



Snow Leopard Sensitization workshop in Wangchuck Centennial National Park



Project Report of the Snow Leopard Fund

Yonten Jamtsho
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Executive Summary

As the flagship species of the central Asian mountain regions, conservation of endangered snow leopards has increasingly becoming a global concern (Global Snow Leopard Workshop, 2012). However, they are one of the poorly known among cats and their population is believed to be declining due to killing by herders as a livestock predator, poaching for fur, and loss of habitats.

In Bhutan, particularly in Wangchuck Centennial National Park (WCNP), the snow leopard habitat are degrading due to extensive livestock grazing resulting in leaving little or no forage for Blue Sheep. The case of herders loosing livestock to snow leopard or other predators are also becoming burning issue which might lead the angry herders to kill the cat in retaliation for preying on livestock. The hundreds of people who move into snow leopard habitat each spring to collect caterpillar fungus (*Ophiocordyceps sinensis*) for lucrative Chinese medicine market are becoming unmanageable, resulting in causing severe threat to snow leopard and its habitat.

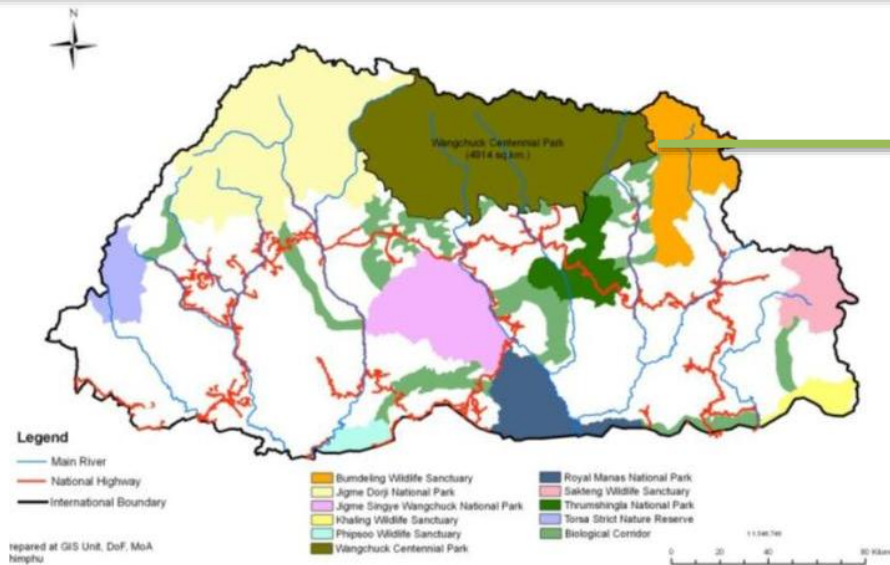
Snow leopard sensitization workshop was therefore organized for overcoming the aforementioned hitches. The total of 60 nomads and 159 seasonal cordyceps collectors from three Gewogs of Wangchuck Centennial National Park participated in the program. Together with them, we have developed strategies and measures to overcome the threats faced by specie. The presentations on ecological significance of snow leopard, human snow leopard conflict, awareness on forest rules and the need of residents and other visitors to highland areas of WCNP to become citizen scientist to monitor and protect snow leopard were imparted to them. The questionnaire survey was also conducted with participants for assessing the impact of cordyceps collectors on snow leopard and its habitat. An effective community based information sharing network group was also established for garnering vital information on poaching and illegal wildlife trade in the park.

As a part of the program, we have also conducted advocacy program with the nomadic students of two schools of Bumthang and Wangduephodrant Dzongkhags. The global status and significance of Snow Leopard, the snow leopard description, the snow leopard range countries, the threats experienced by the species, conservation challenges and the benefits of conserving snow leopards and mountain ecosystem were shared with students. The intra-school debate, quiz and poster competitions with the theme conservation of snow leopards important for downstream economic development were also organized. The total of 208 students participated in the program.

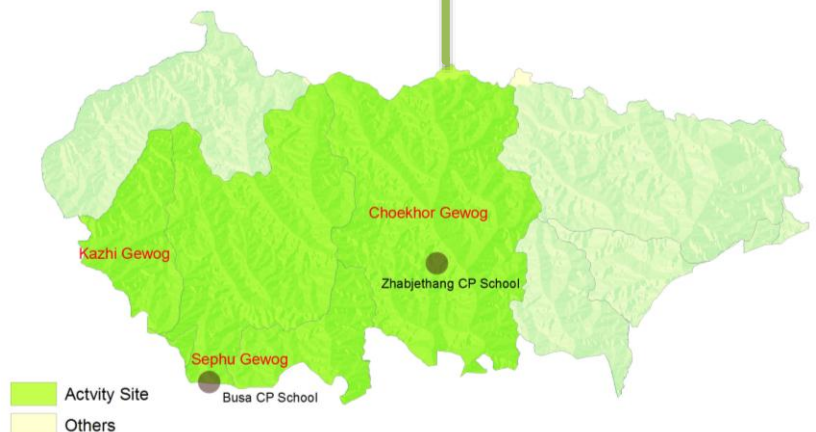




Save Snow Leopards Profile of Project Site



Protected Area System of Bhutan



Wangchuck Centennial National Park

The snow leopard sensitization workshop was conducted in three Gewogs (administrative blocks) of Wangchuck Centennial National Park (WCNP) namely, Choekhor, Sephu and Kazhi. Wangchuck Centennial Park (27° 48' N, 90° 39' E) was declared in 2008, and is the most recent addition to Bhutan's protected area system. Stretching over 4,914 sqkm, and connecting two important protected areas; Jigme Dorji National Park (JDNP) to the west and the Bumdeling Wildlife Sanctuary (BWS) to the east (Figure 1), the park provide key linkage to maintain ecological network in the region. The Park host's maximum of nomads who entirely subsist on yak and Sheep husbandry. Moreover, the Park also host hundreds of people who move into snow leopard habitat each spring to collect caterpillar fungus (*Ophiocordyceps sinensis*) for the lucrative Chinese traditional medicine market.



Objective

Awareness of the role of snow leopard in WCNP's alpine ecosystem is raised amongst inhabitants of WCNP through educational programs and the distribution of educational materials.

Groundwork is laid for establishing an effective network of citizen scientist to monitor and protect snow leopards, prey species, habitat amongst nomadic livestock herders in the highland areas of WCNP.

Methods

Sensitization workshop with nomads and Cordyceps collectors

The nomads and cordyceps collectors were notified on sensitization workshop through local leaders. The partakers who could listen, talk, share and take decisions were called for workshop. For disseminating information to all target members, it was made obligatory for chosen households to send at least one eligible member for the program. For the convenience of all participants, the workshop was organized in Gewog centers as it had expedient space and even provided a less working distance to most villages.

The open floor discussion and hands on practical were carried out on following topics:

1. **Ecological Significance of Snow Leopards:** The power point and poster presentations concerning global status and significance were prepared and presented to participating members. Erstwhile to presentation, the members introduce themselves and expressed their views on status and significance of snow leopards. This was organized to evaluate the success of the program as the same opportunities were given to participants in the closing session of the program to express their views on snow leopard and its importance.



2. **Human-Snow leopard conflict:** The disputes regarding the livestock depredation, grazing conflict and others adhering to human-snow leopard conflicts were listed. The possible solutions for resolving the conflicts and problems were also discussed. The major problems, which required higher decisions, were listed and submitted to concerned authorities for solutions. The awareness on livestock scheme group was also given to participating members. Furthermore, the nomads were also encouraged to put their livestock's under established scheme groups for compensations.
3. **Awareness on Rules:** The awareness on Forest and Nature Conservation Rule, 2006 and Forest and Nature Conservation Act, 1995 were made to participating members through power point presentation. An effective community-based information sharing network was established which can now possibly help park garner vital information on poaching and illegal wildlife trade.
4. **The need of residents and other visitors to highland areas of WCNP to become citizen scientist to monitor and protect snow leopard:** The awareness on concept of citizen scientist and benefits of having snow leopard conservation program committee were given to the participating members.
5. **Data on impact of cordyceps (*Ophiocordyceps sinensis*) collection on snow leopard habitat:** The closed ended structure questionnaires were used for gathering the information on impact of cordyceps collection on snow leopard habitat. The 60% of the members were chosen for interview. The random selections were used for choosing the members for interview. The MS Excel was used for generating the results.



Save Snow Leopards Result & Discussion

Sensitization Workshop with Nomads and Cordyceps Collectors

The sensitization and awareness workshop with nomads and seasonal cordyceps collectors was held in three Gewogs (district administrative blocks) under Bumthang and Wangdiphodrang Dzongkhags (districts). In Bumthang Dzongkhag, it was conducted with the nomads and cordyceps collectors of Choekhor Gewog. The total of 28 nomads and 60 cordyceps collectors partook in workshop. The workshop was held on 4th April 2015 at Choekhor Gewog Center. In Wangdiphodrang Dzongkhag, it was conducted with nomads and cordyceps collectors of Sephu and Kazhi Gewogs. In Sephu Gewog, the total of 32 nomads and 50 cordyceps collectors partook in program. It was held on 11th April 2015 at Sephu Geog Center. For Kazhi Gewog, the workshop was held on 22nd July 2015 and total of 49 members participated in program. The local leaders and forestry staffs of all three Gewog took part in the program in their respective areas.

The programs included power point and poster presentations, open floor discussion and few practical exercises:

The ecological significance on Snow leopards was presented to participating members. The presentation highlighted on global status, threats and its significance in maintaining healthy alpine ecosystem. The open floor discussion on; ‘what can we do to save snow leopards’ was also organized. The majority of participants said that we should strictly monitor the snow leopard habitats in order to control poaching. Some even said that agonizing penalties should be imposed on poachers and wildlife part traders. They even agreed to render their supports to park staff for timely monitoring of habitat area.





Human-Snow Leopard Conflict

On discussing the human-snow leopard conflicts, following conflicts were listed;

Conflicts Submitted by	Type of Conflict	Severity of Conflict (Fair, Severe, Very Severe)
Choekhor Gewog	Livestock depredation by Snow leopards	Severe
Choekhor , Sephu & Kazhi Gewog	Grazing conflict between Snow leopard Prey (Blue Sheep) and Livestock	Very Severe
Sephu Gewog	Threat to herders & Cordyceps collectors	Fair

As per the nomads, the extensive foraging by Blue sheep leaving little or no forage for livestock was one major issue, that is leading to human-snow leopard conflict. The case of herders loosing livestock to snow leopard was another concern. As hundreds of people move into snow leopard habitat each year to collect caterpillar fungus (*Ophiocordyceps sinensis*), that said that there is a high chance of encountering with snow leopards, which it in distress may attack people, were some of the few issues that they brought up during workshop.



Blue sheep foraging near herd in Central Park Range, WCNP.



Blue Sheep foraging in central part of Wangchuck Centennial National Park



Yaks and Sheep foraging in Central part of Wangchuck Centennial National Park



The solutions discussed and recommended for reducing the foresaid conflicts are;

The herders were made aware on livestock insurance schemes. They were encouraged to put their livestock under scheme so to get the compensation if their livestock gets depredated. Since, there were grazing conflict between domestic livestock and Snow Leopard prey species, the possible measures recommended were to issue seeds of fodder grass. The nomads were told to look into the feasibility of developing pasturelands. It was also told to nomads that conservation of snow leopard is important for controlling the population of Blue sheep. While discussing on livestock depredation by snow leopards, some nomads said that it is not snow leopard that depredates their livestock, rather other carnivore such as Tibetan wolf that normally depredates their livestock.

The awareness on Forest and Nature Conservation Rule, 2006 and Forest and Nature Conservation Act, 1995 were made. The presentation even highlighted more on penalties imposed over killing or trade of animal parts. Upon voluntary participation, an effective community-based information-sharing network was established for garnering vital information on poaching and illegal wildlife trade. The details of contact information of park were given to the group. For timely monitoring, the contact information of the group was also submitted to park management.

The groundwork was laid on the need of residents and other visitors to highland areas of WCNP to become citizen scientist to monitor and protect snow leopard. The concept was given to participating members. It includes empowering local communities and equipping them with materials for collecting the data on remote mountains, as they know the area better than any one. However, they have asked for some time to think over formation of such committee group in their area. If established, the Snow Leopard Conservation Program committee should be able to determine the conservation through citizen science, livestock management, education awareness and eco-tourism.

Snow Leopard Sensitization workshop with students

The Zhabjethang Community Primary School of Choekhor Gewog, Bumthang and Busa Community Primary School of Sephu Gewog, Wangduephodrang was selected for Snow leopards sensitization and advocacy programs. The schools were selected based on numbers of students coming from nomadic background. Moreover, the schools are also

Snow Leopard Sensitization Workshop in Wangchuck Centennial National Park



ideally located which has helped outreaching the information's profoundly to the targeted villages.

The advocacy program for students of Zhabjethang Community Primary School (ZCPS), Choekhor, Bumthang was held on 18th April and Busa Community Primary School (BCPS), Sephu, Wangduephodrang on 18th July 2015. The total of 90 students from ZCPS and 118 students from BCPS participated in program.



The global status and significance of Snow Leopard, the snow leopard description, the snow leopard range countries, the threats experienced by the species, conservation challenges and the benefits of conserving snow leopards and mountain ecosystem were shared with students. The open floor discussion on what 'we' as a student to do to HELP SNOW LEOPARD were shared with partaking students and teachers.

The status and distribution of Snow Leopard in WCNP was also presented to participating students. The presentation outlined on survey methods and techniques. Furthermore, the images captured by systematic camera traps were also shown to students for witnessing the presence of snow leopards in the area.



Park Rangers giving awareness presentation to students and teachers



The awareness on Forest and Nature Conservation Rule (FNCR) (2006) and Forest and Nature Conservation Act (FNCA) (1995) were also given to partaking students. This was organized to make them aware on rules and also for transmitting the information to their nomadic parents.



An officer from Bhutan Agriculture and Food Regulatory Authority giving in-depth presentation on FNCR (2006) and FNCA (1995)

Intra-School Debate Competition

The team comprising of four members from two houses (clusters) were made to contest a debate. The topic for the debate was; “Is conservation of Snow Leopard important or Not”. Although, the team debating against the motion took lead, they realized that we should always create favorable situation where Snow leopards and herders can live in harmony. After the completion of debate, students raised that protection of snow leopard is important for securing the future of alpine ecosystem.



Inter-School Quiz Competition

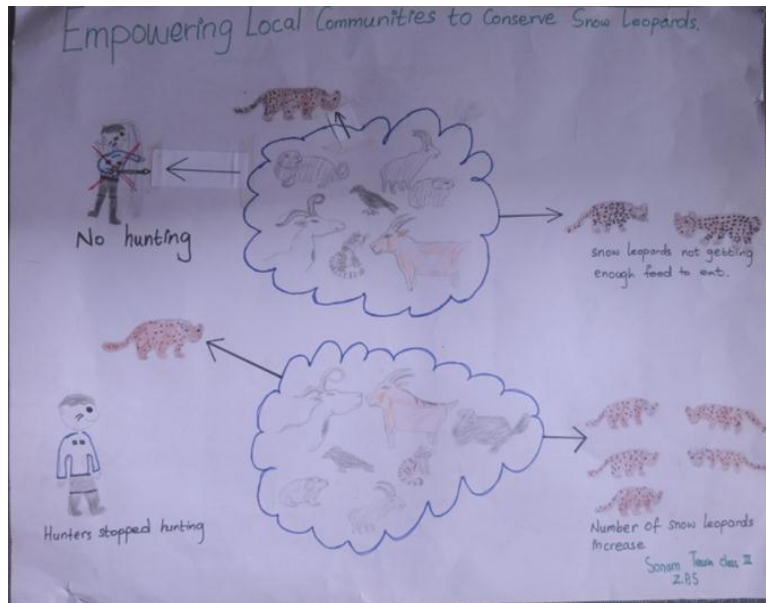
The quiz competition was contested between different classes. The questions were categorized as snow leopard specific, human wildlife conflict, general knowledge, visual animal identification and audio identification. All classes did extremely well.





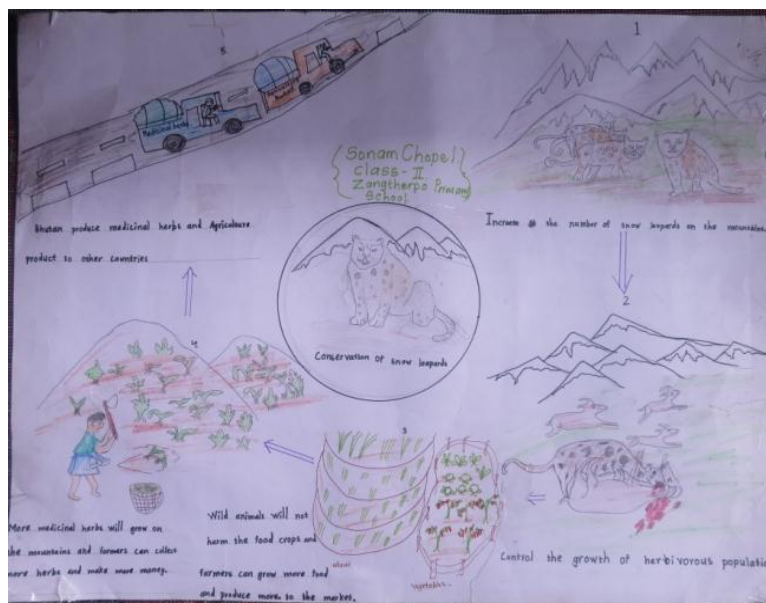
Poster Competition

The poster competition was contested between different classes. The three students from each class displayed their posters during program. External judges did the ratings. The topic for poster competition was on “Conservation of Snow Leopard is important for downstream economic development”.



“If humans stop hunting the prey species of snow leopards, the prey numbers will grow which will ultimately lead to increase in population of snow leopards. The increase of prey species can further reduce the human-snow leopard conflicts”

Sonam Tenzin
Class III'A'



“Conservation of snow leopards important for maintaining healthy alpine ecosystem. An ecosystem that consist of carnivores, herbivores, herbs etc. This can help country generate income by exporting medicinal herbs to other countries. Wild animals will not harm the food crops and farmers can grow and produce more.”

Sonam Chophel
Class II

Snow Leopard Sensitization Workshop in Wangchuck Centennial National Park



The posters and brochures with snow leopard pictures and messages were distributed to them. The exercise books with its cover page beautifully designed with snow leopard pictures and with brief contents on snow leopard status, distribution and significance were distributed to them. The position holders of intra-school Debate, Quiz and Poster competition were awarded with achievement certificate and cash prizes.



Questions & Answers Session



Awareness Presentatons



Distribution of Prizes



The partaking students were served with lunch and refreshments



Assessing impact of Cordyceps collection on Snow Leopards and its habitat

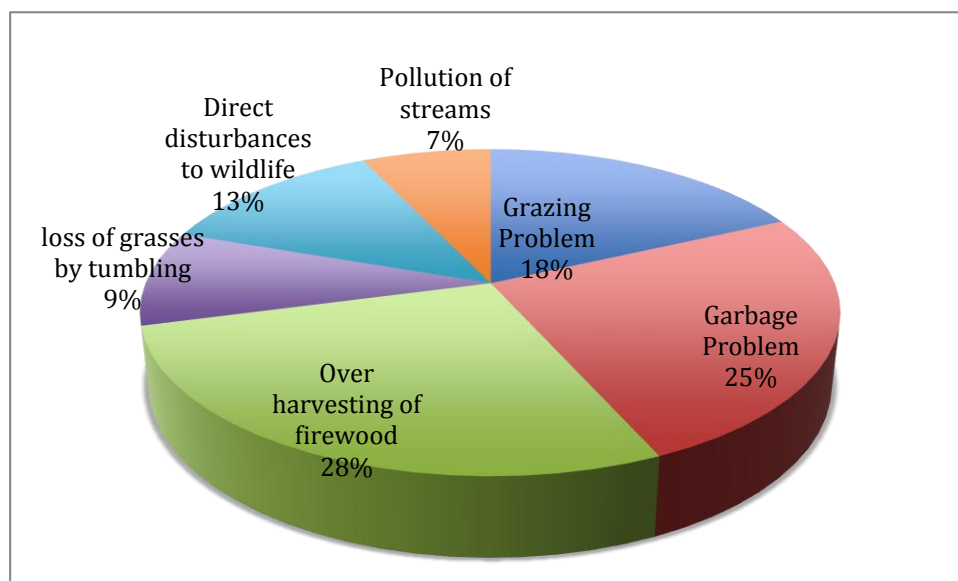
The survey was conducted by undertaking interviews with cordyceps collectors who came to sensitization program. I have randomly selected 40% of participants who collect cordyceps. The total of 127 participants were interviewed on impact of cordyceps collection on snow leopard and its habitat. The major problems that they listed are:

1. Garbage problems
2. Grazing problems
3. Over harvesting of firewoods
4. Loss of grasses by tumbling
5. Overcrowding of collectors which leading to direct disturbances to wildlife
6. Pollution of streams



While assessing the severity of the problem, 28% of the respondent said that over harvesting of firewood is degrading snow leopard habitat. The fact that most of the collection sites are located above 4500meters above sea level and firewood becomes most needed resources for cooking and heating for all collectors. However, they find difficulties in collecting firewood, as most of the collection sites are located above tree line. The chances of getting dry firewood has even become even more challenging which is letting the collector to burn the area with a hope of collecting the dry firewood in next seasons. The respondent says that burning of areas has become severe problem leading to degradation of undergrowth's and disconnecting the ecosystem. This has even lead to decline in aesthetic value of an area.

However, the officials from Park Management says that they are trying their best in advocating the collectors on the use of gas stoves in the alpine area. The park management has even distributed biomass based cook stoves to 35 nomads on pilot basis. The training on producing biomass fuel and use of biomass cook stoves were also imparted to nomads. This was basically to sensitize the nomads on the impact caused by destruction of hardy rhododendrons to forest and wildlife.



Impact of Cordyceps collection on Snow leopard habitat



Cordyceps (*Ophiocordyceps sinensis*)

As hundreds of people move into snow leopards habitat areas each season during collection time leading to littering of an area whereby causing threat to biodiversity's. From the interview, 25% of respondent say that littering of habitat is having greater impact on destruction of snow leopard habitat. They believe that there is an increase in number of collector each year and more and more waste are deposited, causing threat to biodiversity's there. All most all collectors prefer packaged food items, as it is easy to carry and prepare.

While talking with park officials, they say that they are fighting with the public with regard to waste management problems. In every meeting they held with general public, they give awareness on waste and its impact on surrounding environment.

The 13% of respondent believe that overcrowding of people in alpine area during collection time are having direct impact on snow leopard. However, 9% believe that tumbling of grasses by cordyceps collectors are having greatest impact on alpine ecosystem and another 7% believe that polluting of water sources by corydceps collectors is having greatest impact on ecosystem.



Cordyceps collectors collecting Cordyceps in alpine WCNP



Thanks to Snow Leopard Network for funding this program. Thanks to Chief Forestry Officer and Park Officials of Wangchuck Centennial National Park for being enthusiastic and supporting this program from inception till the end. My heartfelt gratitude also goes to my referees who trusted and supported me while organizing this program. Thanks to Mr. Phub Dorji, Park Ranger, Jigme Khesar Strict Nature Reserve, Sherab Jamtsho, Forest Ranger, Haa Dzongkhag and Tshering Dorji, Inspector, Bhutan Agriculture and Food Regulatory Authority for helping me in conducting this program.

