

THE HIMALAYAN BROWN BEAR PROJECT

Kargil Ladakh



Photo: Surya Ramachandran

Mitigating Human-Himalayan Brown Bear Conflict through Engaging Local Communities in Kargil District, Ladakh (India)

April to September, 2018

Muzammil Hussain

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Acknowledgements

I would like to express my deepest gratitude to all those who have helped in carrying out this project and conducting the awareness workshops without whom this project would not have been successful.

Foremost, I would like to thank Wildlife Trust of India (WTI) for believing in my vision and providing the much needed financial support.

I would like to thank Jhampan Mukherjee for encouraging me to carry out this project, and Snehaa Sundaram and Deboroto Sircar at WTI for constantly guiding me throughout the project.

I am deeply indebted to Dr Riyaz Ahmed (WTI), Mr Karma Sonam from Nature Conservation Fund and Mr Intesar Suhail, Wildlife Warden, South Kashmir for sparing their valuable time to visit Kargil and conducting the community workshops as Resource Persons.

I am highly grateful to the office and field staff of Department of Wildlife, Kargil for their kind cooperation during the project specifically Mr Bashir Ahmed Range Officer, Ahmed Ali (Wildlife Guard) and Wahid (Office Assistant) for going out of their way to assist me in my research.

I would like to thank the District Administration and Ladakh Autonomous Hill Development Council, Kargil for actively engaging with my research and workshop team and lending an ear to us.

I am also thankful to the 3 Gurkha Rifles Unit of Drass, for cooperating with us while conducting the workshops and providing all the logistical support

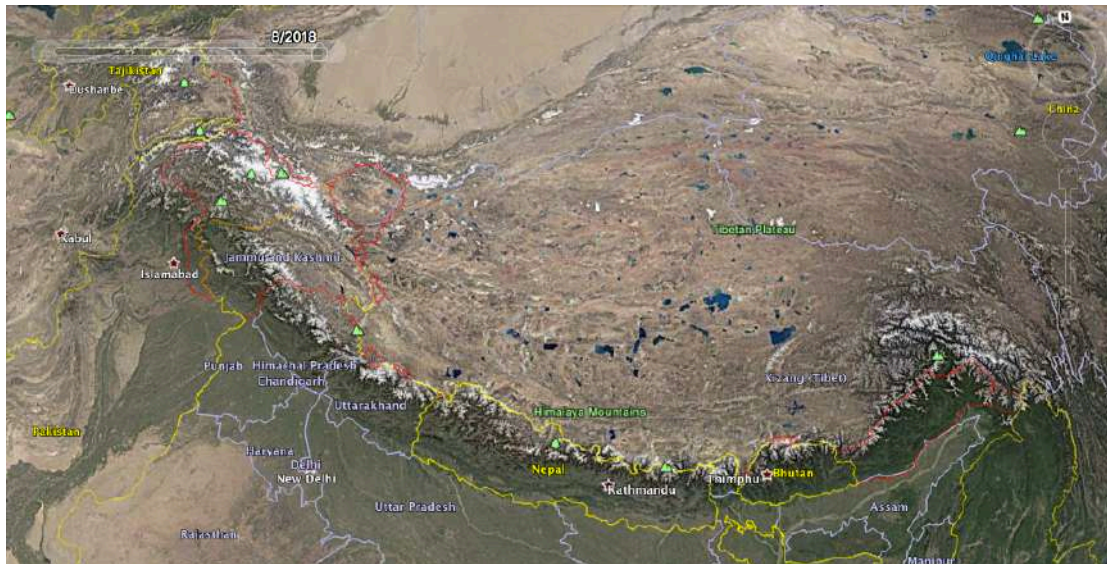
I am also grateful to the staff and students of Govt. Middle School Hulyal, Govt. High School, Holiyal and Govt. Lower High School, Kaksar for participating in our school workshop and providing us with their campus to organize the workshops.

I wish to also thank the entire village community along with the village heads of Mushkow and Holiyal for actively participating in the workshop programs and in particular Shabir, Master Javed and Bahudin for assisting us in our field research and Master Shakeel for being kind enough to provide us his house during our stay in Holiyal village.

Special thanks to Mr Zaheer bagh and Surya Ramachandran for taking selfless interest in the project and constantly guiding me during the making of the documentary film. He has been a constant source of encouragement and an ambassador of our cause.

Finally, I would like to thank my entire team and all the volunteers without whom this project would not have seen the light of the day. I am indebted to Alapana Kashyap, Azra Khatoon, Diva Gohil, Felice Faisal, Imtiaz Ahmed Mir, Karamjeet Singh, Mohd Ilyas (Munna), Muzaffar Hussain, Nisar Hussain, Rangeet Ghosh, Sajjad Hussain (Bob), Sarwar Hussain, Tafazzul Hussain, Tajammul Hussain and everybody who was directly or indirectly part of this project.

1. Introduction and Background



ENTIRE HABITAT RANGE OF HIMALAYAN BROWN BEARS

Himalayan Brown Bear (*ursus arctos isabellinus*) known as “Dren-Mo” in both, Ladakhi and Tibetan, is one of the most ancient of brown bear lineages. Found in three major mountain ranges, the Hindu Kush, the Karakoram and the Western Himalayas, and in four inter-mountain highlands, we can deduce that their favourable habitats range from 9,000 feet (3000 metres) to 19,000 feet (5500 metres) with varying landscape types, such as alpine pastures and rocky mountains, making the higher reaches of the Himalayas an ideal sweet spot for the species. However, their populations are small and isolated, making them extremely rare in many, scattered parts of these mountain ranges. Their shrinking habitats, due to political boundaries, are made smaller by increasing human presence and livestock conflicts.

Once found abundantly in Nepal, Tibet, Bhutan, India and Baltistan (now in Pakistan), the numbers are not very promising, today. In fact, the Himalayan Brown Bear is now extinct in Bhutan and on the brink of extinction in the Indian sub-continent. It is a protected species under Schedule I of both, the Wildlife Protection Act of India, 1972 and the Jammu & Kashmir Wildlife Protection Act of 1978 (Amended 2002). Under these acts, hunting or killing this critically endangered species is an offense, punishable with imprisonment of minimum three years (extendable up to seven years) and a minimum fine of Rupees Ten Thousand.

Fortunately, a healthy number of the species can still be found in the Deosai plains of Baltistan, where their population has steadily grown, from 20 in 1993 to 56 in 2014, owing to the conservation work by local conservationists and international agencies.

In India, only as many as 15 or 20 Himalayan Brown Bears struggle to survive in their ever shrinking habitat inside the Kugti and Tundah Wildlife Sanctuaries, in Himachal Pradesh. There have been sightings in parts of Kashmir and Kargil district, along the Line of Control between India and Pakistan. However, in these areas, constant human intervention has led to a rapid decline in their natural habitat, especially in the Tiger Hill and Toling ranges of Drass, due to the Indo-Pak conflict and the shifting borders thereof.

"The Himalayan brown bear continues to persist, albeit in fragmented populations. There are points of contact between the Indian and Pakistani brown bear populations, along the Zaskar and Ladakh ranges. Movement of bears has been documented across the border, especially in some areas of military conflict where development has not taken place."

(Excerpt from an Article published by Morgan Erickson-Davis on 2014-05-01 on Mongabay.com)

Considering that the total brown bear population in the world is approximately 100,000, living in Eurasia, the population of the sub species, the Himalayan Brown Bear (found only in the Himalayas, as the name suggests) is an extremely small percentage of the total, only about 500 to 750 (as per a questionnaire survey among forest officials in 2006, conducted by Sambandam Sathyakumar from the Wildlife Institute of India). Their habitat, spread among 23 protected areas and 18 other localities in the northern states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand, is estimated at 4,300 square kilometers (about 1,660 square miles), of which very little is protected.

In Kargil district, Himalayan Brown Bears have known to exist in its higher mountain ranges since centuries. Only in the last 5 to 6 years more and more frequent sightings have been reported close to human settlements. Reports of Human-Animal conflicts have also increased since 2014, more frequently from Drass region and a few from areas of Suru and Wakha-Mulbekh region. At the outset, it is safe to assume that mountains surrounding these regions are their current habitat.

In the case of Drass, where most of the sightings occur, their natural habitat is shifting and shrinking at the same time. The valley of Muskhov moves towards Gurez and then on to the Deosai plains in Pakistan which is a known bear territory. For centuries Himalayan brown bears have traversed between the high mountains of Karakoram, Hindu Kush and the Himalayas. Constant border conflicts for the last 60-70 years has been a key factor for their dwindling numbers. Bears are omnivorous but mainly thrive on shoots and roots of shrubs in the mountains. Shrinking breeding grounds from one side forces them to travel to the lower reaches in Drass in search of food. With human settlements expanding into the mountain sides, conflicts with humans and livestock attacks are increasing annually. In 2017, there have been 25 livestock attacks reported in Drass in only March and April. In April 2018, first ever attack on a human was reported in Umba village of Suru region.

The Himalayan Brown Bear population in the Ladakh region has never been studied, so it is hard to ascertain whether it is increasing or decreasing. The locals tell us that there have been a number of bear fatalities caused by humans in the last few years. Recently, there was a report of an adult female bear being killed in a village in the Suru region. Besides Drass region, Suru and Wakha-Mulbekh region also has had some reported sightings.

Based on a survey done by Roots and Department of Wildlife, Kargil in April 2016, there has been active sightings of 9 Himalayan Brown Bears in Drass region which includes one male, one mother and a cub, two mothers with two cubs each.

Merely, laying down laws against the hunting and killing of the species has proven to be ineffective. Sufficient area around their habitat needs to be turned into a wildlife sanctuary or a protected zone, like was done for the conservation of the Snow Leopard, another endangered species of Ladakh. Locals need to be educated about the importance of conserving this rare species. Funds need to be diverted towards the immense, yet essential task, of conservation and conflict mitigation.

2. Project Area – Kargil (Western Ladakh)



Kargil is the second largest district of Ladakh region in the state of Jammu and Kashmir. Known as Purig in the olden times, It was once an important trade center on the Trans-Himalayan Silk Route. The region called Purig included the areas around Kargil town, the Suru Valley, Shaghar Chiktan, Pashkum, Bodh Kharbu, Drass and Mulbekh. It falls in the western region of Ladakh and today the district comprises of 9 blocks and 127 villages including the region of Zanskar.

It has an average elevation of 3200 m. About 14,000 km² in area, Kargil district has an agrarian population of approximately 120,000 people, who cultivate the land along the course of the drainage system, wherever artificial irrigation from mountain

streams is possible. Kargil is also a town, which serves as the headquarters of Kargil District. It is located at 37.57° N to 76.1° East, 60km from Drass and 204km from Srinagar, 234km from Leh, and 240km from Padum (Zanskar).

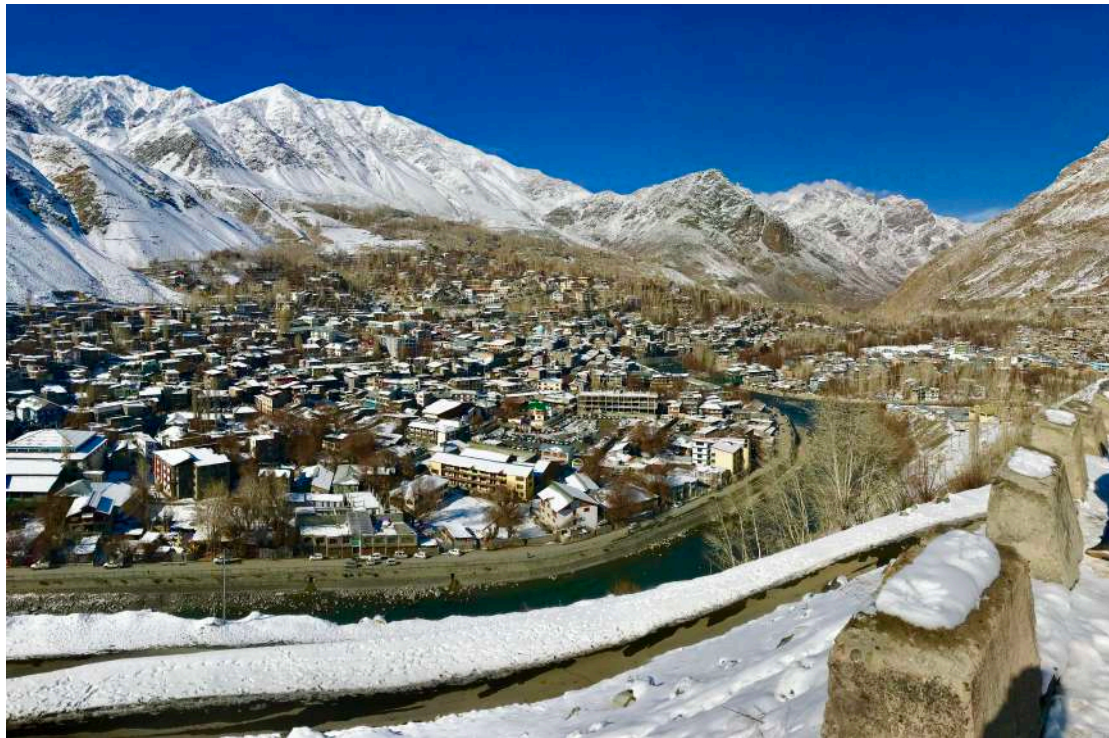


The Project area focussed in the Drass Valley of Kargil district.

Drass is a sub-division of Kargil, situated at a height of 3230 m, is the second coldest inhabited place in the world. As per the 2011 census, it has a total population of 22,000 spread across 20

villages. Drass, due to its unique geographical location at the intersection of lower Himalayas, greater Himalayas and the Karakoram range, experiences extremely cold weather in winters with heavy snowfall. The forest types of Kargil and Drass are temperate and alpine forest. The four distinct seasons are spring (March–May), summer (June–August), autumn (September–November) and winter (December–February). Recurring snowfalls during winters lower the temperature of this township to as low as minus 40 degrees. Zojila Pass, the Himalayan Gateway to Ladakh, serves as the starting point of the Drass valley of Ladakh.

Kargil Town



3. Aim and Objectives

Aim: To develop a sustainable community based conflict mitigation and conservation model

- **Sensitize, train and incentivize local communities to reduce livestock attacks and minimize human-animal conflict:** Livestock attacks by bears are increasing year after year in Kargil which is also leading to bear fatalities by locals. Many bear fatalities even go unnoticed or unreported. This trend is further impacting the dwindling numbers of Himalayan Brown Bears. There is an urgent need to mitigate conflicts through building effective livestock corrals and implementing community livestock insurance programs. Besides creating physical protected zones for the animals, there is also a dire need to sensitise the local community about wildlife conservation and train them to tackle human-animal conflicts in an efficient manner that mitigates any potential danger to life.
- **Create avenues for livelihood through efforts in wildlife-tourism:** Eco-tourism is a proven motivational drive for local communities to participate in wildlife conservation efforts. Organisations in Leh, Himachal and even in areas of Pakistan are focusing on community driven conservation measures such as promoting homestays in conservation parks, training locals as wildlife guides for tourists and wildlife enthusiasts. Such efforts have proven to be highly successful in changing community mindset and outlook towards wildlife and subsequently revive endangered fauna.

4. Methodology and Approach

a. Situation Analysis and Data Collection



To begin with, there is hardly any data available on the numbers and habitat size of Himalayan Brown Bears in Kargil as there is no baseline study that has been done so far.

To get an understanding of the issue of conflict between Himalayan Brown Bears and Humans, we have been visiting the conflict region in Drass to research on field about issues of livestock attacks. **We interviewed the villagers and affected households** to better access the seriousness of the situation. We also delved into understanding the reasons for livestock attacks and conflicts, challenges of the concerned authorities and in general the history of bears in the area and their relationship with the local inhabitants.

We also approached the Indian Army present in Drass (56 Brigade) to get their perspective on the subject but we did not get any response from them.

We also interviewed two of the field staffs from the Department of Wildlife about the same and to understand their challenges better, how they respond to conflicts and the current compensation model. We also acquired data on the recorded incidents of livestock conflict and the compensations made there of since 2010. Department claims that data pre 2010 is unavailable.

We also interviewed some locals in the Suru region of Kargil where there is also a known presence of bears. The data acquired from the Wildlife department also suggests that there have been a few attacks on livestock by bears in that region as well.

| Village | No of Individual interactions/interviews | No of Households visited |
|-----------------|--|--------------------------|
| Holiyal (Drass) | 25 interactions (4 interviews) | 10 |

| | | |
|--------------------|--------------------------------|---|
| Bearas (Drass) | 15 interactions (4 interviews) | 6 |
| Goshen (Drass) | 6 (3 interviews) | 4 |
| Mushkow (Drass) | 20 (2 interviews) | 5 |
| Pand rass (Drass) | 5 (2 interviews) | 2 |
| Khunda (Drass) | 1 interaction | 1 |
| Lamochan (Drass) | 4 interactions | 4 |
| Jasgon (Drass) | 3 interactions | 3 |
| Budgam (Kargil) | 2 interactions | 1 |
| Karkitchu (Kargil) | 1 interaction | 1 |
| Umba (Suru) | 3 (3 interviews) | 1 |
| Staqa (Suru) | 3 interactions | 2 |

b. Awareness and Capacity Building Workshop with Local Communities

Two villages in Drass namely, Mushkow and Holiyal region were selected based on the high frequency of brown bear intrusions in the last few years. Local community members were mobilized for a one day community workshop in each village to educate them about their local fauna and ways to mitigate Human-Himalayan Brown Bear conflict. Workshops with school children from these villages were also conducted with the aim to instill a sense of nature appreciation and conservation.

- Awareness workshop with School Children on 22nd June, 2018



The program was conducted at Govt Middle School, Holiyal with support from the school management. Four schools participated in the program namely,

Govt. Middle School Holiyal – 70 students + 10 staff members

Govt. High School Mushkow – 20 students + 4 staff members

Govt. Lower High School – 20 students + 2 staff members

Primary School Holiyal – 25 + 3 staff members

In total 125 students and 19 staff members including few parents took part in the program. The Zonal Education Officer was invited as the Chief Guest and the Commanding Officer of 3 Gurkha Rifles Unit (posted in Mushkow) was invited as a Special Guest.

Students participated in painting competition themed on “Wildlife of Kargil” and a Speech Competition on the topic “Importance of Wildlife”. Students of Lower High School Kaksar also prepared and skit titled “Dharti Ka Dard”. The script for the same is attached.

Two short documentaries films were also screened for the students and staff members of the school. The idea was to educate the audience about the wildlife in their area especially Himalayan Brown Bears.

- Himalayan Brown Bears – Deosai National Park
- Science, Society & Snow Leopard

The program concluded with a speech by the chief guest, special guest and the Head Master. Medals and certificates were also distributed amongst the winners and participant students followed by refreshment and lunch. The school management and Indian Army appreciated the efforts and promised to extend their for similar programs in future as well.

- Awareness and sensitization workshop with the local community on 26th and 27th June



These workshop focused on community sensitization and capacity building and was organized in Holiyal and Mushkow villages of Drass. The turn out in Holiyal was not as expected as only 40 participants including village elders, youth, children and staff from the

Department of Wildlife participated whereas in Mushkow the turn out was close to 100 participants.

The workshop began with Mr Intesar Suhail (Warden, South Kashmir) who gave an introduction to the wildlife diversity of Kargil and presence of Himalayan Brown Bears in the area. He also talked about the importance of Wildlife Tourism as a means for generating livelihood. Dr Riyaz Ahmed focused on the issue of Human-Animal conflict and gave an overview on the reasons for conflict and measures to mitigate such conflicts using examples from his work experience. Mr Karma Sonam from NCF talked about the role of communities in conflict management and the introduced the concept of Community Livestock Insurance Program. He also screened a film the Community Livestock Insurance Program. It was followed by a Q&A session with the participants where in they shared their experiences with tackling conflicts with wildlife.

We also screened a short film "Himalayan Brown Bears – Deosai National Park" for the community. The participants showed immense interest in the idea of promoting wildlife tourism in their area and also in the idea of Community Livestock Insurance program. Many youth especially girls came forward to ask questions and showed interest in being part of the project.

Mr Karma Sonam from NCF has promised to make another visit especially to further discuss the Community Livestock Insurance program with the villagers and start a pilot project in Kargil for the same

At the end of the program, searchlights and binoculars were distributed to the selected youth in front of the village community. They were also briefed on their role as members of the Community Wildlife Watch.

In Holiyal, we could not distribute the searchlights and binoculars to the selected youth as the local community could not come to an agreement on the list of selected youth. The activity was shelved for that day and the community was asked to get back to us with a consensus. However, the equipment was handed over to the committee members after a deliberation of two weeks.

- Panel Discussion with Local Stakeholders on 27th June, 2018



The workshop was concluded on 28th of June 2018 at Conference Hall, Baroo where all the local stakeholders were invited for a panel discussion to “understand the needs, challenges and strategies for conflict mitigation, and policy drafting for a community led conservation program”. An exclusive documentary created by the team of Roots Ladakh focusing on the issue of human-Himalayan brown bear conflict was also screened at the event.

The Stakeholder Workshop was chaired by Mr. Kacho Ahmad Khan, Chief Executive Councilor, LAHDC Kargil, as the Chief Guest, Mr Vikas Kundal Deputy Commissioner, Kargil as the Guest of Honour. Other local dignitaries including:

- Mr. Kacho Imtiyaz Additional Deputy Commissioner, Kargil,
 - Kacho Ishtiyag, DySP, (Headquarter), District Police Kargil
 - Mr. Haji Shafi, Advisor to CEC & Councilor, Drass.
 - Mr Mohd. Musa, Chief Education Officer, Kargil.
 - Mr. Bashir Ahmed, Range Officer Wildlife Department, Kargil.
 - Mr. Ajaz Munshi, Social Activist
 - Mr. Zaheer Ahmad Bagh, Social Activist
 - Mr. Javed Iqbal, Asst. Professor (zoology), Degree College, Kargil
- and various other community leaders were also present.

The workshop saw a positive response from all the stakeholders. Various action points were discussed during the panel discussion including revision the current compensation model for livestock depredation, declaration of protected areas for wildlife, strengthening of the concerned departments through adequate staffing, equipment and training to name a few. The panelists stressed on the need for active participation from local communities to be able to find a sustainable solution to the issue of conflict. The local administration

appreciated the initiative and assured long-term support and involvement in this conservation project.

The various points discussed and suggested by the panelists is attached in a separate document.

One binocular and flashlight each was also given to Ahmed Ali, a local wildlife guard from Drass and Mr Bashir Ahmed, Range Officer, Kargil.

- Capacity Building Exercise



The objective of forming this committee is to create a more efficient model for conflict management and realtime reporting. The committee will be responsible for mobilizing the community during any intrusions and report any such incidents. They will be provided training on wildlife guiding and knowledge to keep them engaged in the conservation work. The committee was provided with binoculars and search lights to assist them in their work

"Bears usually attack in the night so earlier it used to be difficult for us to look for bears in the dark as it is sometimes dangerous. These searchlights provided to us helps us a lot as it has a long range. We don't have to go very far and scan for bears from a distance"

- Bahowdin, Holiyal village

"I frequently take our village livestock in the hills and there I have to keep an eye out for bears and wolves. These binoculars are very useful for that. I sometimes use it to scan for bears form our village itself." – Mohd Kamal, Holiyal

| S No | Name | Village |
|------|---------------|---------|
| 1 | Mohd Mudassir | Holiyal |
| 2 | Mohd Younus | Holiyal |
| 3 | Mohd Kamal | Holiyal |
| 4 | Bahowdin | Holiyal |

| | | |
|----|---------------|---------|
| 5 | Ajaz Ahmed | Holiyal |
| 6 | Shabir Ahmed | Mushkow |
| 7 | Mohd Subhan | Mushkow |
| 8 | Shakeel Ahmed | Mushkow |
| 9 | Inayat Ali | Mushkow |
| 10 | Shakeel Ahmed | Mushkow |
| 11 | Ahmed Ali | Goshen |

5. Result and Impact of the workshops

Post the workshop and distribution of equipment; at the outset we have noticed a greater sense of ownership and responsibility amongst the selected youth as they have been continuously reporting us to about recent attacks on livestock. They are also actively sharing photographs of incidents. We will be gradually following up with them to assess the impact.

At the school level, more than 150 students were engaged in the awareness workshop. In the villages, more than 240 community members were provided vital information on ways to mitigate conflict with wildlife.

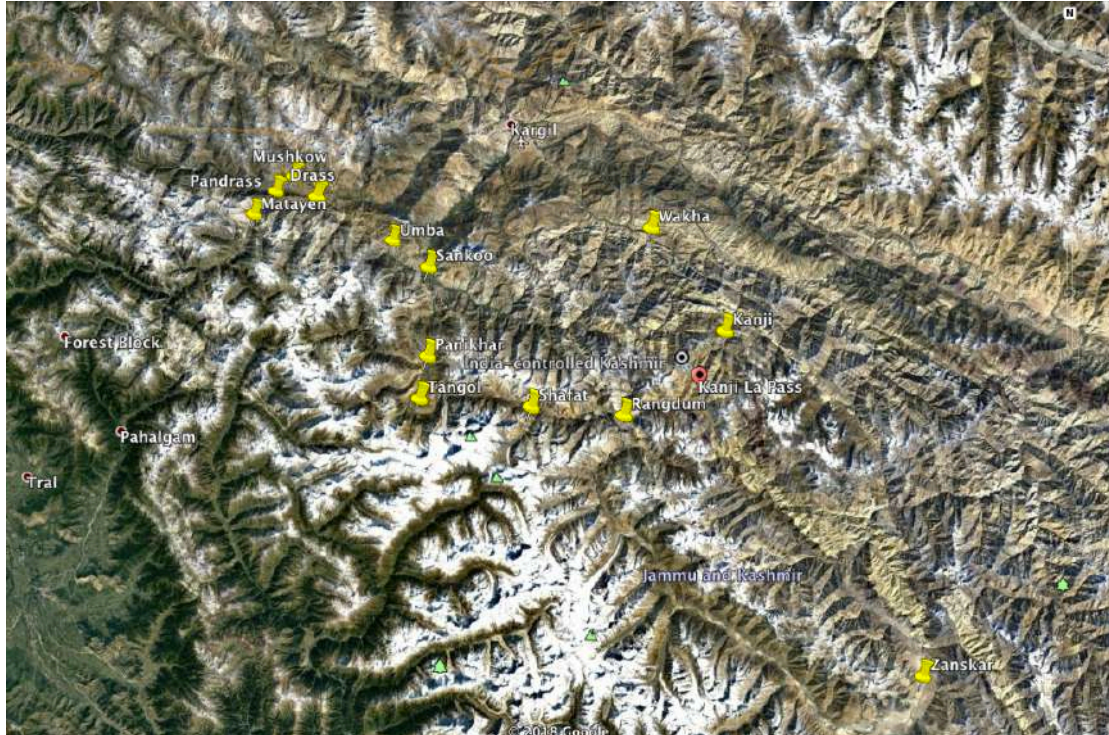
At the administration level, key stakeholders were made aware of the issue of human-wildlife conflict. The administration has asked for a detailed project proposal for a long term conservation plan.



Local youth of Drass guarding at Night in the village

6. Findings from Field Research

a. Habitat Range and Population size:



Map of Kargil District pointing out the Himalayan Brown Bear Hotspots

Although there is no baseline study done on Himalayan Brown Bears. The only information available from the Zanskar, Suru, Drass, Wakha-Mulbekh region of Kargil District is about the data on brown bear – human conflicts and planning of a protected area network in Kargil from the Department of Wildlife. This information along with information from local residents, and the first hand evidence collected on field such as pug marks, scat and hair is helpful in predicting the the distribution range of Himalayan Brown Bears in Kargil District. Although sparsely populated, a healthy number exists in the higher reaches of these mountain ranges of Drass (North) to Zanskar (South), Suru (East) to Wakha (West).



Brown Bear Scat in Drass



Pug Mark of an Adult Brown Bear in Drass

At this point in time, we do not have any data on the actual numbers of Himalayan Brown Bears in Kargil region.

b. The Issue and narrative of Human-Himalayan Brown Bear Conflict in Kargil district:

It is evident from local stories and legends that brown bears have been present in the mountains of Kargil especially Drass, Zaskar and Suru for a very long time. Drass was infact known as the "Red Bear Country".



Here is photo evidence of trophy hunting of bears in Drass by British lords and officers in the 1931. However, their habitat range was in the upper reaches of the mountains and there were very few encounters with humans that too only in the mountains. There is no recollection by locals of incidents of bears descending down to the villages to attack livestock till 15 years back (Pre 1999).

The locals and even the wildlife officials are of the opinion that the incidents of human-bear conflict has aggravated only post the war of 1999 in Kargil. Bears had briefly disappeared for a couple of years post the war but soon started reappearing a few years after, as commented by the locals

The frequency of attacks have become significantly high only in the last 3 to 4 years (since 2015) based on the data from wildlife. Specifically in the areas of Drass, there has been a significant increase of army camps around the mountain ranges of Drass where they have created food dumps to throw waste food. Bears have become habitual to getting access to easy food (rather than scouting along the hills) and are now getting more and more comfortable around human habitations. This practice of throwing food for the bear, some believe has changed the food habits of the mammal over time and they are now more actively descending down close to villages or sometimes into the villages to prey on livestock.

Some locals also believe that these bears have either been brought into these hills from other areas by the Army to restrict infiltration or by the wildlife authorities to provide the animals a new habitat.

According to another local theory, one reason could be the increased number of bridges across the rivers connecting hillsides (which is a bear habitat) and the villages. Locals believe that the bridges create easy access for the bears to enter the villages. In the past they would only cross the rivers over snow bridges that would form during the month of March and April (post hibernation) and November and December (Pre-hibernation).

Yet another theory is that there has been a significant increase in the population of bears due to less or no hunting/poaching as there is heavy military presence post 1999.

Additionally, this year (2018) there have been recorded incidents and sightings in other villages in Drass and Suru where there were no sightings/incidents in the past. This means that either there is a significant increase in the brown bear numbers in the last few years or there is possibly a change in behavior of the animal

Below is a map showing the Brown Bear Intrusion locations around Drass



However, it is not certain that whether this is due to migration from other bear habitats across the border or the existing population is able to thrive better due to more conducive conditions for their survival such as access to easy food, comfort with being around human habitations, change in food behavior or reduction in hunting.

These reasons/theories stated for increased livestock conflict needs to be ascertained. Getting a perspective from the Army is critical to validate these findings. Moreover, there is a need for an extensive and scientific enquiry into the reasons for increased livestock conflicts that may include habitat, population and behavior study of the mammal.



Frenzy killing of goats inside a corral in Drass

Based on descriptions given by the locals about a livestock kill by bears, it appears that they usually go for the softer areas of the livestock which is mostly the stomach and the intestines where they go for the digested food in the kills stomach. A kill is usually not fully consumed and left completely torn apart. Sometimes even bears go on a killing frenzy where in they end up killing multiple livestock in a single pen.

The data form the wildlife deptt shows that the habitat range of the bear is not limited to Drass but also extends upto Upper Suru valley towards Zanskar and upto Wakha Mulbekh towards Leh

While the villagers claimed that bears are frequenting the villages very often (sometimes upto 3 to 4 times a week), It was also observed that there could be false claims as well as mistaken identity. Sometimes the villagers confuse kills by other predators such as wild dogs, wolves or even snow leopards. There is little or no knowledge about the general behavior of bears amongst the locals. Bears are largely misunderstood as predominantly carnivore (which is not the case)

Locals also have a misconception/misbelief that bears are vengeful creatures and cause destruction to property and livestock as a habit. Moreover, based on some description given few locals have conflicts, they seem to behave intelligently as they manage to break doors and windows, bring down walls and stack logs to climb up and down walls to access sheds and corrals.



A Calf buried under debris by brown bear in Drass



A Pashmina goat killed by brown bear in Drass

In May 2018, first ever incident of an attack on a human was recorded where a 6 year old girl was injured by a bear in Umba village in Suru valley. However, there was no casualty.



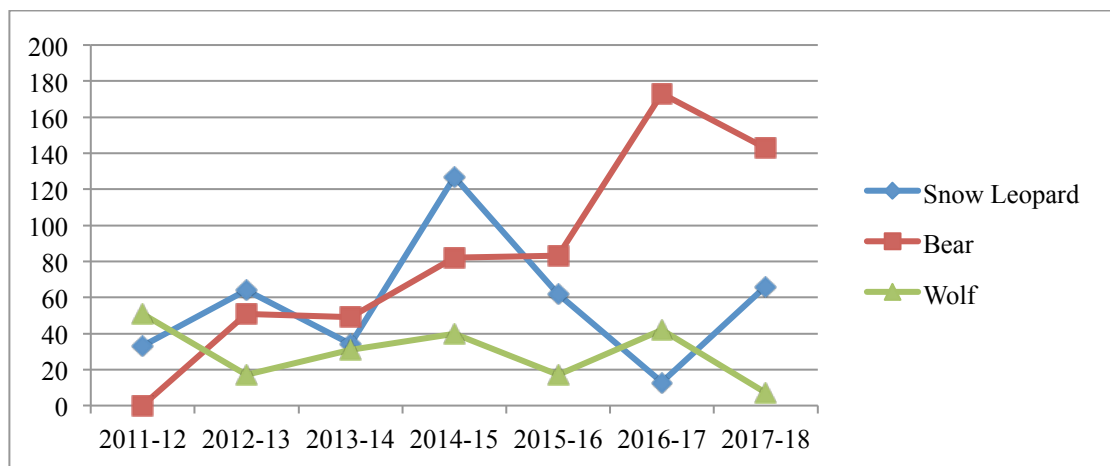
Photo of the girl attacked by Brown Bear in Umba village

c. Frequency and Volume of Livestock Depredation

In the year 2018, there has been a significant increase in the number of livestock attacks which is pointing out to a notable change in the behavior of the mammal

Below is a graphical representation of the data from Department of Wildlife showing the increase in livestock depredation since 2011.

Comparative Graph of Livestock Depredation by Large Predators in Kargil District



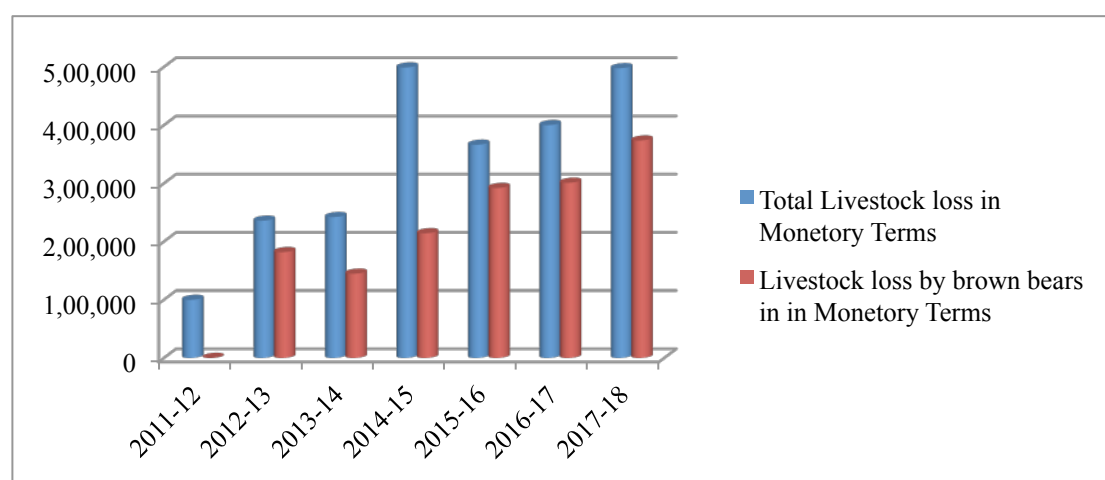
Source: Department of Wildlife, Kargil

| | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|---------------------|---------|---------|---------|---------|---------|---------|---------|
| Snow Leopard | 33 | 64 | 34 | 127 | 62 | 13 | 66 |
| Bear | Nil | 51 | 49 | 82 | 83 | 173 | 143 |
| Wolf | 51 | 17 | 31 | 40 | 17 | 42 | 7 |

It is notable from since 2016, the number of recorded incidents of livestock kills by brown bears have taken a sharp rise and for 2018 the data is only till the month of July.

Regardless of the reasons, the locals are reasonably agitated about the situation as they are losing their high value assets such as horses, cows, Zo (female Yak), Yak, which cost over 50,000/- in terms of market value, to these wild predators.

TOTAL LIVESTOCK LOSS IN MONETARY TERMS SINCE 2011 (IN INR)



Source: Department of Wildlife, Kargil

| (INR) | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|---|---------|----------|----------|----------|----------|----------|----------|
| Total Livestock loss in Monetary Terms | 99,800 | 2,35,750 | 2,42,000 | 4,99,000 | 3,66,250 | 4,00,000 | 4,97,750 |
| Livestock loss by brown bears in Monetary Terms | Nil | 1,81,750 | 1,44,750 | 2,14,250 | 2,92,000 | 3,01,000 | 3,73,500 |

Since 2016, the value of livestock depredation caused by Brown Bears has contributed to more than 70% of the total value of livestock depredation.



Hair residue of Brown Bear on a window in a cow shed in Drass

d. Contextual Challenges of Conflict Mitigation in Kargil:

The challenge of human-animal conflict in Kargil is unique and complex for multiple reasons and requires a multi-pronged approach to conflict mitigation. While there are challenges and loopholes both at the community level as well as at the administration level, the geographic location of Kargil as a frontier community along the Line of Control renders some areas inaccessible for any kind of study or intervention. The major challenges facing conflict mitigation Kargil are discussed below:

- **Lack of awareness about Himalayan Brown Bears:** It was observed during the field research that there is huge lack of awareness among the locals about the presence, nature and behavior of Himalayan Brown Bears. They are largely misunderstood due to its size and the myths it is surrounded by. Many a times the description of these bears given by the locals is hearsay and cannot be validated. Bears are also often wrongly accused of depredation while other predators like wolves and snow leopards are the main culprits.
- **Abysmal state of the concerned department:** Given the seriousness of the issue of Human-Himalayan Brown Bear Conflict, the local Wildlife Department is under equipped and short staffed to handle the situation. Currently, there is no permanent Wildlife Warden in the department and there is shortage of field staff as well. The existing staff also lacks proper training in managing conflict situations.
- **Restricted access to the habitat range of Himalayan Brown Bears:** Since Kargil region lies along the Line of Control there is heavy military presence in some areas of the Brown Bear habitat. It difficult to carry out any kind research work or intervention as these areas are not easily accessible for civilians without proper permission. As a result it is difficult to ascertain bear movement in these areas.
- **The Ex Gratia rate for Livestock Compensation:** The amount fixed for the livestock loss in the existing compensation model is hugely under valued and needs to be revised to better match the market value. As per the current rates of the Department of Wildlife the ex gratia compensation amount for different livestock is as under:

| | Ex Gratia Compensation (INR) | Approx. Market Value (INR) |
|------------|------------------------------|----------------------------|
| Horse | 5000 | 50,000 |
| Mule | 5000 | 30,000 |
| Cow | 5000 | 50,000 |
| Zo/Yak | 5000 | 60,000 |
| Goat/Sheep | 750 | 10,000 |
| Donkey | 2000 | 20,000 |

The ex-gratia sanctioned is as per rates recommended by the Assessment committee constituted by the District Development Commissioner, Kargil vide his office letter No:-DDC-K/Relief-11/98 dated 23-03-1998 and approved vide his office Letter No:-DC-K/Relief-11/93 dated:-27-03-2001.

- **Grievance Redressal and Compensation Process:** It was also noted that there was a sense of reluctance to claim for compensation by locals as the process for claiming the livestock loss compensation is complicated and time consuming. It requires investment in terms of time and money (to travel to the various departments situated in the district head quarters). Due to which villagers do not claim for compensation.

Currently, the livestock compensation process looks like this:



From the time of the actual incident till the disbursal for compensation amount, the total gestation period is 6 months to a year which proves to be very long and time consuming.

Therefore, lot of livestock kills go unreported. For that reason, the data acquired from the department of wildlife is not completely reliable to gauge the seriousness of the issue of conflict.

e. Probable Reasons for Conflict

While it is difficult to be certain about the actual reasons for the increase in Human-Brown Bear conflict due to lack of any scientific evidence, however, based on the our field research for the last six months the key reasons for increase in conflict cases specifically in Drass and Suru region seem to be the following:

- **Overgrazing and over use of habitat range:** The brown bear habitat in these regions are the hills around the villages which is also used by the locals are grazing pastures. With increase in population, there is also an increase in the number of livestock per household which is in turn increasing the pressure on the pasture lands. The bears in the region are competing with the livestock for feeding grounds.

- **Garbage Management:** It was also observed in most of the villages where there is no proper garbage management (both food and non food waste) which seems to attract bears into the village boundaries. Our team witnessed a bear and cub scavenging for food in a garbage bit in Holiyal village of Drass at midnight.



Poor garbage management in Holiyal, Drass

- **Increase in number of food waste pits at military camps around the brown bear habitat:** It has been reported quite frequently and our team has also witnessed that bears are also descending to the lower reaches as they are becoming habitual to easy food access near military camps around their habitat range. It has been observed that the military is creating waste pits outside their camps to keep bears at bay. Additionally, there has been a significant increase in the numbers of military presence in Drass region post the war of 1999
- **Corral and Livestock Management:** Majority of the livestock sheds in the villages is built with traditional techniques using clay and wood. This type of sheds and corrals are prone to depredation as bears can easily bring down such walls and windows to get inside.



Heavily damaged shed window and wall in Drass by Brown Bear

- **Climate Change:** It is widely known that there is a global shift in the climate leading to shorter winters with less snowfall and longer summer months with less rainfall. This is leading to a change in the hibernation pattern of the bears in Drass region. There are reports of bears coming down to villages even during late December and early March and even during peak summer months of June to August. This is an unprecedented change in their behavior as there have been no reports of such activity in the previous years.

f. Other Observations

- **Makeshift means to mitigate depredation**

It was also observed that due to the heavy depredation caused by bears, the locals have devised makeshift arrangements to keep bears at bay and protect the livestock. Some of the measures taken by the locals are:

1. Using metal tins and sheets to cover the cattle shed windows so that bears are not able to access the windows
2. Hanging metal drums from doors and windows so that it creates noise incase of any bear intrusions
3. Using dried seabuck thorn bushes as fencing on doors and windows
4. Using cement to plaster the walls of cattle sheds to make it stronger.
5. Keeping guard dogs outside their homes and sheds
6. Lighting torches and bonfires outside their homes and sheds



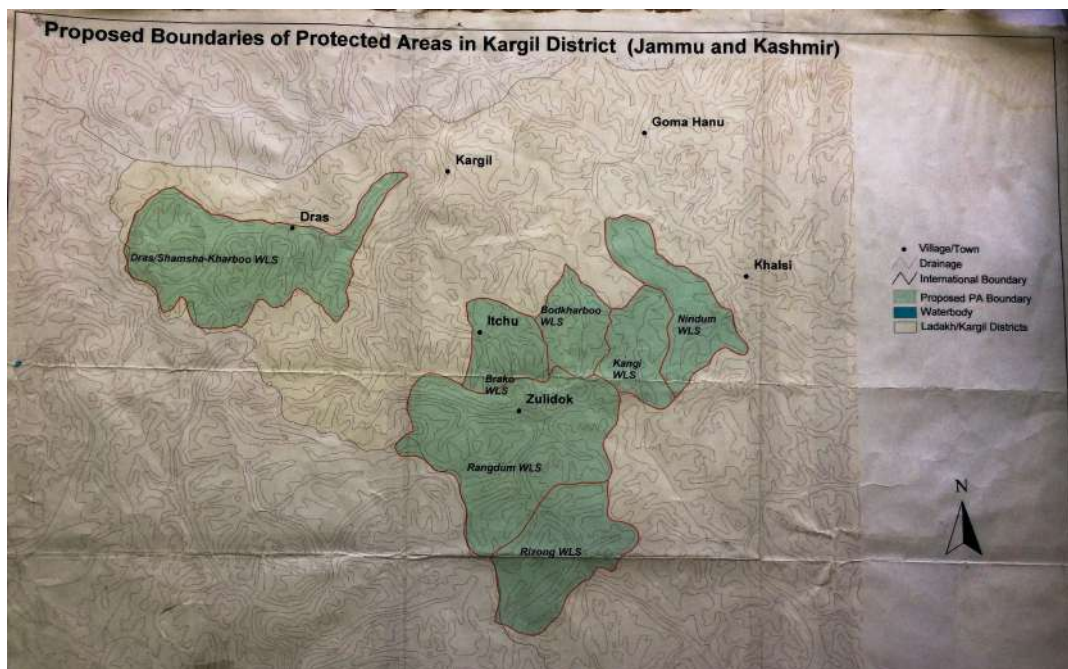
makeshift sound deterrents using metal tins



Makeshift fencing using seabuckthorn bushes

- **Eleven protected areas have been identified but not notified:**

It was brought to the notice of the panelists during the Stakeholder workshop that a total of eleven protected wildlife areas have been identified in Kargil district (seven in Kargil range and four in Zanskar range) in the year 1991 by the J&K Department of Wildlife under vide notification no: 128/FST of 1991 dated: 13-5-1991. Additionally, Detailed maps of seven protected areas have also been prepared by the Department of Wildlife. However, these protected areas have not been notified till date. Detailed maps have been acquired separately along with the copy of the notification.



Names of the Identified protected areas:

1. Drass/Shimsha Kharbu Wildlife Sanctuary, Kargil (Map available)
2. Bodkharbu Wildlife Sanctuary, Kargil (Map available)
3. Nindum Wildlife Sanctuary, Kargil
4. Kanji Wildlife Reserve, Kargil (Map available)
5. Gurgurdo Wildlife Sanctuary, Kargil
6. Umba Wildlife Sanctuary, Kargil
7. Brako Wildlife Sanctuary, Kargil (Map available)
8. Rangdum Wildlife Sanctuary, Zanskar (Map available)
9. Lungnaq Wildlife Sanctuary, Zanskar (Map available)
10. Tongri Wildlife Sanctuary, Zanskar
11. Rezong Wildlife Sanctuary, Zanskar (Map available)

1. Recommendations – A community based conservation policy

Based on our research and observations on field, it is evident that the issue of Human-Brown Bear conflict is very real, serious and pressing. Below are the key recommendations for short-term and long-term measures to mitigate Human-Himalayan Brown Bear conflict both at community and administration level:

Short Term/Immediate Measures for Conflict Mitigation: List of actionables that need to be implemented with immediate effect

- **Building strong concrete sheds:** It was observed that bears besides being very strong and powerful mammals are also highly intelligent. They are capable to bringing down the traditional clay and stonewalls and weak wooden doors. Therefore, it is recommended that the traditional clay sheds may be replaced with concrete walls with strong metal doors and windows. Additionally, the local government or conservation agencies can provide subsidies for the villages for upgrading their cattle sheds (similar to what is being done by agencies working with Snow Leopard conservation)
- **Create system for urgent grievance redressal, livestock depredation reporting and compensation:** Since majority of the depredation incidents take place in remote villages. This coupled with the lack of human resource in the Department of Wildlife which are far away from the district head quarter, most of the incidents go unreported as the department staff is unable to reach these places on time. Therefore, there is great mistrust amongst the local community towards the Department of Wildlife. A "Bottom-up" grievance redressal system needs to be up in place from the community level so that the reporting system is faster and more efficient. One way of doing this is by creating an incentive based system wherein the members of the "Community Wildlife Watch" are given responsibility to expediate compensation cases and are given monetary incentives for quick reporting and turn around. This will not only not only make the system efficient but also help in trust building between the community and the Wildlife department.
- **Implement tried & tested techniques to minimize wildlife intrusions:** There is a need to experiment with light and sound based deterrents to keep bears away from village boundaries. Such equipment is already being used for Snow Leopard and other large predator intrusions and has proved successful. While there is no evidence of these equipment proving successful for bears, through trial and error method it will provide basis for further modification and improvisation.

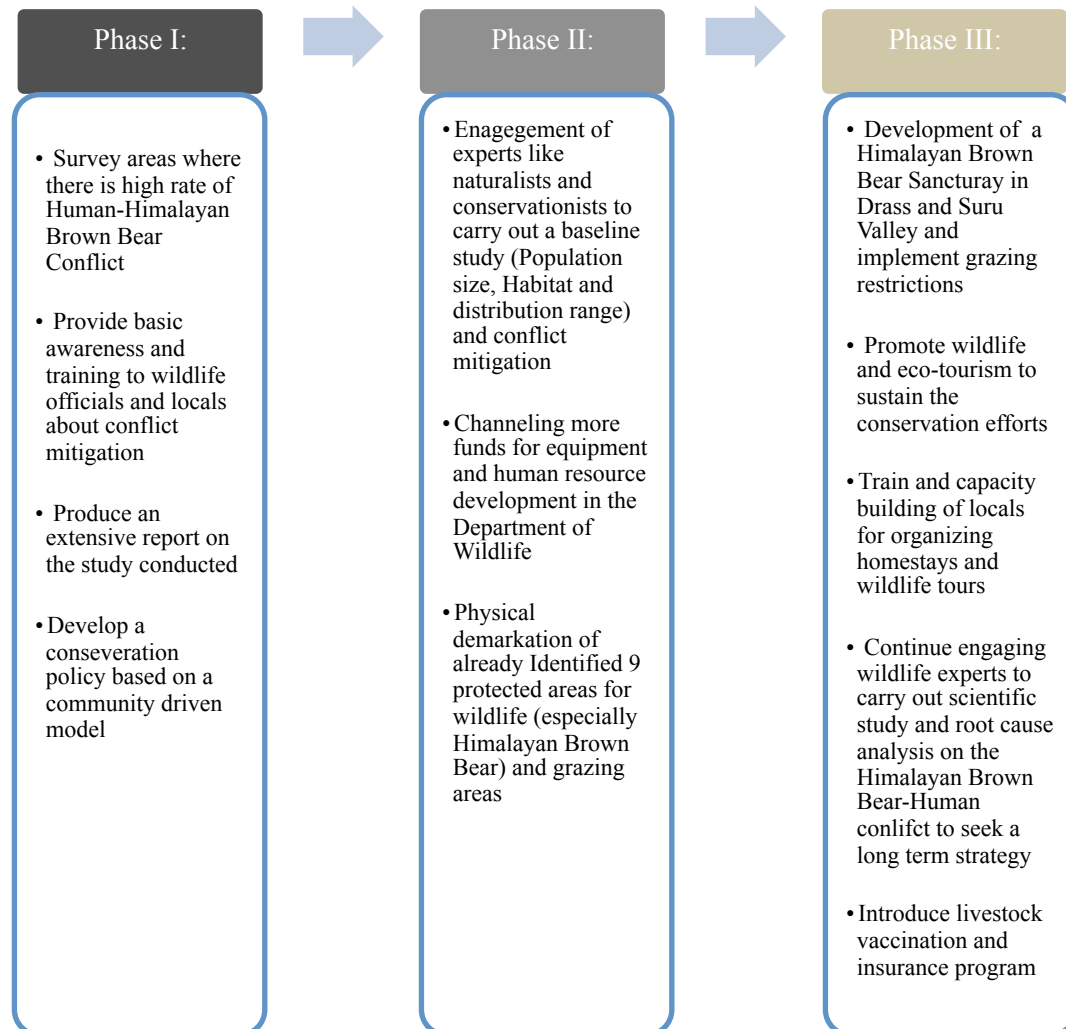
A map of Holiyal village representing the locations for placing these deterrents is represented below. A pilot experiment can be conducted in this village.



- **Sensitize local communities about the nature, behaviour and importance of wildlife especially Himalayan Brown Bear:** The Himalayan Brown Bear is a largely misunderstood animal and there are many myths and misconceptions that surround this mammal. There is an immediate need for intervention from the authorities to create awareness and sensitize the local communities through conducting workshops and awareness camps at a grassroot level so that there is an incremental change in the mindset and attitude of locals towards its native wildlife.
- **Revision & Upgradation of existing compensation amount for livestock depredation:** The current ex gratia rate for livestock compensation was formulated in the year 2001 and has not been revised since. The said amount for compensation is very low which in fact discourages the locals to pursue the compensation case leading to mistrust. There is an urgent need to revise and upgrade the compensation amount based on the existing market value of the livestock.
- **Appointment of permanent staff members at the Department of Wildlife, Kargil:** There is an urgent need to revive the Department of Wildlife through adequate staffing and appointment of a permanent Wildlife Warden which has remained vacant since the last two years. It is necessary for proper functioning of the department and grievance redressal.

Long Term Measures for Conflict Mitigation and Conservation

While the short term objectives need to be implemented on an urgent basis to mitigate the pressing issue of Human-Himalayan Brown Bear conflict, a long term conservation strategy must be formulated in order to find sustainable solutions through a community based approach. Below are the key actionables that must be integrated into the conservation policy in a phased manner:



PHASE 1:

- **Survey of areas with high rate of conflict:** Through this project supported by Wildlife Trust of India, a basic survey of the areas in Kargil district with high rate of conflicts was conducted for a period of 6 months i.e from April 2018 to September 2018 and have prepared a detailed report in the form of this document.
- **Community awareness and capacity building workshop:** A pilot training and capacity building workshop for local communities in two selected villages where we engaged experts and resource persons to sensitize people about wildlife and ways to mitigate conflict at a community level. However, more villages around Drass and Suru region have been identified where more such awareness and capacity building workshops need to be conducted on a regular basis

- **Developing a conservation policy:** A conservation policy has also been formulated for both short-term and long-term conflict mitigation strategy.

PHASE 2:

- **Baseline study:** Conduct indepth scientific research about the population and habitat size of the Himalayan Brown Bears in Kargil (camera traps and radio collars etc), and the impact of this key stone species on its ecosystem. Engage with with conservation agencies from across the border for knowledge sharing.
- **Strengthening the concerned departments through channelling adequate funds and resources:** The department is suffering from a serious shortage of competent leadership and qualified staff. It is imperative to make the concerned department better equipped to respond to conflict situations through adequate staffing and training.
- **Notification of Identified Protected areas:** Notify the regions identified as protected areas for wildlife in Kargil district and develop adequate infrastructure and human resourse in these areas.
- **Community participation in conflict mitigation and wildlife conservation:** To mitigate conflict situation and to change the attitude of locals towards the wildlife, it is important to engage the local community in the conservation work. This can be done through capacity building and training of locals such as training and incentive for building better corral pens and sheds, proper waste and garbage management techniques and supervised livestock herding. Additionally, the recently created "Committee for Community Wildlife Watch" needs to be integrated into the Department of Wildlife permanently.

PHASE 3 -

- **Demarcate specific area as Bear Sanctuary:** Regions of Drass and Suru must be demarcated as Brown Bear Sancturay and engage locals as wildlife guards. Entry and access to the sanctuary must be regulated. These pasture lands fall in the habitat range of the bears. There is a need to minimize the pressure on these pasture lands through controlled livestock grazing so that it gets adequate time for revival and regeneration.
- **Livelihood generation through wildlife tourism:** The local community looks at Himalayan Brown Bears as a menace and a liability. To change this mindset and engage the locals in the long run, eco-tourism based initiatives must be introduced in the villages through wildlife tours and homestay development. Further, training must be given to the local youth about guiding, knowledge of native flora and fauna, and hospitallity. Subsidies must be given for interested households and individuals who are interested in developing their homes as homestays.

- **Introduce Livestock Vaccination Program:** Studies show that at an average, disease based casualties of livestock is higher than predator based casualties. Introducing livestock vaccination program can prove to be beneficial in order to reduce livestock loss and also to gain trust at the community level for a sustainable conservation effort. The Snow Leopard Foundation has been successfully running this program in Gilgit and Baltistan regions of Pakistan
- **Introduce Livestock Insurance Program:** In order to compensate the the livestock loss and as an addition to the ex gratia compensation provided by the Department of Wildlife, the Community Live Stock Insurance Program is an effective alternative. Introduced by the Snow Leopard Conservancy, Leh, this program is being run successfully in various parts of Central Ladakh. However, it requires long term engagement with the community to build trust and effective implementation. Agencies like the Nature Conservation Fund are experienced bodies who can assist in introducing this program.
- **Extended scientific study for root cause analysis:** In order to find the root cause for Human-Himalayan Brown Bear conflict in Kargil, extended scientific research needs to be conducted using the baseline study.

Annexure (attached separately)

1. Key Takeaways
2. Workshop Program details
3. Resolution forms
4. Conflict data
5. Notification and maps of protected areas
6. Media coverage and newspaper cuttings
7. Print Material designs
8. GPS locations for setting up Light and Sound deterrents
9. Google Earth locations and Maps
10. Final Film Cut
11. Raw Footage (photos and videos)
12. Selected workshop photos