



## Conservation of Snow Leopards in the Himalayan Region

**Authors:** Sasha Rodricks mainly based on Snow Leopard Trust 2010

**Short title:** Insurance scheme to protect Snow Leopards

**Key Message:** Innovative insurance schemes to conserve Snow Leopards, demonstrates how right incentives can help aid conservation.

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Image 1: Chunsa Survey  
Courtesy: S. Hussain

### What is the problem?

Listed as Endangered on the International Union for Conservation of Nature (IUCN) Red List, snow leopards currently survive in small population pockets across high-altitude Asia. They are under threat of extinction/approaching a minimum viable population size and are suspected to have declined by at least 20% over the past two generations (16 years). Currently, the global snow leopard population is estimated at 4,080-6,590 (Jackson et al. 2008).

In the Himalayan region, major threats to the snow leopard include the reduction of natural prey

due to competition with livestock, the killing of snow leopards in retribution for livestock depredation and human population growth or poverty. As the natural wild prey of the snow leopard are out-competed by the growing number of livestock grazing the mountains and changing pattern of land use, snow leopards increasingly prey on domestic livestock. This in turn may lead to retaliatory killings by farmers desperate to make a living for themselves and their families. There have also been strong negative perceptions about conservation itself, which often impedes conservation efforts. The illegal trade in wild snow leopard parts also drives unsustainable hunting levels. Due to low numbers, genetic isolation is also becoming a threat to the species. Furthermore, the lack of effective law enforcement, lack of institutional capacity and awareness among local people and policy makers, are added threats to snow leopard populations in Afghanistan, Pakistan and southwest China (Conservation International 2010, Jackson et al. 2008 and The Whitley Fund for Nature 2004)<sup>1</sup>.

### **What approach was taken?**

Financial losses suffered due to loss of livestock are particularly damaging, because they occur in regions with underdeveloped economies e.g. in Nepal, snow leopard (*Uncia uncia*) predation on livestock can amount to losses equivalent to 25% of the average national per capita income in some affected villages. In terms of numbers, losses may amount to up to 15% of the holding (Jackson *et al.* 2010). Unless there are tangible economic returns, local communities are unwilling and often unable to adopt conservation-friendly practices in the course of their production and consumption activities. Incentive programs endeavor to set in place conditions under which local communities will be economically willing and able to conserve nature. Initiatives to offset the costs of living with carnivores and to make conservation beneficial to affected people have taken the form of livestock insurance schemes and community-based alternative income programmes (Mishra et al. 2003 & Nelson et al. 2008).

In light of this, there have been several efforts to create innovative insurance schemes that aid in the conservation of snow leopards. For example, The Snow Leopard Trust (SLT), the Nature Conservation Foundation (NCF), and other local partners helped herders in the Spiti valley of the Indian Himalaya set up and finance a village-run insurance program for valuable large livestock such as yaks, cattle and horses. The basis of the program was three fold and includes the reduction of damage through better herding and more wild prey availability, compensation of the total cost of the animal lost through insurance programs and finally to design and implement an awareness program that enables all involved parties to understand the situation better. These organizations facilitated the formation of a local insurance committee that collects premiums based on locally set values (eg. Rs. 30 per month per adult yak and Rs. 50 per month per yak calf as it is more vulnerable) and some simple criteria. These criteria include SLT-NCF providing a contribution annually that would be higher than the total premium collection for the first five years and that for a given year the villagers shouldn't use more than 50% of the annual collection. The SLT-NCF contribution and judicious use of funds has made the program in Kibber self-sustaining in five years. The program has now spread to four village clusters covering 10 villages and c. 250 households in Spiti and Ladakh insuring over 500 animals with a value of c. USD 100,000. As part of the program, the herders also have agreed to leave some room for the snow leopard's prey species to graze. The village receives a fee that is based on the fair market rent for grazing land in the area. Prey species populations have increased over three-folds in five years due to one such reserve, which is likely to reduce snow leopard's dependence on domestic stock (Trivedi 2006, SLT 2010).

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<sup>1</sup> In recent years newer threats are emerging that include mining in southern Mongolia etc.

A community-based livestock insurance program was initiated in Kanchenjunga Conservation Area in 2005 by WWF Nepal in collaboration with locals in order to reduce retaliatory killing and conflicts and create communal effort for snow leopard conservation (Paudyal 2009 & WWF 2009). Snow Leopard Trust (SLT) and Snow Leopard Conservation Fund (SLCF) together created a village-run insurance program that directly compensates herders for their losses in Mongolia in 2009. 16 families piloted the new program, insuring 2,325 heads of livestock. A \$2000 corpus has already been established. The new insurance program, in tandem with Snow Leopard Enterprises, provides even stronger economic incentives for herders to protect snow leopards (SLT 2009). In Baltistan, Shafqat Hussain of Pakistan's Project Snow Leopard has implemented an innovative pilot project, which combines ecotourism and low-cost insurance in order to protect herders against attacks by the leopards on their livestock (Hussain 2001).

### **What ecosystem services were considered and how?**

Snow leopards are important members of healthy, Himalayan ecosystems. Their presence indicates healthy wild ecosystems that are valuable for ecotourism and many other ecosystem services. Sitting at the top of the food chain, the snow leopards are expected to play a key role in maintaining the mountain ecosystem. Hence, protecting their ecosystem is essential in order to protect other local species and the snow leopard prey base (Animal Diversity Web 2008).

### **What input was required to do so?**

A key factor that brings about successful community based conservation efforts such as livestock insurance schemes is that they are run by the collective community involved. The pilot project of Project Snow Leopard in Pakistan is based on a two-pronged approach: firstly, a collective insurance fund ("Fund 1") to compensate local farmers for loss of livestock, and secondly, a fund ("Fund 2") based on the eco-tourism potential of the snow leopard. Fund 1 consists of premium contributions paid by farmers per head of livestock (a percent of the value of one livestock). Fund 2, which co-finances insurance compensation (if incurred losses are higher than expected), is a community-private sector partnership based on the proceeds of tourism, for example Snow Leopard treks, and may also be used to subsidize activities at the village level or be shared amongst village members. A Village Insurance Committee (VIC)<sup>2</sup> and the Project Snow Leopard staff collectively manage the insurance scheme jointly. The scheme is structured in such a way that villagers monitor each other and have incentives to avoid cheating. Claimants must formally file applications with the VIC, which verifies the killings and makes recommendations (Hussain 2001).

Similarly, Snow Leopard Trusts' livestock insurance program in India is entirely village run, and is an arrangement that has strengthened the structure of the community. The village council was not only involved with the development and acceptance of the scheme, but also the monthly collections of insurance premiums from the community. Moreover, Snow Leopard Trust has also implemented additional programs that assist with improving the standard of living and increasing the household income of families involved in snow leopard conservation programs in Pakistan and Mongolia. In the village of Kuju in Pakistan, Snow Leopard Trust implemented a livestock vaccination program that increases the survival and productivity of the herds, thereby increasing household income (SLT 2010).

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<sup>2</sup> The members of the VIC are locals that have been nominated by villagers.

In the Kanchenjunga Conservation Area in Nepal, the community based livestock insurance program has an endowment fund of NPR 1.2 million. The premium (NPR 55/cattle/Yr) and compensation (NPR 2,500/cattle killed), for each size and breed of the cattle enforces “one size fits all” modality, whereas cost of different cattle breed ranges from NPR 4,000 – 25,000. The presence of 18 snow leopards in this region shows the success of the Livestock Insurance Scheme (LIS) involving the local communities in saving the snow leopards (Paudyal 2009 & WWF 2009).

There is also a PES (Payment for ecosystem services) scheme in northern India that is aimed at improving conditions for bharal (snow leopard prey base), and thus snow leopards. As mentioned above, SLT and the NCF entered into a contractual agreement with Kibber village in Spiti, to establish a c. 1500 ha area of land where livestock grazing is excluded. In return the village is paid an annual “lease” fee equivalent to about \$425 per annum. The village also agrees not to kill snow leopards that prey upon livestock, and have been assisted with establishing an insurance program to reduce the individual costs of such predation. As a result, between 1998 and 2003, the bharal population in the leased area has increased four-fold and village attitudes toward snow leopards have improved (Nelson 2009).

### **What was the policy uptake, and what were the conditions for this effort to actually influence public management?**

The livestock insurance program in the village of Kibber, in India's northern state of Himachal Pradesh has been a success. In all, 184 head of livestock were covered by the insurance program. In 2004, the program was expanded to include three smaller villages nearby (Gete, Tashigang, and Kee) and later to a village cluster in Ladakh. More than 60 percent of the families with insurable livestock in those villages have already enrolled. By 2010, the Kibber program has become self-sustaining, as the insurance fund has built surplus funds year by year (SLT 2010). Also by not allowing their livestock to graze in the reserves, blue sheep populations have increased and stabilized to approximately 300 individual animals. In 2009, a new reserve was established in the Spiti Valley, expanding participation in this program to 230 households and providing habitat for roughly 100 ibex.

These programs were lauded by the Government of India along with other research and innovations by the SLT-NCF team. They worked with the forest departments of the five Himalayan range states of India and other stakeholders to utilize these very ideas into a national flagship species strategy for the high altitudes called ‘Project Snow Leopard’, which was accepted by the Ministry of Environment and Forests in 2009 (Anon 2008, SLT 2009). This project stresses on participatory processes for planning and implementation of innovative conservation programs, which are not confined to wildlife protected areas but the entire landscape<sup>3</sup> (details in Anon 2008).

The Pakistani government is also launching a snow leopard insurance scheme in Pakistan based on successful livestock insurance schemes that have worked in the country.

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<sup>3</sup> The first landscape level Management Plan for the Upper Spiti Landscape is being made by an NCF team for the Himachal Pradesh Forest Department, which is based on the Project Snow Leopard.



Image 2: A snow leopard  
Courtesy: S. Hussain

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