1) Project Rationale

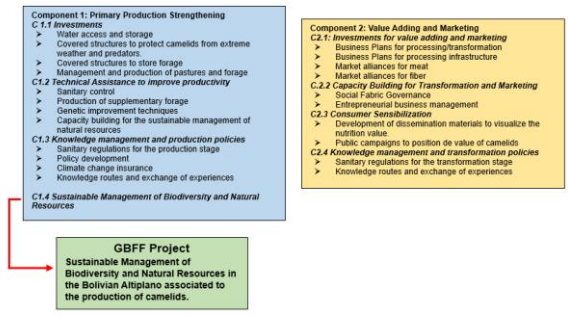
The Bolivian Altiplano, the second largest and highest plateau in the world, is part of the Central Andean Dry Puna ecoregion. This high-altitude, arid montane ecosystem features unique flora and fauna adapted to extreme conditions, including high solar radiation, strong winds, and significant temperature fluctuations. Rainfall is highly variable, ranging from 80 to over 700 mm annually. Vegetation includes two major shrubland types dominated by Fabiana densa and Parastrephia species, while sandy dunes host other shrubland types. The region is also home to important species like migratory birds that rely on highland wetlands and South American camelids, which include domesticated species (Lama glama and Lama pacos) and wild species (Vicugna vicugna and Lama guanicoe). Notably, the Altiplano contains two Ramsar Sites: Titicaca and Poopó Lakes. While the Andean region is renowned for its remarkable biological diversity and as a significant center of origin for many cultivated plants, the region paradoxically has high levels of poverty and malnutrition, with the highest levels found in the Bolivian plateau[1]. Twenty-four percent of the country's municipalities fall into the high vulnerability category regarding food security.

Between 2017 and 2024, Bolivia, with support from IFAD, implemented the Procamélidos 1 program (P1), a US$38.8 million initiative aimed at strengthening the camelid value chain in the Altiplano. Building on the successes of P1, the program focused on improving primary production and sustainable resource management, processing and marketing, and access to financial services for poor families. It recognized the crucial role of camelids in the local economy and addressed environmental challenges impacting their production. Key investments included multi-purpose enclosures for natural pasture recovery, protection from predators, and seedling transplants to increase vegetation coverage. Additionally, infrastructure improvements ensured consistent access to water through wells, tanks, and solar-powered pumps. Covered structures were built to protect camelid herds, particularly during extreme weather events, and to store supplemental forage. Agro-ecological mapping and zoning were also developed to assess environmental risks and guide investment decisions. By addressing the impacts of climate variability and habitat degradation, the Procamélidos program contributed to the sustainable management of natural resources and the preservation of biodiversity in the Altiplano, supporting both the local economy and the environment. Actions were also taken to improve camelid producers' access to healthier diets and empower the most vulnerable, with a focus on youth and women empowerment, further boosting rural transformation.

In 2024, the United Nations declared the International Year of Camelids (IYC 2024), to highlight how camelids are key to the livelihoods of millions of households in hostile environments across the world, particularly indigenous peoples and local communities[2]. In this context and to build on the achievements of P1, the Government of Bolivia and IFAD have initiated the preparation of the Procamélidos 2 Programme (P2), to be implemented in 3 phases over a span of 10 years, starting in 2025. The total cost will be US$ 26.94. The proposal is currently at the Concept Note Stage and comprises the following technical components:

[1] Padulosi, S.; Amaya, K.; Jäger, M.; Gotor, E.; Rojas, W.; Valdivia, R. A Holistic Approach to Enhance the Use of Neglected and Underutilized Species: The Case of Andean Grains in Bolivia and Peru. Sustainability 2014, 6, 1283-1312. https://doi.org/10.3390/su6031283

[2] https://www.fao.org/camelids-2024/about/en



The proposed GBFF project will be nested in Procamélidos 2 Component 1.4, covering the additional costs associated to scaling-up participatory and sustainable management of biodiversity and natural resources related to the production of domestic camelids. It will also strategically complement Sub-components C1.1, C1.3 and C2.2 and will establish synergies with Component 2 through developing market alliances for sustainable and biodiversity friendly value chains. Building on strategies and partnerships established through P2, the GBFF project will address the following key drivers of biodiversity loss:

I. Habitat Loss and Degradation: The Bolivian Highlands face significant habitat loss and degradation driven by population growth and socio-economic activities. This is evident in the conversion of natural landscapes for agriculture and infrastructure, leading to habitat fragmentation and the loss of wildlife corridors. Key areas, such as grasslands and wetlands are increasingly affected by unsustainable practices, including overgrazing and unregulated land use changes. Unsustainable grazing practices in particular, are a challenge across the antiplanos which hampers the natural regeneration of the grassland, impacting biodiversity and the renewal and recharge functions of the hydrological cycles.

II. The Bolivian Highlands suffer from inadequate territorial planning, which undermines biodiversity conservation efforts. The lack of integrated planning at the local and regional levels leads to uncoordinated development, unchecked land conversion, and unsustainable resource extraction. As a result, critical ecosystems such as grasslands and wetlands (bofedales) are under pressure from agricultural expansion, infrastructure development, and overgrazing. These activities disrupt ecosystem services, fragment wildlife habitats, and accelerate soil degradation, making it difficult to conserve biodiversity and maintain ecological integrity.

III. Weak Financial Incentives for Biodiversity Conservation: A major barrier to biodiversity conservation in is the lack of strong financial incentives for producers to adopt sustainable practices. Local farmers and camelid herders often face significant economic pressures, leading them to prioritize short-term productivity over long-term environmental sustainability. Limited access to financial resources, coupled with insufficient market access for sustainably produced goods, reduces their motivation to invest in sustainable land management or biodiversity-friendly practices.

The Project will be implemented in 3 Departments: La Paz, Oruro and Potosí, home to six key biodiversity areas. Territorial planning process will involve approximately 10 municipalities and the implementation of Biodiversity and Natural Resources Management Plans will be defined according to the availability of financial resources during the final design stage. The project will achieve national-level scale through a tailored M&E system and the integration of sustainable production models into national policies, ensuring broader adoption across Bolivia.

Project Goal and Objectives:

Goal: To enhance biodiversity conservation and sustainable natural resource management in the Bolivian Highlands through the promotion of biodiversity-positive camelid production.

The projects objectives will be to: i) Restore degraded pasturelands, domestic camelid natural grazing fields and other critical ecosystems; ii) Develop financial and market incentives for biodiversity-friendly camelid production and iii) Conserve and enhance the genetic diversity of camelids to improve and diversify community livelihoods.

Expected results:
The impact level result of this project will be enhanced biodiversity conservation and sustainable resource management in the Bolivian Highlands, leading to improved livelihoods for Indigenous Peoples and Local Communities (IPLCs). The key results will be: i) Degraded pasturelands and other key ecosystems in the Bolivian altiplanos are restored; ii) Mitigated GHG emissions due to improved production practices; iii) Improved provision of agro-ecosystem ecosystem goods and services across critical landscapes and iv) Livelihoods of communities across key landscapes improved and diversified

2) Project Description

Theory of Change

Problems: The Bolivian Highlands face significant biodiversity and ecosystem challenges, exacerbated by unsustainable camelid production practices. Key issues include: (i) habitat degradation and loss due to overgrazing, (ii) inadequate financial incentives for sustainable land use and (iii) inadequate support for community livelihoods. Moreover, small-scale producers of camelid products face several difficulties in accessing and sustainably managing natural resources (pasturas, vegetacion nativa, bofedales): (i) low productivity, (ii) limited availability of feed and water due to deterioration of natural resources and climate change; (iii) lack of technical assistance, (iv) high level of malnutrition and limited access to healthy food all year-round, cambio de uso de suelos para productos vinculados a mercados de exportación (quinua).

If the project:
- Increases the coverage of the Altiplano productive landscape under sustainable practices, improves the inclusive and effective management by IP&LCs, prevents further degradation of biodiversity and contributes to reduce the fragmentation of the Altiplano ecosystem;
- Develops and implements green market opportunities with complementary certification and traceability mechanisms to promote biodiversity-friendly camelid production.
- Supports territorial planning processes that integrate biodiversity conservation into land-use strategies

If the target population:
- Adopts improved land management and camelid production practices that align with biodiversity conservation goals.
- Engages in market-oriented production and utilizes financial incentives for sustainable practices.
- Participates in capacity-building initiatives for effective resource management, production and processing.
- Benefits from enhanced rural services and diversified livelihood opportunities.
- Include nutrient dense locally available species in the diet

Then, the Project will contribute to:
a) **Enhanced biodiversity conservation and ecosystem health** in the Bolivian Highlands through the recovery of degraded ecosystems and improved ecological connectivity.
b) **Increased adoption of sustainable practices** by camelid producers, leading to reduced habitat degradation, mitigated GHG emissions, and enhanced ecosystem services.
d) **Improved community livelihoods** and economic stability due to diversified income sources and better access to resources and services.
e) **Increased profitability and sustainability of camelid production** through financial incentives and market opportunities that align with conservation objectives.

Comentado [MQ1]: Consideramos que la producción de camélidos es perse amigable con el medio ambiente. Mencionar productos biodiversity-friendly es pensar que es una amenaza cuando no es así

Comentado [MQ2]: Falta visibilizar el tema agua

Comentado [MQ3]: Ver comenatrio mas abajo sobre CANAPAS

Comentado [MQ4]: Hacer referencia de que esta problemática es específica a las áreas de producción de camélidos, porque el altiplano tiene otros ecosistemas para agricultura, por ejemplo. Se puede usar este concepto “domestic camelid natural grazing fields”

Comentado [MQ5]: Revisar por el comentario de arriba

Comentado [MQ6]: Especificar a praderas nativas y bofedales, ya que esos son los ecosistemas para ganadería camélida. En Bolivia se los conoce como CANAPAS (Campos Naturales de Pastoreo)

f) Improve dietary diversity and contribute to preserve local heritage on the sustainable management of local species for human nutrition.

This Theory of Change assumes that: i) **National and local governments** will support the project's objectives through policy alignment and resource allocation; ii) **Indigenous Peoples and Local Communities (IP&LCs)** will actively participate in and benefit from project activities, leading to improved resource management and livelihood outcomes and iii) **Stakeholders** will collaborate effectively to address the challenges of biodiversity conservation and sustainable resource management in the Bolivian Highlands.

Components

Component 1. Structuring of the national Biodiversity and Natural Resources Programmes. The project will increase stakeholder participation and inter-institutional coordination, providing a space for consultation and territorial planning, to enable the implementation of improved biodiversity conservation and natural resources management priorities in the Project area. It will also provide support to targeted IP&LCs to enhance their capacities for effective territorial governance.

Outcome 1.1. Improved knowledge about the status of biodiversity and naturales resources and the relation with local livelihoods. Key data will be collected to help identify biodiversity and natural resources requirements to sustain healthy human nutrition and camelid production**,** as well as the extent to which current practices are posing a risk to the integrity of natural habitat, biodiversity and natural resources supporting local livelihoods. This will include biodiversity, ecosystem health (vegetation cover, soil, water quality etc) and fragmentation data. It will also assess current production and land management practices and the status of incentives. Additionally, there will be an emphasis on assessing the nutritional value of native species that demonstrate high resilience to climate. It will be carried out through participatory processes, making use of innovative remote sensing tools, and will provide the information required to formulate communal projects and business plans.

Outcome 1.2. Strengthened participation and territorial planning for the conservation of biodiversity and natural resources. The Project will support the development of Biodiversity and Natural Resources Programmes (BNRP) for at least 3 Departments to be targeted under Phase 1 of the P2 Programme. Stakeholder working groups at the selected Department will conduct the process. Based on the information collected, diagnosis and maps on the use biodiversity and natural resources will be generated, including environmental risks, biophysical data, climatic variables, socio-economic dynamics in the territory (land use, land tenure challenges, native species, threats, partnership opportunities). Special emphasis will be given to the analysis of biodiversity and natural resource management at territorial (inter-communal) level. These maps will be used to support decision making upon the submission of financing requests by local communities.

Component 2. Development of Municipal BNRMP for territorial planning and incentives to sustain investments. Based on the information gathered and analyzed during the formulation of the departmental BNRPs, this component will further support the preparation of Biodiversity and Natural Resources Management Plans (BNRMP) for selected municipalities and pilot and scale complementary incentive mechanisms.

Outcome 2.1 Strengthened capacity to identify and prioritize investments and technical assistance at the municipal level. BNRMPs will include (i) research, testing and implementing practices to recover and conserve native grasslands and pastures, including revegetation; including the establishment of enclosures to protect parcels with native vegetation and ensure animal feed availability during the occurrence of extreme weather conditions; ii) Investments for sustainable water management for human consumption and improved production: construction/rehabilitation of physical and natural infrastructure (water storage and harvesting to enhance aquifer recharge, hydrological restoration of canals, efficient irrigation systems, infiltration ditches, revegetation); iii) Investments for sustainable soil management such as terraces and contour ditches for soil erosion control, iv) promoting the cultivation of native species with high nutritional value and resilience to climate in school and community gardens, v) capacity building to link land management with selected investments (training, development of governance/administration

Comentado [MQ7]: El Desarrollo de planes y programas y política en relación a biodiversidad y RRNN es una competencia privativa a nivel nacional y NO departamental. Concurrente es la competencia de preservar, conservar y proteger la fauna silvestre. A nivel departamental el departamento solo podría reglamentar algo que este a nivel nacional.
A nivel departamental una competencia exclusiva es la promoción y administración de los servicios para el sector agropecuario.
Este outcome debería orientarse a apoyar a los servicios departamentales agropecuarios en los departamentos a incluir la planificación territorial para conservar la biodiversidad en su accionar vinculando a los municipios.
Revisar la normativa existente, como la "Estrategia para la gestión integral de humedales en Bolivia" y las leyes departamentales de camélidos que existen.
Ver: https://www.iagua.es/blogs/mario-elizardo-cerezo-calderon/humedales-mundo-sumideros-carbono-bolivianos

Comentado [MQ8]: Revisar el anterior comentario. Debería trabajarse el fortalecimiento de las capacidades departamentales en lo que existe, construir nuevas es una complejidad.

Comentado [MQ9]: Se puede También operativizar aquellos PTDI que incluyan la recuperación, protección y manejo de su biodiversidad, pastos, humedales, etc. Los PTDI son los instrumentos de planificación maestros a nivel territorial de los municipios; a nivel departamental son los PTDI departamentales

Comentado [MQ10]: Considerar que se debe analizar su factibilidad en terreno, ya que en los territorios de producción camélida es baja la agricultura y en algunos inexistente.

instruments, etc.); and vi) identification of partnerships with local organizations, departmental government/municipalities, irrigation boards, others.

Outcome 2.2: Strengthened Incentives for the Adoption of Sustainable Practices: This outcome will focus on enhancing incentives for the recovery and sustainable use of natural grassland ecosystems through strengthening markets for sustainably sourced camelid products. Targeting Procamelidos beneficiaries, the incentives will integrate (i) collaboration with national level private sector entities to create green market opportunities (ii) piloting certification mechanisms for sustainable camelid production, ensuring that products meet environmental and social standards (iii) traceability mechanisms to guarantee the origin and sustainability of camelid products (iv) training on accessing funding for sustainable practices and linking these incentives to long-term biodiversity and resource management goals. Additionally, partnerships with local, regional, and international organizations will be pursued to expand access to sustainable finance mechanisms and strengthen market linkages.

Component 3. Implementation, monitoring and scaling of BNRP and BNRMP. T

Outcomes 3.1. National Knowledge and Monitoring System for Sustainable Camelid Production: This will focus on the development and implementation of a comprehensive national knowledge management and monitoring system (KMS) to support the replication and scaling of integrated camelid production and natural resource management efforts. Building on the existing Managerial Information System (MIS) from Procamélidos, the KMS will serve as an online platform to collect, analyze, and disseminate best practices, success stories, and lessons learned from local initiatives, including on NRM, certification and traceability. Integrating with procamelidos policy development efforts (C1.3), it will serve as a key resource for national policymakers, ensuring that evidence-based strategies are integrated into broader agriculture and land management policies.

Outcome 3.2 Strengthened capacities at national, local and community levels to implement sustainable management practices. The Project will be responsible for the implementation of both instruments, in a joint and collaborative manner with beneficiaries and municipalities. Under the conceptual frame of the BNRP and the implementation arrangements and operational procedures of Procamélidos 2, the required investments and technical assistance will be delivered to attain the implementation of the BNRMP.

Stakeholders

The Project recognizes the fundamental roles and contributions of IP&LCs as custodians and users of biodiversity and as partners in sustainable environmental management. The Project will ensure gender equality, empowering women and youth and will strengthen the capacities of IP&LCs for their participation and leadership in territorial governance spaces in the conservation of biodiversity. These actions will be aligned with GEF´s and IFAD´s policies and strategic objectives established for Gender, IP&LCs and Stakeholder Participation. The Project´s target group will include approximately 12.000 small-scale producers[3] from rural indigenous (Aymara and Quechua), “pueblos originarios” and “campesino” communities and organizations.

Key government,and private actors for this project include the Ministry of Rural Development and Land, Ministry of the Environment and Water, Departmental and Municipal governments located in the Project area, Servicio Nacional de Sanidad Agropecuaria e Inocuidad Alimentaria (SENASAG), the National Institute of Agricultural and Forestry Innovation(Instituto Nacional de Innovación Agropecuaria y Forestal – INIAF), the Asociación Nacional de Productores de Camélidos (ANAPCA), and Asociaciones Departamentales de Productores de Camélidos (ADEPCAS).

The project will seek to develop and strengthen the existing partnerships with organizations, including producer organisations, present in the Project Area, giving particular attention to those already working on initiatives or piloting activities to conserve the Altiplano´s biodiversity and natural resources. Among others, partners could include IICA and Fundación PROINPA.

[3] Number of beneficiaries served under Component 1 of Procamélidos 1.

Comentado [MQ11]: Es poco factible. Sugerimos coordinar con el PROCAMELIDOS2 para acceso a mercados

Comentado [MQ12]: Sugerimos pilotar el Desarrollo de marca/s territorial/es. Esto conectaría de mejor forma con los consumidores

Comentado [MQ13]: Falta completer el objetivo

Comentado [MQ14]: Describir que sera complementario al PROCAMELIDOS 2

Comentado [MQ15]: No se visualiza el escalamiento

Comentado [MQ16]: La propuesta deberia integrarse al sistema de monitoreo de PROCAMELIDOS y otros sistemas de información del MDRyT.

Action Area
The Project is aligned with Action Area Six: Biodiversity mainstreaming in production sectors. It will provide additional financing to i) improve camelid production practices to be more sustainable, both, at the productive units and landscape scale; ii) support IP&LCs sustainable biodiversity-based activities and camelid value chain that generate social, economic, and environmental benefits in the Bolivian Altiplano, while protecting customary use of biodiversity resources; iii) promote incentives for sustainable land, use practices that generate benefits for biodiversity conservation and sustainable use, inc market-based mechanisms and financial incentivesiv) rely on scientific/technical assessments to inform decision making on biodiversity conservation and sustainable use of natural resources at the time of territorial planning and designing operational tools. The project's emphasis on spatial planning also only aligns with GBFF Action Area 1, which aims to enhance the conservation and sustainable use of biodiversity.

Criteria

Potential to generate global environment benefits
The Project´s area meets the following criteria: a) holding several endangered globally important species; b) high vulnerability to climate change, c) high environmental risks and degradation of globally important biodiversity; d) sites that require priority attention due to their value for globally significant biodiversity and natural resources conservation, as basis for the sustainable production of camelids.

Area of landscapes under improved management to benefit biodiversity and natural resources. The project will improve productive practices in the camelid value chain and biodiversity management in IP&LC territories, covering at least 150,000 ha of the Altiplano landscape.

People benefiting from GEF-financed investments. Approximately 12.000 from IP&LCs, to be confirmed during the final design stage.

Alignment
The Project is aligned with the Plurinational State of Bolivia National Biodiversity Strategy: "Política y Estrategia Plurinacional para la Gestión Integral y Sustentable de la Biodiversidad-Plan de Acción 2019-2030", by addressing the following strategic objectives (SO): I) ***SO2: Institutionality and Territorial Governance***. The project will support the conformation of territorial planning stakeholder working groups to ensure the integrated and sustainable management of biodiversity and will help to develop mechanisms and procedures to allow the participation of stakeholders. These actions will enable the building of capacities at the national and sub-national levels; ii) ***SO2.3. Develop a Framework for the Integrated Management of Biodiversity within the new autonomic context, strengthening indigenous, pueblos originarios and campesino territorial processes***. The Project will generate territorial instruments and will conduct free, prior and informed consent to ensure participation and equitable access to the benefits and iii) ***SO3. Sustainable use and Conservation of Biodiversity.*** The Project will help to articulate the sustainable management of biodiversity to the primary production of Andean camelids, contributing to the socio-environmental functions and services and improving the adaptation to climate change. It will also promote the adoption of practices to sustainably use biodiversity, adapted to local conditions and contributing to reduce poverty and increase food security.

The Project is also aligned with the Nationally Determined Contribution (NDC) of the Plurinational State of Bolivia 2021-2030, , by improving the access to natural resources and natural pastures through the adoption of practices to sustain camelid production, contributing to recover and conserve degraded areas for production, improving land use through territorial planning, reducing poverty and food insecurity.

Level of policy coherence and coordination among ministries, agencies, private sector and civil society.
Under the frame of Procamélidos 2 implementation strategy and arrangements, the project will promote policy coherence and coordination among national and local governments, through the territorial planning spaces and multilevel coordination of stakeholders. The project final design stage will specify the multi-

Comentado [MQ17]: Ver líneas arriba, para fortalecer en la operación de políticas departamentales existentes. Ver en el chat de diseño el documento enviado por Jorge respecto de políticas departamentales

sectoral platforms that the project will strengthen at the national, departmental, municipal, community and local organizations levels. The project will actively engage and support IPLCs at every stage, ensuring their meaningful involvement in project preparation, problem analysis, solution development, and the approval of action plans. Special focus will be placed on empowering Indigenous women, recognizing their critical roles in biodiversity conservation and sustainable resource management. By fostering IPLC leadership in decision-making processes and project activities, the project will strengthen their capacity to spearhead conservation efforts on their ancestral lands, promoting both environmental stewardship and community resilience.

The project will actively engage the private sector by facilitating partnerships with businesses involved in sustainable camelid production and value chains, promoting biodiversity-friendly practices. Through market alliances and certification schemes for sustainable products, the project will create economic incentives for the private sector to invest in eco-friendly production methods.

Comentado [MQ18]: Asumimos que son los mismos productores beneficiarios de PROCAMELIDOS, aunque no se descartaría otros beneficiarios.

Comentado [MQ19]: Marcas territoriales

Comentado [MQ20]: Ver lineas arriba