western Bhutan. (Photo-Nakul Chettri)*

I had the opportunity to come across the lifestyle of a nomadic group of people when I trekked to Zumolari base-camp in western Bhutan during the monsoon in 2006. I came across a number of tents made up of yak hair called *Bja*, widely known to the outer world as the One Hundred Peg Tent. They are widely used by a group of nomadic people called *Bjobs* who use these tents as their shelter for at least six months a year. They are made up purely of the black hair of matured yaks and weigh about 30-53 kg depending on the size of the tent. It was learnt that after the collection of sufficient yak hair, the *Bjobs* consult a *tsib* (astrologer) to fix a date on which the weaving of the tent should start. This is practiced to have a long lasting *Bja* and there is a belief that even a single white hair will shorten the lifespan of the *Bja*. Once the date is fixed, the *zow* (a special skilled weaver)

with the help of three to four assistant weavers takes on the task of designing and preparing the tent. It may take 6-15 days to complete the tent depending on the size. The *zow* normally designs the tent in such a way that it can be made in two pieces, so that it is easier for the *Bjobs* to carry on two horses when transporting it from one pasture to the other. A good and strong *Bja* may last for 20-25 years in spite of its use in a harsh climate.



*Bja* are being replaced by cheap and unsustainable polythene tents (Photo-Nakul Chettri)

What impressed me is its utility in terms of sustainability and adaptation to climate change. The tents withstand heavy snowfall, rainfall and wind. However, they are comfortable enough to cope with these extreme climates as they do not allow leakages nor are damaged by the wind. This was reflected by architecture of the tent as there are 100 pegs to hold the tent upright and the angle maintained in the tent does not allow leakages. Social-harmony was evident among these herders as they help each other to erect the tent, which normally needs four strong hands. Livestock is looked after by a hired herder or member of the family owning the herd, sometimes living together in one *Bja*. Thus, they show an intact social structure and mechanisms for mutual sharing of resources and their livestock which also represents an encashable asset. It is quite evident from the lifestyle of these people that they can withstand the extreme cold and harsh climate in alpine pastures and the trans-Himalayan areas. These pastoralists have shown themselves very resilient and adaptive to such extreme climate.

Though extensive pastoral production occurs throughout the Himalayas, typically in areas where soil, rainfall and temperature conditions limit the range of options for sustainable land use; agro-ecological conditions and the physical characteristics of pasture resources are critical in shaping the socio-economic livelihood patterns of pastoral communities. This hinges upon strategies that continuously adapt to a limited, highly variable and unpredictable resource endowment. Pastoral adaptation faces a myriad of challenges, of

which climatic change is one. Indeed, the challenge of climate change seems insignificant to many pastoralists who are faced with extreme political, social and economic marginalization. Pastoralism is particularly sensitive to population growth because, unlike in cultivated areas, the technical possibilities for raising productivity in the rangelands are limited and tend to be more resource-degrading.

So, it is a complex form of natural resource management which requires maintaining an ecological balance between pastures, livestock and people and it is an adaptive strategy to a stressful environment. Though pastoral systems are globally important as they support food, economic and diverse ecological services to some of the world's poorest countries, the vulnerability that is associated with climate change in some pastoral environments has its roots in the limitations of tried and tested pastoral coping strategies, including the ability to move through different territories, to access critical livelihood resources, to trade across borders, to benefit from appropriate investments and to participate in relevant policy decision-making. As is so often the case in developing regions, the main concern for pastoralists is the accessibility, rather than the availability or variability of resources. Although the odds seem stacked against them, as modernization and easy access to modern materials such as polythene as an alternative to yak-hair for tents and the decline of the *zow* and their practices, there is some hope that the emphasis on the conservation of biodiversity from global communities is on the rise. Thus the pastoralist might be able to benefit from recognizing their role in conserving the genetic diversity of livestock, valuable indigenous breeds and indigenous knowledge about coping mechanisms for environmental stresses like climate change.

The general belief that traditional pastoral practices need to be improved has largely shaped pasture development policy throughout the world. However, in the Himalayan countries, they have generally ignored the role of livestock in development and failed to appreciate the efficacy of traditional pastoral systems. There is an urgent need to develop policies and programmes that are sensitively attuned to and supportive of local people who are the prime actors at the interface of the man-nature relationship. Sustainable innovations for economic enhancement of people or ecological improvement of the environment in which they live can only be introduced if there is a high degree of relevance to prevailing local cultural and production practices and traditions.

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