CO-DEVELOPING PREDATOR-PROOF CORRALS

CHIBRA, CHANGTHANG - 2025

Inside an upgraded corral

Photo: Malavika Narayana

Preface

Project AMP-Himalaya (Action for Mountains and Peoples–Himalaya) aims to conserve biodiversity, restore landscapes, and foster human well-being in the Indian Himalayan Region (IHR). Three key areas have been prioritised to achieve this goal: Assessment, Monitoring, and Conservation of Biodiversity; Restoration of Multi-functional Landscapes; and Nature-based Rural Livelihoods and Climate Resilience.

Funded by the Rural India Supporting Trust (RIST), AMP-Himalaya is being implemented across three distinct landscapes of the IHR namely the Khangchendzonga Landscape, Arunachal Pradesh, and the Trans-Himalayan Landscape (Ladakh).

The Ladakh component of the project is a collaborative effort between the Ashoka Trust for Research in Ecology and the Environment (ATREE), Achi Association India (AAI), the French National Institute of Sustainable Development (IRD), and the University of Massachusetts Amherst (UMASS). It supports the nature-dependent livelihoods of vulnerable agro-pastoralist communities, with special emphasis on women and youth. It promotes sustainable development guided by diverse local priorities through a bottom-up, experimental, and intersectional socio-ecological approach that moves away from dichotomies like nature-culture, science-society, research-praxis.

One of the interventions under the Ladakh initiative focuses on the mitigation of wildlife-induced losses for pastoral communities, identified as a priority area through multiple consultation meetings. This report documents the entire process, including insights from the visioning exercises conducted prior to the launch of the AMP-Himalaya project, as well as the co-design and development of a prototype predator-proof corral during the project. It also describes how all 17 semi-nomadic households in Chibra (Kargyam valley, Changthang) adapted the prototype to their specific needs, highlighting the successes achieved and the lessons learned.

Participating Organisations and Groups

Community members of Changthang

Corrals: Traditional and Evolving Designs

In traditional Ladakhi and Trans-Himalayan pastoral systems, livestock enclosures, or corrals, were typically built as stone structures. They were circular or rectangular in shape, made using loose rocks or boulders, and allowed animals to move freely inside, preventing crowding and stress. These old-style corrals had open tops, weak doors, or gaps in the walls and were primarily designed to contain herds.

However, traditional corrals fail to protect livestock in winters, when predation risk is higher. While many locals report an increase in wild prey such as blue sheep and ibex, changing prey–predator dynamics and rising livestock numbers have still heightened the risk of livestock attacks, making older designs insufficient for current needs.

Wildlife-induced losses pose a significant threat to the wellbeing of pastoral communities and jeopardize their traditional livelihoods. Predator-proof corrals are an effective non-lethal strategy to reduce livestock losses and promote coexistence with large carnivores. By minimising livestock losses, corrals can indirectly support wool-based livelihoods and strengthen the manure supply chain while also reducing perceived risks from predators and improving attitudes toward them over time.

(Left)
Traditional corral with loose boulders and open top. They are not used in winter months. Photo: Saloni Bhatia.

(Right)
Re-designed corral with stone and mud base, and mesh roof. These corrals are used both in summer and winter months. Photo: Rinchen Namgail

Understanding the Seasonality of Corrals

Corrals often differ by season to suit terrain, livestock movement, and predator risk.

Many Changpa pastoralists migrate altitudinally and seasonally with their herds to nutrient rich pastures. Summer structures typically use basic fencing to keep animals together, and visual deterrents such as fox lights are used by a few families to prevent attacks. These corrals tend to be simpler because the threat from predators is lower and the climate is milder. Livestock are allowed to move more freely, while pastoralists stay in tents or temporary camps.

In winter, livestock movement is generally restricted closer to settlements due to harsh weather, limited grazing, and higher predator risk. Therefore, winter corrals are built more robustly and are often enclosed with sturdy metal frames and mesh. Their walls are made with a combination of stone and mud, or (in many recent cases) cement.

(Right) Winter corrals made with stone and mud, with open tops in Chibra village. The area marked by the red stick is where pastoralists used to sleep to guard their livestock from predators. These corrals are now upgraded under the project, removing the need for night guarding in winter. Image by Saloni Bhatia.

Interventions and their Limitations

The predator-proof corrals reduce livestock losses from predators such as snow leopards, wolves, lynx and feral dogs. They also foster coexistence between humans and wildlife by lowering the risk of surplus killing (instances in which a predator enters an enclosure and kills multiple animals in a short period, far more than it can consume) and reducing the likelihood of retaliatory killing (where herders may kill predators in response to such losses).

Several interventions have aimed to design winter corrals suited to the current needs of pastoral communities, with varying degrees of success. Key design changes include reinforced doors, wire-mesh tops to prevent predators from jumping or climbing in, and strengthened structural frames. In some cases, corrals were entirely rebuilt with cement.

Despite these modifications, many interventions still follow a one-size-fits-all approach. Programmes aiming to scale up often leave little room for small-scale adaptations. Some implementing agencies, constrained by financial resources, regulatory audits, and standard protocols, have limited flexibility to innovate or incorporate local materials. Consequently, interventions designed without community input are turned impractical and ineffective, with poor adoption rate.

Corral with a low ceiling, making it difficult for herders to walk inside. Photo: Saloni Bhatia.

Co-designing Corrals in Kargyam

In June 2024, formal consultation meetings were held with members from all four hamlets of Kargyam in Changthang—Chibra, Sato, Parma, and Kherapulu—to understand community needs and priorities more closely. Later that month, representatives from these hamlets travelled to Palay House in Phey to participate in a visioning exercise. These exercises helped identify several key priorities for community well-being, including strengthening culturally relevant education, improving access to healthcare, and reducing stress on livelihood activities, particularly mitigation of wildlife-induced livestock losses.

With the launch of the AMP-Himalaya project in 2025, these priorities began moving towards concrete action. Baseline data on households, livestock numbers and herd composition was gathered through field visits. In April 2025, during the project team's visit to Kargyam to initiate the co-design process of corrals, community members revisited these priorities and articulated specific ideas for implementation. The *goba* (village chief) of Kargyam was involved throughout the process to provide input and support regular visits during the construction of the corrals.

(Top image) Visioning exercise at Palay House, Phey. June 2024. Photo: Matthieu Salpeteur

(Bottom image) Consultation meeting. April 2025. Photo: Aditi Lokhande

Chibra village. April 2025. Photo: Saloni Bhatia

Key considerations in the corral co-design process included the following:

1. In the Kargyam region, livestock are typically housed in individual household corrals, rather than shared community enclosures. This means that any intervention related to predator-proofing must work with each household's specific layout, available space, and design preferences, rather than relying on a single community-level structure, or a single design.

2. In earlier interventions, organisations would construct only a few corrals at a time due to budgetary constraints. The community then had to decide who would receive them, often using a chit-drawing system. This process regularly led to disagreements and resentment, as many households felt left out or unfairly excluded. A key learning from these past experiences is that piecemeal construction creates more social tension than benefit. Instead, building corrals for the entire village promotes fairness, reduces conflict, and strengthens collective ownership of the intervention.

3. Around 80 families across the four hamlets of Kargyam own livestock, with herd sizes averaging 150–200 animals per household. Among these hamlets, Chibra had historically received the least amount of intervention from development agencies, making it a priority area for targeted support.

4. Almost every household in Chibra (as is the case with most villages in Changthang) has more pashmina goats than sheep, and this herd composition strongly influences corral design preferences. The community specifically suggested a tent-shaped structure because it allows for better airflow, which is important for maintaining the quality of pashmina fibre. Since most households keep mixed herds of sheep and goats, this tent-shaped design also works well for managing both species together, ensuring ventilation while keeping the enclosure secure. Although this is not a new learning, the consultations reaffirmed the importance of incorporating these long-understood herding needs into any new design. It underscored that local knowledge about livestock behaviour and fibre quality continues to be central to designing structures that pastoralists actually value and use.

5. The height of the corral should allow herders to walk inside comfortably. Adequate internal height makes daily tasks such as feeding, cleaning, and managing livestock easier, while still ensuring the enclosure remains secure against predators.

6. Including a small window in the corral design improves ventilation. Proper airflow helps maintain livestock health, prevents moisture buildup, and is especially important in winter enclosures to keep animals warm and dry.

7. In participatory models of corral development, the community members typically contribute stones and labour for building the base of the corrals, while implementing agency source materials such as cement (which constitutes a significant portion of these external inputs), metal angles, and wire mesh. Despite being environmentally unsustainable and more expensive compared to stone and mud, agencies often prefer using cement for corral bases. This is because audits typically occur a year or more after construction, and structures are expected to appear sturdy, uniform, and well-finished at that time. Cement shows minimal visible wear and tear, making it a safer choice from an audit perspective. In contrast, mud bases—though structurally sound—naturally develop cracks or signs of use much earlier, which could be misinterpreted as poor construction or inadequate performance.

8. Herders recommended using a stone and mud base for the corral, as it is cheaper and easier for the community to maintain, and provides better warmth for livestock during winter.

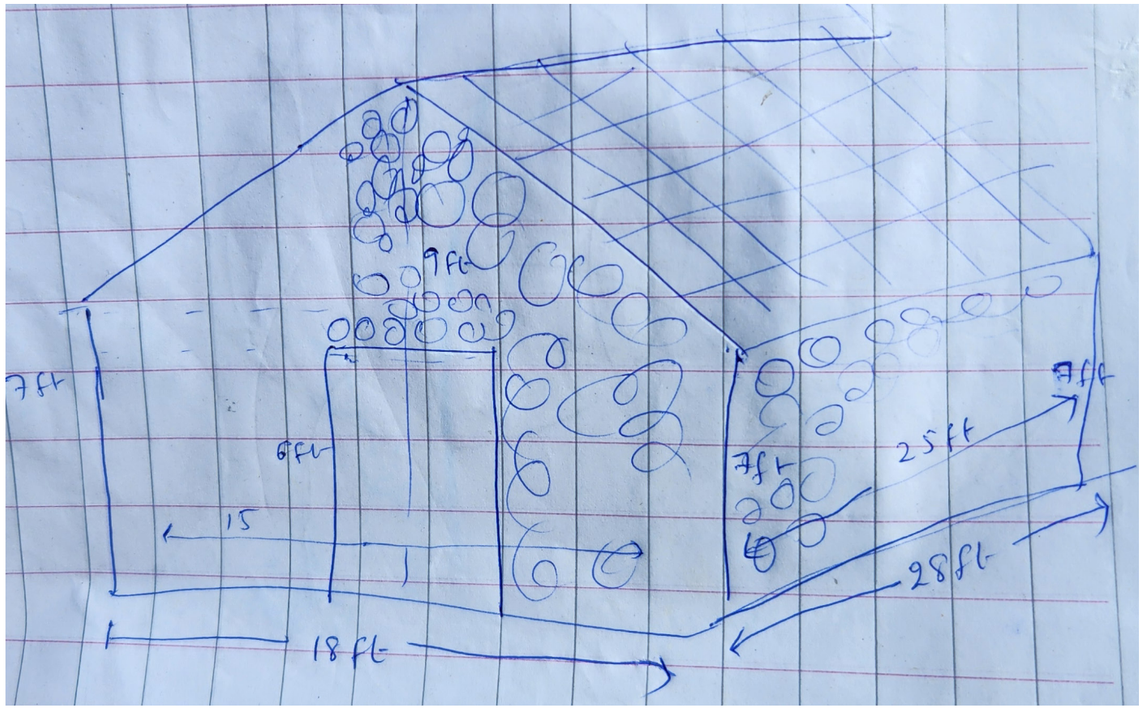
One key lesson from this co-design process is the importance of smaller, deeper engagement with communities rather than a rapid scale-up. Close collaboration allows designs to be adapted to household needs and strengthens trust, instead of imposing one-size-fits-all solutions across multiple villages.

Adaptable Prototype

Based on the key insights gathered from the community, a prototype design for the corral was developed to accommodate up to 250 sheep and goats. This estimation was based on the current herd sizes and the potential increase in the livestock numbers in the upcoming years. The tentative design features outer dimensions of 18 feet in width and 28 feet in length, with a tent-shaped structure. The door, located at the center of the width, is 6 feet high, while the highest point of the corral reaches 9 feet. The walls are constructed using stone and mud to provide warmth in winter, and a window measuring 1.5 feet by 1.5 feet is positioned directly opposite the door to ensure adequate ventilation. This prototype is flexible and can be adapted to suit specific locations and herd sizes. In Chibra, there are 17 households, and each household will have its own corral. The exact dimensions of each corral were determined through internal village meetings to ensure fairness and avoid any perception of partiality.

Co-creating an adaptable prototype for Chibra based on the needs of the villagers.

Photos: Saloni Bhatia



Project team and Chibra villagers finalise the details of the corral prototype

Photos: Saloni Bhatia

The Construction Process

The work started in the last week of May 2025 by contractor Konchok Sangrob and executed by Rinchen Namgail.

Photos: Ragav Verma and Rinchen Namgail

The Result

Finished corral in use

Photos: Saloni Bhatia (image on this page); Stanzin Tundup (images on the next page)

Finished corrals with final dimensions

Name (nominee from each household)	Date of completion of the corral	Final size and modifications Date of inspection: 6 & 7 November 2025	Livestock size (during the time of inspection)
Morup Namgail	7-July-2025	18×28	Yak: 31 Goat: 50 Sheep: 11
Padma Rigzin	7-July-2025	21×21	Yak: 13 Goat: 190 Sheep: 17
Skarma Tundup	7-July-2025	20×31	Yak: 3 Goat: 40 Sheep: 5
Sonam Palmo	7-July-2025	27×31	Yak: 24 Goat: 120 Sheep: 20
Stanzin Norboo	7-July-2025	21×28	Yak: Nil Goat: 150 Sheep: 20
Tsewang Dadul	7-July-2025	18×28	Yak: 11 Goat: 50 Sheep: 30
Tsewang Samtan	7-July-2025	21×28	Yak: 21 Goat: 115 Sheep: 30
Tundup Phunchok	7-July-2025	21×23	Yak: 3 Goat: 120 Sheep: 36
Konchok Tsaphel	3-Sept-2025	19×28	Yak: 5 Goat: 120 Sheep: 22
Thinlay Gyaltson	3-Sept-2025	19×28	Yak: 19 Goat: 90 Sheep: 7
Sonam Tarchin	3-Sept-2025	13×24	Yak: 15 Goat: 70 Sheep: 5
Mama Namgyal	3-Sept-2025	16×24	Yak: 5 Goat: 150 Sheep: 50
Thinley Dolma	3-Sept-2025	18×23	Yak: Nil Goat: 60 Sheep: 25
Chamba Namdol	16-Sept-2025	23×27	Yak: 25 Goat: 105 Sheep: 78
Rigzin Namgail	16-Sept-2025	16×22	Yak: Nil Goat: 80 Sheep: 30
Sonam Yangzes	15 Oct 2025	17×28	
Konchok Namgail	3 Nov 2025	21×30	Yak: 6 Goat: 40 Sheep: 20

Photo: Stanzin Tundup

Conclusion

This intervention demonstrates that functional infrastructure alone is insufficient for effective predator protection. Success depends on integrating strong design with participatory, context-specific approaches. Engaging the community in co-design ensured that the corrals were practical, well-suited to local needs, and widely accepted, highlighting the value of collaborative, need-driven solutions.

Corrals help minimise livestock losses, potentially increasing the value of by-products (wool, manure etc). They also reduce perceived predator risks and, through the co-design process, foster a stronger sense of collective ownership within the community.

Kargyam. August 2025
Image: Saloni Bhatia