Darwin Initiative Main & Extra Annual Report

To be completed with reference to the "Project Reporting Information Note":
(https://www.darwininitiative.org.uk/resources/information-notes/)

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes)

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Darwin Initiative Project Information

Scheme (Main or Extra)	Main
Project reference	30-018
Project title	Reviving Trans-Himalayan Rangelands: A community-led vision for people and nature
Country/ies	India
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Project partner(s)	WWF-India, Centre for Pastoralism
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Project Leader name	Nicola Loweth (WWF-UK) and Rishi Kumar Sharma (WWF-India)
Project website/blog/social media	Reviving Trans-Himalayan Rangelands | WWF India
Report author(s) and date	Rishi Kumar Sharma, Pasang Lepcha, Rohit Rattan, Kamal Medhi; Vishaish Uppal, Clare Crawford, Preet Sharma, Rigzin Dawa, Taku Sai, Bhargavee Rava, Kusum Valley Devi, Padma Dolker, Nicola Loweth, Debs Mackay and Aniruddh Sheth 30th April 2025;

1. Project summary

The Trans-Himalayan high-altitude rangelands have been home to agro-pastoralist communities and diverse wildlife for millennia. The Changpa and Brokpa people, who rear livestock like pashmina goats, yaks, and sheep, have historically managed the rangelands through sustainable traditional practices, and exhibited high tolerance for wildlife. However, recent decades have seen a weakening of the community institutions due to factors like tenurial insecurity, unsustainable policies, and a rising demand for livestock products, especially pashmina wool.

This has led to rapid increases in livestock herds, changes in their composition, and intensified conflicts over rangeland use, causing ecosystem degradation. As livestock is valued more, tolerance for wildlife has significantly reduced, leading to retaliatory killing of predators and major declines in wild ungulate populations. The communities also face low incomes from pashmina

due to lack of processing capacity and weak market linkages, and fear curtailment of rights by government policies favouring protected areas. This project aims to address these issues by facilitating a community-led vision and co-management model for the rangelands. This includes interventions to improve human-wildlife coexistence and augment women's income from 'rangelands-friendly' products. The goal is to restore the Changpas and Brokpas as stewards of rangelands for the benefit of people and nature.

2. Project stakeholders/ partners

Over the past year, the project has deepened collaboration with formal partners and key stakeholders, building on demand that originated from the Changpa and Broka communities.

WWF India partnered with Looms of Ladakh, Rinchen Youdol (Ladakhi Women enterpreneur), It's All Folk, the Centre for Pastoralism (CfP) and National Research Centre on Yak, selected for their expertise in pastoral rights, gender issues, handicrafts, and value chain development, as well as their commitment to the project. WWF India is implementing activities across all outputs, with CfP co-implementing output 4. Looms of Ladakh, a women's cooperative, has helped identify and mobilise women's groups in Changthang for training in pashmina and wool-based handloom products. A local entrepreneur Ms. Rinchen Youdol was engaged to conduct consultations with all the trained women and supported the establishment of ten government-registered micro-enterprises in Changthang, based on inputs from women's groups across various villages.

It's All Folk has undertaken craft documentation, felting of yak hair, and product diversification, particularly among Brokpa communities. The National Research Centre on Yak is collaborating with WWF India to reduce disease-related mortality in yaks. All partners contributed insights and data that shaped project design. Regular monthly meetings with partners support progress tracking, adaptive management, and collaborative decision-making. The strong ground presence of Looms of Ladakh and It's All Folk has been instrumental in building community trust and engagement, especially with women and Brokpa artisans. WWF's Landscape Coordinators in Ladakh and Arunachal Pradesh hold regular update meetings with state departments and councillors to strengthen stakeholder feedback and support. WWF India has also collaborated with Snow Leopard Conservancy on wildlife monitoring, the GB Pant National Institute of Himalayan Environment on climate vulnerability assessments and adaptation strategies, and engaged Dr. G.S. Rawat, a leading Himalayan flora expert, to advise on rangeland conservation. Consistent briefings and dialogues with government bodies, the Ladakh Autonomous Hill Development Council (LAHDC), and local governance structures have helped align stakeholders with the project vision. Throughout, biodiversity–poverty linkages have been communicated via community workshops, and ongoing dialogue. Understanding is gauged through participatory feedback, local reflections, and adaptive planning rooted in community input.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1. Shared, community-led vision developed for Changthang and Mago-Chu Rangelands, ensuring the inclusion of all local voices, particularly women and marginalised groups, through radical listening and participatory approaches.

Activity 1.1 Document traditional ecological knowledge, resource management, and local institutions of the Changpa & Brokpa communities, and examine communities' current practices, (analysed by gender, socio-economic status and ethnicity) towards sustainable use of pastures and related natural resources

In Changthang, Traditional Ecological Knowledge (TEK) data has been analysed (Ref:WHL_1.1.1), revealing the Changpa community's deep and enduring relationship with their environment. The synthesis shows how cultural traditions, spiritual beliefs, and pastoral practices are intricately linked, guiding seasonal migrations, pasture management, livestock care, and interactions with wildlife. The Changpa, a nomadic pastoralist community of the Changthang

region in Ladakh, have long relied on Traditional Ecological Knowledge (TEK) to sustainably manage their natural resources. Their practices are deeply spiritual and ecologically informed, shaped by centuries of co-existence with a harsh high-altitude landscape. Seasonal migration across diverse pastures is guided by both ecological indicators and the Tibetan calendar, with decisions made collectively under local governance systems. Livestock management, especially of sheep and goats for wool and pashmina, is central to their economy. Herders employ refined techniques, such as selective feeding, use of medicinal herbs, and predator deterrence, to maintain animal health and productivity.
Spiritual beliefs are integral to natural resource management. Rituals dedicated to mountain deities (Yulsa) are invoked to protect livestock and ensure environmental harmony. Wildlife, including carnivores like wolves and herbivores like kiang and shapo, are respected and closely observed. Traditional knowledge includes predator behaviour and mitigation strategies—ranging from physical barriers to symbolic rituals—reflecting a nuanced understanding of ecological balance.
The Changpa also engage in wildlife conservation practices, particularly for spiritually significant birds like the Ruddy Shelduck and Bar-headed Goose. However, climate change and external pressures are disrupting their ecological rhythms, threatening pasture quality and the viability of traditional practices. Preserving the Changpa's TEK is crucial for sustaining both their cultural identity and the fragile ecosystems of the Trans-Himalaya.

In Mago-Chu, 201 interviews across 13 villages (92 with women) revealed strong Traditional Ecological Knowledge (TEK) and community-based Natural Resource Management (NRM), led by traditional councils (Mangma). These councils regulate forest and rangeland use, protect sacred sites, and enforce hunting bans, supporting biodiversity conservation. Many animal species are considered sacred, reinforcing protection through belief systems.

Brokpas practice transhumant pastoralism, maintaining ancestral grazing routes. Summer grazing occurs at higher altitudes, with designated pasturelands still used in most villages. In Mago, access is open, but movements are limited to familiar areas. In Thingbu, pasturelands are allocated via a lottery every five years. Herders pay user taxes (Tserin) and, in some cases, butter taxes (Mathray) to monasteries. Migration decisions are managed by Mangmas, led by Tsorgen or Gao Burah. Yaks, Dzos, and Dzomos are key livestock. Yaks provide milk and materials; Dzomos yield more milk for cultural dairy products. Sheep rearing has declined due to predation by feral dogs, which increased post Indian Army's expansion.

In winter, yaks graze freely while other livestock are stall-fed. Herders use enclosures (Yendra) and traditional deterrents to protect calves from predators. Tibetan Mastiffs are now rarely used due to scarcity. Barter was once common, but income from road construction (spurred by army presence) is shifting livelihoods away from pastoralism.

Traditional herbal medicine remains important. Aconitum, though toxic, is used to treat livestock ailments and was used during recent lumpy skin disease outbreaks. It is harvested only during the sacred Dunpa month (Aug–Sep), believed to enhance potency and ensure sustainability.
Pasture mapping across nine villages identified 357 pasturelands (257 summer, 99 winter, 1 shared), covering 55,373 ha. Some pastures fall within Bhutan, where taxes are paid by Brokpas. Others were abandoned due to conflict with predators. Transhumance follows a non-linear, networked pattern with 4–5 months at summer sites, structured around directional sectors (except in Kyalenteng).

Taxation practices vary some pay Mangma even when owning pasturelands, while others like Mago are exempt. Beyond grazing, pastures provide firewood, medicinal plants, and Cordyceps, harvested in Nyapa(June–July) for subsistence and sale.

Activity 1.2 Conduct participatory appraisal workshops to explore the communities' vision of healthy rangelands, and establish the current reality, the vision, the difference between these, and what is needed to realise the vision

In Changthang, the data analysis from the visioning exercise has been completed, and key insights have been synthesised into a draft summary for stakeholder feedback. In preparation for the upcoming multi-stakeholder meeting, discussions have been held with a range of stakeholders, and the draft vision has been shared for their review. The Ladakh Autonomous Hill Development Council (LAHDC), a central partner in the process, has expressed strong appreciation for the initiative. The Chairman and Chief Executive Councillor (CEC) of Leh has recognised its significance and expressed interest in endorsing the vision as a formal policy document for the newly established Changthang district. To date, meetings have been conducted with 16 stakeholders, including LAHDC Leh, the CEC, councillors of Changthang, as well as representatives from government departments, NGOs, and youth organisations.

As part of the community satisfaction survey process, the draft vision was translated into Ladakhi to ensure accessibility. Copies of the translation were shared with the Goba (traditional village head) and made available to any interested community members.

A Community Satisfaction Survey was carried out in the both the Sub- division- Nyoma and Durbuk (Ref: WHL_OI_1.2). The objective of the survey was to evaluate community perceptions and satisfaction regarding their involvement in the design and decision-making processes during the development of the Changthang Vision Document. A total of 323 key respondents participated in the survey, representing a broad cross-section of the region. Among them, 51.7% were male and 48.3% were female.

A significant proportion of respondents expressed satisfaction with the equal opportunities provided during the consultation phase. Approximately 78% of participants reported feeling heard and valued during the visioning sessions. Many highlighted that the use of smaller group discussions allowed them to share their views more openly, contributing to a sense of inclusion and ownership in the process.

The findings also indicate a strong sense of optimism among community members regarding the final vision document. About 82% of respondents believed that the document would accurately represent the priorities and aspirations of the Changpa community. There is a collective hope that administrative bodies, NGOs, and other stakeholders will work collaboratively to implement the vision in a sustainable and holistic manner.

To promote transparency and accessibility, the draft vision document was translated into the Ladakhi/Bhoti language. This initiative was well received, with 79% of respondents affirming that the translation significantly improved their understanding of the vision's insights and the transparency in the process.

In Mago-Chu, during the past year, visioning exercises were completed in 10 villages namely, Nyukmadung, Lubrang (Lish), Senge Dzong, Mago, Thingbu, Kharman, Kalegteng, Socktsen, Lumpo and Muchut across West Kameng and Tawang districts. A total of 12 consultations were held at the village level, encouraging participation from all age groups. Approximately **450 individuals with ~ 39% of female participants** took part in these consultations. In Senge Dzong and Lubrang, two separate sessions were organised exclusively for women after observing their limited engagement during the mixed-group meetings. This inclusive approach proved valuable and will be continued in future sessions. Following is the key Insights from the Visioning in Seven Villages

1. Decline in Brokpa Population

Many community members are leaving the Brokpa profession due to the hardships of a nomadic lifestyle and limited economic returns. The availability of GREF and other contract-based jobs in the villages are viewed as easier and more profitable alternatives.

2. Degradation of Grazing Lands

Grazing grounds are increasingly under pressure due to expanding human settlements, army camps, road and tunnel construction, and the dumping of waste. These developments are contributing to the loss of pasture quality and forest cover.

3. Taxation Burden

With fewer Brokpas remaining, the tax burden on the remaining herders has increased, as the overall tax rates have not been adjusted. This concern was particularly emphasised by the community in Senge Dzong.

4. Changing Livestock Patterns

Although the number of yaks has increased, there are fewer dedicated yak Brokpas. Instead, there is a growing preference for rearing dzomos and cows, which are easier to manage and yield higher milk production.

5. Livestock Losses

Livestock depredation has risen, primarily due to attacks by feral and stray dogs (often associated with army settlements) and wild predators such as dholes. The traditional use of Tibetan Mastiffs for livestock protection has declined due to crossbreeding with feral dogs, reducing their effectiveness.

Some suggestions/ insights shared by the community that would be incorporated into the visioning document are as follows:

- Improve market linkages for milk and dairy products to enhance income opportunities and incentivise youth engagement in Brokpa livelihoods.
- Protect livestock from predators, including free-ranging dogs and wild animals, and consider reintroducing the Tibetan Mastiff. When asked about traditional conflict mitigation practices, many noted that using sound is an effective deterrent.
- Develop Brokpa-based tourism models, allowing young people who are not engaged in the nomadic lifestyle to support and promote traditional livelihoods indirectly.
- Government support for tax relaxation to ease the financial burden on existing Brokpas.
- Provision of tools and equipment to support nomadic livelihoods and make them more manageable with supply of feed for winter period, medicines, provision of gears like gumboots, raincoats, help in making strong nomadic shelters in rangelands, better trails for smooth and easy migrations.
- Implement effective waste management near grazing lands to protect the environment and maintain pasture quality.

The immediate next priority is to complete the visioning exercises in the remaining villages, several of which have existing Community Conserved Areas (CCAs), to enable the timely initiation of Activity 2.5—"Socialise the Rangelands Visions and Co-management Plans among key stakeholders." Lumpo and Muchut in the Zemithang area have also been included, given the presence of CCAs and their location within a valley inhabited by Brokpa communities.

The community's response to the visioning exercises has been overwhelmingly positive, with many expressing renewed appreciation for their heritage and the challenges facing their traditional way of life.

In Senge Dzong, Mr. Tenzin shared:

"*This exercise has been an eye-opener for us youth. As a local, I never knew so many important facts and traditions about our own village and the Brokpa way of life. It is a realization of how we are losing our identity."*

From Muchut, Zemithang, Lham Tashi, a Class 10 student, reflected:

"*I don't know how to farm or live the Brokpa life. But I now understand how important it is to know about my own place and culture. If I want to contribute to my village and community through tourism, I must first have proper knowledge of my roots—otherwise, it would be a shame for me, my community, and my village."*

Another elderly woman from Muchut shared her concerns:

"This exercise made us realize how we are jeopardizing our own future. If BRO-GREF (Border Road Organisation - General Reserve Engineer Force) jobs disappear, people will have no

choice but to return to farming. But young children today don't know how to farm or practice the Brokpa way of life. As elders, we now recognize our responsibility. We must teach our children to farm during their vacations while ensuring they receive an education."

These reflections highlight the growing awareness within the community and the urgent need to preserve their cultural identity and traditional knowledge while balancing modern aspirations.

Activity 1.3 Conduct multi-stakeholder workshops to co-develop 2 vision documents with the Changthang and Mago-Chu communities, ensuring input and endorsement from all, especially women and other marginalised groups

In Changthang, the vision document has already been co-developed, socialized and endorsed by the communities. We also have socialized the document with all the key stakeholders through one-to-one updates and interactions. A formal endorsement of the vision document and formation of a rangelands council that will oversee the implementation of the vision is expected to happen in May 2025 during the multi-stakeholder meeting.

Activity 1.4 Create two multi-stakeholder co-management platforms, i.e. one 'Rangelands Council' each for Changthang and Mago-Chu

The proposal and formal endorsement of the Multi-stakeholder Rangeland Council for Changthang will take place during the multistakeholder workshop, now rescheduled to May 2025 following a request from the office of the Hon'ble Lieutenant Governor of Ladakh and LAHDC Leh. A draft structure and mandate for the council/Forum have been prepared and are ready for finalization and endorsement during the workshop.

In Mago Chu, visioning exercises have been completed in 10 villages to explore the socio-economic conditions of the Brokpa communities, reflect on their past and present, and document their future aspirations. The remaining villages will undergo similar exercises by July 2025. The insights and information gathered from all the villages will be compiled into a landscape-level vision document, to be finalized by August 2025.

In villages where project interventions overlap with Community Conserved Area (CCA) initiatives, the specific action points that emerge from the visioning exercises will be integrated into the respective CCA Management Plans. The CCA Management Committees will be responsible for implementing these plans on the ground. In project villages where the CCA framework has not yet been introduced, the existing village councils (traditional institutions i.e., *Mangma* and Panchayats) will take on the responsibility of drafting and implementing action plans.

Output 2. Multi-stakeholder co-management of rangeland plan, based on the community-led visions in both regions, contributing to improved ecosystem, and resilient rangelands at pilot sites.

Activity 2.2 Support the regional Rangelands Councils with disseminating the 'Rangelands Vision' and advocating for the policy narrative to recognise the rangelands as unique ecosystems with significant ecological, livelihood and cultural values

In Changthang, the multi-stakeholder rangeland co-management plan will be rooted in the community-led vision for the region. The rangeland council, which will convene and develop the plan, is set to be formed during the multi-stakeholder workshop scheduled for May 2025. This workshop was postponed at the request of the Hon'ble Lieutenant Governor of Ladakh's office and H'CEC office due to their unavailability in March and April 2025. The community-led rangeland vision has already been widely shared, with all key stakeholders fully informed and supportive. Elected councillors and the office of the Hon'ble Lieutenant Governor are actively engaged in promoting and realizing this vision.

In Mago Chu, the visioning exercises in project villages have progressed slower than anticipated, leading to some delays in developing the rangeland vision and plans. Ten villages have been covered so far, and the remaining seven project villages (Jang, Jangda, Rho, Seru, Mukto, Thembang, and Luguthang) are scheduled for completion by June 2025. In 9 villages (Nyukmadung, Lubrang (Lish), Sengedzong, Thembang, Kharman, Kyalengteng, Shocktsen, Lumpo, Muchut) where 7 CCAs are already established, the rangeland plans emerging from the

visioning exercises will be integrated into the existing CCA management plans. Five CCA management plans have already been drafted covering seven project villages, and the rangeland management components identified through the visioning process are being embedded within the CCA management plans.

Activity 2.2 Conduct an assessment on climate change impacts on rangelands, pastoral communities (particularly women), pashmina goats and other livestock, and pashmina market, to integrate climate recommendations in the rangelands co-management plans

A questionnaire survey was conducted to assess the impacts of climate change on pastoral communities. A total of 156 responses were collected from pastoralists and semi-pastoralists across the Changthang landscape (Ref: WHL_2.2.1; WHL_2.2.2). The sample reflects a diverse range of livelihood patterns and spatial characteristics and is well-distributed across the region. Villages and hamlets were grouped based on shared catchment or watershed areas and similar demographic profiles. Respondents were categorized as pastoral or semi-pastoral based on the average livestock holdings within each village or hamlet.

The climate vulnerability of each group was assessed using a Climate Vulnerability Index, structured around three key components: Exposure, Sensitivity, and Adaptive Capacity. These components were analysed across different livelihood categories and regions. A total of 19 sub-components were considered, each corresponding to specific questions from the questionnaire survey. The details of these sub-components are provided in the detailed report (Ref: WHL_2.2.1).

Analysis

An Entropy Weighted Method (EWM) was used to weight the dimensions of vulnerability for the different livelihood categories and regions. The EWM ensures an objective, data-driven weighting of climate change impact factors by prioritising indicators with higher variability, such as water scarcity and pasture degradation, which show significant spatial differences. This approach helps eliminate subjectivity, making it particularly useful for assessing differential vulnerabilities across regions and livelihood categories without relying solely on subjective assumptions.

Results

Livelihood-based Vulnerability: Pastoral vs. Semi-Pastoral

- Pastoral communities are 37% more vulnerable than semi-pastoralists based on the Vulnerability Index.
- Perceived increase in hot months is a major concern, with pastoralists reporting higher exposure than semi-pastoralists.
- Nomadic dependence on livestock grazing makes pastoralists highly sensitive to climate change, particularly, reduction in snowfall that affects water availability in pastoral grounds– decreasing pasture quality and livestock productivity.
- Semi-pastoralists have better infrastructure and social support, specifically higher income generating primary source of livelihood (such as managing homestays) contributing to a relatively higher adaptive capacity.

Regional Vulnerability to Climate Change

- South-East Region: ~30% higher vulnerability than average. Highest perceived exposure due to high-altitude plateau conditions, extreme climate, and limited natural water sources. Border-related issues impact pastoral livelihoods, as earlier grazing areas have been lost.
- Central Region: ~20% lower vulnerability than average, due to better connectivity, natural water sources, and homestay-based incomes. Communities here have better infrastructure support, contributing to relatively stronger adaptive capacity.

- South-West Region: Moderate vulnerability, with reports of climate-related challenges such as snowfall variations and temperature shifts. Pastoralism remains dominant, with some perceived adaptation challenges.
- North Region: Moderate vulnerability, with relatively lower exposure compared to South-East and South-West.

Interventions points

- Temperature change and increase in hot months is an overarching effect across regions and livelihood categories, affecting water security.
    - Improve water access through spring rejuvenation and creation of artificial glaciers, especially in the South-east, where water scarcity is severe.
- Pastoral Livelihood Stability:
    - Improve market access for pastoral products.
    - Strengthen veterinary services and fodder security to address declining livestock productivity, which is significantly higher (20%) in pastoralists.
    - Livestock productivity is also affected by livestock depredation by wild animals. Conflict mitigation would further decrease pastoralists' sensitivity.
    - Strengthen alternative income sources with skill-based training, given shrinking grazing lands primarily in South-east region.

2.4 Facilitate the Rangelands Councils with development of 2 regional Rangelands Co-management Plans for co-implementation

In Changthang, the rangeland council will be established during the multistakeholder meeting in May 2025 and tasked with developing rangeland co-management plans. WWF will support the process by promoting convergence and providing scientific inputs based on research on biodiversity, community vision, institutions, natural resource management practices, rangeland health, and climate vulnerability. WWF will also coordinate expert contributions, including those from Dr. G.S. Rawat and other relevant institutions.

In Mago Chu, where project villages overlap with Community Conserved Areas (CCAs), the CCA Management Committees will also function as Rangeland Councils, responsible for overseeing conservation and livelihood initiatives. Currently, seven CCAs overlap with nine project villages, of which six have already completed the visioning exercises. These exercises have identified several critical challenges: a decline in the Brokpa population despite an increase in livestock numbers; growing taxation pressures on pastoralist communities; rising livestock mortality due to disease outbreaks; extensive rangeland degradation linked to the expansion of linear infrastructure; and a decline in fodder quality caused by the absence of structured pasture management systems.

In response, rangeland management plans are being developed and integrated into the respective CCA Management Plans. So far, five CCA Management Plans have been drafted, with the remaining expected to be completed by July 2025.

In project villages that do not fall under the CCA framework, the existing village councils—comprising traditional *Mangmas* and Panchayats—will be responsible for formulating and implementing action plans based on the insights generated through the visioning exercises.

Activity 2.5 Socialise the Rangelands Visions and Co-management Plans among key stakeholders, particularly relevant government departments e.g. Wildlife and Sheep Husbandry, and bodies, e.g. Ladakh Autonomous Hill Development Council, for an inclusive, participatory approach

In Changthang (Year 2), the Rangelands Vision and Co-management Plans were socialized with key stakeholders to promote an inclusive and participatory approach. The project team secured endorsement from the Chairman of the Ladakh Autonomous Hill Development Council (LAHDC), Advocate Tashi Gyalson, along with five councillors representing the Changthang region. Extensive engagement was also carried out with the office of the Hon'ble Lieutenant Governor and several departments of the Union Territory (UT) administration, including Animal Husbandry, Sheep Husbandry, Wildlife, Tourism, Rural Development (RDD), Power Development Department (PDD), the Pashmina Cooperative, and Ladakh Police.

Beyond government agencies, the team consulted key tourism associations, such as the All Ladakh Hotel and Guest House Association and the All Ladakh Tour Operator Association, to align tourism practices with sustainable rangeland conservation goals. Meetings were also held with local NGOs working in Changthang to promote multi-stakeholder collaboration in conservation and co-management.

To ensure pastoral communities were meaningfully engaged, the visioning document was translated into Boti and distributed widely across both subdivisions. This step aimed to improve accessibility and ensure that local communities were well-informed and actively involved in shaping rangeland governance.

Together, these efforts have strengthened institutional support, raised awareness among stakeholders, and deepened community participation—laying a strong foundation for inclusive and sustainable rangeland management in Changthang.

In Mago Chu, the visioning exercises have been completed in 10 villages. During this process, consultations have been held with panchayat leaders, schoolteachers, and religious leaders. However, broader consultations with government representatives and other external stakeholders are yet to take place. Thus, the socializaiton of the visioning has been completed at the local level with key stakeholders and participants. The visioning of all the villages is being consolidated which will be presented to a wider audience that will also include government agencies and policy makers.

2.7 Establish pilots of sustainable rangeland management practices under the Co-management Plans at two sites

Unfortunately, we have not been able to achieve this yet, as this activity is dependent upon formation of a rangeland's council and its endorsement of sustainable rangeland pilots. In addition, in Changthang, the Traditional Ecological Knowledge and Natural Resource Management Practices suggest that Changpa's continue to practice rangeland friendly livestock grazing through a sophisticated system of rotational grazing under the guidance of a strong traditional institution in the form of Goba (the traditional village head). However, the analysis of biodiversity assessments shows patchy and low occupancy of key carnivores and wild ungulates. The pilots will therefore require a careful assessment of drivers of low wild carnivore and wild ungulate population-densities/occupancy to create targeted interventions.

Activity 2.9 Conduct ecosystem and biodiversity health indicator assessments, including Soil Adjusted Vegetation Index (SAVI), Greening and Browning Patterns using Landsat and Sentinel Imagery

From 1990 to 2024, both the Tsokar and Hanle basins in Ladakh underwent major vegetation changes, with over 99% of their landscapes affected (Ref: WHL_2.9.1). These changes tell us about how the rangelands—areas used for grazing—are transforming over time. All the findings and trends reported are against the year 1990 as baseline.

Tsokar Basin: 87% of the basin greened—meaning vegetation increased over 847 sq. km.

Out of this, 224 sq. km (23%) greened significantly, suggesting healthier plant growth or higher biomass. On the other hand, 12.5% browned—meaning vegetation declined over 121.8 sq. Km. Within that, 24 sq. km (2.5%) browned significantly, a warning sign for possible land degradation or ecosystem stress. Only 0.33% of the land stayed unchanged, showing a highly dynamic ecosystem. The most active ecological change period was between 2010–2015.

Implication: While greening dominates, the browning (though smaller) signals emerging threats to rangeland health, possibly from overgrazing, climate shifts, or changing hydrology.

Hanle Basin: A stronger greening trend: 98% of the basin greened, over 645.8 sq. Km. Out of that, 94.6% of this (623 sq. km) was significantly greened, indicating healthy vegetation expansion. Only 1.9% browned (12.5 sq. km), and just 5.2% of that was significant (about 0.65 sq. km). Just 0.05% of the land remained unchanged. The most rapid vegetation shifts occurred between 2007 and 2012.

Implication: Hanle's rangelands are in a much healthier state, with very little degradation, suggesting better ecological resilience or possibly improved grazing or moisture conditions.

With the methods and tools refined, a similar analysis will also be conducted for Mago-Chu rangelands, providing long term temporal trends in rangeland vegetation change.

Activity 2.10. Conduct occupancy estimates of wild carnivores and ungulates

While data was collected in year 1, there was not time for a full data analysis before reporting on Year 1, thus we include our analysis of occupancy estimates here:

Population-densities of Carnivores and Wild Ungulates in Changthang: Accurate estimation of flagships species and elusive apex predators like the snow leopard (Panthera uncia) and their prey is critical for their effective conservation management more so in shared and mixed-use landscapes. We assessed the population density of snow leopards and their wild prey (Blue sheep and Argali) and other ungulates (Kiang and Tibetan Gazelle) across an area of 2,621 km² in the Hanley basin. We utilized spatially explicit capture-recapture (SECR) models to estimate snow leopard population density from the camera trap data. The snow leopard population was estimated at 14 individuals in Hanley with a density of 0.52 individuals per 100 km² across an area of 2,621 km². This estimated snow leopard density is similar to the estimates from similar multiuse landscapes in the Western Himalaya (e.g. Spiti Valley) but are notably higher than estimates from Arunachal Pradesh (Eastern Himalaya). This suggests that Hanley provides a relatively favourable and stable habitat for snow leopards, likely supported by suitable terrain and prey availability.

Among key prey species, the blue sheep (*Pseudois nayaur*) had an estimated population of 79 individuals, which translates to density at 4.64 individuals per 100 km²—significantly lower than Nepalese populations of 8.4 individuals/km² in the Nar Phu valley, Annapurna Conservation Area, indicating potentially patchy distributions that may influence snow leopard movement. In contrast, argali (*Ovis ammon*) with an estimated population of 23 individuals were found at a much lower density (1.35 per 100 km²) compared to average global densities of 1.3 individuals / km^2 pointing to a sparse and possibly declining population that could affect predator-prey dynamics in the region, this is also an aftereffect of hunting as per locals.

The estimated population of Tibetan gazelle (*Procapra picticaudata*) was found to be 47 individuals while density was estimated at 2.70 individuals per 100 km², in its last remaining northern population in India. Most notably, the kiang (*Equus kiang*) had an estimated population of 1,055 individuals with density at 61.96 individuals per 100 km²- higher than known densities from both China and Sikkim—highlighting Hanley as a stronghold for this species. The overall low and fragmented population densities of wild ungulates highlight the species' vulnerability, especially in areas like Ladakh where numbers of some of the species, e.g. Tibetan Gazelle are critically low. Conservation efforts must focus on protecting habitats, reducing competition with livestock, and preventing further fragmentation to support population recovery. (Ref: WHL_2.10.1)

Occupancy estimates of wild carnivores and ungulates in Changthang:

In parallel, we investigated changes in the occupancy of four key carnivores, i.e. Snow leopard, Himalayan wolf, Pallas's cat, and Eurasian lynx, in the Hanle River Basin, a cold desert ecosystem in Ladakh, India. We employed a structured, interview-based occupancy approach across 2 revenue villages and 84 respondents from local pastoralist communities to estimate perceived current carnivore presence with two-decadal trends, based on community interviews conducted in Changthang, Ladakh. Between 2004–2014 and 2015–2024, reported sightings of snow leopards declined by 18.75% and Eurasian lynx by 58.5%, while sightings of wolves slightly increased (1.25%), and Pallas's cat remained rare with minimal change (1.25% decline). Seasonal data showed snow leopard sightings are increasingly concentrated in winter (36.25%), while wolves maintained year-round visibility (73.75%). Occupancy modelling revealed low current occupancy probabilities for snow leopard (29%), lynx (24%), wolf (17%), and Pallas's cat (6%), with detection probabilities ranging from 12–38%. Multi-season analysis indicated low colonization probabilities (<1% for snow leopard and lynx; 3% for Pallas's cat), moderate local extinction (21% for snow leopard; 46% for lynx), and very low initial occupancy for wolves (3.3%). These findings highlight varying population trends and detection difficulties, emphasizing the importance of integrating local knowledge with ecological modelling to monitor elusive species in remote rangelands. These findings underscore the utility of interview-based occupancy methods in data-deficient regions and provide critical insights into species-specific conservation needs. The results inform long-term monitoring programs and advocate for integrated management approaches centred on prey base stabilization, habitat connectivity, and community-led stewardship (Ref: WHL_2.10.2).

In Mago Chu, building on the work initiated in Year 1, 138 camera traps were deployed across 83 locations as part of the ongoing carnivore occupancy and populating-density monitoring effort. These sites span elevations between 4,000 and 5,500 metres above sea level, covering a total area of approximately 2,025 km² across West Kameng and Tawang districts.

The survey was conducted between July and September 2024, and the camera traps will remain in place for seven months, with retrieval scheduled for May 2025. Data entry and analysis are planned for July–August 2025.

During the same period, a double observer survey will be conducted to assess the presence and distribution of ungulate species across the landscape, offering complementary insights into the prey base and the overall health of the ecosystem

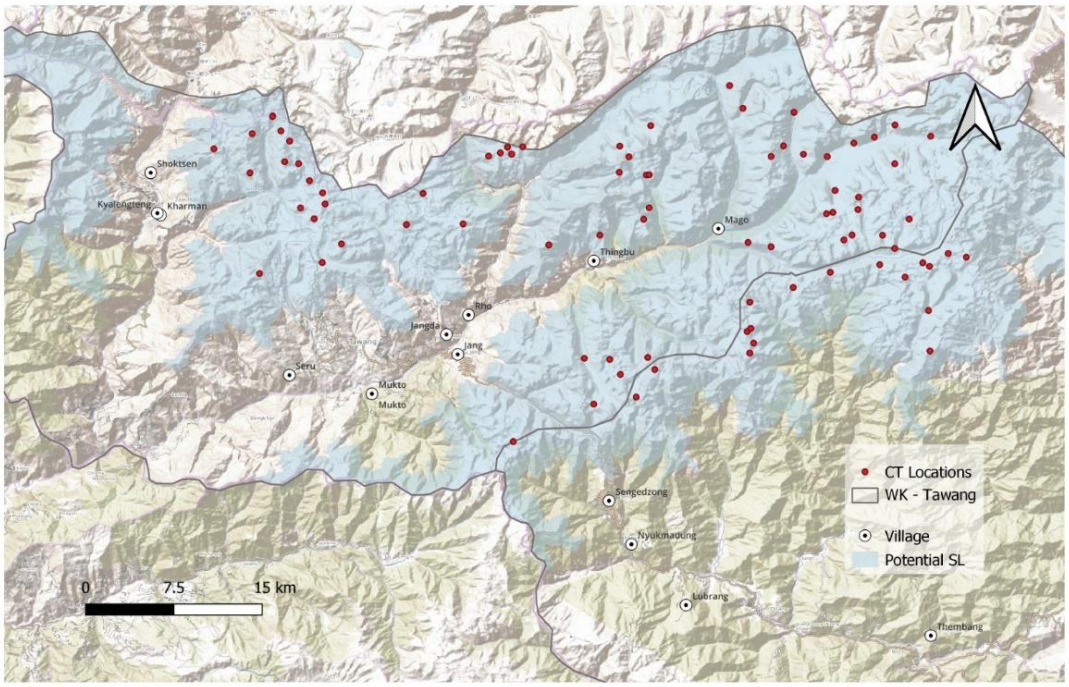

Fig: Camera trap stations in Mago Chu.

Activity 2.12 Assess the recovery of vegetation at pilot sites compared to baseline and control plots

In Changthang, we have established six vegetation monitoring plots across the Hanley region to monitor long-term changes in rangeland health. These plots are strategically located in Rekyu, Dekyu, and Punguk, with one plot each in the winter and summer pastures of each location. This data includes measurements on soil stability, vegetation cover, and species composition.

For the **Mago Chu landscape** the pasture mapping was completed for 9 villages this year, and the team is now identifying pilot study sites. Vegetation monitoring plots will be placed across a gradient of livestock stocking densities to help assess the impacts of different rangeland management practices. The team has already been trained to establish and monitor these plots.

Output 3. Enhanced tolerance for wildlife in the two target sites, through a combination of preventive and mitigative measures for reducing livestock losses and cost of living with wildlife, improves human-wildlife coexistence.

Activity 3.1 Conduct assessments in both regions with WWF's well-being tool to (provide outcome data and evidence for outputs 2 and 4, as well as to) gauge local attitudes. perceptions and tolerance toward wildlife, and factors driving willingness to coexist with wildlife (in both year 1 and year 3)

A total of 349 well-being surveys were conducted across two landscapes in the Himalayas, Changthang (n = 201 surveys) and Mago-chu (n = 140 surveys), to assess governance, socio-economic conditions, market engagement, and human-wildlife coexistence. In Changthang, all respondents were Buddhist, with 60% females and 40% males. The primary sources of income were daily wage labour and livestock rearing. Only 53% expressed overall satisfaction with governance, with relatively lower scores in conflict resolution (27%) and participation (41%). Socio-economic well-being had a 65% satisfaction rate, driven by moderate satisfaction in material, emotional, and financial well-being. Market well-being was lower, with only 39% expressing satisfaction with access, employment, and viability. Wildlife coexistence also reflected mixed sentiments, where only 39% were satisfied, while 50% showed some tolerance, and 32% had positive to neutral perceptions of wildlife despite reported conflicts.
In contrast, Mago-chu respondents were predominantly Monpa (98%), with 70% males and 30% females. Like Changthang, income sources mainly included labour and livestock. Governance

satisfaction was significantly higher at 90%, with high scores in rights, conflict resolution, and community participation. Socio-economic well-being was also notably higher, with 96% expressing satisfaction across material, emotional, and financial dimensions. Market well-being stood at 74%, reflecting good access to market services and employment viability. However, wildlife coexistence was a major concern, only 4% reported satisfaction, with very few showing tolerance toward wildlife. Despite 47% having neutral or positive perceptions about wildlife, the overall attitude indicates a critical gap in coexistence and conflict mitigation in the Mago-chu landscape. (Ref: WHL_3.1.1; WHL_3.1.2)

Activity 3.2 Examine the nature and extent of conflicts with wildlife (using SMART), and co-design solutions for conflict with the local communities through 66 FGDs in 21 villages, ensuring participation of women

As part of the pre-intervention assessment in the Changthang landscape, FGDs and questionnaire (Ref: WHL_3.2.2) surveys were administered to primarily pastoralist households across selected villages. The survey aimed to understand the scale, patterns, and perceptions of human-wildlife conflict prior to the distribution of mitigation tools such as flashlights and fox lights. The questionnaire covered sections on respondent demographics, livestock holdings, conflict experiences, mitigation practices, and value orientations towards wildlife. It also captured expectations from the intervention and willingness to adopt new tools.

For analysis, we employed a binomial hierarchical regression in a Generalized Linear Mixed Model (GLMM) framework to model the relationship between perception towards wildlife (dependent variable) and value orientation, social interaction, resource dependence, risk perception, and nature of interaction scores (independent variables), while accounting for village-level variations as a random effect. Perception scores for wildlife were rescaled from 0 to 1, with 0 being the most negative value and 1 being the most positive value.

In the Changthang landscape, a total of 359 responses from 20 villages (in addition to the 120 from 3 villages in year 1) have been collected from the HWC pre-assessment survey in 3 administrative blocks in the winter of 2024-25, including Rupshu, Durbuk, and Nyoma. The analysis has been done separately for Year 1, which comprised the preliminary village-level survey serving as a pilot study to refine the research methodology and identify key parameters, before the broader block-level assessment was conducted in Year 2

Survey analysis results for Y1 (village-level)

Patterns and causes of livestock loss:

- Data on livestock losses for the 2021-23 period was collected from 3 villages, namely Hanle (n = 35), Rongo (n = 34) and Samad (n = 49). The survey recorded 5640 livestock deaths in 2021-23 from the 3 villages.
- Sheep accounted for the largest proportion of livestock losses (50.44%), closely followed by goats (44.38%). In contrast, losses of cows, horses, and yaks were relatively low, representing only a small fraction of the total livestock mortality. Village-wise break-up of loss details are given in the detailed report (Ref: WHL_3.2.1)
- Wild predators were the biggest cause of livestock death overall and resulted in 76.15% of all livestock losses. This was followed by disease/weakness, which contributed to 19.60% of livestock losses. The cause of 4.24% of livestock deaths were unidentified.
- Wolves caused the highest number of livestock deaths and accounted for 71.78% of all livestock lost to wild predators, followed by snow leopards (7.66%), free-ranging dogs (0.23%), and golden eagles (0.51%). Predators could not be identified for 19.81% of instances.

Patterns of perceptions towards wildlife and factors influencing it:

- The mean perception score towards wildlife for all respondents across different villages was Neutral (0.50 ± 0.17)
- Perception scores did not significantly differ (p-value > 0.05) between groups with and without intervention for all 3 villages.
- The hierarchical regression analysis revealed the universal model that included all ultimate factors from was the best at modelling perceptions towards wildlife. We found that value

Orientation score had a significant positive relationship ($p < 0.001$) with perception scores towards wildlife. Respondents who perceived lower risk from wildlife had significantly higher perception scores ($p < 0.001$) and it significantly declined ($p = 0.006$) with increase in intensity of interactions with wildlife.

Survey analysis results for Y2 (block-level)

Patterns and causes of livestock loss:

- Data on livestock losses for the 2023-25 period was collected from 3 village blocks, namely Durbuk (n = 61), Nyoma (n = 38) and Rupshu (n = 46). The survey recorded a total of 2252 livestock deaths. Rupshu experienced highest mean number of losses per household (24.03 animals), followed by Nyoma (18.83) and lowest in Durbuk (7.31).
- Small stock (Sheep/Goat) accounted for most livestock losses (approximately 91.0%). Yak losses constituted the next largest proportion (approximately 6.4%). Losses of horses (approximately 1.7%) and cows (approximately 0.9%) were relatively low.
- Wild predators were the biggest cause of livestock death overall and resulted in 65.18% of all livestock losses, followed by disease/weakness (26.33%), then by dogs (5.41%). The cause of death could not be identified for 3.06% of incidents. Wild predators were the main cause of livestock deaths in Rupshu.
- Wolves caused the highest number of livestock deaths and accounted for 85.42% of all livestock lost to wild predators, followed by snow leopards (12.53%), then by lynx (2.04%)

Patterns of perceptions towards wildlife and factors influencing it:

- The mean perception scores towards wildlife for all respondents across different villages was Positive (0.78 ± 0.14). Analysis revealed perception scores to be same for all three blocks.
- The dataset used for the multi-level regression analysis was a subset of the overall 359 questionnaires conducted across the 3 village blocks: Durbuk (n = 61), Nyoma (n = 38) and Rupshu (n = 46).The model with demographic variables and ultimate factors was most suited for modelling perceptions towards wildlife (refer 3.2.1 for all candidate models).
- Individual Characteristics: Older age had a significant negative relationship ($p = 0.007$) with perception scores towards wildlife, while value orientation score had a significant positive relationship ($p < 0.001$) with perception scores.
- Social and Risk Factors: Social interaction score showed a significant positive relationship ($p = 0.048$) with perception scores, and lower perceived risk from wildlife (indicated by higher risk perception scores) was significantly associated with higher perception scores ($p = 0.009$).
- Human-Wildlife Interactions: More intense and negative interactions with wildlife, particularly those causing economic losses (lower nature of interaction scores), were significantly associated with lower perception scores ($p = 0.003$).

Actionable Insights

- **Prioritize High-Conflict Areas for Mitigation Tools:** Wolves were the leading cause of livestock losses, particularly of small-stock. Flashlights and foxlights have been prioritized in high-loss areas like Rupshu, Hanle, and Rongo, with focused training on effective usage. However, these interventions alone may not prove very effective unless augmented by traditional practices of keeping guard dogs and improved herding. We intend to pick this up with the communities.
- **Strengthen Positive Value Orientation:** Value orientation strongly influenced perceptions towards wildlife. Community-based programs that promote coexistence, especially targeting older age groups, can help build more positive attitudes.
- **Leverage Social Networks to Improve Perceptions:** Strengthen local and traditional institutions that provide social support during times of distress, economic losses, or heightened periods of livestock predation.

In Mago Chu, a pre-assessment survey was conducted across 15 villages, covering 103 Brokpa households (representing 30% of each village) in Year 1 (Ref: WAL_3.2.2). Further analysis in year 2 of the survey results leads to the following findings: a total of 766 livestock losses between 2023 and 2024. Disease and weakness emerged as the primary cause, accounting for 63.84%

of the losses, followed by predator attacks (32.38%) and accidents or missing cases (3.79%). Among adult livestock, disease and weakness were the dominant cause (73.18%), whereas for calves, predator attacks were the leading cause (62.07%).

Out of 248 predator-related losses, dholes (wild dogs) were the most significant threat (55.24%), followed by feral dogs (20.96%), snow leopards (20.16%), and other predators. The most reported diseases included dysentery, Foot and Mouth Disease (FMD), and Lumpy Skin Disease (LSD).

At the village level, Nyukmadung reported the highest number of livestock losses (128 animals annually), particularly yaks (111 losses, mean per household: 18.50 ± 16.21). The highest losses for dzo/dzomo were in Rho (34 animals, mean: 8.5 ± 6.12), and for cows, in Lubrang (43 animals, mean: 3.3 ± 4.23).

In parallel, an attitude and perception survey was extended from year 1 (31 respondents) to a total of 98 herder households (30% from each of 14 villages) to assess local views on snow leopards and dholes using a 0–1 perception scale (0 = most negative, 1 = most positive). The mean perception score for snow leopards was 0.41 ± 0.19, indicating a neutral outlook with variation across villages. Perceptions of dholes were notably more negative, with the lowest scores in Lubrang (0.255), Senge Dzong (0.263), and Thembang (0.269).

A generalized linear mixed model (GLMM) analysis revealed key factors influencing these perceptions. For snow leopards, livestock ownership had a significant negative effect ($p = 0.017$), while conservation values had a strong positive influence ($p = 0.003$); individuals with conservation-oriented views were 73.84 times more likely to hold a positive perception. Perceived risk also played a role—heightened fear of snow leopards reduced positive attitudes by 98% ($p = 0.036$).

For dholes, conservation values were the strongest predictor of positive perception ($p = 0.002$), increasing the likelihood by 68.52 times. However, livestock ownership and risk perception were not statistically significant.

These findings underscore that economic concerns and fear are key drivers of predator intolerance, particularly for dholes, while perceptions of snow leopards are shaped by a combination of conservation values and perceived threat.

Activity 3.3 Finalise and implement human-wildlife conflict mitigation solutions (e.g. compensation and micro-insurance schemes) and preventive solutions pilots (2 in Changthang and 1 in Mago-Chu), e.g., improved corrals, livestock guarding (mountain guardians)and fox lights, with communities across 10 villages

In Changthang Year 2, the focus shifted towards saturation of mitigation measures based on feedback from pastoral communities. The highest priority mitigation measure identified by the communities was the use of flashlights to enhance livestock protection. Accordingly, a total of 300 flashlights were distributed across villages in both Durbuk and Nyoma subdivisions. Additionally, 20 fox lights were provided to pastoral households in these areas. Within Durbuk subdivision, the villages covered include Barma, Khera Pullu, Sato, Chibra, Shachukul, Raley-Eching, Urgo, Phobrang, and Chushul, ensuring widespread coverage of mitigation measures. Similarly, in the Nyoma subdivision, the project successfully distributed mitigation tools in Mudh, Hanley, Rongo, Kharnak, and Tsokar, further strengthening the efforts initiated in Year 1. To achieve complete saturation, an additional 150-160 flashlights have already been procured and will be distributed in the Korzok and Chumur areas. This will cover the remaining villages of Dungti, Korzok, Chumur, Tegazung, and Sumdo, ensuring that all pastoral communities in the sanctuary benefit from the mitigation support.

We also conducted a detailed study of the government's human-wildlife conflict (HWC) compensation program. The study revealed a clear gap between the support provided and the actual losses suffered by communities. It also emphasized that, despite ongoing economic and social hardships, there is community support for coexistence with wildlife. Using a rapid realist review approach, we examined Leh’s compensation system through policy analysis, focus group discussions, and government record reviews. The study was carried out in Nyoma block, a remote, pastoral region, involving 279 participants across eight villages. (Ref: WHL_3.3.1)

Livestock grazing in Rongo Hamlet varies seasonally, with significant losses reported due to Himalayan wolves, snow leopards, and Eurasian lynx—765 cases in 2022 and 941 in 2023. Despite using both traditional (fires, scarecrows, rope barriers) and modern (fox lights, mesh wire corrals) mitigation methods, communities suffered livestock predation and faced challenges due to low and delayed compensation (INR 6.9 lakh vs. actual losses of INR 17.24 lakh) and bureaucratic hurdles. This issue has led to a trend of several respondents not pursuing compensation due to the hassles involved. Residents were willing to live with wildlife but sought timely and fair compensation. Proposed reforms include simplifying procedures, decentralizing verification, integrating disaster relief mechanisms, improving awareness and accessibility of livestock insurance, and leveraging digital tools for efficient claims. These measures aim to strengthen coexistence while addressing financial and administrative gaps. However, the government department responsible for administering the scheme has been unwilling to address these concerns.

In Year 2 of the **Mago-Chu** initiative, a pre-assessment survey identified disease as the primary cause of livestock loss, accounting for 766 deaths. In response, an Animal Health Camp & Awareness Program was organized in Tawang and West Kameng districts, in collaboration with ICAR-National Research Centre on Yak, to address disease-related livestock mortality.

As part of this initiative to support the Brokpa community, medicines, supplements, cattle feed, and farming tools were distributed across 16 villages—Mago, Thingbu, Jang, Jangda, Rho, Shyaro, Mukto, Lhao, Mibra, Gongkar, Kharman, Kelengteng, Shocktsen, Lumpo, Muchut, Nyukmadung, and Senge Dzong—benefiting a total of 337 herder households.

In addition, awareness and training sessions were conducted during the health camp to strengthen community capacity for disease management, particularly considering a recent outbreak of foot-and-mouth disease (FMD). The training focused on symptom recognition, proper use of medicines, and best practices for application and timing.

This initiative aimed to improve access to winter feed and veterinary care, enhance knowledge of disease management, and reduce the vulnerability of livestock to disease-related losses and the potential spillover of these diseases to wild ungulates.

Activity 3.4 Assess livestock losses from human-wildlife conflict at the pilot sites, using SMART, to determine efficacy of implemented solutions

In Changthang Year 2, the assessment of livestock losses due to human-wildlife conflict was conducted through extensive Focus Group Discussions (FGDs) across both subdivisions of the Changthang Cold Desert Wildlife Sanctuary. Before the implementation of mitigation measures, FGDs were conducted in all targeted villages to understand the extent of livestock losses and identify community-driven solutions. Based on the insights gathered, the communities prioritized flashlights and fox lights as the most effective mitigation tools, leading to their large-scale distribution. Additionally, pastoral households highlighted the need for predator-proof corrals, which were subsequently implemented in key locations.

The assessment process ensured that the mitigation measures were community-driven, context-specific, and aligned with traditional knowledge. The participatory approach not only enhanced the effective use and adoption of interventions but also fostered greater community ownership. The monitoring and evaluation of these measures will continue in Year 3 to assess their long-term impact on reducing livestock losses.

For Mago Chu, the information on livestock losses is covered in activities 3.2 and 3.3 and the same data (3.2) will be used to assess the effectiveness of mitigation measures.

Activity 3.5 Facilitate knowledge sharing for replication at scale

To be completed in Year 3

Output 4 More than 200 Changpa and Brokpa pastoral households have diversified and augmented income from 'rangelands-friendly' products and micro-enterprises led by women.

Activity 4.1 Conduct training sessions for 200 women and provide material support, e.g. looms, for processing raw pashmina and yak wool, and producing value-added, 'rangelands-friendly' products, through village level sessions with expert trainers

In Changthang, in year 2, WWF-India, in collaboration with local partners such as Looms of Ladakh and Charkha Ladakh, successfully trained **198 women** across two administrative sub-divisions (Nyoma and Durbuk) (Ref: WHL_4.1.1; WHL_4.1.3; WHL_4.1.4; WHL_4.1.5; WHL_4.2). These trainings focused on processing raw pashmina and sheep wool into high-quality, rangeland-friendly products, equipping women with sustainable livelihood skills. These trainings commenced in June-July 2024 from Chumathang village and finally concluded with the last one in January 2025 in the village Tsokar. In the Nyoma sub-division, a total of **140 women** were trained across seven villages while in Durbuk sub-division, trainings were conducted in three hamlets, training a total of **58 women**. A village-wise summary of numbers of participants and material support provided has been provided. The sessions provided hands-on training in spinning, weaving, and product development, ensuring the use of both traditional and modern techniques. Material support was extended through the distribution of iron looms, spinning wheels, warping machines, and raw materials such as pashmina fibre and market yarn.

Additionally, trained women participated in the Enchanting Ladakh Mela in New Delhi, where they showcased handcrafted products, strengthening their market linkages and economic opportunities. The initiative also encouraged the formation of micro-enterprises, fostering economic independence and reinforcing conservation-based livelihood practices in the region. **In Changthang,** a follow-up impact study involving 53 women provided insights into the transformation triggered by the initiative (Ref: WHL_4.1.2). The results indicate a marked shift in income sources, with engagement in handicrafts rising from 38% to nearly 68%, signalling a successful diversification of livelihoods. However, 68% of women reported reduced rest time, highlighting the dual burden of paid and unpaid work. Encouragingly, household tensions remained low, with 74% reporting no conflict over women's employment and 98% experiencing no disagreements on income use. Notably, 68% supported joint financial decision-making, suggesting growing egalitarian norms. Women continued to shoulder domestic tasks; 100% still did cooking and cleaning, but the participation of men and children increased modestly, especially in livestock care. Half of the women felt more confident expressing opinions, while nearly 87% faced no resistance from family, reflecting broader socio-cultural shifts. These findings affirm that livelihood training, rooted in traditional ecological knowledge, can not only enhance income opportunities but also catalyse subtle yet important changes in gender roles and household dynamics, paving the way for long-term socio-economic inclusion.

In Mago-chu, the second year of the project focused on enhancing women's participation in traditional weaving practices. A significant milestone was achieved in Mago-chu, where **15 women** received hands-on training through a specialized 'Training and Capacity Building Workshop' conducted in collaboration with 'It's All Folk', a social enterprise working in the space of weaving among the brokpas. The workshop was launched in Nyukmadung village, West Kameng, marking a transformative step for the local community. Over a 35-day intensive program held between September and October 2024, the women underwent comprehensive training in fly-shuttle loom operation, a technique that was entirely new to the region. The curriculum covered critical aspects such as loom setup, warping, basic weave patterns, and fabric production, alongside practical sessions on fibre cleaning and processing using newly introduced equipment. Participants successfully produced six woven materials using diverse raw materials, including sheep wool, yak hair, jute, Eri silk, and cotton. The participants accomplished weaving techniques like twill weave & plain weave. Additionally, 5 skilled artisans for wool fibre spinning and cleaning were identified

Given that most participants had never operated a fly-shuttle loom before, the introduction of this technology along with the first-ever fly-shuttle loom in the village represented a significant leap

in local weaving capacity. By the end of the training, each participant made 3- 5 meters of fabric and in total 72 meters of fabric, crafted using 5 local fibres.

As of now, the Nyukmadung workshop/ Community facilitation Centre (CFC) is well-equipped with **three fly-shuttle looms, 1 hand drum carder, 1 warping drum, 1 fiber duster, 1 fibre opener, and other essential tools,** laying the foundation for continued skill development and sustainable livelihood opportunities for women in the region.

Following the successful completion of the weaving training program, a Focus Group Discussion (FGD) was conducted with the participating women weavers to assess the impact of the initiative on their lives. The FGD served as a platform to engage the women in reflective dialogue, capturing both qualitative and experiential insights on a range of gender and community-related issues. Key discussion areas included Gender roles and responsibilities within the household and community, participation in decision-making processes at both family and community levels, cultural practices and traditional gender norms, and their influence on women's agency, challenges faced by women, particularly in balancing domestic duties with livelihood activities.

The FGD revealed critical perspectives on how the training had begun to shift traditional dynamics. Many women expressed increased confidence and a sense of economic and social empowerment stemming from their ability to contribute meaningfully through their newfound skills. This dialogue underscored the broader significance of such capacity-building programs, not just as technical skill enhancers, but as powerful catalysts for women's empowerment, gender equality, and social transformation within rural and traditionally conservative communities.

As part of the ongoing efforts to promote traditional craftsmanship and support income generation for local artisans, three master artisans from the Norbu Weaving Centre/Community facilitation centre in Nyukmadung were selected to represent the community at the prestigious Desi Oon Festival. These artisans, all respected elders from the Brokpa community, were chosen through a consultative meeting held with all the weavers involved in the project. Their selection was based on their deep expertise in traditional spinning, weaving, and felting, as well as their longstanding engagement with both the weaving collective and their wider community.

The primary objective of this participation was twofold:

1. To position and promote traditionally crafted products in wider markets, thereby contributing to sustainable income generation for the artisan beneficiaries.
2. To provide valuable exposure to the participating community members, enabling them to engage directly with customers, understand current market dynamics, and interact with artisans and pastoral communities from other regions across India.

During the festival, the women artisans actively demonstrated age-old weaving techniques, offering live insights into the cultural heritage of the Brokpa community. Their participation not only showcased the unique artistry of the region but also fostered a meaningful exchange of skills and experiences, reinforcing the importance of preserving indigenous knowledge systems while creating economic opportunities.

Activity 4.2 Support establishment of women-led micro-enterprises (2 in Changthang and 1 in Mago-Chu) for 'rangelands-friendly' products, e.g. wool-based or dairy products like goat/yak cheese, including training and equipment provision, to diversify income options

In Changthang, during the year 2 WWF-India, in partnership with a local women entrepreneur, successfully established ten micro-enterprises across Changthang, covering both the Nyoma and Durbuk subdivisions. These enterprises, collectively named **"Yarns of Changthang"**, have been set up in respective villages to promote sustainable livelihoods through the processing of pashmina and sheep wool into high-value, rangelands-friendly products. The microenterprises which have been developed include:

S.No	Location	Number of Women	Name of the Micro-enterprise
1	Nyoma	30	Yarns of Changthang - Nyoma

2	Chumathang	16	Yarns of Changthang - Chumathang
3	Phulak	16	Yarns of Changthang - Phulak
4	Tsokar	20	Yarns of Changthang - Tsokar
5	Angkung	14	Yarns of Changthang - Angkung
6	Buk-Shado	17	Yarns of Changthang – Buk-Shado
7	Punguk	27	Yarns of Changthang - Punguk
8	Barma	21	Yarns of Changthang - Barma
9	Sato	22	Yarns of Chanthang - Sato
10	Khera Pullu	15	Yarns of Changthang – Khera Pullu

All the micro-enterprises have been formally registered with the Ministry of Micro, Small and Medium Enterprises, Government of India (Ref: WHL_4.2.1). Each enterprise has received specialized training to enhance production quality and efficiency. To strengthen market linkages, value addition processes were carried out with expert guidance, ensuring that the products meet commercial standards. Moving forward, the focus will be on consolidating and strengthening these micro-enterprises in collaboration with the Ladakh Autonomous Hill Development Council Leh, Handloom department, Department of Industries & Commerce, Rural Development Department and the Union Territory Administration of Ladakh to ensure long-term sustainability and economic resilience for the women-led groups.

In Mago-chu, Community Facilitation Centre (CFC) has been established in Nyukmadung village. Additionally, a collaborative expedition to Mago village in the Tawang district of Arunachal Pradesh was successfully carried out by the project team in collaboration with the Its All Folk team between the months of October 2024 and March 2025.

During this joint effort, 21 Brokpa herders were identified in the Mago with majority of them being women to develop women led micro enterprise. The primary objective of the visit was to source available yak hair and to lay the groundwork for harvesting more fibre in the following year-specifically *Puu* (the soft down hair) and *Tchitpa* (the coarse outer hair).

For the first time, *Puu* fibre was successfully harvested from the Mago-chu area. This marks a significant milestone, as the collected down fibre is now used by weavers to create a range of diversified textile products in Nyukmadung.

Table: raw material sourced from Mago

Batch	Number of brokpas	Sourced raw materials	Amount paid (INR)
First	21	Yak wool, hair, blend of wool-hair	[redacted]
Second	6	Yak wool, hair, blend of wool-hair	[redacted]

Enterprise development has commenced with the formation of a women's weaving collective named 'Norbu,' consisting of 11 women in Nyukmadung, marking a significant step forward.

Activity 4.3 Conduct an end-to-end business and market analysis for rangelands-friendly pashmina and other products, to support value addition and secure market and finance linkages for communities' enterprises

Our project partner, CFP has been assessing the end-to-end business and market opportunities for goat hair, dung and, pashmina in the Changthang and on Yak milk and churpi based economies in Magu Chu. Our primary interest in these economies was to understand the existing linkages within value chains for pashmina and the necessary innovations required in economies for goat hair and dung towards sustaining a long-term economic intervention. Presently, goat hair and dung does not have a market in Ladakh, and our assessment and business look at the minimum investment and adherence to existing government schemes to leverage subsidies and fair prices towards pastoralists.

Manure Value Chain Development: In Changthang, a value chain study (Ref CP 4.3 1) was completed to assess the risks, linkages, and market potential associated with livestock manure, particularly from goats, sheep, and yaks. The study aimed to:

- Highlight the potential of manure as a valuable agricultural resource by analysing its nutrient content and benefits.
- Explore methods to transform manure into a marketable product, such as through composting and vermicomposting, thereby increasing its commercial value.
- Encourage local communities, particularly youth, to recognise the entrepreneurial opportunities associated with manure management.
- Provide practical insights into improving manure collection, processing, and distribution to promote sustainable agricultural practices and income generation.

Following the study, a manure training workshop was held on 25th September 2024 at Kargyam Satoo, with 26 participants (21 women and 5 men). During the workshop, two vermicomposting trials were initiated—one in Changthang (high altitude) and another in Phang Valley (lower altitude)—to assess worm survival and composting efficiency under different climatic conditions. The goal is to enhance the commercial value of manure through vermicomposting, making it more marketable for both personal use and sale. Previously, manure was mainly used for household purposes, with any excess left unused. Through the awareness program and training sessions, the community was introduced to the economic potential of transforming traditional manure into a profitable commodity. A second vermicomposting workshop was successfully conducted on 27th October 2024 in Chushul, with 23 participants (19 women and 4 men), further strengthening community engagement in sustainable manure management practices.

Goat Hair for Insulation: Developing a Value-Added Pastoral Product: Goats are vital to the livelihoods of nomadic communities in Changthang, providing fiber, meat, skins, manure, and milk. The Changthang goat, known globally for producing high-quality pashmina, also generates guard hair during the combing process—an often overlooked and wasted resource.

1. Our research (Ref: CP 4.3.2) revealed that goats produce approximately twice as much guard hair as pashmina annually.

- An average goat in Changthang produces 250–300g of pashmina and 500g of guard hair per year.
- With 268,800 goats in the region, an estimated 134,400 kg of guard hair is produced annually.
- Assuming that half is collected during pashmina dehairing and the remaining 50% (approx. 67,200 kg) is independently collected, and accounting for a 5% processing loss, around 63,840 kg of usable goat hair remains.
- At a projected price of Rs 50 per kilogram, this could generate an economy worth approximately Rs 3,192,000.
- Additionally, about 9,000 kg of goat hair is collected annually from the skins of goats that die during winter.

In Year 1, barrels were distributed to pastoral households to facilitate hair collection. In Year 2, we showcased the potential earnings from goat hair collection to the villagers to highlight its commercial value. The main objective is to determine a competitive price for treated goat hair (after shredding and washing with boric acid) for use as eco-friendly insulation material in buildings. We aim to share this analysis with herders and stakeholders to motivate wider adoption by demonstrating tangible monetary benefits. We also plan to approach potential buyers once a market price is established.

In Arunachal Pradesh, the churpi economy is a well-established value chain, with demand consistently outstripping local supply, leading to imports from neighbouring countries such as Bhutan. Recognising this, we have identified key opportunities for intervention in the yak milk ghee and artisanal cheese sectors. These will form the primary focus of our activities in Year 3, aiming to strengthen local production, enhance value addition, and reduce dependence on imports

Market access for Yak Hair products: In Mago Chu, three master artisans from the Brokpa community successfully participated in an exposure visit to the Desi Oon Festival held in Delhi from December 13–15, 2024. During the event, they showcased traditional techniques such as loin loom weaving and yak hair spinning, drawing significant attention from attendees. In addition to the Desi Oon Festival, the enterprise also participated in two other high-profile exhibitions: Royal Enfield's Social Mission – Journey Across the Himalayas (December 6–8, 2024) and INTACH UTSAV (January 28–31, 2025). These platforms not only offered visibility but also connected the artisans to diverse customer bases. Furthermore, two boutique outlets—Artisans Gallery in Kala Ghoda, Mumbai, and Jaipur Modern in Jaipur—have expressed interest in stocking the products.

The product line—featuring bags made from yak hair, and scarves and jackets crafted from yak and sheep wool—was well-received at all three Delhi-based exhibitions. Delhi was strategically chosen for its winter climate and discerning customer segment. Each event attracted a unique audience: the Desi Oon Festival, curated by CFP, appealed to buyers passionate about indigenous wool and pastoral livelihoods; Journey Across the Himalayas brought together craft lovers, adventurers, and conservationists, while INTACH UTSAV engaged heritage-focused patrons. These interactions provided invaluable feedback, helping to better understand and refine the brand's positioning and market appeal.

The exhibitions provided rich insights into customer preferences and behaviours. The primary target audience consisted of women aged between 35 and 75, many of whom expressed a willingness to pay a premium for products that clearly demonstrated social and environmental impact. There was a strong interest in the origin and story behind each item, with many customers eager to know where the products were made and who made them. Clothing items—particularly jackets—garnered more interest and sales compared to bags and accessories. Small-ticket items priced under £8 (or INR 800) were especially popular as gifting options.

Products from Arunachal Pradesh generated considerable enthusiasm, with customers intrigued by the fact that the initiative represented one of the few artisanal brands from the region. Many visitors appreciated the opportunity to interact directly with community artisans and expressed interest in purchasing products online. The overall quality of the products, especially the jackets, was widely praised, and several customers were even willing to wait a month or two for custom-made pieces.

However, it became clear that many buyers lacked awareness about the distinction between indigenous wool and commercially available alternatives. This highlighted a need for stronger branding and communication to better convey the ecological and cultural significance of indigenous wool, particularly its role in supporting pastoral communities and biodiversity. Notably, some customers made purchases specifically to support an initiative from Arunachal Pradesh. The live weaving demonstrations at the Desi Oon Festival played a crucial role in attracting and engaging visitors, and several attendees—including children—showed a keen interest in learning directly from the master artisans.

These events provided valuable insights that will significantly aid the enterprise in refining its products and in analysing and strategizing effective market linkage pathways.

Activity 4.4 Enable and disseminate learnings on the scalable marketing model for 'rangelands-friendly' micro-enterprises, with market linkages and partnerships, to facilitate replication across the trans-himalayan rangelands

In Year 2, CFP have successfully produced close to 14 reports documenting various aspects of our work (unpublished). Building on this momentum, they are currently in the process of developing two atlases—one focused on Ladakh and the other in Arunachal Pradesh—to be completed in Year 3. Additionally, two policy briefs are being prepared on pastoralist economies and value chains in the two regions. The dissemination of these learnings has already prompted quick follow-up actions with local partners, including ongoing conversations and more in-depth consultations on the value chains explored. Furthermore, the work on the

dung value chain has been compiled into an illustrated handbook to ensure broad accessibility (Ref CP 4.4.1).

3.2 Progress towards project Outputs

Output 1. Shared, community-led vision developed for Changthang and Mago-Chu Rangelands, ensuring the inclusion of all local voices, particularly women and marginalised groups, through radical listening and participatory approaches.

Output indicator 1.1: Two vision documents prepared and endorsed by the community representatives from the Changthang and Mago-Chu regions, by the end of Year 2.

Baseline: Zero

In Changthang, the data collected through the visioning exercise was subjected to an in-depth narrative and thematic analysis. The results from analysis were compiled in the form of a report, translated into vernacular language (Bhoti), and shared back with community for their feedback and to maintain transparency. This also ensured that that community fully understood and was well informed about the contents of vision. While **the draft vision has been prepared**, it must be finalized through a multistakeholder workshop which, although planned to be organized in the March, 2025, had to be postponed on the request of the office of Hon'ble Lieutenant Governor of Ladakh, the Chief Functionary of Ladakh, CEC and LAHDC Councillors due to their unavailability during the month of March. Since Hon'ble LG's approval is a must for the vision to be accepted and endorsed by the Government, the meeting had to be postponed.

In Mago Chu: Visioning exercises have been completed in 10 villages in Mago Chu. Drafts have been shared with the respective CCA management committees, and three CCAs have endorsed them. Final endorsement will occur through the formal adoption of the CCA management plans, which incorporate the visioning document. These plans integrate traditional and modern natural resource management practices, with active participation from community groups and elders. A consolidated landscape-level vision document will also be prepared and shared with a broader audience.

Output indicator 1.2 Two multi-stakeholder 'Rangelands Councils' charter endorsed (year 1) and platform formed in Year 2, one each for Changthang and Mago-Chu, bringing together communities, non-governmental organisations, government departments, and private sector on one platform (at least 50% communities' representation, and around 50% of these to be women).

Baseline: No Councils are in place

In Changthang, the multistakeholder Rangelands Council must be finalized through a multistakeholder dialogue during the multistakeholder workshop. The multistakeholder workshop had to be postponed on the request of the office of Hon'ble Lieutenant Governor of Ladakh, the Chief Functionary of Ladakh, CEC and LAHDC councillors due to his unavailability during the month of March.

In Mago Chu, following consultation with local partners and based on the village dynamic, it was agreed that a separate rangeland council is not required instead the vision is being integrated into the Community Conserved Area frameworks. The information and insights emerging from the visioning exercises will be incorporated into the CCA management plans. Wherever, the project villages haven't overlap with the CCA framework, the existing village councils – the traditional *Mangma* and Panchayat - will be responsible to develop action plans based on the inputs generated through the visioning exercises. There are seven CCAs already established covering 9 project villages, and out of those, we have covered eight villages through visioning exercise and community consultations. Through the visioning exercises, we have reached out 450 community members, and out of those, 39% are women representative.

Output indicator 1.3 Percentage of community members across all groups, particularly women and marginalised groups, that express satisfaction about their participation in the design and decision-making of the rangelands vision documents, by Year 2.

Baseline: None

Changthang: A visioning satisfaction survey involved 323 key respondents from the Durbuk and Nyoma sub-divisions, with a nearly equal gender split—51.7% male and 48.3% female—ensuring balanced representation (WHL_OI_1.2). Approximately 78% of participants reported feeling heard and valued during the visioning sessions, while around 82% believed that the vision developed through this process would effectively reflect the priorities and aspirations of the Changpa community. To ensure accessibility and build transparency, the draft Vision Document was translated into the Ladakhi language. Notably, 79% of respondents stated that the translated draft significantly enhanced their understanding of the Vision's key insights and recommendations.

Mago Chu: Most community participants expressed satisfaction with the visioning exercise and found it to be meaningful and effective (Qualitative assessment and Observations). Through the process of discussions and community consultations, many—especially elders—were prompted to reflect on the Brokpa way of life. The visioning exercise has been completed in 10 villages, with 7 more scheduled to be covered by July 2025. A quantitative survey will be conducted in all the villages.

Output 2. Multi-stakeholder co-management of rangeland plan, based on the community-led visions in both regions, contributing to improved ecosystem, and resilient rangelands at pilot sites.

Output indicator 2.1. Convergence and alignment of rangeland management objectives and actions of key stakeholders around 'community vision of rangelands management' for establishing effective and scalable co-management of rangelands, by Year 2.

Changthang: By Year 2, significant convergence and alignment of rangeland management objectives among key stakeholders in Changthang have been achieved. The Rangelands Vision and Co-management Plans were formally socialized and endorsed by the Chairman of the Ladakh Autonomous Hill Development Council and five regional councillors. Multi-level engagement included critical departments of the UT administration—Animal and Sheep Husbandry, Wildlife, Tourism, RDD, PDD, and Ladakh Police—reflecting broad institutional buy-in. Alignment efforts extended to non-governmental actors, including key tourism associations and local NGOs, to ensure a cohesive, cross-sectoral approach. The translation and distribution of the visioning document in Boti enabled inclusive community participation, indicating convergence around a shared vision and setting the groundwork for scalable co-management of rangelands.

Mago Chu: Convergence around the community vision for rangeland management has been initiated at the local level. Visioning exercises were completed in 10 villages, with consultations involving key community stakeholders such as panchayat leaders, schoolteachers, and religious figures. While broader engagement with government departments and external stakeholders is pending, preparations are underway to consolidate the village-level visions into a unified document for presentation to policymakers and administrative agencies.

Output indicator 2.2 Two regional rangelands co-management plans, informed by research studies, prepared for joint implementation by communities, government, and non-government organisations, by Year 2.

Progress year 2: In Changthang, a draft vision has been developed and will be finalized through a multi-stakeholder workshop, where consensus among all key stakeholders will also be used to draft the rangeland co-management plan.

In Mago Chu, seven Community Conserved Areas (CCAs) overlap with nine project villages. Visioning exercises have been completed in six of these CCAs. Rangeland management plans are currently being formulated and incorporated into the respective CCA Management Plans. To date, five CCA Management Plans have been drafted, with the remainder expected to be finalized by July 2025.

Output indicator 2.3 On-ground sustainable rangeland management pilots at 2 sites (covering 8 villages & ~140 households in Mago-Chu, and 4 villages & ~115 households in Changthang), e.g. revival of traditional grazing practices and adaptive grazing pilots, by Year 3.

Progress Year 2: The rangeland health assessment based on satellite imagery from 1990 to 2024 shows a clear trend of greening, contradicting our initial assumption of widespread degradation. This is further supported by evidence of continued use of rotational grazing and the presence of functional traditional institutions governing rangeland management, which we had underestimated. However, greening alone does not equate to ecological recovery. The satellite data lacks insights into herbaceous species composition, and our biodiversity surveys revealed low densities and patchy distributions of wild ungulates—key indicators of rangeland biodiversity. These findings suggest that while surface-level indicators appear positive, underlying ecological processes and biodiversity integrity remain compromised. Addressing these issues requires a more nuanced, integrated approach—combining remote sensing, ecological field data, and socio-institutional analyses—and translating findings into actionable insights for communities and policy makers. The challenges are more complex than initially expected and demand a multi-dimensional strategy before pilot interventions can be effectively designed and implemented. In the next step we will delve into the drivers (Livestock stocking densities, topography and climate) of greening and browning including examining vegetation composition, soil health and forage productivity, so that appropriate interventions for the sustainable rangeland management can be framed. The vegetation plots are already in place in both Chagthang and Mago Chu which will provide the nuanced understanding of rangeland vegetation health we need.

Output indicator 2.4 Recovery of vegetation at pilot sites by Year 3 (compared to baseline and control plots)

Progress Year 2: Based on emerging insights from multiple research streams—including satellite-based rangeland health monitoring, traditional ecological knowledge and governance systems, livestock stocking densities, and the population density and distribution of wild carnivores and ungulates—we recognize the need to reassess our initial assumptions. The complexity of interacting ecological and social factors requires a more integrated understanding before vegetation recovery can be meaningfully evaluated. Therefore, we are recalibrating our approach to ensure that vegetation recovery interventions and assessments are grounded in a more holistic and ecologically sound framework at both the sites.

Output 3. Enhanced tolerance for wildlife in the two target sites, through a combination of preventive and mitigative measures for reducing livestock losses and cost of living with wildlife, improves human-wildlife coexistence.

Output indicator 3.1 Community tolerance for wildlife improved, in both target regions, by at least 50% by Year 2, and 75% by Year 3 (compared to baseline at start)

In Changthang, the perception/tolerance scores towards wildlife were positive (0.78, with 0 being the most negative value and 1 being the most positive value) across three village blocks viz. Durbuk, Nyoma and Rupshu and neutral (0.50) in certain villages and Hamlets within these blocks, specifically in Hanle and Rongo (Nyoma block) and Samad (under Rupshu-Puga block). While these establishes the tolerance baselines, the post assessment is due. However, we still

assessed the role of interventions by comparing the tolerance scores between groups that had received interventions and those that had not, and contrary to our expectation, **perception scores did not significantly differ (p-value > 0.05) between groups with and without intervention** (Ref: WHL_3.2.1).

In Mago Chu, the mean perception/tolerance score was neutral (0.41) for snow leopards and negative (0.35) for wild dogs/dhole. This serves as a baseline for the site, as interventions were still ongoing in year 2; the post-intervention assessment is scheduled for year 3 (Ref: WAL_3.2.2). Allowing a 6–8-month gap between intervention completion and post-assessment will strengthen the evaluation of changes in livestock mortality and shifts in local attitudes or tolerance.

Output indicator 3.2 Community endorsed and co-designed mitigation measures for 275 pastoralists covered by compensation and insurance schemes and other agreed mitigation measures, initiated in both regions, by Year 2.

A total of 811pastoralists (154 in Year 1 and 657 in Year 2) have benefited from community-endorsed and co-designed mitigation measures aimed at reducing human-wildlife conflict and livestock mortality. To date, 300 flashlights and 20 foxlights have been distributed across 20 villages in the Durbuk and Nyoma subdivisions of Changthang. While foxlights were initially introduced as the preferred intervention, ongoing dialogue and feedback from communities indicated a preference for flashlights, as they not only help deter predators but also enable pastoralists to locate and actively drive them away. Furthermore, 45 pastoralists in Magu Chu benefited from mitigation measures last year.

A study to understand gaps in the compensation system operated by the Wildlife Department was conducted, where it highlights the gap between limited government aid and actual livestock losses due to predators like snow leopards and wolves. Despite strong community tolerance and use of traditional and modern mitigation methods, compensation remains delayed, underreported, and inadequate. The study proposes reforms including streamlined procedures, decentralized verification, and digital tools to ensure fair, timely support and promote sustainable coexistence.

Output indicator 3.3 Livestock losses from human-wildlife conflict reduced by at least 50% at three pilot sites (2 in Changthang and 1 in Mago-Chu), through co-designed prevention measures, e.g. better corrals and herding practices, by Year 3. (baseline: 6-8% of livestock mortality is caused by wild carnivores, i.e. GBP 170 per household annually; specific baseline for target households will be established at project start)

In Changthang, a preliminary post-assessment survey (n = 40) at our pilot sites revealed that 74% of respondents reported a decrease in livestock depredation following the implementation of mitigation measures provided in year 1. Additionally, 84% expressed an increased sense of safety for themselves and their livestock, while 89% considered the mitigation tools they received to be effective. In Magu-Chu, we will conduct post-assessment surveys next year in all the project villages where interventions preventing livestock losses have been implemented.

Output 4 More than 200 Changpa and Brokpa pastoral households have diversified and augmented income from 'rangelands-friendly' products and micro-enterprises led by women.

Output indicator 4.1 Approximately 30% increase in 200 households' income by Year 3 (baseline: monthly HH income is ~GBP 200 for these 2 regions; specific baseline for the target households will be established at project start)

Household income baselines were established in Year 1 for the target households. In **Changthang**, the average monthly household income across seven villages was found to be INR 16,296, with a range between INR 1,000 and INR 50,000. In **Mago Chu**, the average monthly income from handicraft activities (for six individuals in the sample) was INR 7,750.

As part of the livelihood and handloom training activities, women were actively supported to participate in stalls at the National Capital, which provided significant exposure for both product sales and customer interactions. This initiative not only increased visibility but also facilitated direct market access. Looking ahead to Year 3, further support will be provided to strengthen market linkages, both within Ladakh and at the national level. This will likely enhance sales opportunities for the target women's groups, thereby contributing to the expected increase in household incomes which will measured in the final year of the project,

Output indicator 4.2 Around 200 women trained and equipped for processing raw pashmina and yak wool, and producing value-added, 'rangelands-friendly' products, by Year 2.

Since the start of the project, 300 women from pastoralist households (Ref: O4.2) have been trained in skills such as spinning, weaving, and dyeing. In addition to training, they have been supported with equipment—including looms, spinning wheels, and warping drums—as well as raw materials such as market yarn and pashmina wool

Output indicator 4.3 Three women-led 'rangelands-friendly' micro-enterprises, e.g. for wool-based and dairy products, established (2 in Changthang and 1 in Mago-Chu), to diversify income opportunities for approximately 200 households, by Year 3.

Since the start of the project, 10 women-led micro-enterprises have been established and formally registered with the Ministry of Micro, Small and Medium Enterprises, Government of India (10 in Changthang and 1 in the process of being registered in Magu Chu). To date, 198 women are actively involved.

Output indicator 4.4 A robust understanding of viable livelihood options and a scalable marketing model for 'rangelands-friendly' micro-enterprises identified in Year 1, with linkages and partnerships based on a market analysis, is in place by Year 3.

This year, two business models have been explored—one focused on using goat hair for insulation, and the other on utilising goat manure as fertiliser. Detailed business plans have been developed for both, analysing risks, value chain linkages, and market potential (Ref CP 4.3.1 and 4.3.2).

3.3 Progress towards the project Outcome-

Outcome: A scalable, community-led co-management model in Changthang and Mago-Chu improves high-altitude rangelands and biodiversity health across 500,000 hectares, secures the livelihoods of 3,000 pastoralists, and enables human-wildlife coexistence.

Outcome indicators
0.1 By Year 2, an effective, equitable, and scalable high-altitude rangelands co-management model is adopted in 2 regions of the Indian Trans-Himalayas, protecting multi-use rangelands.
Baseline: No co-management models are in place in Changthang or in the high-altitude areas covering Magu-Chu.
Year 1 progress: visioning exercise completed in Changthang, which will form the basis of the co-management model. A different strategy for engagement in place of visioning developed for Mago Chu.
Year 2 progress: A draft structure and mandate for the rangeland's council for Changthang have been prepared and are ready for finalization and endorsement during the multistakeholder workshop. Meetings with 3 CCAs in Mago Chu, accepting the recommendations of the visioning approach to integrate visioning into the CCA management plans.

0.2 By Year 2 approximately 300,000 hectares, and Year 3 approximately 500,000 hectares of high-altitude rangelands in the two target regions are being co-managed.
Baseline: zero
Year 2 progress: In the Hanle Basin (1,314 km² or 131,400 hectares) and Tsokar Basin (847 km² or 84,700 hectares) of Changthang, our studies highlight the presence of a rangeland ecosystem governed by strong traditional institutions and rangeland-friendly practices, including rotational grazing. The establishment of the Rangelands Council in May 2025 will bring this entire area under formal co-management. Additionally, integrating the rangeland vision into the CCA management plans is expected to bring another 1204 km² (120,400 hectares) in Mago Chu under sustainable management. In total, an area of 336,500 hectares in both the landscapes has been covered by the end of year 2. More areas during year 3 will be identified through ongoing community consultations

0.3 At the end of Year 3, the co-managed rangelands demonstrate measurable improvements in ecosystem and biodiversity health measured by

Baselines:
(0.32) The 2015/2023 trend assessment is:
Greening & Browning patterns (Changthang): 87% of the Tsokar basin greened—meaning vegetation increased over 847 sq. km. Out of this, 224 sq. km (23%) greened significantly, suggesting healthier plant growth or higher biomass. On the other hand, 12.5% browned—meaning vegetation declined over 121.8 sq. Km. Within that, 24 sq. km (2.5%) browned significantly, a warning sign for possible land degradation or ecosystem stress.

Greening & Browning patterns (Magu-Chu): Through our efforts in Changthang, we have established an analytical protocol. This protocol, initially developed for Changthang, will be implemented to examine patterns of changes in rangeland vegetation in MagoChu.

(0.33 & 0.34) Occupancy estimates of wild carnivores & ungulates (Changthang): Year 1 baseline analysis was not complete at the time of year 1 reporting due to heavy snow preventing retrieval of camera traps

Occupancy estimates of wild carnivores & ungulates (Magu-Chu): Year 1 baseline work established a population estimate; in year 2 a formal occupancy analysis was initiated. Camera traps were placed across 2000 km^2 and will stay in place for around 8 months into year 3,

Site	Snow Leopard	Blue sheep	Argali	Gazelle	Kiang
Changthang (Hanley)	N=14, Population-Density of 0.52/100km^2, Area of occupancy of 2,621km^2	Population = 79 individuals, Population-Density = 4.64 / 100km^2	Population = 23 individuals, Population-Density = 1.35 / 100km^2	Population = 47 individuals, Population-Density = 2.7 / 100km^2	Population = 1055 individuals, Population-Density = 61.96 / 100km^2

Mago Chu: Camera traps were placed across 2025km^2 and will stay in place for around 7 months into year 3

0.4 At the end of Year 3, approximately 550 pastoralist households in the target sites have improved livelihoods security and tolerance for coexistence with wildlife. (compared to baselines at start)

Baseline: Household income baselines have been collected in Changthang and Magu-Chu. Baselines on the community's relationship with carnivores (including tolerance) have been collected at both the sites. In Changthang the monthly household income average based on 7 villages is INR. 16,296, within a range of INR.1,000 - 50,000.

Year 2 progress: Women in 230 households are engaged with women led micro-enterprises. Around 300 women trained and equipped for processing raw pashmina and yak wool, and producing value-added, 'rangelands-friendly' products. The change in income levels and tolerance towards wildlife will be estimated through a repeat survey in year-3.

Given the strong interest and support from all major stakeholders—particularly the high level of confidence and endorsement from local communities, as well as the active backing of key decision-makers such as the councillors of the Ladakh Autonomous Hill Development Council (LAHDC) and the office of the Honourable Lt. Governor—we are confident in our ability to achieve the stated outcome by the end of the funding period. However, as noted earlier, it will be essential to undertake a thorough evaluation of the socio-economic and ecological drivers of rangeland degradation, including the low population densities and patchy distribution of wild ungulates, and to integrate targeted strategies to address these within the rangeland management frameworks through a participatory, stakeholder-driven approach. This we believe will have to go beyond the project funding cycle.

3.4 Monitoring of assumptions

Assumption 1: Co-management leads to convergence of objectives, improved governance, more sustainable resource use, lower pressure from livestock, and consequently improves the health of rangeland ecosystems and biodiversity.
Comments (hold true/changes/management of changes): Government officials and community finding common ground is a key assumption for this programme and evidence is that there is a strong ongoing desire to work towards co-management, albeit with distinct definitions between the two sites of what type of co-management is culturally and politically acceptable. However, proving the assumption that co-management brings about change that will improve rangeland health is proving to be a task that will take more than 3 years.

Assumption 2: All sectors and stakeholders are willing to co-manage the high-altitude rangelands to improve ecosystem health and biodiversity (as demonstrated by participation in the 'Rangelands Councils' and implementation of the co-management plans). A precedent exists in landscape-level management planning mandated by the Government of India's Project Snow Leopard.
Comments (hold true/changes/management of changes): While not yet fully proven, the approach is showing strong potential, with growing interest and support across all sites. Stakeholders have demonstrated a clear inclination toward co-management. For instance, the Changpa community strongly believes that the visioning process can shape rangeland policy and influence key decision-makers, while both the LAHDC and the office of the Honourable Lt. Governor have recognised its value and formally committed their support.

Assumption 3: There are no significant external shocks in the regions, e.g. due to climate induced events, that negatively impact rangelands and pastoralists.
Comments (hold true/changes/management of changes): Greatest concern is the Indo-China political situation which has not changed in the past year. The unusually heavy, late snowfall in both sites has impacted the work of the project, but pastoralists seem to have weathered this.

Assumption 4: An inclusive, community-led vision and management of rangelands, accepted and facilitated by the Government and other key stakeholders, will enhance community stewardship for rangelands and bring convergence across diverse stakeholders' groups.
Comments (hold true/changes/management of changes):

This assumption still holds true, evidenced by the level of engagement and enthusiasm of the local communities. The Government of Ladakh created a group 3 years ago to create rangeland management policy with exhaustive stakeholder consultations including with the local communities, but it wasn't taken forward mainly due to the conflicts between different stakeholders. Those conflicts have not been repeated, due the approach we are following. In Mago Chu, there is a clear interest and ongoing support from district administration (due to the

current Community Conserved Area Approach being led by WWF[23]) and scope to engage with their ongoing planning processes

Assumption 5: Participation of women and marginalised groups will lead to their perspectives and concerns reflected in the vision documents.
Comments (hold true/changes/management of changes):
Holds true - evidenced by enthusiastic participation in project interventions and the results of the recent gender focused survey.

Assumption 6: Government departments and other stakeholders welcome the empowerment of communities and co-management of rangelands.
Comments (hold true/changes/management of changes):
While in principle everyone agrees that communities need to be empowered especially since traditionally, they have been using the rangelands and each department individually has also shown an interest in the vision, they are hesitant to collaborate. The concept of co-management encounters obstacles as some of the stakeholders, mostly the government are unwilling to give up control, opting instead to maintain authority. Stakeholders can be divided into two categories: those who are community-oriented and those who hold power and have vested interests. In Mago Chu, where it is *de facto* recognised that communities own/control the land, the aim of the government often takes a hands-off approach and is happy to shift the responsibility to the people. Here a community conserved area approach already has a high degree of acceptance. In Changthang overcoming these challenges requires securing support from the Ladakh Autonomous Hill Development Council, which shares the community's vision. However, bureaucratic disparities present hurdles, hence one needs to be strategic and push for inclusive planning which is a necessity. Gaining insight into the viewpoints of administrators is key to pinpointing areas of influence. Rather than the WWF, the Chief Executive Councillor of the Council could assemble stakeholders to effectively overcome administrative barriers.

Assumption 7: Multi-stakeholder agreements bring convergence across diverse stakeholders towards achieving a shared rangelands vision; similar to and in alignment with the mandate for convergence of objectives of different agencies under 'Project Snow Leopard' of the Government of India.
Comments (hold true/changes/management of changes): Holds still, shown by stakeholders working together well on the snow leopard population assessments.

Assumption 8: Local communities and different stakeholders recognize the value of effective management of rangelands and conserving rangeland biodiversity, for long-term sustenance of local livelihoods and livestock-based economy and hold greater value for rangelands and thus continue to contribute toward sustainable management of rangelands over the long term.
Comments (hold true/changes/management of changes): Holds still.

Assumption 9: Government agencies are open to listening to the voice of rangeland communities and building upon these to support co-management.
Comments (hold true/changes/management of changes): see #6 above.

Assumption 10: Reduced human-wildlife conflict will improve livelihoods security for local communities and improve tolerance of wildlife (including reduced retaliatory killing of species such as snow leopards), contributing to enhanced biodiversity and ecosystem health
Comments (hold true/changes/management of changes): Holds true supported by published literature that a driver of retaliatory killing is livestock loss. However, we need to test the efficacy of the current mitigation measures (monitor).

Assumption 11: Support for improved processing of pashmina and yak-hair based handicrafts and establishing micro-enterprises that are labelled 'rangelands-friendly' will improve incomes for the local communities and contribute towards biodiversity stewardship. WWF has evidence that a market for such products exists, e.g. snow leopard enterprises.
Comments (hold true/changes/management of changes): The evidence of supply chain opportunities underscores the potential for economic growth and development within the

rangeland ecosystems, and strong youth engagement in the visioning work is evidence that stewardship of the rangelands matters.

Assumption 12: Women will see greater access to cash from income generation.
Comments (hold true/changes/management of changes): Holds true based on output 4 interventions supported by a gender survey. See more in section 6 on GESI.

Assumption 13: There are no external shocks to the cashmere/pashmina market that impact demand and potential growth in the sustainable/responsible wool and other livestock products sector.
Comments (hold true/changes/management of changes): Seems to be proven by market analysis and assessments

3.5 Impact: achievement of positive impact on biodiversity and multidimensional poverty reduction

As outlined in our original application, the project's intended impact is People and wildlife benefit from healthy, co-managed high-altitude rangelands in India's Trans-Himalayas, with secure and sustained ecosystem services and resources, improved human-wildlife coexistence, and enhanced local livelihoods.

Biodiversity impacts: The project has made significant strides in achieving positive impacts on biodiversity and ecological resilience in the rangelands at project sites. Biodiversity assessments in the Hanle and Tsokar basins showed strong greening trends, with over 98% of Hanle and 87% of Tsokar experiencing vegetation recovery, indicating improving rangeland health. However, localised browning in parts of Tsokar signals emerging threats that require deeper probing and understanding of drivers of both greening as well as browning. Wildlife monitoring revealed stable yet low densities of key species such as snow leopards, blue sheep, and argali, underscoring the importance of targeted conservation. Structured rotational grazing by the Changpa, informed by traditional ecological knowledge (TEK), has contributed to sustaining rangeland conditions. Meanwhile, participatory visioning processes and the formation of rangeland councils have mobilised communities toward co-management, embedding conservation goals in locally endorsed action plans and CCA management frameworks.

Poverty reduction impacts: Simultaneously, the project has delivered multi-dimensional poverty reduction outcomes, especially for women and pastoralist households. More than 300 women across Changthang and Mago Chu received training and equipment to process pashmina, yak wool, and other local fibres, resulting in the establishment of ten women-led microenterprises like "Yarns of Changthang" and "Norbu." These interventions have significantly diversified income streams, enhanced market access, and improved women's economic agency. Focus group discussions revealed increased confidence, shared financial decision-making, and modest shifts in gender roles. Additionally, disease-related livestock mortality—the leading cause of economic loss—was addressed through animal health camps and awareness programs, benefiting 337 Brokpa households. Additionally, 474 pastoralists have benefited from community-endorsed and co-designed mitigation measures to counter HWC mortality and hereby helping mitigate any economic burden caused due to livestock depredation by the wild carnivores. The integration of ecological restoration with livelihood enhancement reflects a strong biodiversity–poverty linkage, positioning the project as a model for inclusive conservation in high-altitude landscapes.

4. Project support to the Conventions, Treaties or Agreements

The project directly supports key international conventions and agreements by advancing integrated biodiversity conservation and sustainable development in the Trans-Himalaya. It contributes to the Convention on Biological Diversity (CBD), particularly Aichi Targets 14 and 18 and the Kunming-Montreal Global Biodiversity Framework Goals A and B, by restoring degraded rangelands, strengthening community-led governance, and preserving traditional

ecological knowledge (TEK). The project also aligns with the UN Framework Convention on Climate Change (UNFCCC) by enhancing climate resilience among vulnerable pastoral communities through participatory adaptation planning and climate vulnerability assessments. Furthermore, its focus on gender equity and livelihood diversification supports the UN Sustainable Development Goals (SDGs), notably Goals 1 (No Poverty), 5 (Gender Equality), 13 (Climate Action), and 15 (Life on Land). By embedding conservation into local institutions and policy narratives, the project advances the principles of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), reinforcing the rights of Changpa and Brokpa communities to manage their natural resources sustainably. The project's objectives and approach are also closely aligned with the goals of the International Year of Rangelands and Pastoralists (IYRP), declared for 2026 by the United Nations. By centering pastoralist voices in rangeland governance, restoring degraded ecosystems, and promoting sustainable, livestock-based economies, the project contributes to global recognition of the ecological, cultural, and economic value of rangelands and pastoralism.

5. Project support for multidimensional poverty reduction

This project contributes to multi-dimensional poverty reduction by improving livelihood opportunities, strengthening financial resilience, and reducing economic vulnerability among pastoralist communities in the high-altitude regions of Ladakh and Arunachal, India. Although India is an upper-middle income country, this work specifically targets remote, marginalised communities where poverty persists.

The primary beneficiaries are pastoralist households in Changthang and Mago-Chu—communities that face limited economic opportunities, harsh environmental conditions, and regular economic losses due to livestock predation by wild carnivores. To date, the project is directly supporting 1111 **pastoralist households:** 300 through livelihood augmentation (e.g. wool-based micro-enterprises), and 811 through human-wildlife coexistence interventions (e.g. predator-proof corrals, foxlights) and animal health camps. These interventions collectively reduce vulnerability, diversify income streams, and foster long-term resilience.

Extensive community engagement has informed project design and delivery, ensuring community rangeland management plans and interventions are relevant and appropriate. This includes participatory well-being assessments across 215 households and a conflict analysis to identify high-conflict zones and species of concern. These tools helped tailor both the livelihood and conflict mitigation components to local realities.

The project is already delivering measurable benefits:

- **Livelihoods and income:** In Year 1, 203 women were identified to be supported with training, raw materials, and equipment (e.g. looms, spinning wheels) through a partnership with the Looms of Ladakh Women's Cooperative (LLWC). By Year 2, the project is facilitating the formation of women-led micro-enterprises focused on pashmina and yak wool products. These efforts aim to diversify income sources and establish sustainable, market-linked production hubs.
- **Economic analysis:** A study by CFP found that the actual potential of the pastoral economy (INR 11.78 crore) far exceeds current earnings (INR 6.5 crore) for 428 families, indicating significant room for growth through improved value chain access. Market analysis has confirmed demand and financial viability for pashmina and other rangeland-friendly products.
- **Human wildlife conflict and reducing Livestock Mortality:** Conflict mitigation measures—including predator-proof corrals, 300 flashlights, and 20 foxlights—are reducing economic losses and improving household security. A preliminary survey found that 74% of respondents perceived a reduction in livestock depredation, and 89% found the mitigation tools effective. As part of this initiative to support the Brokpa community, medicines, supplements, cattle feed, and farming tools were distributed across 16 villages—Mago, Thingbu, Jang, Jangda, Rho, Shyaro, Mukto, Lhao, Mibra, Gongkar, Kharman, Kelengteng, Shocktsen, Lumpo, Muchut, Nyukmadung, and Senge Dzong—benefiting a total of 337 herder households.

Beyond immediate benefits, the project is also contributing to long-term poverty reduction by:

- Enhancing ecosystem stewardship, promoting sustainable use of biodiversity through rangeland-friendly products.
- Supporting women's empowerment through enterprise development, which contributes to improved social and emotional well-being.

6. Gender Equality and Social Inclusion (GESI)

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	X
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

Last year WWF categorised the project as being gender-sensitive (because the project is integrating gender into planning and implementation, especially the needs of women in marginalised communities, seeking to address inequitable access priorities through promoting female participation, planning meeting times to maximise female attendance and have engaging female team members, etc). This WWF categorisation was challenged by the reviewer who re-categorised it to "not yet sensitive" due to concerns about lower attendance of the preliminary vision meetings (in Changthang) by women than men (36% female attendance).

We reported last year (under activity 2.1) that the team noted this discrepancy, as well as a lower participation by youth, and set up separate meetings and studies with 82 women (and with youth). The result of taking this remedial action meant that there was a 41% representation of women in the visioning exercise. This is a very positive outcome regarding inclusion of women in decision making considering a traditionally patriarchal society. This also represents an example of our "radical listening" approach. Further meetings were also held with the women's council (Ama Tsogpa). These additional studies highlighted the roles and responsibilities of Changpa women not only in domestic work, but also in culture preservation and in knowledge transmission of the traditional handloom art – as well as the evolving difficulties associated with climate and socio-economic changes.

Learning from the gender context and understanding roles and responsibilities during the visioning exercise in the Chanthang site was communicated to the Mago Chu team to enable them to adapt their approaches.

The reviewer also expressed a concern that Assumption 12 may not hold (Women will see greater access to cash from income generation) and the additional income that Output 4 aims to enable may simply become an additional burden on women excluding them from control over

the income generated. The project team agreed on the need to test this and designed surveys at both sites to capture perceptions of family members regarding women's involvement in income-generating activities, the time women allocated to household work, leisure, and income generation, the distribution of household responsibilities, the level of support from family members, and women's own perceptions of empowerment, financial independence, and influence in decision-making. To assess the validity of Assumption 12 and understand the extent of women's control over the additional income generated through livelihood trainings under Output 4, a survey was conducted in Changthang (n=53). The results reflect a strong trend toward women's economic empowerment, with engagement in handicrafts increasing from 38% to nearly 68%, demonstrating successful livelihood diversification. Encouragingly, 74% of respondents reported no conflict over women's employment, 98% noted no disagreements regarding the use of additional income, and 68% supported joint financial decision-making—indicating a shift toward more equitable household dynamics. Empowerment outcomes were further evident, with 50% of women reporting increased confidence in expressing their opinions and 87% experiencing no resistance from family members, suggesting positive socio-cultural change. While 100% of women continued to perform cooking and cleaning duties, 68% reported reduced rest time, highlighting the ongoing challenge of balancing paid and unpaid work. Nonetheless, modest increases in men's and children's contributions, particularly in livestock care, was also reported which points to the beginning of a more supportive distribution of household responsibilities.

The results from the discussions that the project team had, are, we trust, sufficient response to point 3 in the feedback summary on our year 1 report.

In the light of the information above and below, the project team feel that we can categorise this project as being Sensitive.

While the project did not conduct a targeted GESI analysis in year 1, we did conduct a very thorough Traditional Ecological Knowledge, Natural Resource Management and Traditional Institutions assessments in both sites with key informants including youth, women and men. This provided us with information, from which we gained greater understanding of the GESI context, pertaining to the following headings:

6.1. Rights: Legal and customary

India is a signatory to key international and regional conventions promoting gender equality, human rights, and the rights of indigenous peoples, such as CEDAW. The National laws like the Forest Rights Act (2006) and the Panchayats (Extension to Scheduled Areas) Act (1996) do protect community rights over natural resources along with other Acts like the Biological Diversity Act. However, some of these may not be applicable to the Union Territory depending on the legal status of land and also awareness of these rights among local communities remains limited, and implementation is uneven. In practice, customary norms often take precedence, particularly in remote regions like Changthang, where traditional governance structures play a central role in community decision-making.

6.2. Practice: Attitudes, customs & beliefs

Prevailing attitudes in Changthang are largely supportive of women's participation in livelihood activities, with 74% reporting no conflict over their employment. However, entrenched gender norms remain, with all women surveyed continuing to shoulder primary domestic responsibilities. These norms contribute to limiting women's ability to fully benefit from economic opportunities. While the project acknowledges these inherent limitations, it attempts to provide a level of financial empowerment to women by enhancing their entrepreneurial skills. However, care is also taken to remain culturally sensitive to the social norms that operates in the villages. As such, it aims to align its interventions with local customs, with efforts such as raising awareness and encouraging voluntary involvement of male family members in supporting women's roles. We have observed early signs of change, with men in some households beginning to take on additional domestic responsibilities in support of women. In pastoral societies, where the gendered division of labour is closely tied to social norms and the practical demands of a nomadic lifestyle, lasting change is likely to emerge organically—from within the community—as women increasingly assert their rights, as reflected in the growing confidence and agency seen in groups like the Ama Tsogpa.

6.3. Environment: Stressors & vulnerability

Harsh climatic conditions, increasing climate variability, and resource scarcity—particularly water and pasture—are key environmental stressors in Changthang. These disproportionately affect women, who are responsible for livestock care and household water collection, impacting their health, workload, and income opportunities. Though women are primary actors in several natural resource-dependent tasks, decision-making authority remains limited. While some shared responsibility is emerging, unequal burdens persist. Resource stress has so far not strained intra-household dynamics and despite a largely patriarchal system, the violence against women in not reported at any of our project sites.

6.4. Roles and Responsibilities: Division of time, space & labour

Cultural expectations in Changthang place the burden of domestic work squarely on women, regardless of their participation in income-generating activities. Despite increased earnings, 100% of women continue to do all cooking and cleaning, and 68% reported reduced rest time—highlighting the dual burden of labor. Modest improvements were seen in male participation, particularly in livestock care. There are no explicit restrictions on women engaging in handicrafts, but time constraints and social expectations may limit their broader participation. The project accounted for these barriers as a design principle and has fully integrated the suggestions of women to improve their participation, inclusion and ability to engage by designing the entire intervention around daytime, duration and related needs as suggested by women. The project livelihood leads engaged with the families of the women, highlighting the critical role women play in the pastoral economy and the broader benefits of their involvement in income-generating activities for the entire household. They also gently emphasized the importance of family support in enabling women to pursue these efforts. The broader visioning exercise earlier was helpful in this engagement with the families.

6.5. Representation: Participation, inclusion & power

Traditional decision-making forums exist in the region in the form of Goba's (Changthang) and Mangmas (Mago Chu), often dominated by older men. Women's participation remains limited, though some shifts are evident—68% of women reported participating in joint financial decision-making. Increased confidence, as reported by 50% of women, suggests potential for greater inclusion if supported. Women also reported that even though they did not participate in decision making forums, the nonetheless communicated and relayed their concerns through their husbands who participated. Barriers include lack of time, low confidence, and entrenched power hierarchies. The project plans to support women's inclusion in governance spaces by investing in confidence-building, time-saving interventions, and engaging traditional leaders to create enabling environments. One of the key enabling action would be women's adequate representation in the rangeland's council that we are committed to achieve.

6.6 Resources: Access & control of assets and services

In the Changpa and Mago Chu pastoral system, access to and control over resources is heavily influenced by gendered social norms. While women are deeply involved in activities associated with rangeland management—through livestock care, milking, dairy processing, and resource gathering—their contributions remain largely unrecognized in economic and governance terms. Despite their day-to-day engagement with rangelands, men dominate financial transactions and resource-related decision-making, underpinned by the belief that selling livestock is a male responsibility, both economically and morally. Although, women's labor is critical to sustaining pastoral systems, yet it is often dismissed as mere "household work," reinforcing gendered hierarchies in control over assets and benefits.

The primary barriers to equitable benefit distribution stem from socio-cultural norms that marginalize women's voices in public decision-making, particularly within traditional governance institutions like the *Yulpa* and roles like the *Goba*. Women are routinely excluded from village meetings where critical rangeland decisions are made and often feel discouraged or incapable of participating due to perceptions of being "shy" or "unable to form opinions." Though they may influence decisions at the household level or through informal platforms like the Ama Tsogspa,

these spaces lack the formal authority held by male-dominated structures. Additionally, heavy workloads, time poverty, and limited educational opportunities further constrain women's ability to assert control over resources and income derived from them. Consequently, despite their indispensable contributions, Changpa women remain structurally disadvantaged in resource governance and benefit sharing. This is being addressed through financial empowerment, inculcating entrepreneurial skills, supporting and ensuring their participation in rangeland visioning.

The project takes a contextually grounded and inclusive approach to social inclusion and participation, particularly recognising the intersectional nature of identities—such as gender, age, ethnicity, class, and geographic isolation—that shape how individuals engage with pastoral livelihoods and conservation governance in Changthang and Mago Chu.

The Changpa and the Brokpa are high-altitude pastoralist communities whose social structures are shaped by longstanding customary norms, patrilineal systems, and the practical exigencies of a nomadic way of life. These systems have remained largely unchanged for millennia, and externally driven changes are often met with strong resistance. Within this structure, women play a critical but under-recognised role in sustaining pastoral systems—managing livestock, producing dairy, collecting resources, and contributing to household and community wellbeing. Despite their daily engagement with rangelands and ecological knowledge, they are often excluded from formal decision-making structures, particularly village-level forums dominated by elder men.

To address these inequities, the project has prioritised locally appropriate mechanisms for inclusion. Rather than imposing externally designed participation models, we have engaged with existing women's institutions like the Ama Tsogspa, which offer an important—if informal—space for women to express views, influence social norms, and organise around community issues such as alcohol abuse and waste management. We have encouraged women towards household-level decision-making on financial matters and supported their traditional livelihood contributions (e.g., handicrafts, wool processing) that provide both economic value and cultural continuity.

The project has deliberately incorporated age and class diversity by ensuring representation from small and large herders, younger elected women representatives, and older community leaders. Our interviews and surveys included voices from across economic strata and family roles, allowing us to understand intra-community differences and tailor interventions accordingly. Disability was not found to be a major reported barrier in so far. A key planned intervention is to ensure that women comprise 50% of the rangeland's council.

A key lesson has been the recognition that efforts to enhance women's participation must account and recognise the multiple roles they play as well as prevailing social norms. Our efforts should not create more drudgery or time constraints to undertake daily chores. Interventions that aim to empower women—such as capacity-building or income generation—can inadvertently increase their workload unless accompanied by measures to redistribute labour within households. Social practices such as gendered division of labour within a community and households take time to change and the process can be very slow as well. Thus, women empowerment and transformative changes in all aspects cannot be expected in a short span of a year. Another challenge has been that women's participation in formal governance and decision making remains limited because of the traditional systems and perceptions among men about their capabilities. Despite this, the younger, educated women are increasingly entering local governance, suggesting that education and exposure plays a transformative role in shifting social norms.

In summary, the project's approach to GESI (Gender Equality and Social Inclusion) centres on respectful engagement with existing social institutions, remaining culturally sensitive, recognising lived realities, and enhancing enabling agency within community-defined boundaries—while also seeding incremental change in favour of equitable participation.

7. Monitoring and evaluation

The project outcome is that “A scalable, community-led co-management model in Changthang and Mago-Chu improves high-altitude rangelands and biodiversity health across 500,000 hectares, secures the livelihoods of 3,000 pastoralists, and enables human-wildlife coexistence.”

To achieve the above, community articulation of what they want from a management model is fundamental (Output 1): this was enabled through broad community and stakeholder engagement in each of the two landscapes, with a recent survey as evidence of perceptions across the community of their sense of ownership. While this visioning process is not formally complete (local endorsement is expected to be finalised soon), the learning from the process is being taken forwards into Output 2.

Output 2 used the findings from the vision exercise to inform development of management plans that are informed by TEK, traditional practices AND the needs of the next generation of herders. Each landscape is using locally appropriate approaches to develop these plans – and while not yet formalised, are based on both scientific and local evidence of what works best, with the draft plans being valued by local people AND by the government bodies involved.

To enable human-wildlife coexistence (output 3) the project drew out the details of what is causing livestock losses, documenting evidence that wildlife is not the main cause of loss (despite that having been project understanding based on local information) - but are one cause among many. Approaches to address wildlife depredation of livestock were agreed with, tested and improved by community members: informal surveys indicating improvements in levels of wildlife tolerance. This also helps to secure pastoralist livelihoods (output 4). In addition, advancing income generation from different rangeland products is on track to begin to improve household income.

Further information about the indicators and progress against them is as laid out in Annex 1 below. They are being evidenced by a mix of surveys, data studies and documentation of the results of project activities. Evidence is included in the annex and follows the process summarised in the log frame. Both WWF and CFP use the same log frame and monitoring plan to inform planning and analysis of progress.

In year 1, the project teams gathered baseline data underpinning Outcome and Output indicators. In year 2, analysis of the data was completed. This has helped to inform some adaptive management changes to the log frame:

The outcome is no longer about ONE co-management model, but about 2 different models – informed by local cultural practices in each landscape. The outworking of these models will also be in different forms co-management planning AND community management plans. This distinction seems minor to many but was very important in local governance parlance and understanding. But essentially, they lead to the same result: a greater recognition of community input into the planning process and its implementation.

8. Lessons learnt

- **Compensation schemes:** Despite our ongoing advocacy, the Wildlife Department and other government authorities have not yet endorsed the recommendations from our compensation study, which include strengthening procedural systems, decentralising verification, and adopting digital tools. While we continue to push for these improvements, our immediate focus is on supporting affected community members in navigating the application process.
- **Human-wildlife conflict mitigation:** Communities in Magu Chu perceive fox lights to be ineffective, unlike in Changthang where they are considered successful. As a result, tolerance levels toward wildlife have remained unchanged in Magu Chu. Although there is strong demand for additional mitigation tools (such as fox lights and flashlights) in Changthang, no new equipment will be distributed in Year 3. Instead, the project will focus on evaluating the effectiveness of measures implemented in Years 1 and 2 and developing recommendations for future action.

- Collaborating with multiple stakeholders, particularly high-profile ones, often involves navigating potential delays, which should be anticipated and planned for in advance — for example, in case of multi-stakeholder visioning workshop for Changthang, the workshop was delayed due to unavailability of the hon'ble Lieutenant Governor, CEC and Councillors of LAHDC- Leh.

- Fieldwork and surveys in Changthang during winter are significantly more expensive than in summer, due to the extreme cold, which can place additional strain on the budget and risk exceeding planned limits.

- Winter fieldwork can be extremely challenging for field staff due to the harsh climate. Therefore, the majority of field activities should be scheduled for the summer months to minimize winter operations and reduce stress on field teams.

- Household-level surveys often yield unreliable income data, as stakeholders may not accurately report their earnings.

- Women beneficiaries of the handloom trainings in Changthang have repeatedly expressed the need for refresher trainings in Year 3, believing that these will help them further refine their skills, improve the quality of their products, and secure better prices.

- Nomadic pastoralists, in Changthang, are asking for moveable corrals, rather than fixed ones as they believe such corrals can be carried along when they move from one location to the other during their migration through the year. There needs to be R&D to find light-weighted yet strong material (wires) which could be used to make mesh of sufficient width and could be carried along from one location to other by the nomads.

- There is still a requirement of skills required by the women weavers as the techniques of blending yak hair with other yarns like wool is being followed. Stitching the fabric to develop the final products is also required for the women weavers.

- Mobilizing the Brokpa community for the collection of yak hair has been an ongoing effort, though it remains challenging due to the remoteness of their settlements. To build local capacity, a specialized hands-on training and skill-building workshop was conducted, aimed at enhancing knowledge around yak hair collection and utilization. Additionally, focused group discussions (FGDs) were held with women weavers to assess the impact of this initiative on their lives. Participation in the Desi Oon festival in Delhi provided these women with valuable exposure, allowing them to gain meaningful skills and experiences. However, diversifying yak hair products continues to be time-consuming due to both a lack of specialized training and the unique properties of yak hair.

9. Actions taken in response to previous reviews (if applicable)

Feedback Regarding gender issues Please see Section 7 for details.: Whilst you aim to schedule meetings that favour women's participation fewer women take part. It is appropriate that you investigate further your effectiveness in this regard. Given the prevalence of 'patriarchal attitudes' you reference it is possible that facilitating micro-enterprises led by women may become an additional burden on women. You may need to investigate the details around this with further gender disaggregated discussions. I believe this requires more than a simple clarification and should be fully addressed with next year's Annual Report

Response

Based on the feedback, a survey (n=53) was conducted in Changthang to understand if micro-enterprises constituting the women trained under output 4 became a burden on the beneficiaries. The survey indicated that for 54.72% women the household duties remained largely unchanged while 26.42% reported a reduction in housework, suggesting emerging shifts in household labor-sharing. Nonetheless, survey results indicated a significant shift in income sources, with engagement in handicrafts rising from 38% to nearly 68%, signalling a successful diversification of livelihoods. Additionally, it was reported that 50% of the women felt more

confident expressing opinions, while nearly 87% faced no resistance from family, reflecting broader socio-cultural shifts

A survey was conducted in Mago-chu to assess whether the micro-enterprises established by women trained under Output 4 had become a burden on the beneficiaries. The findings revealed that household responsibilities remained unchanged. However, 80% of the women reported increased confidence in expressing their opinions within the family and noted that their concerns are now taken more seriously by their spouses. Importantly, there was no reported resistance from family members regarding their participation in the initiative. The income generated from these micro-enterprises is managed by the women themselves, who independently handle related expenses. This highlights a growing sense of financial autonomy among the women beneficiaries. See also information noted in the gender section above

Feedback It is not clear from the report how you envisaged that community livestock insurance could work. It appears from your figures (e.g. in Changthang) that around 2,000 people have lost around 1,000 livestock. Conceptually then, the notional insurance cost that each would pay, would need to be more than half the value of their livestock! In addition, whilst it is not simple, it may also be more appropriate to aim to address the shortcomings of the existing compensation scheme rather than try to overlay another system.

Government Compensation schemes: Feedback recommended that we focus on examining challenges with the existing government compensation scheme for livestock loss, rather than pursuing new insurance models. In response, we conducted a study and compiled a report detailing key insights. Many community members affected by HWC report delays or denials in compensation, leading to underreporting and dissatisfaction. Limited awareness of HWC reporting procedures also results in missed compensation opportunities. Additionally, logistical issues—such as repeated trips to administrative centres—add time and financial burdens. Increasing feral dog populations, partly due to improper waste disposal near military sites, are causing more livestock losses. However, current compensation schemes lack provisions for losses caused by feral dogs, leaving affected community members without support. Community members suggested several improvements, including empowering local leaders (e.g., Goba, Sarpanch) to verify losses without requiring photographic evidence, sensitising military personnel on proper waste disposal to help control feral dog populations, and implementing sterilisation or relocation programmes for feral dogs to protect livestock.

To address these issues, we propose targeted reforms which advocate for simplified, expedited compensation processes and implement digital reporting options to streamline claims; increase awareness of HWC reporting procedures to ensure affected community members understand how to access compensation, and establish monitoring frameworks to continually assess and adjust strategies, promoting community ownership in conservation efforts. These recommendations will require further discussion and active collaboration with the wildlife department for successful implementation. However, until now the department has shown little interest in adopting the findings or initiating necessary reforms.

Data Analysis and research interpretation: A comment was made about the huge amount of data WWF India has collected during the first 18 months, but with little evidence of it having been analysed. We agree with your observation that timely data analysis is key to informing project decisions and reducing the risk of data loss—particularly when using paper-based reporting. To address this, we have fully analysed the data, and the findings are presented in this report. Now that we've completed the analysis, the findings are already informing our adaptive management processes. We've also taken steps to reduce further delays, including exploring options to digitise reporting at the point of collection, which should significantly improve both efficiency and data integrity moving forward.

Feedback : The project's poverty reduction aspirations seem very limited. See 4.2 and 4.4 comments on the document.

The project is already contributing significantly to the poverty reduction among the beneficiaries of the project through the following:

i. Between the two project sites, ~ 1111 people have directly benefitted from the project. That includes 70 people from Goat hair for insulation and Vermicomposting, 230 people from pashmina/yak hair enterprise, & 337 people from livestock health camps targeted at reducing livestock mortality.

ii. Around 300 women across Changthang and Mago Chu have been trained in handloom related skills and provided with equipment to process pashmina, yak wool, and other local fibres, resulting in the establishment of ten women-led microenterprises like “Yarns of Changthang” and “Norbu.” These interventions have significantly diversified income streams, enhanced market access, and improved women’s economic agency. The results of a survey to understand impacts of livelihood augmentation activities (under output 4) indicated a significant shift in income sources, with engagement in handicrafts rising from 38% to nearly 68%.

iii. Disease-related livestock mortality—the leading cause of economic loss—was addressed through animal health camps and awareness programs, benefiting 337 Brokpa households.

iv. Around 474 pastoralists in Changthang have benefited from community-endorsed and co-designed mitigation measures to counter HWC and thereby helping mitigate any economic burden caused due to livestock depredation by the wild carnivores.

Establishing Co-management models and councils: Feedback on our Year 1 annual report highlighted concerns regarding community fears of curtailed rights due to government policies favouring protected areas, as well as risks associated with delays in establishing co-management models and councils. Both issues are critical contextual factors that we plan to address more comprehensively during NIRA’s mid-term review of the project scheduled for early next year and in our next annual report.

The Changthang region continues to navigate a complex and evolving political landscape. While the region remains influenced by broader geopolitical tensions, Ladakh's status as a Union Territory and ongoing local demands for implementation of the Sixth Schedule have shaped the governance discourse in recent years. In this context, the government has placed the proposed expansion of the Protected Area under indefinite abeyance. Importantly, elected councillors and the Office of the Lieutenant Governor have expressed support for adopting and implementing the people’s vision for conservation and development. In response, the project remains agile and committed to proactively adapting to any emerging changes or disruptions.

Considering the complexities related to land tenure, traditional ownership and use rights, and the existing conservation structure through Community Conserved Areas (CCAs), consultations in the Mago Chu Valley have made it clear that establishing a separate rangeland council is not appropriate for this site. Instead, the project will focus on clustering communities to improve coordination and synergy in rangeland management, integrating these efforts directly into CCA management plans. This strategy offers a more grounded and sustainable framework for rangeland governance within the existing institutional structure, with the potential to enhance conservation outcomes across the broader landscape.

Given the progress made through one-on-one consultations with all major stakeholders and their increasing commitment to a people-driven vision for Changthang, we are confident in our ability to address and navigate any potential challenges that may arise.

10. Risk Management

The value chain assessments of potential new business models for goat hair and dung have highlighted several risks that could impact the viability of these economic opportunities. The goat hair business plan, for instance, is heavily dependent on a single buyer and constrained by the seasonal nature of hair collection. Similarly, the manure-based model faces risks related to seasonal accessibility, variability in farmer preferences, storage and transport logistics, and a reliance on government subsidies to ensure financial viability.

11. Scalability and durability

This project is a vital component of two strategic landscapes identified by WWF India, where the organisation has committed to long-term engagement (at least 10 years) to ensure sustained impact. Central to the project's sustainability is the emphasis on **multi-stakeholder cooperation and community ownership**—a necessity given the complex dynamics, sensitivities, and sometimes conflicting interests among stakeholders. A cautious, inclusive, and adaptive approach has been adopted to avoid undermining trust and progress.

Key project stakeholders—particularly local communities —have been engaged through participatory processes, capacity-building workshops, and field-level demonstrations. These activities have increased awareness of both the environmental objectives and livelihood opportunities, including the costs, benefits, and practical steps required to engage. For instance, community members involved in wildlife coexistence activities or women's micro-enterprises have developed a clearer understanding of the long-term value of conservation-linked livelihoods.

Initial market analyses and pilot activities (e.g. around goat hair and dung value chains) have generated strong local interest, especially where tangible income benefits are visible. Women-led enterprises in particular have shown early promise, with increased demand for training and cooperative engagement. Despite some business model risks, the perceived benefits—such as supplemental income, local employment, and reduced human-wildlife conflict—have so far outweighed the perceived costs for many adopters.

The project has taken deliberate steps to align incentives across stakeholder groups. For local communities, financial benefits and empowerment through enterprise development have been key drivers. For government stakeholders, the project aligns with broader development and conservation goals, such as climate-resilient rural livelihoods and wildlife conservation. Partnerships with local cooperatives and existing institutional platforms have also helped create ownership and continuity beyond WWF's direct involvement.

The project has engaged with district-level authorities and development departments to explore how ongoing and future government schemes (e.g. for rural enterprise, women's empowerment, or sustainable agriculture) can be leveraged to support scalability. In some instances, the project has catalysed discussions around integrating coexistence strategies and community-led livelihoods into local conservation and development planning processes, though formal policy changes remain a medium-term goal.

There is emerging evidence of positive shifts in community attitudes towards wildlife and conservation—reflected in increased tolerance of human-wildlife interactions and stronger support for coexistence interventions. Women involved in micro-enterprises have reported greater confidence, agency, and social recognition, which further contributes to broader behavioural change.

The project's long-term durability depends on strengthening local institutions (e.g. cooperatives), building community capacity, and embedding livelihood models within existing systems. Significant progress has been made in these areas: cooperatives are actively participating in product development and marketing; local champions are emerging within the communities; and relationships with market actors have been established.

To further support the durability of outcomes, WWF continues to document and share learnings with regional and national teams, while also exploring partnerships with private sector actors for value chain support. Monitoring systems are being developed to track both ecological and socioeconomic indicators beyond the project's lifecycle, enabling adaptive management and informed decision-making.

12. Darwin Initiative identity

A dedicated landing page for the Darwin-funded project has been created on WWF-India's website. The page provides an overview of the project and outlines key activities undertaken, while prominently acknowledging the support provided by the Darwin Initiative.
You can view the page here: Reviving Trans-Himalayan Rangelands | WWF India

Additionally, the project received media attention through a feature in *BBC Wildlife Magazine*, which included a compelling field account: [redacted]

An article titled "Threads of Change: How Changpa Women Are Shaping the Future of Rangeland Conservation" was also submitted to the Darwin Newsletter which exhibits the livelihood augmentation work done in Changthang under the project.

The Darwin Initiative logo has been used on all key project materials. This includes banners displayed at public events such as visioning workshops and handloom training sessions for women, where the Darwin logo appeared alongside those of WWF and other partners. The logo has also been used on reports, presentations, and outreach materials shared with stakeholders and community members

13. Safeguarding

[redacted]

[redacted]

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2024 – 31 March 2025)

Project spend (indicative) since last Annual Report	2024/25 Grant (£)	2024/25 Total Darwin Costs (£) DRAFT*	Variance %	Comments (please explain significant variances)
Staff costs (see below)	[redacted]			
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				

TOTAL	**£265,81**	**£265,81**		

**Please note, expenditures are currently indicative figures. We are still in the process of finalising expenditures with project partners. Variances of > 10% are now anticipated on one budget heading (Capital items) (underspend) and explained above. To date this have not been discussed with Darwin Initiative.*

Table 2: Project mobilised or matched funding during the reporting period (1 April 2024 – 31 March 2025)

	Secured to date	Expected by end of project	Sources
Matched funding leveraged by the partners to deliver the project (£)	[redacted]	[redacted]	WWF India, WWF UK and CfP
Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project (£)			

15. Other comments on progress not covered elsewhere

No further comments

16. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

A gender focussed case study for publication was submitted

Annex 1: Report of progress and achievements against logframe for Financial Year 2024-2025

Project summary	Progress and Achievements April 2024 - March 2025	Actions required/planned for next period
Impact People and wildlife benefit from healthy, co-managed high-altitude rangelands in India's Trans-Himalayas, with secure and sustained ecosystem services and resources, improved human-wildlife coexistence, and enhanced local livelihoods.	Impact will only be determined by the end of the project upon comparison of data on effectiveness of co-managed high altitude rangelands and human wildlife coexistence and livelihood results	
Outcome A scalable, community-led co-management model in Changthang and Mago-Chu improves high-altitude rangelands and biodiversity health across 500,000 hectares, secures the livelihoods of 3,000 pastoralists, and enables human-wildlife coexistence.		
Outcome indicator 0.1 By Year 2, an effective, equitable, and scalable high-altitude rangelands co-management model is adopted in 2 regions of the Indian Trans-Himalayas, protecting multi-use rangelands.	This is partially achieved. In progress in Changthang, the vision has been socialized and informally endorsed by all the stakeholders Three CCA's in Magu accepted the recommendations but require formal endorsement	In Changthang, adoption and implementation of co-management model following the multi-stakeholder meeting scheduled in May 2025
Outcome indicator 0.2 By Year 2 approximately 300,000 hectares, and Year 3 approximately 500,000 hectares of high-altitude rangelands in the two target regions are being co-managed.	Area under co-management by the end of year 2 is 3,36,500 hectares in both the target landscapes	Endorsement of community vision followed by putting in place a rangeland co-management plan covering a total area of 5,00,000 hectares. The plan will be live document, since the insights gleaned from the data analysis paint a complex picture of drivers of rangelands health.
Outcome indicator 0.3 At the end of Year 3, the co-managed rangelands demonstrate measurable improvements in ecosystem and biodiversity health using the following metrics. 0.31 Soil Adjusted Vegetation Index (SAVI)2, stabilised (compared to 2015-2023 trend assessment)	0.31 The analysis of SAVI paints a complex picture of a dynamic rangeland ecosystem that shows majority greening, but also significant browning. Tsokar Basin: 87% of the basin greened—meaning vegetation increased over 847 sq. Km. Hanle Basin: A stronger greening trend: 98% of the basin greened, over 645.8 sq.	In the next step we will delve into the drivers (livestock stocking densities, topography and climate) of greening and browning including examining vegetation composition, soil

0.32 Greening and Browning Patterns stabilised (compared to a 2015/2023 trend assessment) 0.33 occupancy estimates of wild carnivores (using occupancy surveys3) increases by 20% compared to 2023 baseline. 0.34 wild ungulates (using double observer surveys 4,5) increases by 20% compared to 2023 baseline.	Km. Out of that, 94.6% of this (623 sq. km) was significantly greened, indicating healthy vegetation expansion. The analysis will be repeated in 2026 to track changes. 0.33 and 034 Changthang: Snow leopards (14 Individuals, with occupancy of 2,621km$^{2)}$, Blue Sheep 4.64 / 100km^2, Argali 1.35 / 100km^2, Gazelle 2.7 / 100km^2, Kiang 61.96 / 100km^2 Magu-Chu Year 1 baseline work established a population estimate; in year 2 a formal occupancy analysis was initiated. Camera traps were placed across 2000km^2 and will stay in place for around 8 months into year 3,	health and forage productivity, so that appropriate interventions for the sustainable rangeland management can be framed. The vegetation plots are already in place in both Chagthang and Mago Chu which will provide the nuanced understanding of rangeland vegetation health we need. In Changthang, occupancy and wild ungulate surveys will be repeated to see any change In Mago Chu the data from the occupancy surveys will be analysed and compared to the baseline.
Outcome indicator 0.4 At the end of Year 3, approximately 550 pastoralist households in the target sites have improved livelihoods security and tolerance for coexistence with wildlife. (compared to baselines at start)	0.4 To date, 811 pastoralist households (154 were reported in year 1 and 657 in Year 2) have been supported against a target of 275 through human-wildlife coexistence measures and animal health camps whilst feasible livelihood options & training have been provided to ~ 300 women	Human well-being survey will be conducted in Y3 to monitor changes in livelihoods security and tolerance.
Output 1: Shared, community-led vision developed for Changthang and Mago-Chu Rangelands, ensuring the inclusion of all local voices, particularly women and marginalised groups, through radical listening and participatory approaches.		
Output indicator 1.1 Two vision documents prepared and endorsed by the community representatives from the Changthang and Mago-Chu regions, by the end of Year 2.	1.1 In Changthang, one community-led vision document has been drafted, and In the Mago Chu, visioning exercises were carried out in 10 villages, eight of which overlap with existing Community Conserved Area (CCA) initiatives. The insights gathered from these exercises have been compiled at the village level and will be consolidated into a landscape-level visioning document, scheduled for completion by August 2025. In villages where CCA initiatives are present, findings from the visioning process are being integrated into CCA management plans. So far, five plans have been drafted,	Formal endorsement will be secured in May 25 (Changthang) Magu Chu – integration into CCAs (9) 5 need to be secured in year 3

	reflecting the community perspectives that emerged through these exercises.	
Output indicator 1.2 Two multi-stakeholder 'Rangelands Councils' charter endorsed (year 1) and platform formed in Year 2, one each for Changthang and Mago-Chu, bringing together communities, non-governmental organisations, government departments, and private sector on one platform (at least 50% communities' representation, and around 50% of these to be women).	1.2 For Changthang, the meeting for endorsement of one Rangeland council charter has been rescheduled to May 2025. Magu-Chu – not required.	To secure endorsement of the Rangeland Council charter for Changthang. In Mago Chu stakeholders' meetings will be conducted to discuss and disseminate the management plans. Consultations will also be conducted amongst the CCAs for leveraging government departments.
Output indicator 1.3 Percentage of community members across all groups, particularly women and marginalised groups, that express satisfaction about their participation in the design and decision-making of the rangelands vision documents, by Year 2.	1.3 In Changthang, 78% of participants reported feeling heard and valued during the visioning sessions, while around 82% believed that the vision developed through this process would effectively reflect the priorities and aspirations of the Changpa community.	Survey for Mago-Chu will be done alongside the completion of the visioning exercise in the remaining 7 villages (10 have been completed).
Output 2. Multi-stakeholder co-management of rangeland plan, based on the community-led visions in both regions, contributing to improved ecosystem, and resilient rangelands at pilot sites.		
Output indicator 2.1. Convergence and alignment of rangeland management objectives and actions of key stakeholders around 'community vision of rangelands management' for establishing effective and scalable co-management of rangelands, by Year 2.	2.1 For Changthang, the meeting for endorsement of one Rangeland council charter has been rescheduled to May Visioning exercises have been completed in 10 villages in Mago Chu. Drafts have been shared with the respective CCA management committees, and three CCAs have endorsed them.	In Changthang, 1 Community-led vision to be finalised and endorsed For Mago Chu, a consolidated report of the community led vision will be prepared and shared with key stakeholders and government
Output indicator 2.2. Two regional rangelands co-management plans, informed by research studies, prepared for joint implementation by communities, government, and non-government organisations, by Year 2.	2.2 For Changthang, the meeting for endorsement of one Rangeland council charter has been rescheduled to May For Mago Chu the visioning process is completed but needs to be consolidated into a single report.	In Changthang, a rangeland co-management plan to be adopted after the constitution of the rangeland council For Mago Chu a report will be prepared and presented to stakeholders. Efforts will be made to tap the findings of these into existing schemes.

Output indicator 2.3 On-ground sustainable rangeland management pilots at 2 sites (covering 8 villages & ~140 households in Mago-Chu, and 4 villages & ~115 households in Changthang), e.g. revival of traditional grazing practices and adaptive grazing pilots, by Year 3.	2.3 In Mago Chu the traditional grazing practices are still in place. There are nuanced findings on increase in livestock and over preference and use of some of the grazing lands. We have not exactly been able to establish these variables.	This will be a priority in year 3 A satellite-based rangeland health assessment will also be conducted for Mago Chu. The variables contributing to over-preference and use of some of the grazing lands will be identified and analysed. Strategies will be developed to integrate the research findings into the traditional grazing systems to manage the rangeland health for both Changthang and Mago Chu.
Output indicator 2.4 Recovery of vegetation at pilot sites by Year 3 (compared to baseline and control plots)	2.4 Vegetation plots have been established at both Changthang and Mago Chu to develop a granular understanding of rangeland health by measuring soil health, plant diversity and biomass. This will complement the satellite/GIS/Remote sensing analysis of rangeland health.	Based on emerging insights from multiple research streams—including satellite-based rangeland health monitoring, traditional ecological knowledge and governance systems, livestock stocking densities, and the population density and distribution of wild carnivores and ungulates—we recognize the need to reassess our initial assumptions. The complexity of interacting ecological and social factors requires a more integrated understanding before vegetation recovery can be meaningfully evaluated. Therefore, we are recalibrating our approach to ensure that vegetation recovery interventions and assessments are grounded in a more holistic and ecologically sound framework at both the sites.

Output 3. Enhanced tolerance for wildlife in the two target sites, through a combination of preventive and mitigative measures for reducing livestock losses and cost of living with wildlife, improves human-wildlife coexistence.		
Output indicator 3.1 Community tolerance for wildlife improved, in both target regions, by at least 50% by Year 2, and 75% by Year 3 (compared to baseline at start)	3.1 Preliminary post-assessment survey results (n=40) showed that 19% of respondents felt livestock losses to wildlife were decreasing, while 66% believed that people and wildlife can coexist within the same landscape. Notably, 93% expressed strong support for the need to protect wildlife. In Changthang, the perception/tolerance scores towards wildlife were positive (0.78), perception scores did not significantly differ (p-value > 0.05) between groups with and without intervention (See WHL_3.2.1). In Mago Chu, the mean perception/tolerance score was neutral (0.41) for snow leopards and negative (0.35) for wild dogs/dhole.	In Changthang, the post-assessment for all the equipment provided in Years 1 and 2 would be repeated to see any positive change in tolerance for the wildlife towards the end of the year 3. Post-assessment surveys in Mago-Chu are scheduled for year 3. These surveys will provide comparable insights into perceptions and outcomes in that region
Output indicator 3.2 Community endorsed and co-designed mitigation measures for 275 pastoralists covered by compensation and insurance schemes and other agreed mitigation measures, initiated in both regions, by Year 2.	3.2 A total of 811 pastoralists (154 in year 1 and 657 in year 2) have been supported since the start of the project by mitigation measures to reduce HWC and livestock mortality. Based on the further demand by the beneficiaries, around 150 flashlights were purchased in March 2025 which could not reach Ladakh due to closure of roads (due to snow accumulation) and will be distributed among the beneficiaries as soon as they reach. This will take the final number to 961.	Ongoing monitoring effectiveness of Y1 & Y2 measures In Mago Chu consultations will be conducted with the veterinary department and NRC Yak Farm to strengthen the veterinary health care system to provide better outreach.
Output indicator 3.3 Livestock losses from human-wildlife conflict reduced by at least 50% at three pilot sites (2 in Changthang and 1 in Mago-Chu), through co-designed prevention measures, e.g. better corrals and herding practices, by Year 3. (baseline: 6-8% of livestock mortality is caused by wild carnivores, i.e. GBP 170 per household annually; specific baseline for target households will be established at project start)	3.3 A preliminary post-assessment survey (n=40) at our pilot sites found that 74% of respondents reported reduced livestock depredation after Year 1 mitigation measures. Additionally, 84% felt safer, and 89% found the tools effective. We have only recently established the baselines for livestock mortality due to various factors at both sites in Year 2 across the full spectrum of project villages. A rigorous quantitative assessment of changes in livestock mortality and community tolerance is planned for completion in Year 3.	In Changthang, the post-assessment for all the interventions provided in Years 1 and 2 would be repeated towards the end of the year 3 to assess if the HWC has reduced In Mago-Chu, post-assessment surveys will be conducted next year in all the villages that have received a range of livestock

		mortality reduction interventions.
Output 4: More than 200 Changpa and Brokpa pastoral households have diversified and augmented income from 'rangelands-friendly' products and micro-enterprises led by women.		
Output indicator 4.1 Approximately 30% increase in 200 households' income by Year 3 (baseline: monthly HH income is ~GBP 200 for these 2 regions; specific baseline for the target households will be established at project start)	4.1 Household income baselines were established in year 1 In Changthang the monthly household income average based on 7 villages is INR. 16,296, within a range of INR.1,000 - 50,000. In Mago Chu, the monthly income from handicraft activities (6 ind. from total sample) is INR. 7,750	Household survey to monitor changes in household incomes from year 1 to year 3 following project interventions
Output indicator 4.2 Around 200 women trained and equipped for processing raw pashmina and yak wool, and producing value-added, 'rangelands-friendly' products, by Year 2.	4.2 279 women from pastoralist households have been trained in skills such as spinning, weaving, dyeing, vermicomposting and goat hair processing. In addition to training, they have been supported with equipment—including looms, spinning wheels, and warping drums—as well as raw materials such as market yarn and pashmina wool	Based on repeated requests from beneficiary women, refresher trainings would be provided to help further refine their handloom skills in Changthang. Refresher training will be required for project beneficiaries to ensure refinement in skill In Mago Chu, designing and production skills need to be refined more as the women are engaged in specialized work. The women need to be trained in stitching of the final products. For Yak hair producers a basic package of practice will be developed for the aggregation of yak hair.
Output indicator 4.3 Three women-led 'rangelands-friendly' micro-enterprises, e.g. for wool-based and dairy products, established (2 in Changthang and 1 in Mago-Chu), to diversify income opportunities for approximately 200 households, by Year 3.	4.3 Ten women-led micro-enterprises have been established in Changtang. One additional enterprise in Magu Chu is in the process of applying for registration	An endline survey will review the changes in income since the start of the project. One micro-enterprise in Magu Chu will be formally registered. Product diversification will also be done for the weavers in Mago Chu

		Market linkage for 10 micro-enterprises setup (in Changthang) during the year 2 will be supported and strengthened to increase income.
Output indicator 4.4 A robust understanding of viable livelihood options and a scalable marketing model for 'rangelands-friendly' micro-enterprises identified in Year 1, with linkages and partnerships based on a market analysis, is in place by Year 3.	4.4 Two business models have been explored—one focused on using goat hair for insulation, and the other on utilising goat manure as fertiliser. Detailed business plans have been developed for both, analysing risks, value chain linkages, and market potential (Ref: CP 4.3.1/ CP 4.3.2)	Additional livelihood options will be accessed.

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project Summary	SMART Indicators	Means of Verification	Important Assumptions
Impact: People and wildlife benefit from healthy, co-managed high-altitude rangelands in India's Trans-Himalayas, with secure and sustained ecosystem services and resources, improved human-wildlife coexistence, and enhanced local livelihoods.			
Outcome: A scalable, community-led co-management model in Changthang and Mago-Chu improves high-altitude rangelands and biodiversity health across 500,000 hectares, secures the livelihoods of 3,000 pastoralists, and enables human-wildlife coexistence.	0.1 By Year 2, an effective, equitable, and scalable high-altitude rangelands co-management model is adopted in 2 regions of the Indian Trans-Himalayas, protecting multi-use rangelands. [DI-B01 # new/improved habitat management plans available and endorsed] 0.2 By Year 2 approximately 300,000 hectares, and Year 3 approximately 500,000 hectares of high-altitude rangelands in the two target regions are being co-managed. [DI-D01 hectares of habitat under sustainable management practices] 0.3 At the end of Year 3, the co-managed rangelands demonstrate measurable improvements in	0.1 Analysis of community perceptions and scores related to the co-management plans, section 4 of the wellbeing tool (institutional capacity for NR governance) looking at rights, voices and conflict (comparing scores from year 1 and year 3) 0.2 Signed multi-stakeholder agreements, indicating areas under co-management, mapped using Google Earth. 0.3 Reports on ecosystem and biodiversity health indicator assessments, at the start and end of the project, including metrics such as 0.31 Soil Adjusted Vegetation Index (SAVI)[2], 0.32 Greening and Browning Patterns using Landsat and Sentinel Imagery 0.33 occupancy estimates of wild carnivores (using occupancy surveys[3])	Co-management leads to convergence of objectives, improved governance, more sustainable resource use, lower pressure from livestock, and consequently improves the health of rangeland ecosystems and biodiversity. All sectors and stakeholders are willing to co-manage the high-altitude rangelands to improve ecosystem health and biodiversity (as demonstrated by participation in the 'Rangelands Councils' and implementation of the co-management plans). A precedent exists in landscape-level management planning mandated by the Government of India's Project Snow Leopard. There are no significant external shocks in the regions, e.g. due to climate induced events, that negatively impact rangelands and pastoralists.

	ecosystem and biodiversity health using the following metrics. (0.31 Soil Adjusted Vegetation Index (SAVI)[2] ,stabilised (compared to 2015-2023 trend assessment) 0.32 Greening and Browning Patterns stabilised, (compared to a 2015/2023 trend assessment) 0.33 occupancy estimates of wild carnivores (using occupancy surveys[3]) increases by 20% compared to 2023 baseline 0.34 wild ungulates (using double observer surveys[4,5]) increases by 20% compared to 2023 baseline. [DI-D04 Stabilised/ improved species population (relative abundance/ distribution) within the project area.] 0.4 At the end of Year 3, approximately 550 pastoralist households in the target sites have improved livelihoods security and tolerance for coexistence with wildlife. (compared to baselines at start) [DI-D16 number of households reporting improved livelihoods]	0.34 wild ungulates (using double observer surveys[4,5]) 0.4 Report generated from Well-being Tool household surveys at the beginning and end of the project (note: WWF's Well-being Tool is adaptable to project needs, assessments for this project will include wildlife conflict and tolerance, stewardship, livelihoods and economic stability).	

	Note: All relevant indicators will be disaggregated by gender, age, social group, etc. for measuring poverty reduction and economic security impact holistically		
Outputs: **1**. Shared, community-led vision developed for Changthang and Mago-Chu Rangelands, ensuring the inclusion of all local voices, particularly women and marginalised groups, through radical listening and participatory approaches.	1.1 Two vision documents prepared and endorsed by the community representatives from the Changthang and Mago-Chu regions, by the end of Year 2. 1.2 Two multi-stakeholder 'Rangelands Councils' charter endorsed (year 1) and platform formed in Year 2, one each for Changthang and Mago-Chu, bringing together communities, non-governmental organisations, government departments, and private sector on one platform (at least 50% communities' representation, and around 50% of these to be women). 1.3 Percentage of community members across all groups, particularly women and marginalised groups, that express satisfaction about their participation in the design and decision-making of the rangelands vision documents, by Year 2.	1.1 Two vision documents signed by the community representatives from both sites; Minutes of community meetings. 1.2 Membership lists of rangelands councils, attendance sheets and minutes of the consortium meetings. Charter document 1.3 Analysis of minutes of meeting; pre and post questions (virtual/written); documentation & audio records	An inclusive, community-led vision and management of rangelands, accepted and facilitated by the Government and other key stakeholders, will enhance community stewardship for rangelands and bring convergence across diverse stakeholders' groups. Participation of women and marginalised groups will lead to their perspectives and concerns reflected in the vision documents. Government departments and other stakeholders welcome the empowerment of communities and co-management of rangelands.

	[DI-B06 Number of people with increased participation in local communities/local management organisations (i.e. participation in Governance / citizen engagement)]		
2. Multi-stakeholder co-management of rangeland plan, based on the community-led visions in both regions, contributing to improved ecosystem, and resilient rangelands at pilot sites.	2.1 Convergence and alignment of rangeland management objectives and actions of key stakeholders around 'community vision of rangelands management' for establishing effective and scalable co-management of rangelands, by Year 2. 2.2 Two regional rangelands co-management plans, informed by research studies, prepared for joint implementation by communities, government, and non-government organisations, by Year 2. 2.3 On-ground sustainable rangeland management pilots at 2 sites (covering 8 villages & ~140 households in Mago-Chu, and 4 villages & ~115 households in Changthang), e.g. revival of traditional grazing practices and adaptive grazing pilots, by Year 3. 2.4 Recovery of vegetation at pilot sites by Year 3.	2.1 Formal signed agreements between multiple stakeholders endorsing a community-led, shared vision of rangeland management, and alignment of objectives and actions across various groups and sectors; Minutes of meetings. 2.2 The two regional co-management plan documents, one each for Changthang and Mago-Chu, outline stakeholder roles for the implementation of pilots and plans and area under co-management. 2.3 Progress and M&E reports and communications material from pilots, for dissemination of lessons for replication and scaling up. 2.4 Pre-and-Post assessment of vegetation at treatment and control plots.	Multi-stakeholder agreements bring convergence across diverse stakeholders towards achieving a shared rangelands vision; similar to and in alignment with the mandate for convergence of objectives of different agencies under ‘Project Snow Leopard’ of the Government of India. Local communities and different stakeholders recognize the value of effective management of rangelands and conserving rangeland biodiversity, for long-term sustenance of local livelihoods and livestock-based economy, and hold greater value for rangelands and thus continue to contribute toward sustainable management of rangelands over the long term. Government agencies are open to listening to the voice of rangeland communities and building upon these to support co-management.

	(compared to baseline and control plots)		
3. Enhanced tolerance for wildlife in the two target sites, through a combination of preventive and mitigative measures for reducing livestock losses and cost of living with wildlife, improves human-wildlife coexistence.	3.1 Community tolerance for wildlife improved, in both target regions, by at least 50% by Year 2, and 75% by Year 3. (compared to baseline at start) 3.2 Community endorsed and co-designed mitigation measures for 275 pastoralists covered by compensation and insurance schemes and other agreed mitigation measures, initiated in both regions, by Year 2. 3.3 Livestock losses from human-wildlife conflict reduced by at least 50% at three pilot sites (2 in Changthang and 1 in Mago-Chu), through co-designed prevention measures, e.g. better corrals and herding practices, by Year 3. (baseline: 6-8% of livestock mortality is caused by wild carnivores, i.e. GBP 170 per household annually; specific baseline for target households will be established at project start) [DI-D15 Net change in incidences of human wildlife conflict.]	3.1 Quantitative and qualitative pre-and-post assessment of people's tolerance towards wildlife at both the project sites as part of the Well-being Tool's surveys (mentioned under Outcome indicators). 3.2 Evaluation reports of the effectiveness of mitigative measures, e.g. number of pastoralists covered by insurance schemes. 3.3 Quantitative assessment of livestock losses pre-and-post preventive pilots, using Spatial Monitoring and Reporting Tool (SMART) and surveys.	Reduced human-wildlife conflict will improve livelihoods security for local communities and improve tolerance of wildlife (including reduced retaliatory killing of species such as snow leopards), contributing to enhanced biodiversity and ecosystem health.

4. More than 200 Changpa and Brokpa pastoral households have diversified and augmented income from ‘rangelands-friendly’ products and micro-enterprises led by women.	4.1 Approximately 30% increase in 200 households' income by Year 3. (baseline: monthly HH income is ~GBP 200 for these 2 regions; specific baseline for the target households will be established at project start) [DI-D16 Number of households reporting improved livelihoods] 4.2 Around 200 women trained and equipped for processing raw pashmina and yak wool, and producing value-added, ‘rangelands-friendly’ products, by Year 2. [D1-A04 Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training] 4.3 Three women-led ‘rangelands-friendly’ micro-enterprises, e.g. for wool-based and dairy products, established (2 in Changthang and 1 in Mago-Chu), to diversify income opportunities for approximately 200 households, by Year 3. [D1 A10 Proportion sustainable livelihood enterprises established that are functioning at project end	4.1 Pre-and-post assessments (HH surveys) of change in income amount and sources attributable to project interventions (part of the Well-being Tool's surveys mentioned under Outcome indicators). 4.2 Training reports and records for community consultations on equipment needs (types and numbers to be ascertained for each village with partners); subsequent receipts of equipment provision. 4.3 Registration documents and annual reports of the micro-enterprises; training and equipment provision records. 4.4 Social economic studies, Market analysis report, marketing plan, partnerships established, sales orders received and fulfilled.	Support for improved processing of pashmina and yak-hair based handicrafts and establishing micro-enterprises that are labelled ‘rangelands-friendly’ will improve incomes for the local communities and contribute towards biodiversity stewardship. WWF has evidence that a market for such products exists, e.g. snow leopard enterprises Women will see greater access to cash from income generation. There are no external shocks to the cashmere/pashmina market that impact demand and potential growth in the sustainable/responsible wool and other livestock products sector.

	(at least a year after establishment)] 4.4 A robust understanding of viable livelihood options and a scalable marketing model for 'rangelands-friendly' micro-enterprises identified in Year 1, with linkages and partnerships based on a market analysis, is in place by Year 3.		

Activities

Output 1 Activities:

1. Document traditional ecological knowledge, resource management, and local institutions of the Changpa & Brokpa communities, and examine communities' current practices, (analysed by gender, socio-economic status and ethnicity) towards sustainable use of pastures and related natural resources
2. Conduct participatory appraisal workshops to explore the communities' vision of healthy rangelands, and establish the current reality, the vision, the difference between these, and what is needed to realise the vision
3. Conduct multi-stakeholder workshops to co-develop 2 vision documents with the Changthang and Mago-Chu communities, ensuring input and endorsement from all, especially women and other marginalised groups
4. Create 2 multi-stakeholder co-management platforms, i.e. one 'Rangelands Council' each for Changthang and Mago-Chu, for communities, government, non-governmental organisations, and private sector (with 50% communities representatives, of which 50% to be women), to collaborate for delivering on the joint rangelands vision

Output 2 Activities:

1. Support the regional Rangelands Councils with disseminating the 'Rangelands Vision' and advocating for the policy narrative to recognise the rangelands as unique ecosystems with significant ecological, livelihood and cultural values
2. Conduct an assessment on climate change impacts on rangelands, pastoral communities (particularly women), pashmina goats and other livestock, and pashmina market, to integrate climate recommendations in the rangelands co-management plans
3. Removed

4. Facilitate the Rangelands Councils with development of regional Rangelands Co-management Plans (1 for each region) for joint implementation and realisation of the rangelands visions, through workshops to bring together key stakeholders (including women-led enterprises and groups) for alignment of co-management objectives and actions.
5. Socialise the Rangelands Visions and Co-management Plans among key stakeholders, particularly relevant government departments e.g. Wildlife and Sheep Husbandry, and bodies, e.g. Ladakh Autonomous Hill Development Council, for an inclusive, participatory approach
6. Conduct four workshops to strengthen the capacity of community institutions responsible for rangelands, natural resources, and livestock management
7. Establish pilots of sustainable rangeland management practices under the Co-management Plans at 2 sites, (covering 8 villages & ~140 households in Mago-Chu, and 4 villages & ~ 115 households in Changthang), e.g. revival of traditional grazing practices and adaptive grazing pilots covering at least 1000 hectares each
8. Removed
9. Conduct ecosystem and biodiversity health indicator assessments, including Soil Adjusted Vegetation Index (SAVI), Greening and Browning Patterns using Landsat and Sentinel Imagery
10. Conduct occupancy estimates of wild carnivores (using occupancy surveys) and wild ungulates (using double observer surveys)
11. Removed
12. Assess the recovery of vegetation at pilot sites compared to baseline and control plots

Output 3 Activities:

1. Conduct assessments in both regions with WWF's well-being tool to (provide outcome data and evidence for outputs 2 and 4, as well as to) gauge local attitudes, perceptions and tolerance toward wildlife, and factors driving willingness to coexist with wildlife (in both year 1 and year 3)
2. Examine the nature and extent of conflicts with wildlife (using SMART), and co-design solutions for conflict with the local communities through 66 FGDs in 21 villages, ensuring participation of women
3. Finalise and implement human-wildlife conflict mitigation solutions (e.g.compensation and micro-insurance schemes) and preventive solutions pilots (2 in Changthang and 1 in Mago-Chu), e.g. improved corrals, livestock guarding (mountain guardians) and fox lights, with communities across 10 villages
4. Assess livestock losses from human-wildlife conflict at the pilot sites, using SMART, to determine efficacy of implemented solutions
5. Facilitate knowledge sharing for replication at scale from existing pilots and best practices in other areas, e.g. in Himachal Pradesh

Output 4 Activities:

1. Conduct training sessions for 200 women and provide material support, e.g. looms, for processing raw pashmina and yak wool, and producing value-added, ‘rangelands-friendly’ products, through village level sessions with expert trainers
2. Support establishment of women-led micro-enterprises (2 in Changthang and 1 in Mago-Chu) for ‘rangelands-friendly’ products, e.g. wool-based or dairy products like goat/yak cheese, including training and equipment provision, to diversify income options
3. Conduct an end-to-end business and market analysis for rangelands-friendly pashmina and other products, to support value addition and secure market and finance linkages for communities’ enterprises
4. Enable and disseminate learnings on the scalable marketing model for ‘rangelands-friendly’ micro-enterprises, with market linkages and partnerships, to facilitate replication across the trans-himalayan rangelands
5. Assess target households' income utilising gender disaggregated indicators to measure livelihood impact from enhanced economic agency of women

Annex 3: Standard Indicators

Annex 3 Table 1 Project Standard Indicators

Please see the Standard Indicator guidance for more information on how to report in this section, including appropriate disaggregation.

DI Indicator number	Name of indicator	If this links directly to a project indicator(s), please note the indicator number here	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-B01	# new/improved habitat management plans available and endorsed	Outcome 0.1	Number of plans	Country; type	0	4	2 new	4	10 new
DI-D01(c)	Area of land under ecological management: (c) Area newly designated as OECM -	Outcome 0.2	Number	New	0	300,000	200,000	216,100	500,000ha
DI-D07 (was D04)	Number of threatened species with improving conservation status (Was: ~~Stabilised/ improved species population (relative abundance/ distribution) within the project area~~)	Outcome 0.3, MoV 0.33 and 0.4	Number of taxa	Country and kingdom	India - 0	India – 9 species with known abundance and distribution in part of the project area: (Snow leopard, blue sheep, argali, gazelle, kiang, Mishmi takin, Himalayan goral, Himalayan serow	India – 9 species with known abundance and distribution in other part of the project area: (Snow leopard, blue sheep, argali, gazelle kiang)	India (Changthang) – 5 populations	India: Changthang and Mago Chu: 9 populations in each area

DI Indicator number	Name of indicator	If this links directly to a project indicator(s), please note the indicator number here	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
						and Musk Deer)			
DI-D03a (was DI-D016)	Number of people with sustainable livelihoods created or protected	Outcome 0.4 & Output.4.1	Number of people	Country Women Sector Men Sector	0 0 Business 0 Agriculture	0 0 Business 0 Agriculture	1 200 Business 550 Agriculture	0 0 Business 0 Agriculture	1 200 Business 550 Agriculture
DI-B05 (was B06)	Number of people with increased participation in governance	Output 1.3	People	Country Men Women IP&LC status	0 0 0 0	India 943 549 1492		India 943 549 1492	> 1600, eventually represented by rangeland councils and CCA management committees.
~~DI-D15~~		~~Output 3.3~~							INDICATOR REMOVED FROM NEW LISTS
DI-A04		Output 4.2	People	Country Women Women IPLC status	0	1 213 213	1 0 0 0	1 213 213	1 200 200
~~DI-A10~~		~~Output 4.3~~							INDICATOR REMOVED FROM NEW LISTS

Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the **correct template** (checking fund, scheme, type of report (i.e. Annual or Final), and year) and **deleted the blue guidance text** before submission?	x
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	x
Is your report more than 10MB? If so, please consider the best way to submit. One zipped file, or a download option, is recommended. We can work with most online options and will be in touch if we have a problem accessing material. If unsure, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	x
Have you provided an updated risk register? If you have an existing risk register you should provide an updated version alongside your report. If your project was funded prior to this being a requirement, you are encouraged to develop a risk register.	
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see Section 16)?	
Have you involved your partners in preparation of the report and named the main contributors	x
Have you completed the Project Expenditure table fully?	x
Do not include claim forms or other communications with this report.	