

Executive Summary

The snow leopard faces multiple threats in the Himalayan region, from habitat degradation, loss of prey, the trade in pelts, parts and live animals, and conflict with humans, primarily pastoralists. Consequently, the populations are considered to be in decline and the species is listed as Endangered in the IUCN's Red List and is listed in Appendix I of the CITES. Because of this precarious status, the snow leopard is included in the Schedule I of the Indian Wildlife (Protection) Act 1972. Due to the Snow Leopard's shy, solitary nature, and the inaccessibility to its habitat, population sizes are quite difficult to estimate. It is thought that 4,500 – 7,500 remain in the wild with an additional 600 – 700 in zoos worldwide. Snow leopards are one of the world's most endangered big cats with only a small population of a few hundred individuals found in Ladakh, India.

A number of factors influence Snow Leopard populations, the main threat being human activity. Faced with threats, such as retaliatory killing, poaching, prey depletion, habitat degradation, and lack of community support, snow leopards in Ladakh face increasing tensions from local community interactions. Local pastoral communities are reported to lose between 3-12% of their livestock annually to the snow leopard (Mishra 1997; Namgail et al. 2007). Livestock contribution to snow leopard diet is variable, and has been reported to be as high as 70% (Bagchi & Mishra 2006; Anwar et al. 2011; Shehzad et al. 2012). Facilitating the recovery of the wild ungulate prey of the snow leopard is therefore considered an important measure to reduce the extent of livestock depredation (Mishra et al. 2003)

Wild-prey availability is a fundamental determinant of snow leopard abundance and critical for snow leopard conservation. Snow leopard population increased linearly with wild-prey availability while snow leopards did not show any numerical response towards availability of large-bodied free-ranging or small bodied herded livestock. (Carbone & Gittleman 2002; Karanth et al 2004). Furthermore, livestock are known to compete with wild-ungulates for limited resources (Mishra et al. 2004; Madhusudan 2004). Thus, reduction in livestock density is a recommended strategy for increasing wild-ungulates populations. Improving wild ungulate populations could also be an effective strategy in reducing livestock damage by carnivores in areas where the population of wild-ungulates and livestock are already close to the critical ratio.

Various sources of information were explored to gather information on aspects related to Snow leopard occurrence in Jammu and Kashmir and threats that it faces in the state and the initiatives taken by various Governmental and non-governmental agencies to conserve the species. Meetings were held with Officials of Forest Department of Jammu and Kashmir and the problems that are encountered by the Snow leopard were discussed. Discussion was also held on the initiatives that have been taken by the state to conserve this species. A 7.11 km trail from Jinchang to Rumbak was undertaken to survey the habitat of the snow leopard in the Hemis National Park. Discussion was carried out with inhabitants of Rumbak, a village in the Hemis National Park on problems human –wildlife conflict and initiatives undertaken by

the forest department with the participation of the villagers towards conservation of the snow leopard

There are 13 villages and 7 hamlet settlements in the entire Hemis National Park. Some of the villages and hamlets are difficult to access. The Forest Department of the State along with the Project Snow Leopard of Government of India has introduced the initiative of Eco-Tourism in all the villages and hamlets. The inhabitants were trained to establish homestays with financial help from the Forest Department. The department provided help in constructing dry toilets and has also provided solar cookers in the villages. People trekking to these places are limited hence the financial gain of eco-tourism is limited. On the other hand limited tourism has caused least disturbance to the habitat of the Snow Leopard.

There is limited agricultural activity as there is a dearth of water availability. The inhabitants reap just one crop of wheat. The fields are regularly raided by wild herbivores leading to Human-Animal Conflict. There is a substantial decrease in livestock population due to predation by Snow Leopards and Wolves. As per the information provided by the villagers, a few predator proof corrals were constructed in some villages by Snow Leopard Conservancy in Rumbak and some nearby villages a few years ago. These pens however were inadequate to accommodate the entire population of livestock of the village. Furthermore no financial help was provided to the villagers for maintenance of these pens. It is difficult for the villagers to constantly repair them due to economic reasons. As a result the corrals provide limited protection to the livestock leading to reduction in livestock population. Another reason for reduced number of livestock is lack of any governmental or non-governmental scheme to provide compensation for the loss of livestock due to predation.

Over the period, the villagers have been made aware of the ecological importance of the snow leopard and why it is important to conserve them. This has considerably reduced retaliatory killing of the animal. The sighting of Snow leopard has increased over the years indicating recovery of the population. This had been possible due to participation of locals in the conservation of the animal

The snow leopard being a top-order predator is an icon for conservation in the mountain regions as its presence and survival is also an indicator of intact, 'healthy' eco-region. The strategies that need to be adopted should be two pronged so that it achieves snow leopard conservation and at the same time provides economic benefits to the locals.

Some of the strategies that can be adopted are:

1. Comprehensive, long-term research on snow leopards for a better understanding of their biology and ecology for effective conservation planning and management.
2. Focus on conservation landscapes to support demographically and ecologically viable snow leopard metapopulations.
3. Develop and implement a comprehensive system for protecting snow leopard habitat
4. Develop and implement long-term programs for the restoration of wild ungulate populations in snow leopards habitats

5. Support programs to mitigate the human–snow leopard conflict in the conservation landscapes. Pilot projects will be assessed, modified if required, adapted, and replicated across the region as and when appropriate.
6. Strengthen and improve livestock corrals in snow leopard habitat to prevent large losses of livestock due to predator attack. Protection of corrals from snow leopards is an extremely effective measure for reducing conflicts between herders and snow leopards
7. Development of a grazing system that uses sustainable pasture management and accounts for the needs of wild ungulate species in snow leopard habitat
8. Develop a system to compensate herders for livestock killed by snow leopards in timely manner
9. Create community-based inspection teams to protect rare species by engaging local residents residing in snow leopard habitats.
10. Work closely with other partners and organizations working towards snow leopard conservation in the region.

In preparing socio-economic development programs in these regions, priority should be given to programs that have minimal impacts on the environment and snow leopard habitats. Such programs include development programs for ecotourism, the implementation of which directly depend on the degree of functionality of mountain ecosystems.