

An adult female Chamba Sacred Langur spotted in Kalatop-Khajjiar Wildlife Sanctuary. © H. Byju.

## CHAMBA CHRONICLES

Four months ago, we were welcomed as interns of the Himalayan Langur Project (HLP) by the broad-leaf oak and pine forests of the Chamba Valley, Himachal Pradesh. Little did we know where all it would take us. Here, we put together our works on various aspects of the project.

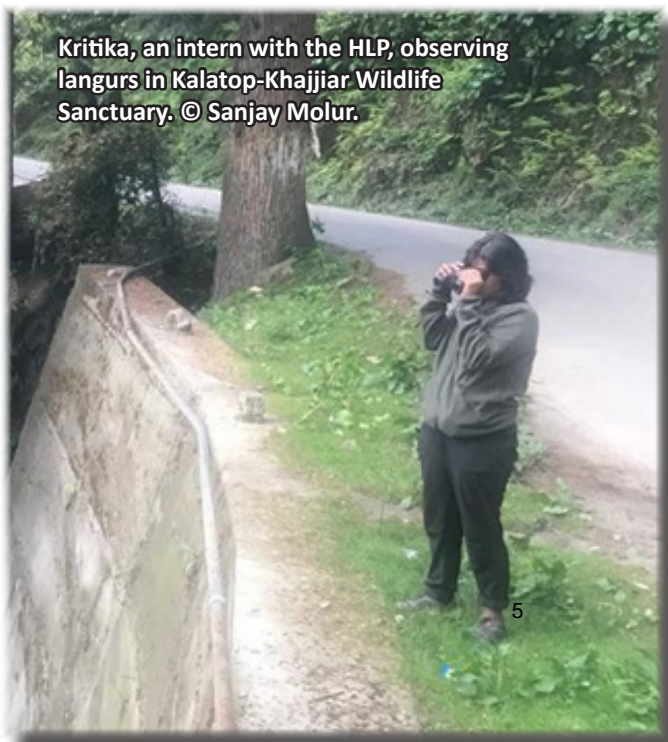
### *Langur behaviour*

Our project- the Himalayan Langur Project, owes its name to this endangered primate, *Semnopithecus ajax* commonly known as the Chamba Sacred Langur or the Kashmir Grey Langur, named after the only two places it is found in. A number of threats in the landscape such as - human-

animal negative interaction due to their crop raiding behaviour, habitat degradation, forest fires, landslides, invasive plant species, improper garbage disposal, and over-tourism haunt the species. The Himalayan Langur Project has been involved in finding a solution to reduce these threats the species is facing and at the same time help with the livelihoods of the local communities whose crops are raided by the primate.

To create a refined conservation action plan for the species, we need to understand

the species. Recording and studying the behavioural aspect is an important step towards understanding the animal. Behavioural samples are taken in and around the Kalatop-Khajjiar Wildlife Sanctuary (KKWS), whenever a group or an individual is spotted. Samples



Kritika, an intern with the HLP, observing langurs in Kalatop-Khajjiar Wildlife Sanctuary. © Sanjay Molur.



of groups in and around agricultural lands are also taken. A good amount of time is spent in recording the number of individuals in the group and then recording behaviours of some of the group members. The study aims to decipher a comparison between the behaviours of the langurs when in their natural habitat (Wildlife Sanctuary) versus when in a human modified habitat (agricultural lands).

Along with the behavioural aspect, local population is also being focused on. Under the project, with the help of the Himachal Pradesh Forest Department, a langur census was conducted in KKWS. This is something we plan to

conduct every year to estimate the langur population and help analyse its trends in the Chamba valley.

Before this year's census, the team submitted a brief report of the last year's experimental census and presented the same to the DFO, along with some recommendations. Zooreach designed some information brochures and pamphlets of the the Chamba Sacred langur to be put up in the Wildlife Sanctuary by the Himachal Pradesh Forest Department to raise awareness of this endangered, endemic species.

#### *Restoring the landscape*

One of the main objectives of the HLP is to restore the highly

degraded forests of the Chamba Valley. After years of research, interaction with communities, and decoding of plant names in folklores, an idea of what could possibly be the native plant species of the region, was gained. This resulted in the setting up of a nursery in a place called Dugli, on land leased from a farmer, Shakti. He himself has been suffering from increased episodes of crop raiding and has thus given up farming in major portions of his land. Realising that these are impacts of degraded forests, Shakti has since become a conservation warrior, working tirelessly in the scorching heat of the sun; literally babysitting our native saplings. Started with eight species of native plants,

Forest guards noting GPS points during langur census 2023. © Kritika P.



HLP team presenting the census report 2022, at forest rest-house, Kalatop-Khajjiar Wildlife Sanctuary. © H. Byju.



Shakti making plant beds. © Aishwarya S Kumar.





Kritika making beds for the native *Celtis australis* saplings under the supervision of the project lead, Vishal Ahuja. © Aishwarya S Kumar.



the nursery now houses 12 different species sown as native over time (4 sown after we joined the project).

Each of these native species were sown in P-bags and, new beds were dug and arranged for each. Same species of plants sown at different times were maintained as different batches on separate beds. All species are monitored weekly wherein their germination is recorded and simultaneously, de-weeding is done. Each of these steps are being followed as and when new batches of seeds are sown.

Over the course of time, we have observed some species defying all odds of the harsh weather and flourishing. The walnuts (*Juglans regia*) stand tall in this. We have observed a rapid growth rate in them. Unlike the seeds of other species in the nursery which were collected from forest fragments and adjacent areas, the walnut seeds were purchased.

Untreated, we are unsure of what made these seeds outgrow other species' seeds sown at the same time and some even earlier. Within four months of their sowing, the plants started outgrowing the P-bags, mandating us to quickly shift these saplings into bigger bags. Additionally, we also dug a compost pit.

Most of our saplings were frequently being munched on by the goats and sheep of migrating shepherds. These animals devoured the young leaves which eventually was affecting the plants' growth. Hence, towards the end of May 2023, the area was fully fenced under the team's supervision.

A continuous learning process, maintaining the nursery for restoration also led us to paying visits to the different forest department nurseries in Chamba District. We learnt and enquired from them their nursery maintenance regimes to further implement (or not) in ours.





Left: The outgrown walnut sapling and the bigger bag into which these were shifted., Right: Vishal showing the outgrown roots of a walnut sapling. © Aishwarya S Kumar.

Our project involves gathering communities for plantation drives, essentially to be conducted post monsoon. However, since the saplings at our nursery are only a year old with most of them too small to be planted, we, with the permission from Dalhousie DFO, received a total of 325 plantable saplings comprising of nine different species from the Maila nursery.

Restoration pleads urgency as much as it is a long-term work. Waiting for us to establish a plant as native and only later deciding to collect their seeds would be no better than being foolish. Which is why, our seed collection happens on the go. Almost four months into our internship, we now have a collection of fruits of 15 species, the details of which we keep logging and nativity, we keep reviewing.

Our multiple visits to the wildlife sanctuary and areas in the vicinity helped us get familiarised with the flowering plant species found in this part of Chamba. We have also built on the

existing checklist of flora. Equipped with this dynamic list of natives and non-native plant species of the region, we are currently planning to map the abundance and distribution of the invasive species of the region, complementing the restoration project. The first of its kind from this region, this will follow the established MIREN protocol of assessing invasive plants along the roads of Gajnoi to Kalatop-Khajjiar Wildlife Sanctuary in Chamba. Nothing but the untimely rains and the resultant unpredictable landslides stop us from flagging off this at present.

#### *Hearing out the communities*

Zooreach has also been working on understanding local people's perceptions on crop raiding and their dependency on the forest. Surveys were conducted in 28 villages belonging to Rathiya panchayat of Chamba District. The objective of the survey was to identify the most consumed forest resources by local people and obtain an estimate of the



extent of consumption. We also wanted to look into various household factors which determined the level of dependency.

The altitude and accessibility of each village was varied, with some villages located right beside the road whereas others are situated deep inside the forest. The sample size was selected to be five per village but due to the variation in population sizes as well as weather constraints, the number of interviews varied from village to village.

A group of four surveyors led by Vishal conducted these surveys. The questionnaire covered a variety of topics involving aspects of income, occupation, types of forest resource collected, distance travelled (daily), and quantity of resource collected. A short follow up survey on crop raiding was also incorporated into the study based on a previous survey conducted in 2015–2016 to assess crop damage assessment Kalatop-Khajjiar Wildlife Sanctuary.

Each interview lasted 15 to 20 minutes. We received a variety of responses and conclusive results can only be established upon further data analysis. However, based on our observations, the local people mainly depend on the forest for two resources: fuelwood and fodder.

Those with livestock either take their cattle into the forest for feeding or venture out to cut grasses and fuelwood; this is a daily job. Meanwhile, some



Seed of *Ficus palmata* being collected from a trail in Kalatop-Khajjiar Wildlife Sanctuary. © Kritika P.

people use the vegetation and trees available in their own land.

For fuelwood, ban oak seems to be the widely available and therefore preferred choice. People also use a variation of Chir Pine, Deodar, and Horse Chestnut. In general, people use a combination of gas cylinders and wood to cook



A survey being conducted in the village of Jhalein, Chamba. © Aishwarya S Kumar.



their food; although some rely purely on wood since cylinders are expensive for them. For winter and heavy snowfall, people collect large quantities of wood and store them.

People occasionally collect *kasrod* (fiddlehead fern), and other edible plants for consumption from the forest as well. During festive occasions, the villagers obtain permits from the forest department to cut down trees (generally Ban oak) as it will be used to prepare large quantities of food; particularly a notable dish native to Chamba known as *Dham*.

Almost every household owns a collection of farms, and the main crop of choice is maize. Other crops include white radish, sorghum, mustard, and wheat. We found that *bandar* (Rhesus Macaque), *gaula* (Chamba Sacred Langur), and *bhalu/rik* (Asiatic Black Bear) were the main wild animals responsible for crop raiding. They are most commonly found in the fields during crop harvest season.

Crop raiding has severely affected the livelihoods of local communities, and some families have chosen to abandon their farms to pursue alternative income sources (labour work). At the end of every interview, we chose to



Fuelwood storage area. © Namita Nalamala.

engage in open dialogue with the communities explaining the causes for these conflicts and creating awareness on long-term and sustainable mitigation strategies.

We discussed the development of the native vegetation restoration project which can potentially act as a crop raiding deterrent. We also stressed on the importance of community engagement and education in effectively mitigating the heavy losses resulting from crop raiding.

Zooreach is also currently working on a documentary covering black bear attacks occurring in these regions. We hope that through our efforts, a deeper and greater awareness of community conservation can be achieved.



Survey conducted in the village of Saun. © Kritika P.

#### Acknowledgements

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