



**Darwin Initiative/D+ Project  
Half Year Report  
(due 31<sup>st</sup> October 2019)**

<b>Project reference</b>	#25-027
<b>Project title</b>	Sustaining Snow Leopard conservation through strengthened local institutions and enterprises
<b>Country(ies)/territory(ies)</b>	Nepal
<b>Lead organisation</b>	Snow Leopard Conservancy
<b>Partner(s)</b>	The Mountain Institute, Mountain Spirit, Ennovent
<b>Project leader</b>	<i>Brian Peniston</i>
<b>Report date and number (e.g. HYR3)</b>	<i>HYR2</i>
<b>Project website/blog/social media etc.</b>	

**1. Outline progress over the last 6 months (April – Sept 201) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up to end September).**

Progress on Output 1 : Local Governance Strengthening is proceeding on target. During this reporting period, three training manuals have been produced, revised and four training programs conducted, two Training of Trainers (ToT) and two field trainings. 23 participants, 13 of who were women, participated at ToTs.

Two training programs on conservation governance/environmental safeguarding and the Appreciative Participatory Planning and Action (APPA) were conducted in Manang. The training program was hosted by the Narpa Bhumi Municipality at the newly constructed municipality building at Chyakhu. 37 participants, 8 of who were women, participated at these two training programs. Most of training participants were elected members of the municipality, with few women participants as few women were elected as officials.

Training program in the Khumbu region was postponed three times due to trekking season in June, unavailability of the municipality officials for training (July/August) due to the fiscal closing and limited flights to Lukla during monsoon season. Training in Khumbu is rescheduled during quarter 3. Additionally, 8 (4 from Nar and 4 from Phoo) Snow Leopard Conservation Committee members were trained on the double observer method, blue sheep classification and the snow leopard sign survey method. After the completion of training, they were hired to assist on blue sheep survey to establish baseline information on prey species.

Progress on Output 2: Three main activities related to biological monitoring were completed during this reporting period. Firstly, a blue sheep population dynamic assessment study was conducted in Narpa Bhumi of Manang during April-May. 8 trained local people who are associated with Snow Leopard Conservation Committee, a lead Biologist and a field biologist participated in the study. The study selected 11 sampling blocks (range 10- 36 km<sup>2</sup> ) and performed intensive blue sheep surveys in ca.246.3 km<sup>2</sup> out of 322.3 km<sup>2</sup> total potential habitats. For the first time in Nepal a double-observer method was used to estimate the blue sheep population. The detection probability of two observers (O1 and O2) was 0.94 and 0.91 out of 2059 blue sheep belonging to 106 groups. Some key results were – A) the estimated population of blue sheep was 2070 (s.e.168.77; CI 95% 2059 to 2405). The mean blue sheep density was 8.4/km<sup>2</sup> which is the highest in Nepal and perhaps globally. B) the double-observer method was

useful as it produced statistically robust results but some shortcomings were also noticed. This method is less effective in areas where blue sheep have been exposed to human activities such as hunting. In such cases, repeated counts (at least two successive days) by the same observer with local assistants was more effective. C) The study also assessed the status of human-wildlife conflicts, primarily livestock depredation by the snow leopards. There are 1,138 and 2,238 domesticated animals in Phoo and Nar villages, respectively. In an average year, livestock depredation rate per household to snow leopards in Phoo was 2.5 livestock with an estimated annual loss in US\$489 per household. The annual depredation rate is higher in Nar compared to Phoo, 3.8 livestock per household or around US\$ 766 per household. Pasture areas such as Chyakhu, Meta, Gumba and Namgya have been identified as depredation hotspots. These pastures are major feeding areas for domestic animals during the winter period. D) Blue sheep population and sign surveys were also used to estimate presence of snow leopards in Narpa Bhumi. Earlier studies have estimated that there are 15 snow leopards in the Narpa Bhumi. It is also estimated that a snow leopard requires 20-30 blue sheep in year to survive. This means 15 snow leopards require 300 - 450 blue sheep annually to survive. The estimated biomass of blue sheep in Narpa Bhumi is 70,380 kg. Estimated predator-prey ratio is 1: 138. These estimates suggest that Narpa Bhumi has enough prey base to support 15 or more snow leopards.

Secondly, the project co-financed a preliminary survey of livestock depredation patterns in the Nangpa Valley, Sagarmatha National Park (Khumbu), Nepal together with the Sagarmatha National Park. Dr. Lhakpa Sherpa, the former Warden led this study, spending four months travelling to remote areas, interviewing herders. He successfully captured images of snow leopards in camera traps and photographed wolves, red fox and for the first time foot print of brown bear in the Everest region. The preliminary study results suggest that livestock herding and livestock number is declining in the Khumbu region. Starting in 2017 wolves have been singled out as the main predator for livestock depredation, overtaking snow leopards. Herders are generally happy with the compensation provided by the park for livestock loss but they found the compensation claim process tedious and cumbersome. Sagarmatha National Park has a low prey diversity. The increase in the wolf depredation may signal the end of livestock herding practices, and could impact or threaten the limited snow leopard population in the Khumbu region.

Thirdly, the project provided a small grant to conduct a study on understanding the patterns and drivers of livestock depredation by snow leopards in Narpa valley during April 2019. The study found that the majority (39.36 %) of the predation occurred in summer season, predominantly during night (40.69 %) in absence of guards in pastures. It also found that snow leopards were responsible for 61.04% of livestock kills. Other factors resulting into livestock kills included 27.60 % to natural disasters, 7.14 % to starvation, 2.27 % to diseases, 1.62 % to accidents and 0.32 % to golden jackal. The study indicated that only 5% of herders believed that poor herding practices is responsible for depredation and recommended for effective implementation of compensation and relief packages, insurance, use of predator proof corrals and use of guard dogs.

The project and National Trust for Nature Conservation have agreed in principle to conduct a study to estimate snow leopard population in Manang districts by using non-invasive techniques such as camera traps and fecal DNA study. The project has identified field biologist to co-lead this study. NTNC will be mobilising ACAP's staffs working in Manang for this purpose. 20 ACAP staff and local people will be trained in camera trapping and fecal collection and they will be primarily responsible for setting up and operating cameras and fecal collection from designated transects. NTNC's lab will be used for preliminary fecal analysis (PCR level) and the government's permission will be sought to take samples outside the country for genetic sequencing. The project has completed all necessary logistics and the field work is expected to start in October. Camera traps will be used for three months.

During this reporting period, 12 fox lights have been distributed to herders in Khumbu. Initial responses from herders have been very encouraging. As fox lights are not available in local market, herders were using torch lights as deterrent. Fox lights are solar powered, hence, have saved cost of batteries for herders. 2 fox lights were also distributed in Nar and Phoo as a

sample. Herders of Nar/Phoo and Khumbu have demanded 60 units of fox lights. SLC has sent 40 units of fox lights but these have been stuck at the custom office.

Progress on Output 3, Private sector generating incentives for snow leopard conservation: Modules with day to day itinerary have already been developed. The private companies and local lodge owners/resource persons as service providers have been identified and development of training programs is in progress. A business model has also been developed but the concern remains for benefit sharing. First clients for testing the concepts are scheduled in October of 2019.

A number of potential micro enterprises have been identified and appropriate training programs have been explored to support micro enterprise creation at the local level. As tourism dominates local economy, potential support from the project is focused on enhancing existing enterprises. Some training programs are scheduled during winter when most of the local people arrive Kathmandu for the winter sojourn.

**2a. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.**

Two recent policy changes have affected the project. Firstly, there is a restriction on exporting genetic materials from Nepal, this including taking fecal samples for further analysis in international lab. This restriction may affect identification of individual snow leopards. Secondly, from this fiscal year (August), local vendors must be used to import over value goods. This policy change not only made the custom clearance of fox lights which had a total value of over difficult but it will also make purchase of these items costly.

Under the new government structures, NGOs are required to get permission from the local level government to operate in their areas before submitting for the permission from Social Welfare Council. It took almost 5 months to get the permissions from the local level government. There are also requirements to get permission from the national parks and conservation area authorities for activities focusing on biodiversity conservation. All these multilevel permission requirements have slowed down progress of the project.

Narpa Bhumi and Khumbu are remote areas, particularly villages which are focus of this project. The majority of people living in these areas are either involved in tourism business or petty trade. There are very few qualified local people to work as field monitors. The field monitor of Khumbu, for example, resigned after working for 5 months as she has to take over a lodge operated by her in-law in different valley. The project has been looking for the replacement since then. Similarly, the project has been able to find two interested persons to work in Nar and Phoo as field monitors after trying almost for one year.

**2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?**

Discussed with LTS:	Shared in annual report year 1	Yes/No changes made
Formal change request submitted:	Yes/No	Not yet submitted, minor changes
Received confirmation of change acceptance	Yes/No	Not yet submitted

**3a. Do you currently expect to have any significant (e.g., more than £5,000) underspend in your budget for this year?**

Yes  No  Estimated underspend: £

**3b. If yes, then you need to consider your project budget needs carefully.** Please remember that any funds agreed for this financial year are only available to the project in this financial year.

If you anticipate a significant underspend because of justifiable changes within the project, please submit a rebudget Change Request as soon as possible. There is no guarantee that Defra will agree a rebudget so please ensure you have enough time to make appropriate changes if necessary.

**4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?**

Reviewers of annual report made several suggestions and comments which will be addressed in the annual report due to restriction on length of this report.

**If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document. Additionally, if you were funded under R25 and asked to provide further information by your first half year report, please attach your response as a separate document.**

**Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also** be raised with LTS International through a Change Request. **Please DO NOT send these in the same email.****

Please send your **completed report by email** to [Darwin-Projects@ltsi.co.uk](mailto:Darwin-Projects@ltsi.co.uk). The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message e.g. Subject: 25-035 Darwin Half Year Report**