

# **Evaluation of the Work of Snow Leopard Conservancy – India Trust in Zanskar, funded by Australian Himalayan Foundation**

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### **Acronyms**

AHF: Australian Himalayan Foundation  
BB: Brown bear  
CC: Climate change  
LC: Local community  
SL: Snow leopard  
SLC: Snow Leopard Conservancy – India Trust

## 1. Background

Snow Leopard Conservancy – India Trust (hereafter, SLC) has been working on human-wildlife conflict and climate change related issues in Zaskar for the last several years. Part of its work is funded by the Australian Himalayan Foundation (AHF), over two phases starting in 2015. This report is the outcome of a consultancy that AHF contracted me for, the Terms of Reference for which included an assessment of the following components (for details, see Annex 1, ToR):

1. **“Relevance:** Assess the extent to which the objectives were consistent with beneficiaries’, partner and country needs and priorities.
2. **Coherence:** Assess how well the project fits with other interventions in the region, sector or partner.
3. **Effectiveness:** Assess the extent to which the targeted project objectives were achieved (or are expected to be achieved).
4. **Efficiency:** Assess how economically and timely resources/inputs were converted into results.
5. **Safeguarding and Inclusion:** Assess whether the project has sufficiently: mitigated risks to children and of sexual exploitation and abuse; consider gender and disability inclusion; mitigated risks to the environment.
6. **Impact:** Assess the long-term effects produced by the project (directly, indirectly, intended and unintended)
7. **Sustainability:** Assess the extent to which the benefits are likely to continue after the project and recommend areas for improvement to ensure sustainability of benefits.
8. **Lessons learned:** Identify the overall lessons learned.”

Beyond an evaluation along the above parameters, the Consultancy’s goal was to “also gather relevant data to inform the design of the next stage of a project partnership between SLC-IT and AHF”, including aspects of “SLC-IT as an organisation, such as SLC-IT’s systems (e.g. monitoring and evaluation), resources, capacities, strengths and challenges”, and to “gather and analyse data on current organisational and community areas of focus (particularly around conservation) so as to ensure that the next stage of the project remains responsive to the needs on the ground and is achievable through this partnership between SLC-IT and AHF.”

## 2. Methodology and limitations

The methodology for the evaluation has included the following:

- I. Initial online calls with SLC-IT (Leh and Zaskar) and AHF, regarding the context of the evaluation, possible approach, and logistics;
- II. Perusal of the material on the project sent to me in advance, and given in Leh/Zaskar (see Annex 2);
- III. Preparation of questionnaires on four aspects of the project (Snow leopard depredation, Brown bear damage, Climate change, and Water), and a listing of the kinds of people that need to be spoken to in Ladakh (both at field sites, and in Leh &

Zanskar), including those listed in the TOR for Evaluation. Apart from the issues listed in the TOR, I added a dimension of local governance (traditional village/goba and panchayat systems and their links to conservation), as an important aspect of resilience and adaptation. Feedback was sought and received on these questionnaires from SLC and AHF, and incorporated into the final versions.

- IV. Visit to Ladakh in the last two weeks of September & 1<sup>st</sup> week of October, including face-to-face/online meetings with SLC & AHF, a 6 day visit to Zanskar (27 September – 3 October; see next points), and a face-to-face/online debriefing session when back in Leh with SLC and AHF.
- V. Visit to 7 sample villages (Kumic, Ubarak, Abran, Kushul, Ichar, Anmo, Zangla) and the Dorjay Zong nunnery, in Zanskar, where interventions have been carried out. Here and in Padum, Zanskar's administrative headquarters, discussions (using the questionnaires as a base) were carried out with a range of actors, including: in beneficiary villages at individual, household and community level, separate meetings with women where possible, meetings with village headmen, village council members and other functionaries; meeting with residents of the nunnery; discussions with staff of the Ladakh Wildlife Department; and several conversations with SLC's Zanskar staff (see Annex 3 for full list of communities/people spoken to). Where necessary and especially with communities, discussions were translated from English/Hindi to Zanskari/Ladakhi and back by interpreter Stanzin Chosgain.
- VI. At the field sites, observations of physical/material interventions including snow-leopard proof corrals, bear-proof boxes, lights and alarm systems, glacier monitoring cameras and photographs, and water infrastructure in the village (I did not visit the site up the hill where the water originates).
- VII. Telephonic conversation with the police Station House Officer of Padum (since it was not possible to meet him physically), to get his opinion regarding the SLC staff's conduct with the community, including children and women.

*Limitations:* In the time frame available, fresh quantitative information has been difficult to get, other than in some individual cases. Nor was it possible to corroborate what I did get, including on aspects such as reduction in wildlife related predation/damage. The number of people with increased knowledge of climate issues would need a longer-term study, especially since a simple 'yes-no' is not likely to reveal anything meaningful.

Some people who I'd listed to meet were not available or could not be met. This includes the representative of the Dalai Lama Foundation who also heads the Agriculture Department in Padum; and members of the Bear Monitoring Teams.

It was also not possible to visit Kargil, HQ of the relevant government departments, due to lack of time. However, given the commonly reported neglect of Zanskar by Kargil administration, especially on wildlife matters, such a visit may not have yielded any significant additional insights. It may have helped sow a seed for future possible collaboration between SLC and the Kargil administration and Hill Council, but this was not in my ToR anyway.

In some villages, a full local community (hereafter, LC) meeting, or a separate meeting with women, were not possible, due to pre-occupations of the villagers, or lack of time.

Finally, and these two points come from both my own realization and from feedback given by the SLC Zanskar team: first, the methodology used was weak on getting information about change in attitudes towards SL and BB, this needs a longer and deeper engagement (which I come back to later in the report); and second, some pre-briefing of the interpreter Stanzin Chosgain on objectives/methodology/outcomes of evaluation would have been useful for him to better understand the questions I was asking of the respondents. On the second count I don't think it seriously hampered the overall quality of responses I got, nor the broad conclusions I drew, but it is possible that some nuances may have been lost.

### **3. Findings**

#### **3.1. Relevance: Assess the extent to which the objectives were consistent with beneficiaries', partner and country needs and priorities.**

The main goals of the SLC projects have been to enhance coexistence between humans and wildlife by reducing wildlife-generated damage to property, sustain or enhance livelihoods, and generate greater understanding of climate change issues.

These goals are highly relevant in the region, given the following:

- i. Snow leopard (hereafter, SL) depredation of livestock has been traditionally high, both in the pasturing areas and in villages where animals are kept in pens or inside homes. Data from surveys carried out in 2008-09 in four villages (Raru, Icher, Anmu and Cha) revealed a total loss of 80 livestock per year; a survey in 2011-12 in two other villages (Zangla, Shiela) came up with a figure of 43 lost per year. More recent data is not available, but oral accounts given to SLC's staff and also some told to me, suggest that depredation levels have remained high. For families heavily or solely dependent on livestock for livelihoods and for domestic food security, this is a heavy loss, and has generated considerable hostility towards, and possible retaliatory killings of, SLs (see below on lack of evidence regarding this). Any attempt at reducing the conflicts is crucial for the livelihoods and psychological well-being of communities.
- ii. Brown bear (BB) related damage of livestock has also taken place traditionally, but of late (between 5-10 years) has been added to by the raiding of foodstuffs from within homes, granaries, and shops. This new activity has generated hostility, anger and fear because it also represents the additional danger of a large predator within the house, apart from property damage. Any attempts at reducing the damage is crucial for the livelihoods and psychological well-being of communities.
- iii. The snow leopard has recently been declared as the State Animal of the newly formed Union Territory of Ladakh, but the precise conservation status of the brown bear is not clear in the region. Their conservation is in any case a goal of India's wildlife protection efforts (both are accorded highest conservation status in the national legislation, the Wild Life (Protection) Act, WPA 1972), so reduction in conflict with local communities, with the potential of reducing retaliatory killings if any (see below on lack of evidence regarding this) and generating a less hostile attitude towards them, is important.

- iv. Though not systematically studied, there appear to be significant impacts of climate change (CC) in the region, as reported widely by LCs. They have noted many changes in weather, water availability and reliability, etc, and in some cases are adapting their cropping patterns or other aspects to try to sustain their livelihoods. Creating greater awareness and understanding about the causes and consequences of CC, and encouraging further adaptation by LCs, is extremely important in the region. Linked to this is also the urgent need for interventions in access to water where CC has caused erratic rain/snowfall, glacier recession, or other impacts on water sources.

### **3.2. Coherence: Assess how well the project fits with other interventions in the region, sector or partner.**

The project has not tried to explicitly fit with interventions by other actors (except to some extent those of LCs). However, there is a relationship with such interventions, of the following kinds:

- i. The SL and BB interventions dovetail well into LC's own initiatives in trying to deal with these problems, and add considerably and innovatively to them. For both these species, LCs have a variety of responses from simple ones like chasing them away with noise (and crackers where the Wildlife Department has provided them), to more sophisticated ones like installing spiked grills on windows in an attempt to deter BBs. SLC's interventions do not, of course, complement any attempts by LCs to harm either of the species, though in all cases villagers told me that they do not indulge in such retaliation out of fear or because 'they are also animals and need to eat'.
- ii. The water component at Kumic adds to previous (inadequate or flawed) attempts by the LC (e.g. to store water in depressions), and by NGOs/govt departments (pipelines, cement canals) to mitigate the shortage.
- iii. The climate component adds to initiatives by other NGOs like the newly founded Zanskar Conservancy Movement (ZCM) which has been going to several dozen villages to spread awareness; it is not clear if there are other active climate awareness programmes by government or civil society actors. In any case there is no explicit link between SLC's work on this, and that of other actors including ZCM.
- iv. Though actions are often being carried out through/with the village headman (goba), there is little or no formal attempt to link with local self-government (panchayat), or with relevant government departments. I will comment further on this below, with regard to sustainability of the interventions, and in recommendations.

### **3.3 Effectiveness: Assess the extent to which the targeted project objectives were achieved (or are expected to be achieved).**

With respect to project goals, high level and outcome performance indicators stated in the ToRs, the findings are as follows.

- i. There is very high effectiveness of SL corrals in eliminating depredation, as reported by all LC respondents I met in the villages visited, and in the monitoring done by SLC staff. In the case of all the 45 corrals built since 2015 (all still in use), it is reported to be 100% reduction, with one exception where the corral was not built properly and 2 livestock were killed. Pre-corral baseline (2018) and post-corral (2021) assessment figures report a reduction from 74 livestock killed, to only two. The value of livestock depends a lot on age, sex, etc, but apparently on average each goat/sheep would be valued at about Rs. 10,000, so their being safe in a corral represents a considerable reduction in loss. In Kumic, the savings could amount to about Rs. 400,000 to 500,000 annually. This is apart from the psychological and emotional benefits, being able to sleep easier, not having to guard livestock in cold nights, etc. It is therefore not surprising that there is a widespread demand for corrals by families and villages that have not yet received them, and continue to face SL depredation within/adjacent to the village. Since the pre-SLC corral and post-corral building phases are recent and clear in people's minds, the reduction/elimination in depredation can be clearly attributed to SLC's interventions.
- ii. It is not clear if families who had earlier given up keeping livestock have resumed it once community corrals were built, or in anticipation of getting private corrals. However, some respondents stated they were considering it. At Kumic, resident Stanzin Mingur said that people in Lower Kumic may again keep livestock if a community corral was provided there. At Zangla, villagers who had gathered around when we were talking to Tserab Dorje and Phunsok Dolma, recipients of an individual corral, said that some households are beginning to acquire goat/sheep babies having seen the safety that the community corral provides. One resident, Lobzang Kunga, said if he gets a deterrent light, he will once again keep livestock (he says he has requested SLC for this, 2 years back).
- iii. SL depredation in the summer pastures and sometimes when livestock is open near the villages, remains common and has not been addressed in the project. This needs to be considered, both from a livelihood safeguarding point of view and if one of the goals is to change the attitude of people towards the SL. Tsering Chombel, Goba (headman) of Ichar village, suggested a large corral in the summer pasture area where all shepherds can bring livestock inside for the night. Several villagers requested some form of insurance or compensation scheme, and/or support to re-employ a 'rurzee' (community livestock herder). I will come back to this in the recommendations.
- iv. There is high effectiveness of BB measures (100% for boxes and alarm systems in premises I visited, and as reported by households interviewed). Boxes have been provided to 16 families/persons in 4 villages in the 2018-21 period; some more are under construction, having been delayed due to non-availability of metal in Padum. The savings can be considerable; in Kushul village where 10 households have got boxes<sup>1</sup>, the savings in each are reported to be 15,000-20,000 per household per year. Additional methods SLC is trying (not under AHF project) are alarm systems set up in households or institutional stores (such as in the monasteries, nunneries, and a school), and deterrent foxlights. These have also

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<sup>1</sup> 5 of these from AHF funds, the rest from crowdsourced funds.

shown good results, but the learning ability and adaptability of this species (as shown for instance in how it seems to be getting used to fox lights after being deterred by them for 1-2 years), suggests that long-term effectiveness is not guaranteed. Additionally, sometimes these interventions are not adequate, e.g. the boxes are big enough to fit valuable foods like butter, ghee, sugar, but not for others like grains, and are of very limited use for premises like grocery shops (e.g. the one owned by Dorjay Stanzin at Abran). Though there are some LC and other agency interventions relating to BB damage, it is clear from what villagers report that the considerable reduction in damage where SLC has worked, is attributable to its interventions.

- v. It is not clear if the interventions have led to any significant change in attitudes towards SL and BB. Firstly, there is only anecdotal and 'kept-under-wraps' reporting of retaliatory killing; none of the people I spoke to admitted to any such actions, though some did express strong anger, hostility, and even the willingness to kill if given a chance or if there was no fear of being arrested/fined by the Wildlife Department. Such feelings were apparently strong in the past, but even after the SLC interventions, continued in some cases, especially if depredation continued in the form of SL's summer pasture killings or BB's continued damage. Others said they felt 'friendlier' towards these animals, and/or that they too were creatures that needed to eat. Frankly, though, this aspect needs a more thorough socio-cultural and psychological assessment, by someone who speaks Zanskari/Ladakhi, is more well-versed with bringing out perspectives and attitudes, and has more time. Meanwhile, it does not seem justified for SLC to claim that its interventions are leading to the conservation of over 100 SLs, as one of its documents states; this estimate has no basis, as far as I could tell.<sup>2</sup>
- vi. The water initiative in Kumic seems to be highly effective, judging by what the LC said in terms of significant increase (not quantified) in volume and seasonal availability, and the enhanced possibility of cultivating home gardens. Elder Rigzin Phuntsok said he would spend Rs. 500-600 per season to buy onions and other vegetables; now he gets them from his home garden because water is available post-August also (earlier it would dry up by August). This combined with reduced loss of livestock means he is saving about Rs. 9000-10000 per season. Sonam Yangzin, an 80-year woman who stays alone, said she is now able to grow some vegetables for consumption in her home garden (and is also happy that her 2 sheep are safe in the community corral).
- vii. It is too early to assess if the additional water in Kumic will result in increasing acreage of main crops, or whether some people who have shifted to Lower Kumic will come back to the original village. Villagers expect a rise in crop and fodder production. But they also stated that there needs to be an additional intervention for the village as a whole as there is still some water shortage; they had some ideas about further pipe connections that could be tried, including at a possible new source above the village. In addition, three households who reside on the periphery of the village, requested a pipe connection from the water tank, a few hundred metres away (conveyed to me by one of them, Tsering Mutup). Since this

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<sup>2</sup> Tsewang Namgail mentioned that this is based on studies in other parts of Ladakh, but not on data / information/ studies in Zanskar itself.



is a very recent intervention and there has been none other in this period, the increase in water availability is clearly attributable to SLC's intervention.

- viii. On the objective of enhancing understanding of climate change, the work with the glacier monitoring volunteers has certainly created a greater awareness and understanding (note, however, the limitation that I could meet only two of the volunteers). An extensive climate change and livelihood assessment that SLC carried out in 2021 showed clear knowledge of drastic changes in precipitation, glacier recession, water availability, etc, and many people attributed it to climate change and/or increasing temperature. This does not necessarily mean a greater understanding of the dynamics and causes of climate change; SLC's workshops (in 9 villages covering 307 people, as reported in the M&E format) would have given some such understanding, but without repeating the exercise a few times (which, I am told, SLC is planning to do), and/or building in methods that help in retention of understanding, these may be inadequate. It is not clear how much heightened understanding of CC there is amongst LC members in general, and when there is, how much can be attributed to SLC's work given the other influences commonly available such as their own changing environment, mass media now readily available on phones, youth returning from exposure in their educational institutions or work spaces, and government agencies. If this is a key objective of SLC's work, more regular programmes will be needed ... and linked to this is also the next point on adaptation.
- ix. There has been very little work on documenting the climate change adaptation capacity of LCs, and none on helping to enhance it. Though adaptation is mentioned several times in SLC's 2018-21 proposal, it does not seem to have been squarely built into the actual program. The extensive survey on climate and livelihoods carried out in 2021 asks two questions about it, but at very general levels, and no details are sought. Whether SLC should get into climate adaptation needs discussion; I come back to this in the recommendations.
- x. While livelihood *protection* is built into the programme, livelihood *promotion* is not (other than indirectly through the water intervention in Kumic, and through homestays in some villages which are not part of AHF project; see recommendations on this).
- xi. Monitoring of intervention results seems to be improving, including due to new M&E format; but checks across the LCs are irregular due in part to communication difficulties and in part to the absence of a monitoring calendar for all aspects of the project. I return to this in the recommendations.

#### **3.4. Efficiency: Assess how economically and timely resources/inputs were converted into results.**

- i. The difficult context in which the team is working includes extreme unpredictability of weather, communication, and transportation, as also uncertainties of community response and the relative weakness of government institutions due to Zanskar's neglect by the district and union territory administration. Given this context, the use of finances, time and human resources by the SLC team appears to have been very efficient. Indeed from available indications such as the reaction of villagers to the team during my visits, the

team's description of work done despite difficulties, the willingness to work long hours and not worry about 'office timings' or weekday/weekend differences, suggests what I would call a 'voluntary' spirit infusing the work even when paid, and a degree of commitment that would stretch even meagre resources to levels not otherwise possible.

- ii. I asked SLC if there had been any adverse comments in financial audits of the projects by its auditor, and was told there were none. However, one can think of some issues that can be considered flaws or mistakes in hindsight, for instance the model of camera distributed to the glacier monitoring volunteers may not have been the most appropriate, which was realised only later when some malfunctioned or did not perform well in the conditions they were used in.
- iii. In the case of most interventions, there has been substantial involvement of villagers in giving ideas (technical, location, etc), and/or labour and materials for construction. In Kumic, for instance, while SLC put in about Rs. 80,000 for wire mesh, wood door, etc in making the community corral, the community's contribution of rocks and labour (mostly women) was around Rs. 200,000 to 250,000 (according to the villagers, and confirmed by SLC). This means that SLC is able to achieve results much more economically than would have been the case if they did not carry out the activity in a participatory manner.
- iv. However, in its reports (e.g. Final Report of phase 1), the team has noted that on a few occasions the villagers have delayed construction of the SL corrals, for various reasons, and this has not been immediately rectified due to earlier difficulties in reaching beneficiaries physically or on phone. This may be better now with an improved telecommunications network; but also with the calendarization of monitoring, which I will return to in the recommendations.
- v. Some level of inadequate planning has led to certain inefficiencies, inadequate quality of results, and/or delays in taking corrective measures, e.g. with regard to the regular monitoring of work by glacier volunteers, or inadequate training in the use of cameras. When subsequently noticed, the team has tried to introduce modifications, e.g. issuing simple calendars to the volunteers. Yet weaknesses remain; for instance on a visit to Anmo I found that the camera given to the glacier volunteer Phunsok Angmo was not functioning though it had been repaired after some malfunction and given to her, and she had not reported this to the team nor had the team called to check if it was working. Communication/connectivity and transportation inadequacies have been part of this problem, making it very difficult to check on such things regularly; now however with better telecommunications, it should be possible. I will come back to this in the recommendations.

**5. Safeguarding and Inclusion: Assess whether the project has sufficiently: mitigated risks to children and of sexual exploitation and abuse; consider gender and disability inclusion; mitigated risks to the environment.**

- i. Child safety was not explicitly built into the project, but the Zanskar team appears to be highly sensitive to it in their interactions with LCs and their programmes in schools. It helps that two of the members are from LCs themselves, well versed in the culture of the area which has traditionally been very sensitive to the social

environment in which children are growing up. The Station House Officer of Padum, Jigmet Wangdus, confirmed this in a telephonic conversation, and stated that his interactions with the team and what he has observed/heard about this, make him confident that their interactions with children (or women, or other members of LCs) are appropriate and do not have the risk of harassment or abuse. Meanwhile SLC had already agreed to adhere to child safety norms specified by AHF, and are now framing a policy for this so that norms are more explicitly integrated into activities, as noted in the Risk Assessment report. Another aspect that could be integrated is how children are specially affected by SL and BB damage and presence, and concurrently how they may be specially benefiting from SLC's interventions (see also Gender point below).

- ii. Sensitivity to other vulnerable sections of LCs, such as women, 'lower' castes and persons with disability, are not explicitly built into the project. No vulnerability criteria are used in deciding who should receive interventions, though the SLC team has tried to build in some elements along the way, e.g. impressing upon gobas (village headmen) that in their choice of who should get the SL corrals or BB boxes first, some consideration could be given to those especially in need. In Akshu village, when they found there was a person with disabilities who had special needs regarding bear damage, they included the household as a beneficiary of the BB-proof box. In Phey and Kushul, single-woman-headed households were similarly provided. Such on-the-spot adaptability is commendable, but is not a substitute for advance knowledge of vulnerabilities, and the building in of criteria relating to them in household selection as part of the planning of interventions. I will return to this in the recommendations.
- iii. On a more general level, gender dimensions are not systematically integrated in the planning and execution of interventions. Though the SLC team is sensitive to these, the absence of such integration means that important perspectives and needs may be left out. In discussions with women during my visit, I found that there were clear articulations of perspectives that were different from or additional to those of the LC as a whole or men specifically. For instance, women in 2-3 villages said that they are the ones who do much of the work in raising livestock, in home gardens and agricultural fields, and in managing home supplies. Livestock depredation, damage to food items in homes, and other such damage by wildlife therefore has a greater impact on them, including emotional and psychological; as some women (collectively paraphrased here) remarked, "we raised these animals like children, and now the leopard has killed them, how do you think we feel?"). Rigzin Dolma, our homestay host in Abran village, said that women are also often alone or with only their children at home, since men often go out of the village to work, and the presence of BB and SL like predators has an extra element of fear for them. Concurrently, SLC's interventions are likely to have led to greater satisfaction and well-being for women. These other gender dimensions could come out more clearly, and influence both the design of the intervention as also an understanding of the differential gender benefits of such interventions. It could also help avoid gaps (that are not significant but could be symbolic) such as putting only the name of a man under the column 'name of individual recipient' in the sheet of corrals constructed, 2018-2021). I will return to this in recommendations.

- iv. Given the micro-scale nature of all of SLC's interventions, I could not perceive any significant environmental risks to be considered. There is one potential risk if the work expands significantly (or is taken much further by other agencies): if all villages, livestock, food storages are made SL- and BB-proof, and if one of the reasons for SL depredation and BB damage is the shortage of prey/food in their natural habitats, what will be the impact on these species? Where will they get food from? This is obviously a hypothetical question and not something that needs to be looked into immediately, but it is worth keeping in mind, and points to the need for more ecological assessments of the SL and BB habitats and natural food availability conditions (see recommendations below).

**6. Impact and sustainability: Assess the long-term effects produced by the project (directly, indirectly, intended and unintended) and its sustainability**

- i. From a technical perspective, the SL corrals are likely to be effective in the long run, as long as communities undertake necessary maintenance and repairs which are well within their capability. Those made in 2015, e.g. in Anmo and Zangla, are still fully effective. However, an unexpected problem has been reported by several villagers (especially recurrent in Ichar), that with only a wire mesh on top of the corral, snow falling in becomes very difficult to shovel out. They suggested some kind of full covering to help avoid this problem; Stanzin Donsal, schoolteacher in Ichar, said this should be transparent so as to let in some light. SLC has recently become aware of this problem and is considering an additional intervention.
- ii. Similarly, the BB boxes will last long; communities know where in Padum to get them fixed in case there are any problems like the lock jamming.
- iii. I do not have the technical background to say anything about the Kumic pipe intervention; if installed properly, it should last long, but such interventions in Ladakh have been inconsistent due to extreme weather conditions, so regular monitoring is needed. Kumic's villagers said that the joints of pipes provided in an earlier (non-SLC) intervention were rusting, and requested SLC to solder them so they would last much longer.
- iv. Glacier monitoring effects are likely to be short-term except where the volunteer is highly self-motivated, or where additional inputs (see recommendations) are provided in the next few years. However, SLC intends this activity to carry on for at least 10 years (though the AHF component is for three), and awareness created by this activity could have longer term impacts if volunteers take the initiative to push for LC adaptations. In Ubarak, Tsewang Falgun said he would like to continue the glacier monitoring beyond the current 5-year period, even if he is left to himself, not only with photographs but also through recording changes in vegetation, cropping, etc. In Anmo, Phunsok Angmo said she too would like to continue, if SLC continues to help and to train her in other methods of monitoring also. She also said she would like to discuss further adaptations (she mentioned some like cropping pattern changes the village has already tried), if given a chance. In both cases they said they would also like to share the pictures and the understanding they have got, with other members of the LC (though they have so far not done so, except in their own families).

- v. There is some indication of independent uptake of interventions by non-beneficiaries. For instance, in Zangla, Thugjay Tundup and Chusnith Dolma, neighbours of Lobzang Tundup and Lobzang Chuskit in whose house a corral was built by SLC, redesigned their own corral, adding a mesh wire they had earlier used for their greenhouse, to make it leopard-proof (their inspiration was not the neighbour's corral, but the previous community corral that SLC had built). In both Abran and Kushul, families and the community as a whole have tried or are considering trying spiked windows and doors against BB damage. In Abran the ama tsogspa (women's committee) raised the funds to do this for the community hall which has a food storage room, three months back, and it has so far worked. Such interventions seem, however, to be uncommon. There could be one or several of multiple reasons for this: many families do not have adequate resources; many do not consider it high enough as a priority for themselves to take it on, though they do want others to; as communities they are not able to mobilise themselves or to put enough pressure on institutions such as the panchayat or government agencies to fund or take up such activities.
- vi. As in the case of dependence on government for many aspects of their lives, LCs may have become dependent on SLC for the continuation of interventions. For the reasons mentioned above, and at times even where there may be resources available in the household or in the community, the demand is for SLC to provide the intervention, with exceptions like that of the Zangla household mentioned above. In a way this is an indication of the clear and visible success of the interventions. But if the dependence or expectation keeps widening to other households and villages not yet serviced by SLC, it would not be sustainable given the limits of human and financial resources the group has.
- vii. The weakest aspect of SLC's work in terms of sustainability and long-term impact, is the absence of linkages with established village institutions, most importantly the panchayat (village council). It is a well-known lesson from rural interventions over decades of work in India and elsewhere, that sustainability is dependent on the creation/revival/strengthening of relevant institutions run by local people. The only attempt at this I could find (but did not get a chance to interact with) are Bear Monitoring (or Bear Guardians) set up in some villages. It is not necessarily easy working with and convincing panchayats or other such village institutions, but sustained efforts do yield results, as shown by many examples around India.
- viii. Also weak are links with relevant government departments. In the case of the Wildlife Department, this is understandable since it has only two daily wage (not permanent) staff in all of Zaskar, but I found that one of them knew nothing of SLC's work at all, and other was only aware of its work in Kumic because he is a resident of the village. I was not able to talk to other departments to gauge their level of knowledge of SLC's work, but the team itself mentioned that their interactions with such agencies has also been low to absent. In its Final Report of Phase 1, the team says: "we hope the local government in Kargil will emulate our model and assist local communities in building more corrals in Zaskar"; but without an active push from SLC, this may not materialise. I deal with this in the recommendations below.
- ix. The above points indicate that the absence of an 'exit' strategy is a gap in SLC's approach.

## 4. Recommendations

Following on the key results described above, my recommendations are given below (with some thoughts on prioritisation coming later).

### 4.1 SLC's activities

- i. Given the very high relevance and the generally high effectiveness of SLC's interventions in the case of SL and BB damage, the universal appreciation from villagers of SLC's role, and the significant additional and enhanced need for SL and BB proofing, **continuation of support** for these parts of the project are strongly recommended. In Abran, highly impacted by BB, the goba (village headman) Nima Namgail said that of 80 households, only four had been given BB boxes, and many of the others also needed it. In Ichar, highly impacted by SL, less than half the households have yet been covered with individual corrals. In addition to BB boxes and SL corrals, the support could also include deterrent lights which have proven effective for SL, and alarm systems for BB.
- ii. In the case of BB, given the adaptability of the animal, an **'innovation fund'** is recommended, that is not tightly bound by requirements of high effectiveness but that can be closely monitored to assess outcomes and degree of adaptiveness by the team based on such assessments, and modified periodically if necessary. SLC's trials of different methods, such as alarm systems, deterrent lights, and a proposal for electric fences (the latter two also for SL), are important. SLC needs the freedom to innovate and experiment to assess which of these or other methods would be effective in the long run (apart from boxes) and would be acceptable to the community (which is, for instance, weary of electric fences).
- iii. In the case of both SL and BB interventions, and also the water component if it is to continue as an activity beyond Komic, SLC needs to build in **vulnerability (including gender) criteria** into planning, especially the choice of beneficiaries. It is not recommended that this be done bypassing the goba or other traditional governance institutions since that could cause local friction and difficulties for the work of the team; it should be done in association with them. As noted above, this is already informally done in some instances, but needs to be more systematically built into planning, which would also mean a better knowledge of the demographic and social structure of each village. I note that elements of this are also addressed, with a commitment to frame or integrate relevant policy-level measures, in the Risk assessment format. (See also the recommendation below regarding adding a 4<sup>th</sup> person to the team, specialising in this aspect).
- iv. In case of SL and BB damage, but especially the former, SLC needs to consider adding a component of **livestock insurance and compensation**, managed by the LC itself with help from SLC or other institutions. This is especially important in relation to continued livestock depredation in summer pastures, or occasionally near villages when livestock are roaming free. It is learnt that such a programme has been running successfully in some other parts of Ladakh (both by SLC and by Nature Conservation Foundation), so there are already lessons that can be learnt. In passing I should mention that while the Wildlife Department of Kargil district is supposed to provide

compensation for livestock depredation, its near absence in Zanskar means it is quite rarely given, that it is provided in inadequate amounts (e.g. a family in Ichar village that lost about 40 animals to SL last year got less than 25% of what compensation it ought to have got). Expecting this to change dramatically in the near future is unrealistic.

- v. SLC's activities<sup>3</sup> also go beyond livelihood protection to **livelihood promotion or enhancement**, e.g. in its well-established homestay programme, and ongoing work with handicrafts (like felt toys), here or in other parts of Ladakh. These, and others like training of nature guides, are well worth spreading in Zanskar also. These have multiple impacts: enhancing livelihoods, getting people more interested in conservation, generating involvement in climate programmes (Anmo village glacier volunteer Phunsok Angmo got interested when SLC came here to discuss the homestay programme), and others. Attitudes towards SL (and other wildlife) appear to have changed in some other parts of Ladakh due to the homestay programme, and a combination of this along with livelihood protection through corrals, boxes, insurance/compensation, could be powerful.
- vi. In the case of both SL and BB interventions, SLC needs to build in strategies for dialogue with (and convincing) **local institutions** (panchayats, Sheep/Animal Husbandry and other relevant government agencies, women/youth groups, religious bodies), and the Councillor of the area, to also take up the interventions mentioned above. These include actions related to reducing/eliminating damage, compensating continued damage, and generating livelihoods, as well as processes to periodically discuss their effects, and to encourage and consider innovations coming from within the communities themselves. Time could be sought in the formal meetings of these agencies to present the work done so far, e.g. by putting it in the agenda of the annual or bi-annual meeting of the panchayat; literature could be given to their members; members of the community itself could be incentivised to speak to their panchayats and other relevant institutions. The spread and long-term sustainability of these interventions can, to my mind, be significantly enhanced through such interactions, however difficult and challenging they may be. In every village I was told that people have tried asking government officials and agencies for help, but mostly got very little response; so civil society dialogue with and pressure on them may help. This is especially so in the case of Sheep/Animal Husbandry Department, which has budgets to help with interventions like corrals and with giving livestock to families needing/wanting some. It could also help to talk regularly to the area Councillor (member of the Ladakh - Kargil Autonomous Hill Council) since he/she has an annual discretionary budget of Rs. 1 crore (10 million). Some new community institutions can also be considered, such as the Bear Monitoring Committees SLC has helped set up in some villages. (See also point on self-reliance below)
- vii. Additionally in the case of SL and BB, it would be important for SLC to discuss in advance (and retrospectively in the case of interventions already made) the need for the community to think of some **collective solidarity and action**. For instance, a commitment could be obtained from households receiving individual corrals, BB boxes, alarm systems etc, that they will either donate a small percentage of the savings they are making in loss of livestock/foodstuffs, into a community fund

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<sup>3</sup> In projects other than AHF's.

and/or, will contribute an animal or food items; in both cases, for use by households who are not (yet) beneficiaries and face significant depredation or damage. In Ichar, I was a bit taken aback at the fact that no-one made such an offer to the household of Stanzin Kunzang and Lobzang Ishey, who lost 40 livestock (officially, 22 were recorded) to SL in 2020. When I asked why, and whether such an expression of community support has never existed, Stanzin Chozang, an elder, said that it used to be there in the past, but 'money has changed everything'. The restoration of some kind of community solidarity (or at least an attempt towards this!) could be a crucial component of SLC's work, and would also help with long-term effectiveness and sustainability. In a separate project, SLC has tried some elements of this in its homestay programme, e.g. by each homestay family gets a fair chance of hosting visitors by rotating the homestays, and 10% of revenues go to a common fund, and providing linked livelihood opportunities like crafts in households without homestays.

- viii. With regard to **water**, while this is going to be an increasing need in the region due to climate change and other reasons, it is not core to SLC's focus and expertise. Yet some involvement in this sector is important, both because of the need and also because of the goodwill it generates for SLC and its other focus areas. For instance, members of the Zanskar Women's Association I met, Diskit Landon and Tenzing Lamo, were very appreciative of the SLC work in Kumic, stressing that women are especially badly affected by water shortage. SLC has two options: recruiting an entire new team focused on this, or building a formal relationship with another organisation/agency that has the expertise. It is learnt that in his last visit to the region, the Director Tsewang Namgail was also accompanied by others with relevant expertise such as the 'ice-stupa man' Sonam Wangchuk, and some possible collaborations were discussed. It is finally up to SLC on which of the options it takes; I am not recommending one or the other, but stress again that if it is to become a core SLC activity, it needs a fully dedicated team.
- ix. On the issue of **climate**, the glacier monitoring programme needs to be continued over a longer period beyond the 3-year project cycle, as this is too little time to tell differences in glacier size/behaviour. SLC intends to continue it for at least 10 years, and this could involve many additional activities such as programmes where the volunteers can present their work to the public, a platform (e.g. digitally/on phone) for regular sharing amongst the volunteers, and ways to encourage them continuing on their own steam even after the SLC support is withdrawn (using their own cell phones , for instance). Some of these ideas are from the SLC team in Zanskar itself; clearly they are also thinking about the sustainability of this activity. But perhaps even more importantly, there could be a stronger public awareness and education component combining conservation and climate change. This could also involve many activities other than the above, in educational institutions, in monasteries, in/with village level institutions, with the general public, etc; and as Tsewang Namgail suggested, these could be led by some of the glacier volunteers, carefully chosen local youth, and monks, after an appropriate level of building capacity.
- x. Equally or more important, for the region, glacier monitoring and climate education need to be accompanied by a more detailed component on **climate adaptation**. This latter aspect does appear in SLC project documents, but has thus far been taken up only through two broad questions in its climate attitude survey. These questions



have revealed a very generic level of data, such as how many people are doing adaptation and of what broad kind (e.g. being more careful in use of water, or approaching government agencies to do something). What is needed is more detailed documentation of what the community is already doing (e.g. what kind of measures to use less water, what kind of cropping pattern changes), and consideration of what more can/needs to be done. But climate adaptation can range from simple to complex actions, and I doubt the current team will be able to take it up in terms of time and capacity; either it needs an additional member or (as in water) a collaboration with another organisation. I met Lobzang Wangtak of the Zanskar Conservancy Movement, and he said they have been going village to village organising programmes on CC; whether SLC and AHF want to build a formal collaboration with them is up to the team (I am aware there may be 'political' considerations as ZCM is also into strong campaigning including criticism of government policy, on environmental and other issues).

- xi. Related to this also is the need to understand better, the **ecological changes** taking place due to CC, and their consequences on the behaviour of SL and BB. This was stressed by several SLC staff including the Director. At the moment there are only theories, and anecdotal evidence of why, for instance, the BB's behaviour has changed in the last 5-10 years. Villagers themselves have many theories: reduction in wild food in the hills, availability of bridges for bears and cubs to cross over rivers safely (earlier cubs could get washed away), acquiring taste for human food, etc; several also pointed to the general misbehaviour of humans, the disturbance of spiritual patterns and nature, the reduction in rituals. Some possible ecological factors are discussed by Chavan et al (2021). But a deeper and more robust understanding requires a dedicated person, and if one of the existing team members is not able to take it up as it would deviate from other important commitments, then perhaps some sustained internship / volunteer programme needs to be connected to, which can dedicate students with a solid ecological base to work with the SLC team. SLC members do have some good connections with universities in and outside India, that could be leveraged. If there are connections with universities/institutions within or outside India that could be used for this, a component of the next phase of AHF project could be dedicated to some field expenses for such a team of interns/volunteers.
- xii. A factor that could have a significant impact on many aspects of community life and on SLC's work is **tourism**. If the government's plans and frenetic pace of road construction connecting Zanskar in various directions are anything to go by, tourism could explode in the next few years. The impacts this will have on ecosystems and species, on livelihood opportunities and community life, on localised aspects of climate change (glaciers?), could be massive. Some level of strategic thinking within its team and with other groups and individuals may be worth doing, not necessarily to build a significant component on sustainable and responsible tourism into its programme, but to be aware of consequences and possible actions for mitigation and transforming into positive potential. For the latter, the homestay programme again comes to mind.

## 4.2 SLC's structure and functioning

- xiii. The **integration** of various aspects of SLC's projects, how they relate to each other, and whether/how they are leading to complementary results, could be strengthened. This is already done to some extent in the relationship between the water intervention in Kumic and climate change/glacier monitoring, or conceptually (and tenuously) between BB damage and climate change. A matrix of the various interventions (not only AHF but funded by others too), and their actual, perceived, and possible connections would be useful; also useful for the team itself would be the use of available tools to assess the holism and complementarity of the changes taking place as a result of their interventions (see for instance [https://vikalpsangam.org/wp-content/uploads/migrate/Resources/alternatives\\_transformation\\_format\\_revised\\_20.2.2017.pdf](https://vikalpsangam.org/wp-content/uploads/migrate/Resources/alternatives_transformation_format_revised_20.2.2017.pdf)). This is an extended and potentially complex exercise (though it can be simplified depending on context), and I would recommend it only if capacity in the team is sufficiently built or in partnership with an external group (see recommendation on SLC team strengthening below). I have helped a couple of other organisations in carrying out this exercise, and would be happy to facilitate it for SLC if it wants to go ahead with the exercise.
- xiv. **M&E** appears to have been considerably streamlined, including with AHF's formats and orientation, but there are gaps to be filled. However, I also recommend that SLC keeps a **calendar** for regular checks with beneficiaries, e.g. a periodic call to each beneficiary and to the goba or other key person in each beneficiary village, to check on the status of interventions. Given the significant improvement in the cellphone network in the region, this should be feasible. The periodicity can be decided by the team, and will likely differ for each kind of intervention. Also, a standard printed form can be given to each beneficiary, that contains the SLC phone numbers and other useful details such as the number of the BB box-maker in Padum, and contacts of relevant government agencies.
- xv. I strongly recommend **strengthening SLC's Zanskar team** by adding a person, preferably a woman, with some level of experience or knowledge of vulnerability (including gender) issues. As mentioned, the current team is sensitive to these issues, but a systematic focus on them would require someone with a relevant background. Also recommended is that either this person, or a 5<sup>th</sup> person on the team, handles M&E, regular contacts with beneficiaries (including use of the calendar suggested above), and if possible regular contact with collaborators, government agencies, etc. AHF could consider providing a budget for this/these additional personnel.
- xvi. I also think that the Zanskar team is fully capable of handling the project on its own, and could be given the independence to do so. This would include direct reporting to / contact with AHF (and other funders). This would give it an additional sense of responsibility, recognise the capacities it has evolved, and importantly also reduce the burden on SLC's Director who has a lot on his plate. I have discussed this with both the Zanskar team and the Director, and they are both open to considering this.

**Prioritisation of recommended actions:** In view of what is needed in the region, combined with my understanding of SLC's core strengths, I would put the above recommended activities in the following order of priority:

- i. Continued work on SL and BB damage proofing including the physical work as also liaison with institutions of local governance (recommendations i, ii, iii, vi, vii above)
  - a. New work on SL and BB related insurance/compensation (recommendations iv, vi, vii above)
  - b. Livelihood generation (recommendations v, vi, vii above)
- ii. Continued/new work on climate education and awareness (recommendation ix above)
- iii. New research work on understanding ecological dynamics and impacts of climate change (especially in relation to SL and BB) in collaboration with relevant universities/institutes and by guiding interns / volunteers with appropriate expertise (recommendation xi above).
- iv. Continued/new work on water and climate adaptation, as an enabler for other organisations / institutions that have the relevant expertise rather than as core activity of SLC itself (recommendations viii & x above).
- v. Developing new understanding on potential impacts of tourism, to consider if in future SLC wants to work on it as a core activity or in association with another organisation (recommendation xii above)

In order for the above priorities to be effectively carried out, the aspect of *how it will happen* is crucial. So, to my mind, *all four recommendations (xiii-xvi) relating to the structure/functioning of SLC are high priority, as are the points about linking closely to and generating community-level responses from institutions of local governance (recommendations vi, vii).*

*A final note:* a long-term goal for SLC could be to create relative self-reliance in the measures needed for human-wildlife coexistence, related livelihood enhancement, and climate adaptation, to reduce dependence on SLC, other NGOs, as also on government. There is experience both from the Ladakh region as also from elsewhere of such LC and civil society or government initiatives, and the conditions in which they flourish: land/ecosystem rights and community conservation, strengthening of self-governance including of gram sabhas and panchayats, strengthening ability of LC to hold governments accountable, community-governed and managed measures for livelihoods/water etc, and others. Clearly SLC cannot do all this, and I am acutely aware this is far easier said than done, but SLC could keep such a long-term goal in mind, and the next phase could look at some activities oriented towards it (such as awareness programmes, exchange programmes that youth from Zaskar can learn from, continuous interactions with LC institutions, etc). This is an open-ended suggestion, with no specific recommendation, for the SLC team to think about.

## References

Chavan, Kirti, Sophie M. Watts and Tsewang Namgail. 2021. 'Human-bear conflict and community perceptions of risk in Zanskar region, northern India', *Human-Wildlife Interactions* 15(1): 1-9.

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## **Annexure 2: List of documents used**

1. Conflict Mitigation – Corral Improvement in Zanskar, Ladakh (Phase 1 proposal)
2. Human-Wildlife Conflict Resolution: Construction Of Snow Leopard-Proof Livestock Corrals In Zanskar, Ladakh - Final Report to AHF
3. Integrating people, wildlife and climate change in Zanskar, Ladakh (Phase 2 proposal)
4. Integrating people, wildlife and climate change in Zanskar, Ladakh – Progress Report, 25.9.2019
5. Integrating people, wildlife and climate change in Zanskar, Ladakh – Project Report, 8.11.2019
6. Integrating people, wildlife and climate change in Zanskar, Ladakh – Progress Report, 8.11.2020
7. Project Risk Assessment Matrix, 27.9.2021
8. Livelihood and Climate Change in Zanskar, questionnaire and results, 2021
9. M&E Framework, 27.9.2021
10. List of corrals constructed, 2015-19
11. Snow leopard depredation data, 2008-12

### **Annexure 3: Meetings and visits**

#### *September 2021*

- 21: Meeting with SLC staff in Leh and (online) Zanskar
- 24: Meeting with SLC Director and (online) AHF
- 26: Meeting with SLC staff in Leh and (online) Zanskar
- 27: Meeting with SLC Zanskar staff and translator, in Padum (Zanskar)
- 28: Visit to Kumic village - group meeting, meetings with beneficiary households; meeting with Wildlife guard; visit to community corral
- 28: Meeting with Women's Association of Zanskar, in Padum
- 29: Visit to Obarak village - group meeting, and meeting with glacier monitoring volunteer
- 29: Visit to Dorjay Zong nunnery - meeting with 3 residents, visit to see BB-proofing
- 30: Visit to Rainbow School to see fresh BB damage
- 30: Visit to Abran village - meetings with village Goba and individual beneficiaries, visits to see BB-proofing

#### *October 2021*

- 1: Visit to Kushul village - group meeting and meetings with individual beneficiary households; visits to see BB-proofing
- 1: Meeting with Wildlife guard, in Padum
- 2: Visit to Ichar village - meetings with village Goba and individual beneficiaries; spontaneous small group meeting with residents including Panchayat member
- 2: Visit to Anmo village - group meeting and meeting with glacier monitoring volunteer
- 3: Visit to Zangla village - meetings with individual beneficiaries; spontaneous group discussion around corral; visit to community corral
- 6: Debriefing with SLC in Leh and (online) AHF
- 6: Telephonic conversation with SHO Padum

#### *November 2021*

- 9, 19: Discussions on report with SLC and AHF (online)