Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

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Darwin Initiative Main & Extra: Final 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.

Submission Deadline: no later than 3 months after agreed end date.

Submit to: BCF-Reports@niras.com including your project ref in the subject line.

Darwin Initiative Project Information

Scheme (Main or Extra)	Main
Project reference	29-023
Project title	Community-based conservation of snow leopard and its habitat in Pakistan
Country(ies)	Pakistan
Lead Organisation	Snow Leopard Foundation
Project partner(s)	Snow Leopard Trust
Darwin Initiative grant value	£ 267,450
Start/end dates of project	1 June 2022 to 31 March 2025
Project Leader name	Dr. Muhammad Ali Nawaz
Project website/blog/social media	www.slf.org.pk
Report author(s) and date	Mr. Tayyab Shahzad, Dr. Jaffar Ud Din, Dr. Hussain Ali, Dr. Muhammad Ali Nawaz June 30, 2025

1 Project Summary

Nestled amid the towering mountain ranges of the Hindu Kush, Pamir, Karakoram, and Himalayas, northern Pakistan harbours a spectacular landscape that supports rich biodiversity and sustains marginalized agropastoral communities. The local economy is predominantly agropastoral, and millions of people depend on the region's fragile ecosystems for their livelihoods. However, growing human populations and increasing reliance on natural resources have intensified pressures on biodiversity and ecosystem services, resulting in escalating conservation challenges.

The project aimed to address key biodiversity threats facing the region—most notably, the survival of the endangered snow leopard and its prey species. Snow leopards are increasingly vulnerable to retaliatory killings due to livestock predation, poaching, loss of natural prey, and habitat degradation. These threats are closely tied to human development challenges, including poverty, livestock dependency, and lack of alternative income sources, especially for women. These interlinked challenges are highly relevant for remote mountain communities of Gilgit-Baltistan, where biodiversity loss directly undermines the well-being and resilience of local populations. Through baseline assessments, stakeholder consultations, and collaboration with

provincial wildlife departments, the Snow Leopard Foundation (SLF) identified the need to replicate and scale successful conservation models to new sites.

In response, this project was developed to promote community-based conservation of snow leopards and their habitats in 17 newly identified sites across Gilgit-Baltistan. Activities focused on mitigating human-snow leopard conflict and improving local livelihoods through a holistic package of interventions:

- Construction of predator-proof corrals,
- Livestock vaccination and insurance schemes,
- Establishment of Snow Leopard Enterprises (SLEs) to generate income for women,
- Capacity building in conservation, financial management, and biodiversity monitoring,
- Environmental education via nature clubs, school programs, and conservation materials,
- Scientific monitoring of key species using robust tools such as eDNA analysis, and wildlife surveys.

This project built on SLF's prior evidence and experiences in snow leopard conservation and applied scalable, science-based tools such as population genetics, ungulate monitoring, and community engagement models. The aim was not only to safeguard biodiversity but also to contribute to poverty reduction and ecosystem resilience. The project was implemented in 17 valleys of Gilgit-Baltistan: Chipurson/Ramanji, Bunji, Khunjerab Village Organization (KVO), Misgar, Khyber, Ghulkin, Gulmit, Qurumber, Sikander Abad, Passu, Hanzal, Khuda Abad, Thoi, Darkut, Naz Bar/Qurqulti (Yasin), Shimshal, and Phander. A project site map is available at reference **E1**.

Together, these efforts have laid the groundwork for long-term conservation success through empowered communities, science-driven decision-making, and inclusive development.

2 Project Partnerships

The Snow Leopard Trust (SLT) served as the primary international partner for this project. SLT was actively engaged from the outset, playing a critical role in both the planning and implementation of project activities. The collaboration was demand-driven, emerging from consultations with local communities and provincial wildlife departments in Pakistan. The project proposal itself was co-developed with SLT, incorporating the needs identified during these stakeholder meetings. SLT also provided technical guidance and contributed matching funds to support operational and field activities.

The project was implemented in partnership with local Community-Based Organizations (CBOs), which served as key grassroots actors. Their role extended beyond implementation to active participation in decision-making processes, including the selection of community beneficiaries and execution of field interventions. CBOs led the construction of 24 predator-proof corrals as part of conservation agreements under project output (**E2**) and supported the identification of trainees for Sustainable Livelihoods Enterprises (SLE). Moreover, local Ecosystem Health Workers (EHWs), trained and deployed through the CBOs, carried out livestock vaccination and deworming campaigns, directly addressing ecosystem health challenges.

The Parks and Wildlife Department, Government of Gilgit-Baltistan played vital roles throughout the project. As custodians of wildlife at the provincial level, they facilitated and participated in snow leopard population surveys, wildlife surveillance, and monitoring activities across project sites. Their involvement also included periodic review meetings and coordination with the project team.

Other key stakeholders included the Provincial Livestock Departments, which provided technical support in identifying essential vaccines and dewormers for livestock. They also helped monitor animal health campaigns implemented by the EHWs.

While not a formal partner, the British High Commission was engaged in the project through its participation in high-profile events. A representative from the Commission, Mr. Nadeem Ahmad, Resilience and Climate Change Advisor, attended the Wildlife Awards Ceremony, reflecting UK support and visibility for conservation efforts in Pakistan.

Partnerships throughout the project were marked by mutual respect, shared goals, and joint learning. One significant challenge encountered was the limited market access for SLE products

produced by the community. To address this, SLF established a dedicated outlet at the Gems and Handicraft Market, Chinar Bagh, River View Road, Gilgit (**E3**), thus facilitating local enterprise development and market connectivity.

Stakeholders and communities were sensitized to the linkages between biodiversity conservation and poverty alleviation through multiple channels, including training workshops, printed IEC materials, community meetings, and hands-on engagement in conservation activities. Understanding was assessed through feedback sessions, participant evaluations, and performance monitoring of field-level interventions.

Regular communication and collaborative implementation have strengthened trust among partners, laying the foundation for continued cooperation. SLT, CBOs, and provincial departments are expected to sustain their relationships beyond the life of the project, particularly in scaling up successful interventions and integrating them into local conservation strategies.

3 Project Achievements

3.1 Outputs

The project achieved all of its intended outputs, demonstrating measurable improvements in biodiversity conservation, community capacity building, and livelihood resilience across 17 project valleys in Gilgit-Baltistan. Where outputs were partially achieved, the challenges were documented and appropriate responses were initiated. The following narrative outlines the baseline, progress achieved, supporting evidence, and issues encountered for each output.

One of the key successes of the project was the reduction of livestock losses due to carnivore predation through the construction of predator-proof corrals. Against the original target of 23, the project constructed 24 predator-proof corrals in 12 valleys (**E11**). These corrals protected 15,000 livestock—comprising 5,000 baseline and 10,000 additional animals—from snow leopard and other predator attacks. As verified through field visits and community reports, no livestock losses were recorded within these corrals (**E11**). This surpassed the logframe indicator of reducing livestock loss by 2%, as the corrals effectively protected around 21,600 animals, approximately 14% of the total livestock holdings in project areas.

Community engagement also exceeded expectations. While the project originally aimed to sign seven conservation agreements, a total of 43 conservation contracts were formalized with local communities in 17 valleys (**E2, E12, & E13**). These agreements not only demonstrated the communities' commitment to conservation but also laid the foundation for sustained collaboration between SLF and local stakeholders.

The capacity of institutions and communities in wildlife monitoring was significantly strengthened. The project trained 16 CBO members and 55 staff of the Provincial Wildlife Departments in wildlife survey techniques, including the double observer method, GPS usage, and wildlife crime reporting (**E24**). While the target was to train 28 CBO members and 22 staff, the overachievement in departmental staff training offset the shortfall in CBO participation. This intervention enhanced the scientific credibility and local ownership of biodiversity monitoring efforts.

The project also made a substantial contribution to ecological research and monitoring. Against a target of 400 eDNA samples, a total of 1,174 snow leopard scat samples were analysed in 2023 (**E19**). Of these, 179 were successfully genotyped, resulting in the identification of 56 unique snow leopard individuals. Furthermore, 300 putative snow leopard fecal samples were collected and processed for DNA extraction during the first quarter of 2025. Out of these, 253 viable samples were sent to the U.S. for genetic analysis (**E20**). Additionally, 50 air and 50 water eDNA samples were collected from selected valleys and sent to Jonah Venture (USA) for species-level identification using dual primer sets (**E21**). These datasets will support future monitoring and conservation planning.

In terms of spatial expansion of conservation areas, the community of Khudaabad valley developed and presented a draft plan for declaration as a Community-Controlled Hunting Area (CCHA) to the Wildlife Department (**E7 & E8**). However, despite community readiness, the department did not issue the formal notification within the project timeframe. This issue was

anticipated in the original logframe under external assumptions. SLF continues to pursue this designation as a post-project activity.

Another important output was the mass vaccination of livestock to prevent disease outbreaks and indirectly reduce carnivore attraction to weakened animals. The target was to vaccinate 50,000 cattle/yaks and 100,000 goats/sheep twice a year. Although the biannual target was not met, the project surpassed the annual vaccination target with an average of 80,378 cattle/yaks and 163,598 goats/sheep vaccinated each year based on GB Livestock Department protocols (**E4**). Logistical barriers and difficult terrain affected the intended frequency, but the high coverage significantly improved herd health and contributed to conflict mitigation.

Under the Snow Leopard Enterprises (SLE) livelihood initiative, 105 households in seven valleys were trained in handicraft production (**E5**). Although the target of households engaged was met, only 61 women reported increased income by the end of the project, averaging PKR 2,654/month (**E5**). The limited access to broader markets, especially international ones, was a key barrier—an issue acknowledged in the project's assumptions. To address this, SLF established a product outlet in the Gems and Handicrafts Market at Chinar Bagh, Gilgit, and sent samples to the Snow Leopard Trust (SLT), which has expressed interest in supporting U.S. sales (**E6**). These efforts are expected to boost income in the long term.

Environmental education and awareness were major components of the project. The project trained 26 teachers—42% of them women—for conservation education (**E9**). These teachers led awareness activities in 12 nature clubs, reaching 807 students (43% girls), notably during World Wildlife Day celebrations on March 3, 2025 (**E10**). While the number of clubs and gender balance slightly missed targets, the student outreach significantly surpassed the initial goal of 200.

Institutional strengthening was another important success. A total of 32 community activists, including 53% women, were trained in community/financial management and wildlife conservation (**E15**). These activists have been actively engaged in mobilizing their communities, managing CBO finances, and serving as conservation ambassadors across the 17 project valleys. Additionally, the capacity of 194 students and teachers (56% female) was enhanced for biodiversity conservation and field survey methods through nature camps (**E16**).

To enhance conservation outreach, the project produced and disseminated a wide range of resource materials. Against the target of five leaflets and five posters, SLF developed five booklets/leaflets, 17 posters, and 20 standees on snow leopard conservation topics (**E17**). These materials were shared with stakeholders and used in training and school activities to raise awareness of biodiversity conservation.

Baseline ungulate surveys were conducted in 13 project valleys during the first year, recording Himalayan ibex (2,222), blue sheep (633), Astor markhor (392), and Ladakh urial (133) (**E19**). These data are now used for tracking prey population trends across the landscape. Further genetic work on markhor populations collected from Gilgit, Chitral, Bunji, and Pishin revealed that Pakistani markhor forms a monophyletic clade, with the Suleiman markhor likely representing an ancestral out-group (**E22**).

In terms of conservation impact, the project met its outcome target to reduce the illegal killing of predators and wild ungulates. No cases of such killings were reported during the project period, either in field records, Wildlife Department data, or media reports across the 17 valleys (E23). This reflects improved community attitudes toward wildlife, also confirmed by anecdotal and survey-based evidence (**E14**).

Finally, the project exceeded its targets on documentation and knowledge sharing. One best practice related to the SLE model was documented and shared with partners (**E5**). Furthermore, the project produced nine peer-reviewed research papers/book chapters, far surpassing the target of two publications. These outputs contribute significantly to the body of knowledge on conservation and human-wildlife coexistence in the region.

In summary, the project delivered on nearly all of its intended outputs, with clear, evidence-based progress against the logframe indicators. Where challenges arose—such as in market access or institutional approvals—they were either anticipated in the assumptions or addressed proactively. The project has left behind a strong foundation of community engagement, scientific evidence,

and institutional capacity for snow leopard conservation and sustainable development in Gilgit-Baltistan.

3.2 Outcome

The project successfully achieved seven out of the eight intended outcome targets as set out in the original logframe, with clear evidence of positive biodiversity conservation impact and improvement in community livelihoods across the 17 target valleys of Gilgit-Baltistan.

One of the most significant outcomes was the extensive community engagement in biodiversity conservation and sustainable livelihoods. Against the target of 8,000 households, more than 13,350 households were engaged in project-supported conservation and livelihood programmes by the end of the project (**E4**). This outcome was verified through beneficiary records and field monitoring reports. The project also surpassed its geographic expansion target, increasing the number of valleys engaged in multiple conservation interventions from the planned 7 to 17. This wide spatial coverage demonstrates strong community ownership and institutional partnership.

Another key outcome was the reduction in livestock losses due to carnivore predation. The project aimed to construct 23 additional predator-proof corrals (building on 6 existing corrals), with the goal of protecting 16,000 livestock by project completion. This was fully achieved—and exceeded—with 24 corrals constructed, providing protection to 21,600 animals, equivalent to approximately 14% of total livestock holdings in the target valleys (**E11**). Observations from field visits confirmed that livestock losses inside these corrals were completely curtailed (**E11**), validating the effectiveness of the intervention.

The project also made substantial progress in promoting gender-inclusive livelihoods. The outcome target was to train 100 women and increase their monthly family income by PKR 10,000 through participation in Snow Leopard Enterprises (SLE). While the project successfully trained 105 women in seven valleys, only 61 of them reported an increase in income, with an average monthly gain of PKR 2,654 by the end of the project (**E5**). This shortfall was due to limited access to high-value markets, particularly international ones, which had been identified as a key assumption in the project design. In response, SLF established a local handicraft outlet in Gilgit (**E6**) and partnered with the Snow Leopard Trust (SLT), which has expressed interest in marketing the products in the U.S. (**E6**). These post-project measures aim to enhance income generation and sustain this outcome over time.

The project also implemented a livestock insurance programme in 12 valleys, which provided compensation equal to approximately 30% of the market value for livestock lost to carnivore attacks. This mechanism helped build community confidence and reduced retaliatory killing of predators (**E23**). Furthermore, the signing of 43 community conservation agreements across 17 valleys (**E2, E12, & E13**) contributed to widespread behavioral change. Men and women reported improved attitudes toward snow leopards and wild prey species as a result of inclusive planning, benefit-sharing, and outreach activities (**E14**).

Crucially, the project achieved its outcome target related to reducing illegal wildlife killings. Monitoring by field teams, media scanning, and consultation with Wildlife Departments confirmed that no cases of snow leopard or wild ungulate killings were reported in any of the 17 project valleys during the project period (**E23**). This outcome marks a major shift from baseline conditions and strongly reflects the success of integrated conservation-development approaches.

Overall, the evidence collected through community records, livestock health data, conservation agreements, insurance claims, training reports, and stakeholder interviews provides robust support for the claim that the project achieved its intended outcome. The one partially achieved income target was largely due to external market access limitations—an anticipated risk identified in the original project assumptions. SLF has taken follow-up actions to address this by maintaining the local sales outlet and pursuing international marketing channels with SLT.

In conclusion, the project has led to tangible conservation outcomes and contributed meaningfully to poverty reduction and gender equity. The integrated approach, strong evidence base, and post-project sustainability measures ensure that the positive impacts will likely persist and scale in the years ahead.

3.3 Monitoring of assumptions

Outcome and Output level assumptions were monitored throughout the course of the project. Comments on these were reported in annual progress report. There was no change in the assumptions during the course of the project. In most of the cases, the pathway to change held true. The comments regarding each of the assumption is as follows:

Assumptions:

0.1 Communities and other relevant stakeholders remain willing to engage in collaborative, multi-pronged conservation management initiatives and own these initiatives

Comments: All communities remained willing to engage in collaborative, multi-pronged conservation management initiatives and owned the project initiatives.

0.2 US and online markets for handicrafts and livestock products remain sustainable

Comments: The SLT has shown willingness to purchase SLE products for selling these in the USA.

0.3 There is no unrest due to COVID or severe socio-political situation that prevents work with communities. Based on experience and our sustained field presence, we expect occasional delays but not a cessation of our work.

Comments: Situation remained conducive during this reporting period.

0.4 Project benefits are distributed equitably among men and women members and available to disadvantaged groups in the communities.

Comments: Most of the project benefits were distributed equitably among men and women members. Against the target of raising capacity of 224 females, the project raised capacity of 586 females in various fields.

Against the target of 100 women receiving SLE training, 105 were trained (**E5**). Against the target of "7 women trained in community/financial management and record keeping", 17 women attended the training workshop (**E15**). Against the target of increasing the capacity of 100 female students in biodiversity conservation through engagement in nature clubs and 4 women in wildlife survey techniques, the capacity of 455 female students was raised in biodiversity conservation/survey techniques. Against the target of raising the capacity of 13 female teachers, the capacity of 11 female teachers was raised for conservation and training skills (**E9**).

0.5 Communities are willing to subscribe to livestock compensation programs.

Comments: For the 12 LISs, the project contributed PKR 5.400 million, which accounts for only 31% of the total PKR 17.293 million available in the 12 LISs' accounts (**E23**). The remaining 69% comes from community contributions or profits from the bank. As community members will pay annual insurance premiums and registration fees for newly registered livestock, the insurance fund will continue to grow until it reaches a self-sustaining level.

0.6 Conflicts between communities and other stakeholders are not negatively impacting project implementation.

0.7 The political situation during project implementation is conducive to the achievement of project results.

Comments: The assumptions 0.1 to 0.7 still hold true.

1.1 Field implementers will remain with the organizations for long enough to provide better coordination in managing community-based conservation project initiatives.

Comments: All field implementers except the Social Organizer and Communication and SLE Specialist remained with the organization. The Social Organizer and Communication and SLE Specialist were replaced with the Communication Coordinator and Saleswoman. The Saleswoman manages the SLE outlets and coordinates with SLE artisans for the distribution of materials and collection of finished products.

1.2 We will be able to find effective community champions within a reasonable amount of time

Comments: Effective community champions were found and trained for community sensitization, financial management, record keeping, monitoring, and reporting of community-based interventions.

1.3 Local communities understand that critical habitats in their vicinities will benefit livelihoods and ecological security, they remain interested in predator-proof corrals, handicrafts, and insurance as good options for mitigating human-wildlife conflicts, and leadership within the community remains cohesive enough to manage multi-pronged programmes.

1.4 Local community-based institutions would establish an effective institutional mechanism to facilitate conservation outcomes.

1.5 Project interventions will focus on short to mid-term benefits to avoid a long gestation period that would not be conducive to winning community support for conservation.

1.6 Communities are willing to subscribe to livestock compensation programs

Comments: The assumptions 1.2 to 1.6 still hold true.

2.1 Field implementers will remain with the organizations for long enough to make training worthwhile.

Comment: Please refer response to the comment for assumption 1.1.

2.2 Communities remain interested in corrals, handicrafts and insurance as good options for mitigating conflicts and leadership within the community remains cohesive enough to manage multi-pronged programmes.

Comments: Assumption 2.2 still holds true.

3.1 Field implementers will remain with the organizations for long enough to make training worthwhile.

Comment: Please refer response to the comment for assumption 1.1.

3.2 Capacities of the community groups will be adequate after the training to execute the task.

3.3 Community champions are supporting CBOs to implement wildlife conservation agenda in the respective valleys within a reasonable amount of time

3.4 Communities remain interested in corrals, handicrafts and insurance as good options for mitigating conflicts and leadership within the community remains cohesive enough to manage multi-pronged programmes.

Comments: The assumptions 3.2 to 3.4 still hold true.

4.1 Field implementers will remain with the organizations for long enough to make training worthwhile.

Comments: Please refer response to the comment for assumption 1.1.

4.2 We will be able to find effective community champions within a reasonable amount of time

4.3 400 or more genetic samples of snow leopards are detected for collection and analysis.

4.4 Project management will be able to identify, document and disseminate the best practices.

Comments: All the assumptions 4.2 to 4.4 still hold true

3.4 Impact

The original application defined the intended impact of the project as: “Snow leopard, its wild prey, landscapes, and local livelihoods are safeguarded through integrated conservation and livelihood improvement programs and gender mainstreaming.” The achievements of the project indicate that meaningful progress has been made toward realizing this long-term impact.

Over the course of the project, the ecological and social foundations for conservation were significantly strengthened. A total of 43 conservation agreements were signed with local communities (**E2, E12, E13**), reflecting a strong and growing willingness among residents to

protect biodiversity and sustainably manage natural resources. These agreements served as binding commitments to conservation, fostering shared responsibility between communities and implementing partners.

The project's integrated approach to reducing human-wildlife conflict has shown demonstrable results. The construction of 24 predator-proof corrals (**E11**) and the vaccination of over 240,000 livestock annually (**E4**) have substantially reduced livestock losses to predators and disease. In parallel, livestock insurance schemes launched in 12 valleys offered compensation for carnivore-related losses, further easing economic stress on herders and reducing retaliatory killings (**E23**).

Women's participation in the Snow Leopard Enterprises (SLE) program marked a significant step toward gender-inclusive conservation. Through this initiative, 105 women were trained in handicraft production, and 61 women experienced measurable increases in family income, earning an average of PKR 2,654 per month by the project's end (**E5**). These additional income streams have contributed to poverty reduction and enhanced household resilience. To sustain this impact, SLF has opened a dedicated outlet in Gilgit (**E3**) and continues to engage with the Snow Leopard Trust to access international markets (**E6**).

On the ecological front, the presence of viable populations of wild ungulates, as determined through baseline surveys (**E19**), serves as a positive indicator of healthy ecosystems and improved community attitudes towards wildlife. Notably, the absence of reported killings of snow leopards and prey species across the 17 project valleys (**E23**) reflects a significant shift in community behavior, stemming from increased awareness, institutional support, and shared conservation benefits.

The cumulative effect of these interventions has strengthened the coexistence between humans and wildlife, improved ecosystem health, and contributed to long-term biodiversity conservation in Pakistan's snow leopard landscapes. In doing so, the project has advanced both environmental sustainability and human development, delivering meaningful progress toward the Darwin Initiative's overarching goal of linking biodiversity conservation with poverty alleviation.

4 Contribution to Darwin Initiative Programme Objectives

4.1 Project support to the Conventions, Treaties or Agreements

The project contributes directly to the goals and objectives of Pakistan's National Biodiversity Strategy and Action Plan (NBSAP) 2017–2030, particularly by:

- Conserving biodiversity at priority sites through in-situ, site-specific conservation measures;
- Mainstreaming biodiversity as a core component of human development by raising awareness and integrating conservation with key sectors such as poverty alleviation and agriculture/livestock;
- Reducing direct pressures on biodiversity through conflict mitigation and sustainable livelihood programs;
- Safeguarding ecosystems and species, thereby improving the overall status of biodiversity in the project region.

The project supports the implementation of NBSAP Action 2.1, which states: "Recovery plans will be prepared and implemented to improve the conservation status of major threatened species of fauna (Annex 2) in different ecosystems." The snow leopard, listed in Annex 2, is a primary focus of this initiative.

The project also advances the priorities outlined in Pakistan's updated Nationally Determined Contributions (NDC) 2021, which emphasize ecosystem restoration and biodiversity conservation as key climate adaptation strategies. The project contributes to these national adaptation efforts by protecting snow leopard habitats, strengthening community resilience, and supporting restoration of ecosystem services. Furthermore, the project supports the NDC's cross-cutting goal of promoting gender equality, as demonstrated by the inclusion of women in conservation-linked livelihood programs such as Snow Leopard Enterprises.

At the international level, the project aligns closely with the objectives of the Convention on Biological Diversity (CBD), particularly:

- Article 7: Identification and monitoring of snow leopards and associated wildlife through surveys and genetic sampling;
- Article 8: In-situ conservation by maintaining viable populations of snow leopards and their prey within natural habitats;
- Article 11: Development of community-based incentives, including insurance schemes and alternative livelihoods, that support snow leopard conservation;
- Article 12 and Nagoya Protocol Article 8: Promotion of research and responsible access to genetic resources for conservation and scientific advancement;
- Article 17: Information exchange through the publication and dissemination of project brochures and survey findings, including uploading materials to the Gilgit-Baltistan Wildlife Department website.

Additionally, the project contributes to climate change adaptation under Article 4.1(b) of the United Nations Framework Convention on Climate Change (UNFCCC) by enhancing livestock resilience through vaccination campaigns and strengthening ecosystem-based approaches to reduce climate-related risks for both wildlife and local communities.

In summary, the project not only delivers local conservation and livelihood benefits but also reinforces Pakistan's commitments under its national and international environmental obligations.

4.2 Project support for multidimensional poverty reduction

The project was implemented in a high-altitude, agropastoral landscape where livestock-based livelihoods form the backbone of the local economy. In this context, human-carnivore conflict—particularly predation by snow leopards—represents a significant and recurring economic threat to already marginalized households. By addressing this challenge, the project made tangible contributions to multidimensional poverty reduction and human wellbeing in the target communities.

The primary beneficiaries of the project were local men and women in 17 valleys of Gilgit-Baltistan. Through a combination of direct interventions and long-term capacity-building, the project generated economic, ecological, and social benefits for these communities.

To protect household assets and reduce financial vulnerability, the project implemented livestock vaccination campaigns and constructed 24 predator-proof corrals (**E11**), exceeding the target of 23. These corrals protected 21,600 livestock, equivalent to approximately 14% of the total livestock holdings, with field assessments confirming zero losses inside the corrals (**E11**). This directly strengthened household economies by eliminating a major cause of economic loss.

In addition, the project introduced community-managed livestock insurance schemes in 12 valleys, providing compensation for carnivore-related livestock losses. These mechanisms helped reduce economic shocks and improved the financial security of pastoral households, especially in remote areas with limited access to credit or relief mechanisms (**E23**).

The project also targeted women's economic empowerment through the Snow Leopard Enterprises (SLE) initiative. A total of 105 women were trained in handicraft production and entrepreneurship, with 61 women reporting an average monthly income of PKR 2,654 by the end of the project (**E5**). This income diversification is particularly important in female-headed or economically vulnerable households. A local market outlet was established in Gilgit to sell these products, and samples were shared with the Snow Leopard Trust (SLT), which has expressed interest in placing future orders (**E6**). These actions are laying the foundation for sustained income generation beyond the life of the project.

In the broader sense, the project also contributed to long-term poverty reduction through ecosystem-based benefits. By promoting wildlife conservation, supporting healthy ecosystems, and fostering environmental stewardship through community agreements and awareness campaigns (**E2, E14**), the project enhanced the resilience of both people and nature. This was evident in the shift in community attitudes, leading to a complete cessation of reported snow

leopard and wild ungulate killings across the project valleys (**E23**)—an important ecological and economic indicator.

In summary, the project contributed to poverty reduction through a multifaceted approach that:

- Reduced economic losses from livestock predation and disease;
- Increased household income through nature-based enterprises led by women;
- Improved access to compensation through community-based insurance schemes;
- Enhanced resilience and governance through conservation agreements and inclusive engagement.

These outcomes align with key indicators in the project logframe and provide clear evidence that the project not only improved short-term wellbeing but also contributed to building the foundations for long-term, sustainable poverty alleviation in this vulnerable high-mountain region.

4.3 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.	
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	X

The project was intentionally designed with Gender Equality and Social Inclusion (GESI) considerations integrated from the outset. Recognizing the cultural and social context of the target communities in Gilgit-Baltistan—where traditional norms influence gender roles and participation—the project took deliberate steps to ensure the meaningful inclusion of women and socially disadvantaged groups in capacity-building, decision-making, and benefit-sharing processes.

Rights, Practice, and Environment

The project acknowledged both legal and customary rights as well as gendered cultural norms. While local traditions often limit women's mobility and public engagement, the project worked within these frameworks to enhance women's participation in socially acceptable and impactful ways, particularly through home-based livelihoods and structured training programs. In doing so, it addressed systemic vulnerabilities faced by women in agropastoral households, where women are traditionally responsible for livestock care but lack access to resources and income opportunities.

Roles and Responsibilities

The project recognized the gendered division of labor, especially in livestock management. By introducing livestock vaccination, predator-proof corrals, and insurance schemes, the project directly supported women's roles in livestock rearing—a key economic activity in the region. These interventions reduced labor burdens and protected critical household assets, providing a practical form of support that acknowledged and reinforced women's contributions.

Representation and Participation

The project ensured gender-balanced participation in all major training and awareness activities. Against the target of 224 female participants, the project reached 588 women and girls across a range of capacity-building initiatives:

- 105 women received two-week training in handicraft production through Snow Leopard Enterprises (SLE), and 31 women from Qurumber Valley participated in a five-day refresher course (**E5**).
- A community and financial management training was attended by 32 participants (17 females, 15 males), helping build women's leadership and governance skills (**E15**).
- In teacher training, 11 out of 26 participants were women (**E9**).
- Four nature study camps on biodiversity conservation and wildlife survey techniques engaged 194 students and teachers, including 108 females (**E16**).
- Twelve nature clubs engaged 807 students (347 girls and 460 boys) in environmental awareness and conservation activities during World Wildlife Day 2025 (**E10**).

This active inclusion across roles—from learners to trainers—illustrates the project's commitment to inclusive participation and empowerment.

Resources and Empowerment

The project made significant strides in improving women's access to and control over resources. Through SLE, women generated additional income, with 61 reporting an average monthly income of PKR 2,654 (**E5**). This financial empowerment enhanced their role in household decision-making and contributed to poverty reduction. Market access is being further improved through the establishment of a product outlet in Gilgit and collaboration with the Snow Leopard Trust (E6).

Women were also embedded within the project management structure, strengthening internal representation and leadership:

- Ms. [redacted] SLF's SLE Coordinator, supported marketing and enterprise development;
- Ms. [redacted] Social Organizer and Saleswoman, served on the Project Management Team;
- Ms. [redacted] Research Associate, contributed to scientific monitoring and evaluation of SLE income generation.

These roles exemplify concrete steps toward women's empowerment in conservation, research, and enterprise leadership.

Monitoring and Lessons Learned

The project monitored sex-disaggregated data for all relevant indicators, enabling tracking of gender-specific outcomes. A key lesson was that working within cultural boundaries—such as delivering trainings close to women's homes or integrating respected female facilitators—was crucial to achieving high female participation. These approaches will be maintained and strengthened in future programming.

In summary, the project has moved beyond gender sensitivity to actively promote gender-responsive and socially inclusive conservation and development outcomes. By embedding GESI principles in its design, implementation, and staffing, the project has laid a strong foundation for continued progress in women's empowerment, inclusive decision-making, and equitable benefit-sharing.

4.4 Transfer of knowledge

The project placed strong emphasis on building local capacity and transferring knowledge to both practitioners and relevant institutions, equipping stakeholders with the skills and information necessary to address conservation and sustainable development challenges.

- A total of 428 individuals were trained in a range of technical and practical areas, including:
- Community and financial management, record keeping, and the importance of wildlife conservation (**E15**);
- Handicraft production through the Snow Leopard Enterprises (SLE) initiative for women artisans (**E5**);
- Teachers' training focused on biodiversity education (**E9**);
- Nature study camps on conservation and field-based biodiversity monitoring (**E16**);
- Wildlife survey techniques using tools such as GPS, binoculars, and spotting scopes (**E24**).

Although no formal qualifications were awarded, these trainings significantly enhanced community-level technical capacity. All trainees were Pakistani citizens, primarily drawn from local communities and provincial/state wildlife and education departments, with women making up 56% of participants (**E5, E9, E15, E16, E24**), highlighting the project's commitment to inclusive knowledge transfer.

To expand knowledge sharing beyond direct training, the project organized awareness-raising workshops and community sessions (**E10 & E27**). These sessions were designed to foster conservation understanding and local ownership of project goals.

The project also produced and disseminated a suite of educational materials (**E17**), including:

- 17 posters,
- 5 leaflets/booklets, and
- 20 standees,

These were distributed to schools, community organizations, and government partners. These materials helped reinforce conservation messaging across diverse stakeholder groups.

At the digital level, the project website was regularly updated, and social media platforms of the Snow Leopard Foundation (SLF) were used to share project progress and key achievements. Monthly e-newsletters were developed and circulated online to a wide network of conservation professionals, development partners, and policy stakeholders.

A case study documenting the SLE training model (**E5**) was developed as a replicable example of integrating women's livelihoods with conservation outcomes. Furthermore, project results and learning were shared with international partners, including the Snow Leopard Trust (SLT) and the Global Snow Leopard and Ecosystem Protection Program (GSLEP), contributing to regional and global dialogues on snow leopard conservation and community engagement.

Through these efforts, the project ensured that locally generated knowledge and experiences were transferred across platforms and institutions, enabling practitioners and policymakers to apply lessons learned to broader conservation and development strategies.

4.5 Capacity building

As part of institutional strengthening and professional development, senior staff members of the Snow Leopard Foundation (SLF) actively participated in national and international forums to advance technical expertise and represent project interests.

The Director and Deputy Director of SLF attended the 29th Session of the Conference of the Parties (COP29) to the United Nations Framework Convention on Climate Change (UNFCCC), held in Baku, Azerbaijan, from November 11–22, 2024.

Both also participated in the 7th Steering Committee Meeting of the Global Snow Leopard and Ecosystem Protection Program (GSLEP) in Bishkek, Kyrgyzstan (October 20–21, 2022) and the 8th Steering Committee Meeting held in Samarkand, Uzbekistan (February 10–11, 2024).

Additionally, the Director SLF attended the 9th GSLEP Steering Committee Meeting in the Kyrgyz Republic (June 5–6, 2025).

In recognition of his expertise, the Deputy Director SLF was engaged by GSLEP as a Conservation Policy Specialist, contributing to regional conservation policy development and strategic planning.

The Deputy Director also participated in the IUCN Species Survival Commission (SSC) Cats Specialist Group meeting, held in Islamabad, Pakistan, on January 21, 2025, and in the Technical Committee for Distribution of Trophy Permits, convened on November 15, 2024, in Peshawar, Pakistan.

These engagements reflect SLF's growing role in national and international conservation platforms and contributed to staff capacity enhancement in areas such as climate policy, species conservation, and community-based wildlife management

5 Monitoring and evaluation

Monitoring and Evaluation (M&E) was led by the Snow Leopard Foundation (SLF), which developed and implemented a practical, participatory, and responsive system to track project progress, measure indicators, and provide feedback to stakeholders throughout the project lifecycle.

The M&E system proved effective and useful in guiding implementation and linking activities and outputs to the intended project outcomes. Indicators from the logframe informed planning and were used to assess both quantitative and qualitative results. Monitoring activities involved not only SLF project staff but also local communities, line departments, and civil society partners, fostering local ownership and accountability.

A participatory M&E plan was developed at the project's outset using standard frameworks and methodologies. The monitoring team included the Deputy Director (SLF), the Regional Program Manager for Gilgit-Baltistan, and an M&E Officer, supported by technical specialists as needed. Project progress was reviewed in weekly team meetings and uploaded annually to an online portal, which was accessible to SLF and the project's international partner, the Snow Leopard Trust (SLT).

The Gilgit-Baltistan Wildlife Department played a critical role in field-level monitoring, especially during biodiversity surveys. Survey data collection and analysis were carried out under the supervision of SLF experts in close coordination with GB Wildlife officials. Results were shared and discussed in joint review meetings to align field findings with conservation priorities.

Before initiating field activities, the organizational, financial management, and record-keeping capacities of Village Conservation and Development Organizations (VCDOs)/CBOs were assessed. Capacity-building support was tailored based on the identified gaps. These community organizations also established monitoring committees to oversee the construction of predator-proof corrals, ensuring transparency and quality control at the grassroots level.

Project financial monitoring was conducted by the Finance Section of SLF, which ensured that expenditure tracking was aligned with planned activities and donor requirements.

A number of adaptive changes were made based on M&E findings:

- The project area was expanded to include four new sites—Passu, KVO, Sikandarabad, and Gulmit—located adjacent to the original project areas.
- Based on community demand and feasibility, the target number of predator-proof corrals was increased from 20 to 23, with no additional cost incurred.
- Savings from ungulate surveys were reallocated to support eDNA analysis, optimizing scientific output and strengthening baseline data for biodiversity monitoring.

An internal evaluation of the utilization of Snow Leopard Enterprises (SLE) training showed that approximately 60% of women trainees reported increased income by the end of the project. Although the remaining 40% had not yet generated income (**E5**), they retained the skills and market linkages necessary to do so in the near future.

Overall, the M&E system enabled real-time learning and adaptive management, strengthened community and institutional capacities, and ensured accountability to both local stakeholders and international partners. Key indicators of achievement are detailed in **Annexure I**.

6 Lessons learnt

The project generated several important lessons that have implications for future conservation and community development initiatives, particularly in remote, culturally diverse, and ecologically sensitive areas such as northern Pakistan.

a) Community Participation Enhances Ownership and Efficiency

A key success factor was the active engagement of local communities in the planning and implementation of project activities. For example, the number of predator-proof corrals increased from 20 to 24 (**E11**) without additional cost, made possible through community support and in-kind contributions. This underscores that investing in trust-building and community sensitization early in the project cycle fosters ownership and can deliver cost-effective results.

Recommendation: Prioritize early engagement of communities through participatory planning, and allocate sufficient time for trust-building and mobilization.

b) Respect for Cultural Norms Strengthens Local Cooperation

The project area is characterized by high cultural diversity. The project's respectful approach toward local traditions, norms, and religious practices significantly enhanced its acceptance and effectiveness. Cultural sensitivity during community mobilization earned local respect and enabled smoother implementation.

Recommendation: Conservation projects in culturally diverse settings should adopt culturally respectful approaches as a central principle of community engagement.

c) Gender Inclusion Yields Strong Results, but Economic Gains Need Strengthening

Women's participation in the project exceeded expectations in most activities, particularly in capacity-building and environmental education. However, the expected increase in household income through the Snow Leopard Enterprises (SLE) initiative was not fully achieved (**E5**), primarily due to limited access to higher-value markets and low product diversification.

Recommendation:

- Conduct market assessments to identify more viable products.
- Introduce tailoring/stitching or other cost-saving skills as complementary livelihood options.
- Begin women's training in the early phase of the project to allow sufficient time for production and marketing cycles to mature.

d) Use of Emerging Technologies Enhances Scientific Accuracy and Ethical Monitoring

The project's adoption of new techniques for snow leopard monitoring, including eDNA analysis and genome sequencing, proved to be accurate, non-invasive, and resource-efficient. These tools also generated valuable data for long-term biodiversity monitoring.

Recommendation: Scale and institutionalize the use of eDNA and genomic tools in future conservation projects to strengthen evidence-based wildlife management.

e) Adaptive Management is Essential in Remote, Climate-Vulnerable Areas

The remote geography and harsh weather conditions of northern Pakistan—including erratic rainfall and flash floods in March–April—posed logistical and implementation challenges. Project management responded through adaptive planning, adjusting timelines and field activities to accommodate environmental disruptions.

Recommendation: Future projects in similar high-altitude and disaster-prone areas should incorporate contingency planning, flexible timelines, and risk-informed management frameworks.

f) M&E Systems Should Remain Participatory and Adaptive

The participatory monitoring system involving local stakeholders, provincial departments, and SLF technical staff proved effective in tracking progress and informing adjustments. Community-led monitoring committees played a valuable role in overseeing field implementation, especially construction activities.

Recommendation: Maintain participatory M&E approaches and ensure that community organizations are empowered to contribute to oversight and feedback.

Overall, the project demonstrated that integrating technical innovation with strong community engagement, gender inclusion, and cultural sensitivity is essential for delivering lasting conservation and livelihood outcomes. The challenges encountered—particularly in market access and environmental conditions—highlight the importance of adaptive management and continuous learning in complex, real-world settings. These insights will inform future Darwin Initiative projects in the region and beyond.

7 Actions taken in response to Annual Report reviews

We have carefully reviewed and responded to all issues raised in the reviews of the project's annual reports. The previous review acknowledged that the project had made solid progress, with planned milestones achieved on time. It also noted that the project was making impressive strides toward its intended Outcome and was well-positioned to achieve its targets by the end of the funding period. The review highlighted strong evidence of increased community engagement, reduced livestock losses, enhanced livelihoods, and stabilizing wildlife populations, all of which underscore the effectiveness of the project's integrated conservation and development approach. The review also appreciated the clarity and thoroughness of the project's reporting.

The review encouraged the project to continue investing in the capacity building of CBOs to enable them to manage conservation initiatives more independently and sustainably. While the project's efforts on Gender Equality and Social Inclusion (GESI) were commended, specific recommendations were made to strengthen this dimension further. These included:

- Ensuring women's representation in decision-making bodies beyond CBOs, such as the Project Management Team and Project Board;
- Setting explicit targets for women's participation across all project activities, not only those designed specifically for women;
- Conducting a gender analysis to identify potential unintended consequences or barriers to women's participation and benefits;
- Monitoring and reporting sex-disaggregated data for all relevant indicators to assess differential impacts;
- Engaging men as allies in promoting gender equality.

In response to these recommendations, the following actions have been taken:

- Women have been meaningfully included in the project's management structure.
    - *Ms. Yasmin Cheema*, SLF's SLE Coordinator, supports the Project Management Team in marketing women-led enterprise products;
    - *Ms. Mehak Zehra*, Social Organizer and Saleswoman, is a formal member of the Project Management Team;
    - *Ms. Tehseen Sadaqat*, Research Associate, is actively engaged in supporting research and evaluating income generation among SLE beneficiaries.

- In line with local cultural sensitivities, the project ensured *maximum participation of women* in various interventions. Women participated in a wide range of activities including:
    - *SLE training and enterprise development*, (**E5**)
    - *Nature Study Camps (**E16**)*,
    - *Teacher training programs* (**E9**),
    - *Trainings on financial management, record keeping, and monitoring/reporting (**E15**)*.
- Livestock vaccination campaigns (**E4**), predator-proof corrals (**E11**), and insurance schemes (**E23**) were particularly beneficial to women, as they are primarily responsible for livestock care in the project area.

  The project team has consistently *monitored and reported sex-disaggregated data* for all relevant indicators to enable tracking of gender-specific impacts.
- *Men were actively involved* in all project activities (except SLE), serving as ***partners and allies*** in promoting gender-responsive conservation and community development.
- SLF *conducted a gender analysis* to further identify and address any potential barriers or unintended consequences that may affect women's full participation and benefit from the project.

8 Risk Management

New Risk Identified: During project implementation, it became evident that facilities for advanced eDNA analysis were not available within Pakistan, posing a significant challenge for achieving the project's scientific research objectives. In addition, SLF faced legal and regulatory constraints in transferring project funds to international laboratories, which created the risk that eDNA sample analysis abroad might not be completed within the project's timeframe.

Risk Mitigation Approach: To address this issue, SLF formally requested approval from the Darwin Initiative for an alternative arrangement. The proposed solution involved SLT (Snow Leopard Trust), a key donor and project partner, facilitating the international fund transfer. Specifically, SLT agreed to directly pay the required amounts to selected foreign laboratories on behalf of SLF using their funds that were originally planned for separate SLT-funded activities. In parallel, SLF would utilize the equivalent amount from the Darwin Initiative budget to cover the SLT-planned activities within the scope of SLF's programming. This approach ensured that Darwin Initiative funds remained fully accounted for and activities remained compliant with project objectives.

Approval and Implementation: The Darwin Initiative approved this request, and the arrangement was successfully implemented. SLT facilitated the transfer of funds to several international research institutions, including Admira Health (USA), Jonah Ventures (USA), and Stanford University (USA). As a result, the project was able to proceed with its planned eDNA analysis and genetic research activities.

This flexible and collaborative solution allowed SLF to overcome a significant operational barrier, ensuring continuity in scientific work while maintaining financial accountability and adherence to legal frameworks.

9 Scalability and Durability

The project was designed with sustainability and scalability at its core. Many of its key achievements—including community-led conflict mitigation, conservation-linked livelihood models, and biodiversity monitoring—are now well-integrated into local structures and are expected to endure beyond the life of the project.

Sustainable Community Institutions and Ownership

From the outset, CBOs were actively involved in planning and implementation. Their engagement led to the successful delivery of key interventions, including Livestock Insurance Schemes (LIS) (**E23**), predator-proof corrals (**E11**), and Snow Leopard Enterprises (SLEs) (**E5**). These institutions were formally registered with the government, and their members received targeted training in financial management, record keeping, monitoring, and organizational governance (**E15**), equipping them to sustainably manage long-term conservation and livelihood programs.

Post-project, SLF will continue to engage with these CBOs, attending their meetings, providing technical backstopping, and linking them with relevant line departments to implement additional conservation and poverty alleviation initiatives. These strengthened CBOs are now better positioned to handle human-wildlife conflict resolution, demonstrating increased leadership, improved community resilience to predator-related losses, and the potential for long-term conservation success.

Durable Conservation Mechanisms

The Livestock Insurance Schemes (LIS) provide a model of financial sustainability. The project contributed PKR 5.4 million, which accounted for only 31% of the total PKR 17.293 million available across the 12 LIS accounts (**E23**). The remaining 69% was contributed by communities or generated through bank profits. Community members will continue contributing annual insurance premiums and registration fees for newly insured livestock, enabling the funds to grow towards financial self-sufficiency.

Formal tripartite agreements were signed between SLF, the CBOs, and the Gilgit-Baltistan Parks and Wildlife Department (**E12**), which is represented on LIS committees responsible for evaluating and disbursing compensation. This arrangement ensures institutional linkages and government oversight, further enhancing the system's sustainability.

Similarly, for the construction of 24 predator-proof corrals, 16 Village Conservation and Development Organizations (VCDOs) contributed PKR 2.569 million in-kind, compared to the project's share of PKR 23.477 million (**E11**). Through formal agreements, CBOs committed to the long-term operation and maintenance of these corrals, underscoring local ownership and responsibility.

Continued Technical Capacity and Partnerships

Livestock vaccinations (**E4**) were conducted by trained Ecosystem Health Workers (EHWs) from the communities, ensuring that this service can continue independently. One EHW was further trained in artificial insemination techniques through the National Agricultural Research Centre in Islamabad (**E29**), and such partnerships are expected to continue, reinforcing technical sustainability at the local level.

CBO members were also trained in SLE product development (**E5**), financial and record management (**E15**), and wildlife survey techniques (**E24**). Their involvement in implementing and monitoring key activities (e.g., corrals, LIS, SLEs) reflects a growing capacity for self-sustained implementation.

Livelihood Scaling and Market Linkages

To promote post-project income generation, the project established a dedicated outlet in Gilgit for marketing SLE products. This outlet will continue operations with SLF's support, providing women artisans a reliable platform to sell their products. Additionally, samples were sent to the Snow Leopard Trust (SLT) in the USA, which has expressed interest in marketing these products internationally (**E6**). This growing linkage to global markets enhances the long-term viability of SLE as a scalable income-generation model.

Policy Alignment and Social Change

The project was closely aligned with national policies such as the National Biodiversity Strategy and Action Plan (NBSAP) and Pakistan's Nationally Determined Contributions (NDCs), especially in areas of ecosystem restoration, gender mainstreaming, and community-based conservation. The tripartite agreements and joint implementation with the Wildlife Department

have also strengthened institutional integration, potentially informing future provincial-level conservation policy.

A study conducted towards project closure found measurable improvements in community attitudes toward wildlife and biodiversity conservation (**E14**). The presence of viable snow leopard and wild ungulate populations further supports this behavioral shift, indicating the likelihood of continued community support for conservation efforts.

Project Exit Strategy and Continuity

The project's exit plan emphasized local ownership, institutional partnerships, and financial sustainability. Progress toward these goals is evident in:

- The functionality and community control of LIS (**E12**);
- CBO-led maintenance of predator-proof corrals (**E11**);
- Active market linkages for SLE (**E5**);
- The embedding of technical capacities in local actors.

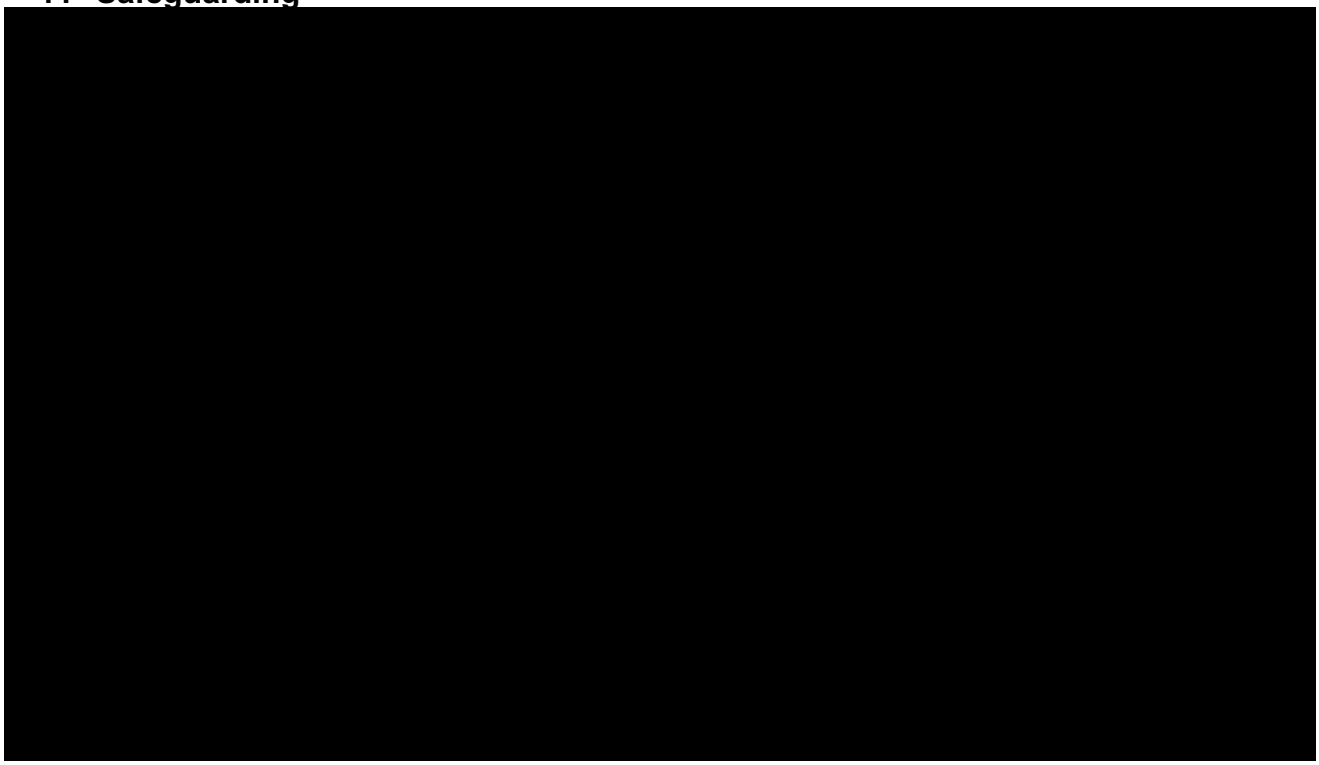
In terms of staffing, many personnel were co-funded by SLF and SLT, which will continue supporting project staff and core initiatives post-project, depending on available resources. SLF is actively exploring additional donor funding to sustain key roles and activities.

This project demonstrates a strong model for scaling and sustaining conservation and livelihood interventions in high-altitude, biodiversity-rich regions. Through community empowerment, government partnerships, and institutional capacity building, the foundations laid by the Darwin Initiative-funded project will support ongoing biodiversity protection and poverty reduction efforts in the region. SLF remains committed to guiding and supporting these processes in the long term.

10 Darwin Initiative identity

The Darwin Initiative logo was used in the publication of backdrops for training workshops, posters, and standees published last year using project resources. Besides, the logo was also used in all project-related events and awareness training sessions. (**E5, E9, E10, E15, E16, E17 & E24**). The Darwin Initiative funding was recognized as a distinct project in most cases. The project results were presented to the Ministry of Climate Change and Environmental Coordination, Government of Pakistan, and the Parks and Wildlife Department, Government of Gilgit-Baltistan during different meetings with them and during celebration of different global environmental days (**E10 & E27**). The project logo was also used in the monthly newsletter of SLF, named "Peaks' Whisper" (**E28**).

11 Safeguarding



[redacted]

12 Finance and administration

12.1 Project expenditure

Project spend (indicative) since last Annual Report	2022/25 Grant (£)	2022/25 Total actual Darwin Initiative Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	[redacted]			

Consultancy costs	[redacted]			
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL	**£** 267,450	**£**268,753.45	**0.49%**	

Staff employed **(Name and position)**	**Cost** **(£)**
Dr. Jaffar Ud Din, Deputy Director-SLF	[redacted]
Dr. Hussain Ali, Senior Regional Project Manager, Gilgit-Baltistan (GB)	
Mr. Muhammad Younus, Social Organizer, GB	
Mr. Tayyab Shahzad, Senior Manager Development and Monitoring	
Mr. Shahid Tanveer, Manager, Finance & HR	
Ms. Ayesha Akif, Communication & SLE Coordinator	
Mr. Mumtaz Hussain, Communication Coordinator	
Ms. Mehak Zehra, Social Organizer, GB	
Mr. Kamran Ali , Social Organizer, GB	
TOTAL	

Capital items – description	**Capital items – cost (£)**
TOTAL	

Other items – description	**Other items – cost (£)**
Consumables Bank Charges Audit costs	[redacted]
TOTAL	

12.2 Additional funds or in-kind contributions secured

Matched funding leveraged by the partners to deliver the project	Total (£)
Snow Leopard Foundation/SLT has paid staff cost, consultancy cost, overhead cost, travel and substance cost relevant to the project site	[redacted]
TOTAL	

Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project	Total (£)
TOTAL	

12.3 Value for Money

The project demonstrated strong value for money through strategic resource use, local capacity mobilization, and effective cost-sharing among stakeholders.

Most of the research and technical studies undertaken during the project were led by Pakistani professionals, which significantly reduced costs while simultaneously building national capacity in wildlife conservation and biodiversity monitoring. Where advanced technologies were not available domestically, such as in eDNA analysis and genomic sequencing, studies were conducted in the United States. In one such case, a Pakistani PhD student receiving training in the U.S. was engaged to lead the study, enabling cost savings while maintaining scientific quality.

Community participation further amplified cost-efficiency. The project successfully constructed 24 predator-proof corrals (**E11**) within the original budget allocated for 20, thanks to strong community mobilization and in-kind contributions of labor and materials. This reflects effective leveraging of community support to extend impact without increasing expenditure.

Under the Livestock Insurance Schemes (LISs), SLF provided 31% of the total amount available in 12 LIS accounts (**E23**). This cost-sharing arrangement not only reduced the project's financial burden but also enhanced local ownership and long-term sustainability of the LISs.

Additionally, a substantial portion of the project staff salaries was covered by the Snow Leopard Trust (SLT), allowing the Darwin Initiative funding to be focused on field implementation and community-based interventions.

The Gilgit-Baltistan Parks and Wildlife Department also contributed to selected research activities, enabling the project to undertake additional studies without requiring increased budget allocation for research.

Overall, the project achieved significant results in conservation and livelihood development by efficiently using available resources, fostering local partnerships, and aligning contributions across community, government, and donor levels, ensuring strong value for every pound invested.

SLT contributed GBP 155,984 during the project lifespan (2022-25).

13 Other comments on progress not covered elsewhere

The project area was increased from 13 valleys to 17 valleys. The number of predator-proof corrals was enhanced from 20 to 24 (**E11**), and additional research studies were conducted to support biodiversity conservation. The communities provided more than matching grants for LISs. Marketing of SLE products was difficult. An SLE outlet was established in a market in Gilgit; even then, marketing of SLE products was a challenge. SLT has shown interest in assisting in the marketing of SLE products developed by the local community.

14 OPTIONAL: Outstanding achievements of your project (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds to edit and use the following for various promotional purposes (please leave this line in to indicate your agreement to use any material you provide here).

This project made exceptional strides in integrating conservation and community development across the remote valleys of Gilgit-Baltistan, setting a benchmark for community-led biodiversity protection.

From April 2024 to March 2025, 80,378 cattle/ yak and 163,598 goat/sheep on an average annually were vaccinated through trained 55 Ecosystem Health Workers (EHWs), significantly reducing disease-related losses and improving livestock health (**E4**). In collaboration with Valley Conservation and Development Organizations (VCDOs), the project constructed 24 predator-proof corrals, protecting 21,600 small ruminants from predation (**E11**). Field assessments confirmed zero losses inside these corrals, demonstrating their effectiveness.

A major innovation was the establishment of community-based Livestock Insurance Schemes (LISs) in 12 valleys. Communities contributed PKR 5.4 million, and farmers received compensation totaling PKR 1,082,250 for 107 sheep, 22 goats, 10 cattle, 12 yaks, and 4 donkeys, offering timely financial relief for livestock losses to predators (**E23**).

The project also exceeded its gender equity targets. Against a target of 223, a total of 241 women were trained across structured programs (**E5, E9, E10, E15 & E16**). Through the Snow Leopard Enterprises (SLE) initiative, 61 women artisans earned PKR 2.167 million in income and saved PKR 746,200 over 18 months (**E5**). A dedicated sales outlet, staffed by a woman, was established in the Gilgit Gems and Handicrafts Market, supporting the long-term sustainability of women-led conservation enterprises.

Perhaps most remarkably, the signing of conservation agreements and increased community ownership led to the reported cessation of illegal killings of wild ungulates and snow leopards in all 17 project valleys—an unprecedented shift in local conservation behavior.

The project also delivered pioneering scientific research. It conducted genetic analysis of 300 snow leopard faecal samples, initiated whole genome sequencing of ibex, and implemented Pakistan's first eDNA sampling from air and water, advancing non-invasive wildlife monitoring techniques.

By successfully combining livelihood support, insurance, gender inclusion, and community-based conservation, the project not only met but exceeded its intended outputs. It leaves behind a model of ecological and economic resilience that is scalable, durable, and fully aligned with the Darwin Initiative's objectives of biodiversity conservation, poverty reduction, and gender equality.

File Type (Image / Video / Graphic)	**File Name or File Location**	**Caption, country and credit**	**Online accounts to be tagged** (leave blank if none)	**Consent of subjects received (delete as necessary)**
Image	Cushion covers developed by Mrs. Farzana Bibi,	Cushion covers developed by Mrs. Farzana Bibi,	-	Yes

	Community activist.jpg	Community activist, Pakistan, Credit SLF		
Image	Embroidery strips affixed to wallets.png	Embroidery strips affixed to wallets, prepared by SLE trainees, Pakistan, Credit SLF	-	Yes
Image	Embroidery strips developed by Mrs. Farzana Bibi, Community activist.jpg	Embroidery strips developed by Mrs. Farzana Bibi, Community activist, Pakistan, Credit SLF	-	Yes
Image	Jewellery box prototypes.png	Jewellery box prototypes, prepared by SLE trainees, Pakistan, Credit SLF	-	Yes
Image	Naz Bar, Qurqulti predator-proof corral.jpg	Naz Bar, Qurqulti predator-proof corral, prepared by SLE trainees, Pakistan, Credit SLF	-	Yes
Image	Photo frame developed by Mrs. Farzana Bibi, Community activist.jpg	Photo frame developed by Mrs. Farzana Bibi, Community activist, Pakistan, Credit SLF	-	Yes
Image	Prototype of ladies' purse.png	Prototype of ladies' purse, prepared by SLE trainees, Pakistan, Credit SLF	-	Yes
Image	Prototype of men wallets.png	Prototype of men wallets, prepared by SLE trainees, Pakistan, Credit SLF	-	Yes
Image	Prototypes of carpet shoes.png	Prototypes of carpet shoes, prepared by SLE trainees, Pakistan, Credit SLF	-	Yes
Image	Prototypes of cushions.png	Prototypes of cushions, prepared by SLE trainees, Pakistan, Credit SLF	-	Yes
Image	SLE Outlet Gilgit.png	SLE Outlet Gilgit, Pakistan, Credit SLF	-	Yes
Image	Tissue box developed by Mrs. Farzana Bibi, Community activist.jpg	Tissue box developed by Mrs. Farzana Bibi, Community activist, Pakistan, Credit SLF	-	Yes
Image	Ghulkin, predator-proof corral.jpg	Predator-proof corral in Ghulkin valley, Pakistan, Credit SLF	-	Yes
Image	Gulmit, predator proof corral.jpg	Predator proof corral in Gulmit valley, Pakistan, Credit SLF	-	Yes
Image	Hanzal predator-proof corral.jpg	Predator-proof corral in Hanzal valley, Pakistan, Credit SLF	-	Yes
Image	Passu Predator Proof Corral	Predator Proof Corral in Passu valley, Pakistan, Credit SLF	-	Yes

Annex 1 Report of progress and achievements against logframe for the life of the project

Project summary	Progress and Achievements June 2022 - March 2025
Impact **Snow leopards (SL), their wild prey, landscapes, and local livelihoods are safeguarded through integrated conservation and livelihood improvement programs and gender mainstreaming.**	Communities were mobilized and sensitized to foster a conservation and livelihood improvement agenda. The capacity building, conservation, and livelihood improvement measures implemented as per the work plan contribute towards biodiversity, landscape conservation, sustainable use of natural resources, equitable sharing of benefits among men and women, and economic empowerment of the target communities.
Outcome: **Snow leopards, their wild prey, landscapes and local livelihoods are safeguarded through integrated conservation and livelihood improvement programs and gender mainstreaming.**	
By the end of the project, the number of households engaged in biodiversity conservation and livelihood programmes increased from 552 to 8,000.	0.1 By the end of the project, the number of households engaged in biodiversity conservation and livelihood programmes increased to more than 13,350 (**E4**).
By the end of the project, the number of valleys engaged in multiple conservation programmes increased from 7 to 17.	0.2 The number of valleys engaged in multiple conservation programmes increased to 17 (**E1**).
By the end of the project, livestock losses inside predator-proof corrals will be completely curtailed, saving about 11% of livestock holdings in 17 project valleys per annum.	0.3 Livestock losses inside predator-proof corrals were completely curtailed.(**E11**)
By the end of the project, insurance programmes will provide about 30% of market value for livestock lost to carnivore predation in 12 project valleys.	0.4 The insurance program for protecting livestock from loss to carnivore predation was expanded to 12 project valleys (E23). Compensation amounting to PKR 1,082,250 was paid for 107 sheep, 22 goats, 10 cattle, 12 yaks, and 4 donkeys lost to carnivores (**E23**).
By the end of the project, number of women trained and engaged in handicrafts will be increased from 0 to 100, and their family income increased by at least PKR10,000 per month in project valleys.	0.5 The number of women trained and engaged in handicrafts was increased to 105. SLE training caused an increase of PKR 2,748 per month in the income of 66% trainees on average (**E5**). In the baseline survey, 176 respondents reported a combined annual income of PKR 451,050 (PKR 214 per month) from handicrafts. After the training, 89% (93 of the 105) trained artisans were interviewed, and 66% (61 of them) reported generating a total income of PKR 2,167,500 (PKR 2,961 per month) (**E18**).

	Marketing of SLE products will be supported by the SLE Outlet in Gilgit (**E3**). SLT has also mentioned that it will give order to purchase SLE products developed under the project to sell these internationally (**E6**). Private entrepreneurs will also be engaged to aid marketing efforts.
By the end of the project, men and women in the project communities will have a measurable increase in positive attitudes towards conservation as compared to valleys with no interventions, measured through questionnaire survey.	0.6 The achievement of targets and signing of agreements motivated men and women in the project communities to develop positive attitudes towards conservation as compared to valleys with no interventions (**E14**).
By the end of the project, the illegal killing of wild ungulates and SL will cease in the 17 project communities.	0.7 No reports of illegal killings of wild ungulates or snow leopards in the project valleys were received from the community or from the GB Wildlife Department.
By the end of the project, a viable population of SL and wild ungulates will be confirmed through field surveys in the project sites.	0.8 The main wild ungulates in the project sites are the Himalayan ibex and blue sheep. A viable population of wild ungulate, the Himalayan Ibex increased from 2,646 numbers to 3,314 numbers in the 12 CCHAs[1] among project sites before project initiation (2021-22) to during last year of the project (2024-25), respectively. Moreover, a viable population of wild ungulates, blue sheep increased from 626 numbers to 1,785 numbers in the 2 CCHAs[2] among the project sites before project initiation (2021-22) to during last year of the project (2024-25), respectively (**E25**).
Output 1. Conservation and income-generating initiatives including livestock vaccination, predator-proof corrals, livestock insurance, and handicrafts enterprises established in 12 valleys.	
1.1 Vaccination of 50,000 cattle/ yak and 100,000 goat/sheep for Black Quarter, Enterotoxaemia, Foot and Mouth or other necessary vaccines and medicine used for protection against ectoparasites as recommended by the Livestock Department, twice (spring and autumn seasons) in a year.	1.1 Vaccinated 80,378 cattle/ yak and 163,598 goat/sheep on an average annually through the 55 local EHWs for black quarter, foot and mouth disease, goat pox, sheep pox, lumpy skin, *Enterotoxaemia*, *Peste des petits ruminants* (PPR), *Haemorrhagic septicaemia* (HS) and *Contagious caprine pleuropneumonia* (CCPP) diseases as per vaccination protocol/ calendar. Additionally, provided dewormer Ivermectin injection for protection against ectoparasites and endo-parasites as recommended by the Livestock Department (**E4**). Communities will be motivated to continue vaccination campaigns after project completion with their own funding. Additionally, funding opportunities will be explored to continue vaccination.
1.2 Twenty-three additional corrals built (2 corrals in year 1, 8 in year 2 & 13 in year 3), protecting 16,000 livestock by project end, over baseline of 6 corrals in project valleys	1.2 Twenty-four additional predator-proof corrals were built through the participation of the project/SLF and the local community during the project period (**E11**). After project completion, as per the agreement signed with the CBOs, corrals will be maintained by communities by their own.

[1] Chipurson, Ramanji, KVO, Misgar, Khyber, Ghulkin, Gulmit, Quramber, Sikander Abad, Passu, Yaseen (Thoi, Darkut, Naz bar, Qurqulti), and Shimshal CCHAs.

[2] Shimshal and Sockterabad CCHAs

1.3 15,000 livestock in 12 communities protected through insurance schemes by project end (4 in year 1 and 8 in year 2), over baseline of 7 valleys and 5000 livestock.	1.3 Ten thousand livestock in 17 project valleys were protected through insurance schemes (**E23**).
1.4 One hundred households in 7 communities (16 in year 1, 52 in year 2 & 32 in year 3) engaged in producing and selling quality handicrafts under the umbrella of Snow Leopard Enterprises by project end, over baseline of 0 households.	1.4 One hundred and five households in 7 communities were engaged in producing and selling quality handicrafts under the umbrella of Snow Leopard Enterprises (**E5**).
1.5 Seventeen new conservation contracts (8 in year 1, 4 in year 2 and 5 in year 3) signed for 17 communities by Year 3.	1.5 Forty-three Conservation contracts were signed with communities in 17 valleys (**E2, E12, & E13**).
Output 2. Effectiveness of conservation initiatives on livestock losses, household income increased, attitudes towards conservation, including gender effects are improved in 12 valleys and a new Protected Area added.	
2.1 Livestock losses inside predator-proof corrals will be completely curtailed, saving about 2% of livestock holdings in communities per annum from predation by project end,	2.1 Livestock losses inside 24 predator-proof corrals, built during the project life, were completely curtailed, saving 21,600 livestock holdings (**E11**).
2.2 By the end of the project, 100+ households in 7 valleys receive profits from SLE sales.	2.2 Sixty-one women from 7 valleys received profits from SLE. The 105 women trained will be supported to get profits from SLE (**E5**).
2.3 By the end of the project, men and women in the project communities have increased acceptance of SL and other predators.	Men and women in the project communities have increased acceptance of SL and other predators (**E14**)
2.4 By the end of the project, Khudaabad valley community will present its draft plan to the Wildlife Department for the declaration of Khudaabad valley as Community-controlled Hunting area (CCHA) in year 2 and the valley will be declared as CCHA in year 3.	The Parks and Wildlife Department, Government of Gilgit-Baltistan, has provided its comments on the Valley Conservation and Development Plan for Khudaabad Valley (**E7 & E8**). During the project period, Khudaabad Valley could not be declared a Community Controlled Hunting Area (CCHA) by the government. However, the SLF will continue its efforts to facilitate the declaration of Khudaabad Valley as a CCHA following the completion of the project.
Output 3. Capacity of 20 community activists built for community/ financial management and record keeping, 26 teachers, 200 students for conservation, 8 members of academia, 22 Wildlife Department staff and 28 community members for survey techniques through training and provision of resource material	
3.1 20 community activists (at least 30% women) have increased capacities for community/financial management, record keeping and importance of wildlife conservation in Year 1 and are successfully managing the CBOs' finances and records after getting the training (Year 2 & 3).	32 trained community activists (53 % women) are successfully managing the CBOs' finances and records after getting the training (**E15**). SLT will support monitoring the progress of trained persons as per availability of budget.

3.2 20 community activists trained for community/financial management, record keeping and importance of wildlife conservation have worked as community conservation champions (at least 30% women) actively engaged in dialogue with 20 communities to guide them for project initiatives and sensitize them for conservation of snow leopard and its wild prey by end of yr 2.	The community activists trained during years 1 & 2 were engaged in dialogues, working as community conservation champions. The trained community activists will be engaged in dialogues, working as community conservation champions.
3.3 26 teachers (13 men and 13 women; 13 in year 2 & 13 in 1st. quarter, year 3) have increased capacities for conservation and training skills and each disseminated the learned skills among 20 students by end of 1st quarter of year 3.	The trained 26 teachers (15 men and 11 women) (**E9**) disseminated the learned skills in environmental conservation to 807 students during World Wildlife Day on 3 March 2025 (**E10**).
3.4 Capacity of 200 students (at least 50% participation from girls) increased towards biodiversity conservation through engagement in 13 nature clubs and nature study camps by end of 1st quarter of year 3.	The capacity of 194 students and teachers (86 male & 108 female) was raised for biodiversity conservation and wildlife survey techniques through four nature study camps (**E16**). Furthermore, the capacity of 807 students (460 boys and 347 girls) of 12 nature clubs was raised in environmental conservation during the celebration of World Wildlife Day 2025 (**E10**).
3.5 By the end of the project, 28 CBO members (4 in year 1, 12 in yr. 2 & 12 in yr. 3), 8 academics (at least 50% women) (2 in year 1, 3 in yr. 2 & 3 in yr. 3), and 22 Wildlife Department staff (4 in year 1, 9 in yr. 2 & 9 in yr. 3) trained in wildlife survey techniques, that are effectively conducting wildlife surveys.	16 CBO men members and 55 Wildlife Department staff members were trained in wildlife survey techniques focusing on data accuracy, double observer survey method, crime reporting, use of GPS, binoculars, spotting scopes, and range finders (**E24**). Additionally, the capacity of 194 students and teachers (86 male & 108 female) was raised for biodiversity conservation and wildlife survey techniques (**E16**).
3.6 By the end of the project, resource materials including 5 posters (1 in year 1, 2 in yr. 2 & 2 in yr. 3) and 5 leaflets (1 in year 1, 2 in yr. 2 & 2 in yr. 3) on conservation topics developed and disseminated among stakeholders, resulting in increased understanding of stakeholders on snow leopard conservation.	Developed and printed 5 leaflets/ booklets, 17 posters, and 20 standees on 5 conservation topics. The leaflets/ booklets and posters were disseminated among stakeholders, resulting in their increased understanding of snow leopard conservation (**E17**).
Output 4. Impact of conservation initiatives on the abundance of wild ungulates and Snow leopards understood.	
4.1 By the end of Year 1, baseline ungulate populations determined through field surveys in all 17 project valleys.	The baseline ungulate populations determined through field surveys during the first year in all 13 project valleys included Himalayan Ibex: 2,035, Blue sheep: 633, Astor markhor: 392, and Ladakh Urial: 133 (**E18**).
4.2 By the end of the project, ungulate population trends and wild prey indices will be determined by comparing baseline data to field survey data collected in Year 1.	Ungulate population trends and wild prey indices were determined by comparing baseline data to field survey data collected in Year 1 during the last year of the project and presented in the end-of-project report (**E25**).

4.3 By the end of the project, 400 eDNA samples (60 in yr. 1, 240 in yr. 2 & 100 in yr. 3) will have been collected and analysed (100 in yr. 2 and 300 in yr. 3) to determine a reliable SL population estimate in the 17 project valleys.	The following research studies were conducted to determine a reliable population of snow leopard and its prey species: 1. A total of 1,174 scat (containing genomic and eDNA) samples, collected from about 35,000 sq. km snow leopard range, were analysed in 2023. Of these, 267 were confirmed to be from snow leopards. Other species identified through molecular analysis of the faecal samples included red fox, wolf, and lynx. Out of the 267 genetically confirmed snow leopard samples, 179 were successfully genotyped for individual-level identification, resulting in the identification of 56 unique snow leopard individuals (**E19**). 2. Additionally, a total of 300 putative snow leopard fecal samples collected from the selected valleys in the snow leopard range were processed for DNA extraction during the first quarter of 2025. In addition to snow leopard fecal DNA extractions, one negative control (null) was included in each of the 13 extraction sets to monitor contamination. Out of the 300-snow leopard putative samples, 47 samples were not amplified during the PCR for species identification because these were very old, eroded, and deemed unsuitable for fecal DNA extraction. So, the 47 samples were excluded from sequencing, while DNA of the remaining 253 samples were extracted and these were sent to USA for genetic analysis to identify species and individuals (**E20**). 3. Moreover, collected 50 water and 50 air eDNA samples from the selected valleys in the snow leopard range were sent to the laboratory of private company in USA, Jonah Venture to identify the snow leopard and other carnivorous species at both the species and individual levels. For this purpose, two primer sets will be used for each sample type. The results are expected during the third quarter of 2025 (**E21**). 4. Furthermore, to address the critical need for acquiring a whole-genome sequence of the Markhor and conducting population genetic studies samples of Astore, Kashmiri and Suleiman markhors were collected from 4 locations, including Gilgit; Chitral Gol National Park, Chitral (Khyber Pakhtunkhwa); Bunji (Gilgit Baltistan); and Pishin, Balochistan. Genomic DNA was extracted from these samples and subsequently amplified. The amplified products were sequenced by using the Next Generation Sequencing (NGS) Platform offered by Macrogen, Korea. These analyses revealed that Markhor populations from different geographical regions of Pakistan form a monophyletic clade, with the Suleiman Markhor emerging as a potential ancestral lineage and an out-group species (**E22**).
4.4 By the end of the project, reported killings of predators and wild herbivores will be reduced by 50% in participating households and communities.	No reports of the killing of predators or wild herbivores in participating households and communities were received through print, electronic, or social media, or from Wildlife Department records in the 17 project valleys under the Darwin Initiative-funded project. The same observation was made during data collection for the development of the project's baseline.
4.5 By the end of the project, two peer reviewed papers will have been submitted for publication.	Published 9 peer reviewed papers in international journals/book chapters.
4.6 By the end of the project, one best practice will have been documented and shared with stakeholders.	One best practice of SLE was documented and shared with stakeholders (**E5**).

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

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
Impact: Snow leopards (SL), their wild prey, landscapes and local livelihoods are safeguarded through integrated conservation and livelihood improvement programs and gender mainstreaming. (Max 30 words)			
Outcome: Conservation and livelihood programs supporting additional 8000 households in 17 valleys reduce livestock losses, increase income and improve attitudes, leading to stable or increased abundance of Snow-leopards and wild ungulates. (Max 30 words)	0.1 By the end of the project, the number of households engaged in biodiversity conservation and livelihood programmes increased from 552 to 8,000. 0.2 By the end of the project, the number of valleys engaged in multiple conservation programmes increased from 7 to 17. 0.3 By the end of the project, livestock losses inside predator-proof corrals will be completely curtailed, saving about 11% of livestock holdings in 17 project valleys per annum. 0.4 By the end of the project, insurance programmes will provide about 30% of market value for livestock lost to carnivore predation in 12 project valleys. 0.5 By the end of the project, number of women trained and engaged in handicrafts will be increased from 0 to 100, and their family income increased by at least PKR10,000 per month in project valleys. 0.6 By the end of the project, men and women in the project communities will have a measurable increase in positive attitudes	0.1 Annual reports from field teams highlighting the number of communities approached, champions identified, meetings held, schemes adopted and conservation contracts signed. 0.2 Field visit reports of visit to valleys. 0.3 Baseline and final survey reports for relevant communities highlighting livestock vaccinated, corral improvements, involvement in insurance programmes, premium payments, and involvement in handicraft production, sales and price received. 0.4 Annual reports of predation events reported for each of the 17 communities and those serving as controls. 0.5 Baseline and final survey reports for sample households in sample communities measuring household income and attitudes towards interventions, predators and ungulates.	0.1 Communities and other relevant stakeholders remain willing to engage in collaborative, multi-pronged conservation management initiatives and own these initiatives 0.2 US and online markets for handicrafts and livestock products remain sustainable 0.3 There is no unrest due to COVID or severe socio-political situation that prevents work with communities. Based on experience and our sustained field presence, we expect occasional delays but not a cessation of our work. 0.4 Project benefits distributed equitably among men and women members and available to disadvantage groups among the communities. 0.5 Communities are willing to subscribe to livestock compensation programs 0.6 Conflicts between communities and other stakeholders are not

	towards conservation as compared to valleys with no interventions, measured through questionnaire survey. 0.7 By the end of the project, the illegal killing of wild ungulates and SL will cease in the 17 project communities. 0.8 By the end of the project, a viable population of SL and wild ungulates will be confirmed through field surveys in the project sites.	0.6 Questionnaire survey report of attitude of men and women community members towards conservation. 0.7 Annual reports of illegal killing of SL and wild herbivores from 17 project communities and 3 control communities, incorporating information from long-term community contacts (key informants), community champions, protected area staff and records from wildlife departments. 0.8 Reports from wildlife surveys (genetic sampling and double observer techniques).	negatively impacting project implementation. 0.7 Political situation during project implementation is conducive to achievement of project results.
Outputs: **1**. Conservation and income generating initiatives including livestock vaccination, predator-proof corrals, livestock insurance and handicrafts enterprises established in 17 valleys.	1.1 Vaccination of 50,000 cattle/ yak and 100,000 goat/sheep for Black Quarter, Enterotoxaemia, Foot and Mouth or other necessary vaccines and medicine used for protection against ectoparasites as recommended by the Livestock Department, twice (spring and autumn seasons) in a year. 1.2 Twenty-three additional corrals built (2 corrals in year 1, 8 in year 2 & 13 in year 3), protecting 16,000 livestock by project end, over baseline of 6 corrals in project valleys 1.3 15,000 livestock in 12 communities protected through insurance schemes by project end (4 in year 1 and 8 in year 2), over baseline of 7 valleys and 5000 livestock.	1.1 Annual livestock vaccination reports. 1.2a Agreements signed with VCDOs/CBOs for corral construction. 1.2b Corrals completion reports. 1.3 Agreements signed with VCDOs/CBOs for Livestock Insurance schemes.	1.1 Field implementers will remain with the organizations for long enough to provide better coordination in managing community-based conservation project initiatives. 1.2 We will be able to find effective community champions within a reasonable amount of time 1.3 Local communities understand that critical habitats in their vicinities will benefit livelihoods and ecological security, they remain interested in corrals, handicrafts and insurance as good options for mitigating human wildlife conflicts and leadership within the community remains cohesive enough to

	1.4 One hundred households in 7 communities (16 in year 1, 52 in year 2 & 32 in year 3) engaged in producing and selling quality handicrafts under the umbrella of Snow Leopard Enterprises by project end, over baseline of 0 households. 1.5 Seventeen new conservation contracts (8 in year 1, 4 in year 2 and 5 in year 3) signed for 17 communities by Year 3.	1.4 Handicrafts' production and sale, annual reports. 1.5 Agreements/ Conservation contracts signed with VCDOs/CBOs for handicrafts/SLE. 1.6 Baseline and end-line survey reports of household incomes. 1.7 Programme data, stories, field reports and receipts collected by SLF to monitor corrals building, insurance scheme progress, livestock vaccination and handicraft production and purchases.	manage multi-pronged programmes. 1.4 Local community-based institutions would establish an effective institutional mechanism to facilitate conservation outcomes. 1.5 Project interventions will focus on short to mid-term benefits to avoid long gestation period that would not be conducive to win community support for conservation. 1.6 Communities are willing to subscribe to livestock compensation programs
2. Effectiveness of conservation initiatives on livestock losses, household income increased, attitudes towards conservation including gender effects are improved in 17 valleys and a new Protected Area added.	2.1 Livestock losses inside predator-proof corrals will be completely curtailed, saving about 2% of livestock holdings in communities per annum from predation by project end, 2.2 By the end of the project, 100+ households in 7 valleys receive profits from SLE sales. 2.3 By the end of the project, men and women in the project communities have increased acceptance of SL and other predators. 2.4 By the end of the project, Khudaabad valley community will present its draft plan to the Wildlife Department for the declaration of Khudaabad valley as Community-controlled Hunting area (CCHA) in year 2 and the valley will be declared as CCHA in year 3.	2.1 Annual livestock predation reports. 2.2 Handicrafts' production and sale, annual reports. 2.3 Reports of surveys of community attitudes towards conservation. 2.4a Draft plan provided to the government to declare Khudaabad valley as a CCHA 2.4b Notification of the government to declare Khudaabad valley as a CCHA	2.1 Field implementers will remain with the organizations for long enough to make training worthwhile 2.2 2.3 Communities remain interested in corrals, handicrafts and insurance as good options for mitigating conflicts and leadership within the community remains cohesive enough to manage multi-pronged programmes.

3. Capacity of 20 community activists built for community/ financial management and record keeping, 26 teachers, 200 students for conservation, 8 members of academia, 22 Wildlife Department staff and 28 community members for survey techniques through training and provision of resource material	3.1 20 community activists (at least 30% women) have increased capacities for community/financial management, record keeping and importance of wildlife conservation in Year 1 and are successfully managing the CBOs' finances and records after getting the training (Year 2 & 3). 3.2 20 community activists trained for community/financial management, record keeping and importance of wildlife conservation have worked as community conservation champions (at least 30% women) actively engaged in dialogue with 20 communities to guide them for project initiatives and sensitize them for conservation of snow leopard and its wild prey by end of yr 2. 3.3 26 teachers (13 men and 13 women; 13 in year 2 & 13 in 1st. quarter, year 3) have increased capacities for conservation and training skills and each disseminated the learned skills among 20 students by end of 1st quarter of year 3. 3.4 Capacity of 200 students (at least 50% participation from girls) increased towards biodiversity conservation through engagement in 13 nature clubs and nature study camps by end of 1st quarter of year 3. 3.5 By the end of the project, 28 CBO members (4 in year 1, 12 in yr. 2 & 12 in yr. 3), 8 academics (at least 50% women) (2 in year 1, 3 in yr. 2 & 3 in yr. 3), and 22 Wildlife Department staff (4 in year 1, 9 in yr. 2 & 9	3.1 Project notes/ reports of training delivered to community activists in community/financial management, record keeping and importance of wildlife conservation. 3.2 Field implementer meetings with conservation champions to keep record of their involvement in community discussions 3.3 Project notes/ reports of training/refreshers for Ecosystem Health Workers delivered to Community members 3.4 Project notes/ reports of teachers' training. 3.5 Project notes/ reports of nature clubs and nature study camps. 3.6 Project notes/ reports of wildlife survey training. 3.7 Resource material on conservation topics developed for stakeholders. 3.8 Post training response forms from field staff and stakeholders receiving different training.	3.1 Field implementers will remain with the organizations for long enough to make training worthwhile. 3.2 Capacities of the community groups will be adequate after the training to execute the task. 3.2 Community champions are supporting CBOs to implement wildlife conservation agenda in the respective valleys. 3.3 Communities remain interested in corrals, handicrafts and insurance as good options for mitigating conflicts and leadership within the community remains cohesive enough to manage multi-pronged programmes.

	in yr. 3) trained in wildlife survey techniques, that are effectively conducting wildlife surveys. 3.6 By the end of the project, resource materials including 5 posters (1 in year 1, 2 in yr. 2 & 2 in yr. 3) and 5 leaflets (1 in year 1, 2 in yr. 2 & 2 in yr. 3) on conservation topics developed and disseminated among stakeholders, resulting in increased understanding of stakeholders on snow leopard conservation.		
4. Impact of conservation initiatives on abundance of wild ungulates and Snow leopards understood.	4.1 By the end of Year 1, baseline ungulate populations determined through field surveys in all 17 project valleys. 4.2 By the end of the project, ungulate population trends and wild prey indices will be determined by comparing baseline data to field survey data collected in Year 1. 4.3 By the end of the project, 400 genetic samples (60 in yr. 1, 240 in yr. 2 & 100 in yr. 3) will have been collected and analysed (100 in yr. 2 and 300 in yr. 3) to determine a reliable SL population estimate in the 17 project valleys. 4.4 By the end of the project, reported killings of predators and wild herbivores will be reduced by 50% in participating households and communities. 4.5 By the end of the project, two peer reviewed papers will have been submitted for publication. 4.6 By the end of the project, one best practice will have been documented and shared with stakeholders.	4.1 Reports of field surveys of wild ungulates (double observer techniques). 4.2 Ungulate population trends and wild prey indices. 4.3a Reports of field surveys of genetic sample collection. 4.3b Reports of genetic analysis 4.4 Reports of surveys of killing of Snow leopards and wild ungulates 4.5 Papers submitted for peer review and publication.	4.1 Field implementers will remain with the organizations for long enough to make training worthwhile 4.2 We will be able to find effective community champions within a reasonable amount of time 4.3 400 or more genetic samples of snow leopard are detected for collection and analysis. 4.4 Project management will be able to identify, document and disseminate the best practices.

		4.6 Report of best practice for its dissemination to stakeholders.	

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1 Attend already established Valley Conservation and Development Organizations (VCDOs)/Community based Organizations (CBOs) meetings, provide guidance for community mobilization and gender empowerment and collect project related baseline data
1.2 Conduct baseline surveys regarding household income, number of households engaged in biodiversity conservation and livelihood programmes, valleys engaged in multiple conservation programmes, livestock losses inside predator-proof corrals, insurance coverage for livestock lost to carnivore predation, women trained and engaged in handicrafts, illegal killing of wild ungulates and SL, communities' attitudes towards conservation, SL and wild ungulates population in project area
1.3 Conduct end-line surveys of household income.
1.4 Establish new VCDOs and CBOs as per project requirement and attend meetings to provide guidance for community mobilization and gender empowerment
1.5 Identify and procure vaccines as per vaccination protocol and medicine for ectoparasites as per feedback from the Gilgit-Baltistan (GB) Livestock Department.
1.6 Vaccinate 50,000 cattle/ yak and 100,000 goat/sheep for Black Quarter, Enterotoxaemia, Foot and Mouth or other necessary vaccines or medicines for protection against ectoparasites recommended by the Livestock Department.
1.7 Monitor, collect and compile data, and make payments to the Ecosystem Health Workers
1.8 Approve selected sites, prepare feasibility and cost estimates for construction of 20 predator-proof corrals
1.9 Sign agreements with the VCDO/CBO for construction of Predator-proof corrals
1.10 Provide payment to the account of VCDO/CBO in instalments
1.11 Monitor construction of corrals by the VCDO/CBO
1.12 Prepare completion report of corral construction
1.13 Sign agreements with the VCDOs/CBOs for 5 livestock insurance schemes (LISs)
1.14 Monitor collection of community share by the VCDOs/CBOs for LISs
1.15 Form committee for provision of compensations to community members for livestock loss due to predators
1.16 Provide project share for LISs to VCDOs/CBOs
1.17 Develop and provide selection criteria for different trainings of men and women community members to VCDOs/CBOs to identify the relevant community members
1.18 Sign agreements for Snow Leopard Enterprises (SLE) with VCDOs/CBOs
1.19 Provide 15 days training to women for SLE
1.20 . Order and purchase SLE products from women twice per year to be sold through Snow Leopard Trust (SLT) and private companies.

2.1 Monitor corral usage on annual basis
2.2 Provide wages of SLE products and conservation bonus payments to SLE participants.
2.3 Conduct awareness raising sessions in 17 project valleys regarding importance of snow leopard and other predators in the ecosystem to enhance public tolerance of large carnivores in their valleys.
2.4 Monitor predation of snow leopard and its prey through interaction with VCDOs/CBOs
2.5 Conduct meetings with GB Wildlife Department to share plan of Khudaabad valley to declare it as a Community Controlled Hunting area (CCHA).

3.1 Conduct 2-days training workshop for 20 community activists (13 men & at least 7 women) in community/financial management, record keeping and importance of wildlife conservation
3.2 Engage 20 community conservation champions (13 men & at least 7 women) in dialogue with communities
3.3 Conduct 4-days training for 26 teachers (13 men and 13 women; 13 in year 2 & 13 in 1st. quarter, year 3) for conservation and training skills
3.4 Establish Nature clubs in 13 valleys
3.5 Conduct 2-days nature study camps for 200 students (100 boys and 100 girls)
3.6 Conduct one day workshops teaching wildlife survey techniques for 28 men members of CBO (4 in year 1, 12 in yr. 2 & 12 in yr. 3), 8 members of academia (4 men & 4 women; 2 in year 1, 3 in yr. 2 & 3 in yr. 3), and 22 Wildlife Department staff (all men; 4 in year 1, 9 in yr. 2 & 9 in yr. 3)
3.7 Collect technical material and design 5 posters and 5 leaflets on conservation related topics
3.8 Print 5 posters and 5 leaflets on conservation related topics
3.9 Disseminate printed 5 posters (1 in year 1, 2 in yr. 2 & 2 in yr. 3) and 5 leaflets (1 in year 1, 2 in yr. 2 & 2 in yr. 3) among stakeholders

4.1 Provide relevant equipment/materials and conduct ungulate surveys through trained persons
4.2 Analyse the ungulate survey results and prepare the report
4.3 Provide relevant materials and collect eDNA samples of wildlife during surveys through trained persons
4.4 Record and store the collected eDNA samples after proper processing
4.5 Identify Labs for analysis of eDNA samples and make agreements with them
4.6 Send the stored eDNA samples to Labs for analysis
4.7
4.8 Provide relevant equipment/materials, conduct Camera trapping surveys through trained persons
4.9 Collect data from conservation champions on the of killing of predators and wild herbivores
4.10 Prepare 2 scientific papers and send to scientific journals for publication
4.11 Respond to the queries of scientific journals
4.12 Document one best practice and share with stakeholders

Annex 3 Standard Indicators

Table 1 Project Standard Indicators

Please see the Standard Indicator Guidance for more information on how to report in this section, including appropriate disaggregation. N.B. The annual total is not cumulative. For each year, only include the results achieved in that year. The total achieved should be the sum of the annual totals.

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
E.g. DI-A01	E.g. Number of people in eligible countries who have completed structured and relevant training	3.1, 3.3, 3.5	People	Men	15	93	79	187	181
E.g. DI-A01	E.g. Number of people in eligible countries who have completed structured and relevant training	0.5, 3.1, 3.3, 3.5	People	Women	17	134	88	239	223
DI-A04	Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.		Number	Men	0	22	77	99	
DI-A04	Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.		Number	Women	0	0	89	89	
DI-A05	Number of trainers trained under the project reporting to have delivered further training		Number	Men	0	0	13	13	
DI-A05	Number of trainers trained under the project reporting to have delivered further training		Number	Women	0	0	11	11	
DI-C08	Number of Media related activities (Internet)		Number	-	10	25	40	75	
DI-C08	Number of Media related activities (Print)	3.6	Number	-	5	25	12	42	10
DI-C10	Number of decision-makers attending briefing events.		Number	Men	10	15	26	51	
DI-C10	Number of decision-makers attending briefing events.		Number	Women	0	0	1	1	

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-D03	Number of people with enhanced livelihoods:								
	a Number of people with Sustainable Livelihoods created or protected	2.2	Number	Women	16	58	31	105	100
	b Number of people with improved income	0.5	Number	Men	10	40	49	99	
	c Number of people with improved income		Number	Women	0	20	62	82	100
DI-D07	Number of threatened species with improving conservation status	0.7	Number of taxa	-	6	6	6	6	6

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Next-generation snow leopard population assessment tool: multiplex-PCR SNP panel for individual identification from feces	journal	Katherine A. Solari, Shakeel Ahmad, Ellie E. Armstrong, Michael G. Campana, Hussain Ali, Shoaib Hameed, Jami Ullah, Barkat Ullah Khan,	Female	USA	*Molecular Ecology Resources* (2024) : e14074	https://onlinelibrary.wiley.com/doi/abs/10.1111/1755-0998.14074

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
		Muhammad A. Nawaz, and Dmitri A. Petrov				
Mapping habitat suitability and connectivity for Himalayan brown bears in Pakistan: Implications for conservation management	journal	Shoaib Hameed, Shakeel Ahmad, Jaffar Ud Din, Hussain Ali, Muhammad Younas, Muhammad Kabir, Niloufar Lorestani, Sarwat Jahan, and Muhammad Ali Nawaz	Male	Pakistani	Global Ecology and Conservation	https://www.sciencedirect.com/science/article/pii/S2351989425001714
New Distribution Records of Small Kashmir Flying Squirrel Eoglaucomys fimbriatus (Gray, 1837) (Mammalia: Sciuridae), with Notes on its Diel Activity in the Musk Deer National Park, Azad Jammu	Journal	Shakil Ahmad, Shoaib Hameed, Hussain Ali, Tauheed U. Khan, Tahir Mehmood & M. Ali Nawaz (2023)	Male	Pakistani	Acta Zoologica Bulgarica, Sofia, Bulgaria	[3]

[3] https://www.researchgate.net/profile/Shakeel-Ahmad-36/publication/376787996_ACTA_ZOOLOGICA_BULGARICA_New_Distribution_Records_of_Small_Kashmir_Flying_Squirrel_Eoglaucomys_fimbriatus_Gray_1837_Mammalia_Sciuridae_with_Notes_on_its_Diel_Activity_in_the_Musk_Deer_National/links/658819462468df72d3d17b0c/ACTA-ZOOLOGICA-BULGARICA-New-Distribution-Records-of-Small-Kashmir-Flying-Squirrel-Eoglaucomys-fimbriatus-Gray-1837-Mammalia-Sciuridae-with-Notes-on-its-Diel-Activity-in-the-Musk-Deer-National.pdf

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
and Kashmir, Pakistan						
Assessing The Extent of Habitat Overlap and Resource Partitioning Between Ibex and Livestock in Khyber valley Pakistan	Journal	Javed, Faiza, Asim Aslam, and Ali Nawaz, 2023	Male	Pakistani	Journal of Survey in Fisheries Sciences	https://sifisheriessciences.com/index.php/journal/article/view/1889/1202
The Global Snow Leopard and Ecosystem Protection Program	Chapter of a book, Snow leopards: Biodiversity of the world: Conservation from genes to landscapes	[4]	Male	Indian	Academic Press, Massachusetts, USA	https://www.sciencedirect.com/science/article/abs/pii/B9780323857758000091
The current state of snow leopard conservation in Pakistan	Chapter of a book	Jaffar Ud Din, Shoaib Hameed, Hussain Ali, Muhammad Ali Nawaz, 2024	Male	Pakistani	Academic Press	https://www.sciencedirect.com/science/article/abs/pii/B9780323857758000078
Trophy hunting as a conservation tool	Chapter of a book, Snow leopards: Biodiversity of the world:	Muhammad Ali Nawaz, Jaffar ud Din, Safdar Ali Shah, Ashiq Ahmad Khan,	Male	Pakistani	Academic Press	

[4] Koustubh Sharma a, Justine Shanti Alexander b, Andrew Zakharenka c, Chyngyz Kochorov a, Brad Rutherford d, Keshav Varma e, Anand Seth f, Andrey Kushlin f, Susan Lumpkin f, John Seidensticker g, Bruno Laporte h, Boris Tichomirow i, Rodney M. Jackson j, Charudutt Mishra b, Bakhtiyar Abdiev k, Abdul Wali Modaqiq l, Sonam Wangchuk m, Zhang Zhongtian n, Shakti Kant Khanduri o, Bakytbek Duisekeyev p…Ranjini Murali a b

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
for snow leopards	Conservation from genes to landscapes	Tahir Rasheed, Babar Khan, Tom McCarthy, 2024				
The Ecosystem Health Program: A tool to promote the coexistence of livestock owners and snow leopard	Book Chapter	Nawaz, M.A., Ali, H., & Din, J.U. 2023	Male	Pakistani	Academic Press	
Niche suitability and spatial distribution patterns of anurans in a unique Ecoregion mosaic of Northern Pakistan	Journal	Muhammad Rais, Muhammad Ali Nawaz, Russell J. Gray, Waqas Qadir, Syeda Maria Ali, Muhammad Saeed, Ayesha Akram, Waseem Ahmed, Anum Sajjad, Lionel Leston, 2023	Male	Pakistani	Plos One	https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0285867

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