

CONCEPT FOR A REGIONAL PROJECT/PROGRAMME

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: **Increasing the resilience to climate change of the livelihoods of small family farmers in the Andean region of Bolivia, Ecuador and Peru.**

Countries: **Bolivia, Ecuador and Peru**

Thematic Focal Area¹: **Food security**

Type of Implementing Entity: **Multilateral Implementing Entity**

Implementing Entity: **International Fund for Agricultural Development (IFAD)**

Executing Entities: **HELVETAS Swiss Intercooperation Consortium – AVINA Foundation**

Amount of Financing Requested: **14'000,000 (in U.S Dollars Equivalent)**

Project Formulation Grant Request: Yes ☒ No ☐

Amount of Requested financing for PFG: **100,000 (in U.S Dollars Equivalent)**

Letters of Endorsement (LOE) signed for all countries: Yes ☒ No ☐

NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: <https://www.adaptation-fund.org/apply-funding/designated-authorities>

Stage of Submission:

☒ This proposal has been submitted before including at a different stage (pre-concept, concept)

☐ This is the first submission ever of the proposal at any stage

In case of a resubmission, please indicate the last submission date: 4/23/2024

1. Project / Programme Background and Context:

1.1 Global importance of the Andean region

1. The Andean region² contain a wide spectrum of microclimates and a unique diversity of ecosystems, such as paramos, dry and humid mountain forests. The most tropical parts of the Andes, in particular the humid eastern slopes are particularly biodiverse. The whole region is one of the biodiversity hotspots most vulnerable to climate change partly due to its low inter-annual variability, which means that ecosystems are not adapted to longterm climate variability (Ramirez-Villegas et al., 2014)³. Therefore, many of the expected impacts of climate change will come indirectly through affecting these ecosystems and their services to society. The Andean region concentrates 99% of the planet's tropical glaciers (Mark, 2002)⁴. Additionally it comprises a great ethnic and cultural diversity. It is considered one of the centers of origin of knowledge and practices of mountainous agriculture and hydraulics, and crop diversification, relevant for food security. The Andean region is characterised by a high climatic variability due to the various altitudinal belts. This climatic variability is further accentuated by the El Niño–Southern Oscillation (ENSO), which periodically alters rainfall and temperatures in the region.

1.2 Evidence of climate change and future impacts on agriculture in the Andes

2. The recent IPCC AR6 report confirms that one of the main problems facing Latin America is the increase in temperatures from 0.8°C to 1.3°C since the 70s (IPCC AR6) and the greater variability of rainfall, including a reduction of rainfall in certain areas. These could affect food production in the short term (year 2030), thus affecting the food security of the

¹ Thematic areas are Food security; Disaster risk reduction and early warning systems; Transboundary water management; Innovation in adaptation finance.

² It refers here to the countries of the Andean Community: Bolivia, Colombia, Ecuador, Peru.

³ Ramirez-Villegas, J., Cuesta, F., Devenish, C., Peralvo, M., Jarvis, A., & Arnillas, C. A. (2014). Using species distributions models for designing conservation strategies of Tropical Andean biodiversity under climate change. *Journal for Nature Conservation*, 22(5), 391-404.

⁴ Mark, B. G. (2002). Hot ice: glaciers in the tropics are making the press. *Tropical glaciers*. International Hydrology Series by Georg Kaser and Henry Osmaston (Eds.) Cambridge University Press, UNESCO, Cambridge, UK, 207 pp ISBN 0-521-6333-8 (hardcover) Published 2002.

most vulnerable groups that inhabit these areas. Another major effect that stands out is the rapid melting of glaciers in the tropical Andes in Bolivia, Peru and Ecuador (IPCC AR6 CHAP. 12.3.7.3). Since the 80s, between 30 to 50% of the glacier surface has been lost in the Andean region. This process is expected to worsen over the next 20 years, with some glaciers disappearing completely. In a region that is affected by droughts, disappearing glaciers will further reduce the capacity of the Andean mountains to regulate their flows. This will ultimately increase the pressure on ecosystems and people who directly depend on abundant water flows.

3. According to the IPCC AR6 report, it is anticipated that rural communities in mountainous regions, particularly those engaged in small-scale production, will be affected by alterations in precipitation patterns. These changes are expected to lead to a general decline in agricultural production, agricultural area and water availability. In Bolivia, global warming has generated a significant increase in average temperature of 1.1°C, reaching differences with respect to the 70s between 1° and 2.5°C in mountain regions, greater than in the low lands and the Amazon region. Due to the loss of between 40% and 50% of the glacier volume in recent years, the highland region and the inter-Andean valleys of the country is suffering a substantial reduction of water regulation. This phenomenon, together with the consistent increase in temperatures and rainfall pattern changes for the region, is putting additional pressures on traditional agricultural systems (MMAYA-APMT, 2021⁵).
4. In Ecuador, between 1960 – 2010, there was an increase of 1.1°C in the average temperature in the highlands, greater than the increase in temperature on the coast and in the Amazon. A rising trend in temperatures is forecast in the country ranging between 0.9 °C and 1.7 °C by mid-century, and 0.9 °C and 2.8 °C for the 2071 - 2100 period (MAE, 2017). Temperature increases have caused the loss of glacier surface, decreased precipitation in the Andes mountain range, reduced agricultural production, decreased water quantity and quality, loss of biodiversity, among others (CDKN, 2014; MAE, 2017; Piglet, 2020). In relation to glacier retreat, it is estimated that they have lost more than 50% of their surface in the last 50 years, causing significant disruptions to water users in Andean communities. In addition, it is expected that climate impacts will intensify, especially those associated with the El Niño event, prolonging periods of low precipitation in the central Andes and the coast, and increasing flooding on the coast towards the southern Andes. In the past, and potentially in the future, agricultural production has been and could continue to be negatively impacted by droughts and extreme weather events. These occurrences have led to reductions and/or losses in agricultural output, and with the influence of climate change, these effects are likely to escalate further (MAAE, 2019⁶).
5. Peru is the third country in South America with the largest extension of dry lands (516,000 km²). In Peru, climate scenarios estimates range from 1°C to 2.5°C in minimum temperatures and from 0.5 to 2.5°C in maximum temperatures, with a greater increase in the Sierra (Andes) region by 2030. By 2050, increases of up to 3 °C are estimated in areas such as the Andes and the Amazon, surpassing those along the coast. By 2030, there is an estimated decrease in total annual precipitation of 30% in the Andes, and this decrease is expected to escalate to 45% by 2050. Peru's National Adaptation Plan (NAP) also emphasizes changes in precipitation patterns and extreme precipitation events that generate floods and directly impact water supply and agriculture (MINAM, 2021⁷). In addition, Peru lost 53.56% of its glacier surface in the last fifty years (INAIGEM, 2018), consequently altering water availability⁸. The level of risk related to glacier retreat will increase from high to very high on the horizon to 2030 and 2050 (MINAM, 2021).

⁵ Contribución Nacionalmente Determinada (CND) del Estado Plurinacional de Bolivia / Actualización de las CND para el periodo 2021-2030 en el marco del Acuerdo de París, Ministerio de Medio Ambiente y Agua – Autoridad Plurinacional de la Madre Tierra, 2021.

⁶ Primera Contribución Determinada a nivel Nacional para el Acuerdo de París bajo la CMNUCC, República de Ecuador, 2019.

⁷ Plan Nacional de Adaptación al Cambio Climático de Perú, 2021.

⁸ The water resource in Peru is spatially distributed in three large hydrographic regions (Pacific, Amazon and Titicaca), which integrate 159 hydrographic units (hydrographic basins). Water supply is affected by climate variability and change. In recent decades, the recorded increase in air temperature has triggered the retreat and loss of glaciers.

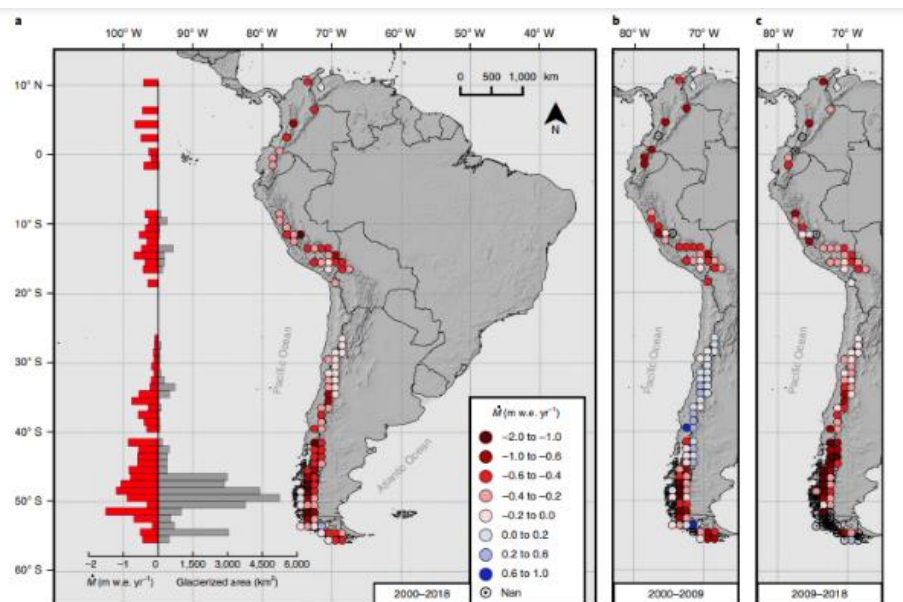


Figure 1: Mass balance indices of glaciers throughout the Andes Mountains averaged by mosaics of 1° latitude and 1° longitude. a), March 2000 to April 2018. b) January 2000 to March 2009. c) January 2009 to April 2018. Histograms represent glacier area (gray bars) and mean rate of elevation change (red bars) as a function of latitude. Source: Dussailant et al 2019

6. The melting of tropical glaciers has been significantly changing the hydrology and water availability in quality and quantity in the Andes of Bolivia, Ecuador and Peru (e.g. Vuille 2013). Variations in temperature and rainfall patterns, and changes in the intensity and frequency of extreme weather events, affect crop yields and alter production cycles, causing loss of productivity. The combination of elevated temperatures and increased humidity creates a conducive environment for the emergence of pests and diseases in crops and animals, both in domestic breeding and wild populations.
7. Rising temperatures are one of the factors leading to increased evapotranspiration rates and crop water requirements, decreased water availability and increased demand for irrigation water (IFRIP, FAO 2009); It also accelerates the decomposition and loss of organic matter in the soil, affecting its fertility (Altieri and Nicholls, 2008), increasing aridization processes (e.g. Vicente-Serrano et al 2015), and the risk and severity of droughts.
8. The decrease in temperature and the increase in the frequency and intensity of frosts in the Andean region, increases the mortality rate of livestock and generates damage and losses in crops, considering that few crops and varieties are perceived as tolerant to increasingly intense and unpredictable drought, frost, hail, and pest and disease outbreaks (Meldrum et al. 2018).
9. The increase in average temperature and extreme weather events, extraordinary and unseasonal frosts and hailstorms, changes in the frequency and intensity of rainfall, with a higher incidence of droughts and prolonged summers on the one hand, and with greater frequency of episodes of intense rainfall on the other, are the signs of climate change that affect family farming in Bolivia, Ecuador and Peru.

1.3. Forward looking scenarios for climate hazards and their impacts

10. Climate projections for Bolivia, Ecuador and Peru in the medium and long term⁹ predict an increase in temperature, variations in precipitation patterns¹⁰, an increase in climate variability, and an increase in the frequency and intensity of extreme events, including the intensification of El Niño episodes in Bolivia, Ecuador and Peru, as well as an increase in the frequency and intensity of natural disasters such as floods and droughts.

⁹ Bolivia: La economía del cambio climático en Bolivia: validación de modelos climáticos - Proyecciones para el período 2071 - 2100. <https://www.uncclern.org/wp-content/uploads/library/idb30012015.pdf>

Ecuador: Plan Nacional de Adaptación al Cambio Climático del Ecuador - Proyecciones para el periodo 2020 - 2050

Perú: Tercera Comunicación Nacional - Proyecciones para el período 2036-2065

¹⁰ According to the World Bank Climate Change Knowledge Portal, in an escenario RCP 8.5 for the period 2040 - 2059, it is not foreseen changes in precipitation for the three countries. <https://climateknowledgeportal.worldbank.org/>

11. In Bolivia, global warming has led to a significant increase in the average temperature of 1.1°C, reaching differences with respect to the 1970s of between 1°C and 2.5°C in the mountainous regions¹¹. In the last 10 years, droughts, frosts, hailstorms, river overflows and thunderstorms have occurred more frequently in the municipalities of San Andrés de Machaca (10) and Caracollo (11)¹²; and the World Bank's Think Hazard tool¹³ also indicates the occurrence of landslides and possibly fires. Helvetas and PROSUCO (2022) indicate that between 2010 and 2021 extreme events occurred (1,106 in valleys, 614 in the highlands), 88% were due to floods, frost, hailstorms and droughts with impacts on agricultural losses¹⁴.
12. In Ecuador, between 1960 - 2010, there was an increase of 1.1°C in the average temperature in the highlands, greater than the increase in temperature on the coast and in the Amazon. An upward trend in temperatures in the country is predicted to range between 0.9 °C and 1.7 °C by mid-century, and 0.9 °C and 2.8 °C for the period 2071 - 2100 (MAE, 2017)¹⁵. In the period 2010-2020, the occurrence of 13,258 hydrometeorological events was recorded, with a peak of events in 2017 possibly due to the presence of the El Niño phenomenon (ENF)¹⁶. According to Think Hazard, floods, landslides and droughts occur in the area prioritized for intervention.
13. In Peru, climate scenario estimates range from 1°C to 2.5°C in minimum temperatures and 0.5 to 2.5°C in maximum temperatures, with a greater increase in the Sierra (Andes) region by 2030. By 2050, increases of up to 3°C are estimated in areas such as the Andes. By 2030, there is an estimated decrease in total annual precipitation of 30% in the Andes, and this decrease is expected to increase to 45% by 2050¹⁷. Of the total number of emergencies at the national level, 64% corresponded to climate-related events, such as droughts, rains, floods, frosts, among others. As of 2014, 2,017 emergencies occurred in Puno due to climate hazards and 2,637 in Cusco (MINAM, 2014). SENAMHI notes that between 1983 and 2018, 3 severe droughts occurred in the department of Cusco and 5 in the department of Puno¹⁸.
14. Key climate impacts on agriculture include loss of crops and grazing land, displacement of production areas, and reduced water quantity and quality. Increased rainfall could damage water distribution and storage systems¹⁹. The incidence of diseases and pests is expected to increase²⁰. In the Ecuadorian highlands, small-scale agriculture is especially vulnerable in areas overexploited by livestock²¹; on the other hand, climate risk analyses point to negative impacts with decreases of up to 50% in yields of soft corn and beans²² and 34% in potato yields²³. Farmers will be forced to relocate their productive areas, expanding the agricultural frontier and increasing pressure on natural ecosystems. In Peru, by 2050, the Andean region would be negatively impacted with a decrease in the yield of its main crops: potato, broad bean, pea, barley, starchy maize, wheat and beans (FAO, 2017)²⁴. The effects of climate change on agricultural production will be devastating, with negative impacts on family farming and food security (Peru, MINAM, 2021)²⁵.
15. Family farming production systems are vulnerable due to their physical exposure and sensitivity to the impact of different climate threats. For example, drought affects the recharge of aquifers and the groundwater layers that feed wetlands, causing a decrease in the productivity of pastures; Another example is the low water level of Lake Titicaca (Peru and Bolivia) in 2023 due to the absence of rain, which is affecting the agriculture and livestock of the Aymara communities that depend on the lake to feed their animals²⁶. This significant decline also affects the fauna, flora and economic activities that depend on these resources, for example, the loss of cattails affects the habitat of

¹¹ Nota de concepto del proyecto "Aumento de la resiliencia al cambio climático de los medios de vida de pequeños agricultores/as familiares de la región andina de Bolivia, Ecuador y Perú".

¹² Elaborado por el Proyecto Andes Resilientes a partir de la base de datos de la UCR-MDRyT 2021.

¹³ <https://thinkhazard.org/es/>

¹⁴ Informe de Diseño del Programa Impulsando Transiciones Agroecológicas en la Agricultura Familiar para la Seguridad Alimentaria con Soberanía. FIDA, Estado Plurinacional de Bolivia, 2023. Documento de trabajo.

¹⁵ Nota de concepto del proyecto "Aumento de la resiliencia al cambio climático de los medios de vida de pequeños agricultores/as familiares de la región andina de Bolivia, Ecuador y Perú".

¹⁶ Plan Nacional de Adaptación al Cambio Climático del Ecuador (2023 - 2027). <https://unfccc.int/sites/default/files/resource/PLAN-NACIONAL-DE-ADAPTACION-2.pdf>

¹⁷ Nota de concepto del proyecto "Aumento de la resiliencia al cambio climático de los medios de vida de pequeños agricultores/as familiares de la región andina de Bolivia, Ecuador y Perú".

¹⁸ <https://repositorio.senamhi.gob.pe/handle/20.500.12542/233>

¹⁹ https://www.climatelinks.org/sites/default/files/asset/document/2017_USAID_ATLAS_Climate%20Risk%20Profile%20-%20Peru_Spanish.pdf

²⁰ https://www.climatelinks.org/sites/default/files/asset/document/2017_USAID_ATLAS_Climate%20Risk%20Profile%20-%20Peru_Spanish.pdf

²¹ Ecuador Country Profile. Banco Mundial. https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/15988-WB_Ecuador%20Country%20Profile-WEB.pdf

²² Simulaciones realizadas con el modelo EPIC. Plan Nacional de Adaptación al Cambio Climático del Ecuador (2023 - 2027).

²³ Ecuador Country Profile. Banco Mundial. https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/15988-WB_Ecuador%20Country%20Profile-WEB.pdf

²⁴ Recomendaciones de política pública para enfrentar el cambio climático y la vulnerabilidad de la seguridad alimentaria. FAO. Lima, 2017.

²⁵ Nota de concepto del proyecto "Aumento de la resiliencia al cambio climático de los medios de vida de pequeños agricultores/as familiares de la región andina de Bolivia, Ecuador y Perú".

²⁶ <https://www.france24.com/es/am%C3%A9rica-latina/20230729-bolivia-el-lago-titicaca-bajo-amenaza-por-la-extrema-sequ%C3%ADa>

at least 35 species of native birds and fish^{27,28}. The lack of infrastructure for water management limits irrigation and agricultural productivity and increases the exposure of agriculture to climate problems²⁹. Water pollution aggravates the water deficit situation in the basins, reducing the availability of water suitable for consumption^{30,31}.

16. Melting glaciers will increase the risk of flash floods and degradation of water quality, affecting the long-term availability of water resources for agriculture and human consumption. In Peru, in the last 40 years, 42% of the glacial surface has been lost (MINAN, 2016), and in recent years in Bolivia, between 40% and 50% of the volume of glacial ice has been lost. A projection carried out (Calvo Cárdenas, 2014) indicates an approximate decrease of 30% in water supply in Bolivia by 2100 with effects on living conditions, particularly in the highlands³². In Ecuador, more than 50% of the glacier surface has been lost in the last 50 years, and increased melting could cause landslides in Andean communities³³.
17. Changes in precipitation and temperature patterns will alter the balance of natural ecosystems, particularly those degraded by anthropogenic activities, and accelerate the loss of biodiversity³⁴. Rising temperatures will cause forced migration to higher elevations, threatening and displacing endemic species³⁵. A study carried out in Bolivia concludes that especially in the highlands, a desertification process is expected due to the reduction in precipitation and the increase in temperature variability, with an impact on biodiversity and profound consequences for indigenous populations that depend on grazing of camelids in this region (Andersen, 2014)³⁶.
18. The updated Nationally Determined Contributions (NDC) for 2021 – 2030 indicate that the risk to climate change in Bolivia is particularly high for vulnerable groups such as indigenous peoples, people in extreme poverty, women, boys and girls, people with disabilities, people living in rural areas and people with limited access to decision-making and resources.

1.4. Importance of the agricultural sector and small family farming, and its vulnerability to climate change

19. The agricultural sector is of significant importance in all three countries; in Bolivia, it contributes between 11 and 15% of gross domestic product (GDP)³⁷ and employs 40% of the economically active population (EAP); in Ecuador, in 2020 it contributed 8.26% of GDP (MAATE, 2022)³⁸ and employs 25% of the EAP; in Peru, it contributes 5.5% of GDP (World Bank, 2017; BCR/INEI, 2018) and employs 25% of the EAP, with land holdings of less than five hectares (INEI, 2017).
20. Within the agricultural sector, family farming is of great economic, social and productive importance in the Andean countries³⁹. Its contribution to sectoral GDP is 50% in Ecuador and 70% in Peru (ECLAC/FAO/IICA, 2013). It generates more than 50% of agricultural sector employment; in Ecuador it employs 56% of the rural workforce (Wong and Ludeña, 2006 in IFAD-RIMISP 2013⁴⁰) and in Peru 83% of agricultural workers. Family farming plays a preponderant role in food security and sovereignty, since it produces an important part of the food destined for domestic consumption. According to IICA, in Bolivia, 80% of food comes from family farming, which produces 90% to 95% of potatoes and fruit trees, and

²⁷ Autoridad Binacional Autónoma del Sistema Hídrico del Lago Titicaca, Río Desaguadero, Lago Poopó, Salar de Coipasa en La Razón, agosto 2023.

[https://www.la-razon.com/sociedad/2023/08/18/alerta-por-sequia-en-el-titicaca-cada-mes-el-agua-baja-en-12-centimetros/#:~:text=Hay%20alerta%20por%20la%20reducci%C3%B3n,del%20lago%20Titicaca%20\(ALT\).](https://www.la-razon.com/sociedad/2023/08/18/alerta-por-sequia-en-el-titicaca-cada-mes-el-agua-baja-en-12-centimetros/#:~:text=Hay%20alerta%20por%20la%20reducci%C3%B3n,del%20lago%20Titicaca%20(ALT).)

²⁸ Informe de Diseño del Programa Impulsando Transiciones Agroecológicas en la Agricultura Familiar para la Seguridad Alimentaria con Soberanía. FIDA, Estado Plurinacional de Bolivia, 2023. Documento de trabajo.

²⁹ <https://openknowledge.worldbank.org/server/api/core/bitstreams/ce2f0ced-db60-5fb3-942e-0660c5d7c935/content>

³⁰ <https://openknowledge.worldbank.org/server/api/core/bitstreams/ce2f0ced-db60-5fb3-942e-0660c5d7c935/content>

³¹ Informe de Diseño del Programa Impulsando Transiciones Agroecológicas en la Agricultura Familiar para la Seguridad Alimentaria con Soberanía. FIDA, Estado Plurinacional de Bolivia, 2023. Documento de trabajo.

³² <https://bolivia.iom.int/sites/g/files/tmzbd11836/files/documents/OIM%20MIGRACIO%CC%81N%20Y%20CAMBIO%20CLIMATICO%20ALTIPLANO.pdf>

³³ Ecuador Country Profile. Banco Mundial. https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/15988-WB_Ecuador%20Country%20Profile-WEB.pdf

³⁴ Plan Nacional de Adaptación al Cambio Climático del Ecuador (2023 – 2027). <https://unfccc.int/sites/default/files/resource/PLAN-NACIONAL-DE-ADAPTACION-2.pdf>

³⁵ https://www.climateintelinks.org/sites/default/files/asset/document/2017_USAID_ATLAS_Climate%20Risk%20Profile%20-%20Peru_Spanish.pdf

³⁶ <https://publications.iadb.org/es/publicacion/13770/la-economia-del-cambio-climatico-en-bolivia-impactos-sobre-la-biodiversidad>

³⁷ 29% of the EAP in agricultural production and 11% in its industrialization and commercialization of such production. It is the sector most vulnerable to climate change, and the one that most requires investments to improve the adaptation and climate resilience of productive systems and household economies (MMAYA-APMT, 2021).

³⁸ <https://www.ambiente.gob.ec/cuarta-comunicacion-nacional-sobre-cambio-climatico-y-segundo-informe-bienal-de-actualizacion-del-ecuador/>

³⁹ Worldwide there are more than 36 definitions of family farming, most coincide in several characteristics, such as the predominance of family labor, the administration of the farm by the head of household and the minimum size of the farm, whether this is seen as small plots with access to land, or with access to irrigation or other services. According to FAO "Family farming is a way of organizing, managing and operating agriculture, livestock, forestry, fishing, aquaculture and grazing, by a family and that depends predominantly on family work, both women and men. The family and the farm or the estate are linked, co-evolve and combine economic, environmental, social and cultural functions." (FAO, 2013). This recognition and definition aims to ensure that institutions and public policy makers recognize their predominant and priority role in the economic, social, food security and sovereignty development of the region and the need to apply policies for these productive units (Barriónuevo, NB, 2018. Identification and characterization of mechanisms for articulating the supply of family farming to markets, series working document No. 231. RIMISP Quito, Ecuador).

⁴⁰ 19a Martínez Valle, L, Family farming in Ecuador, IFAD-RIMISP 2013.

a significant part of other products; in Ecuador, it produces 85% of soft corn and 70% of onions, and in Peru between 44% and 50% of potatoes and corn.

21. The importance of family farming is also reflected in the fact that productive units of family farming exceed 80% of the agricultural holdings in the Andean countries; these units also incorporate those related to communities or family reciprocity work systems (Quechua, Aymara, others). In Bolivia, they reach 91% of the 871,927 agricultural productive units, also classified as highly vulnerable (MMAYA-APMT, 2021); in Ecuador, 76% of agricultural units (<10 ha) (Wong and Ludeña, 2006 in IFAD-RIMISP 2013 19a), and in Peru 97 % of agricultural units (INEI, 2013 ⁴¹).
22. These productive units, on average, have access to 12% of the land in the Andean region of Bolivia, Ecuador and Peru. The average area per family does not reach 4 hectares, and in countries such as Peru, it is even only 1.2 hectares, which shows inequality in the distribution of land (ECLAC/FAO/IICA, 2012). The majority of these family productive units are situated in the Andean regions of these countries, characterized by self-employment, prevalent rural poverty, and a high susceptibility to environmental degradation, natural disasters, and the effects of climate change (Chiriboga - PAHO, 2011 in RIMISP, 2018).
23. The reduction or loss of production caused by climate change, affects the living conditions, income of the families, food security and sovereignty of the population, aggravating the management of production systems, and increasing the vulnerability and risk of this sector (Ecuador, MAATE, 2023⁴²). If climate change trends and projections materialize, the effects on agricultural production will be devastating, with negative repercussions on family farming and food security (Peru, MINAM, 2021⁴³). The deterioration of living systems and reduced resilience will cause this vulnerable population to bear a greater burden of food insecurity and malnutrition, water and energy insecurity, as well as higher mortality rates (Bolivia, MMAYA, APMT 2021⁴⁴).
24. These conditions are leading to the migration of the labor force, especially of men and young people, and is leaving women and children behind as responsible for agricultural work (Valdivia et al. 2010)⁴⁵ exacerbating the adverse impact of climate change on women and girls (MINAM, 2021). For example, in Ecuador, women are responsible for 61% of the production units (MAATE, 2022). The climate policy instruments of the three countries recognize a differentiated and greater vulnerability in certain social groups such as: women, children, indigenous peoples, people in situations of extreme poverty, people with disabilities ⁴⁶. These limitations, together with problems of minimal generational change, migratory processes in search of better opportunities, low level of schooling, have reduced possibilities of structural changes in family farming, from the point of view of productive assets and available human resources (FAO, 2014 in RIMISP, 2018).
25. The diverse availability of productive resources and access to markets has resulted in the categorization of family farming (FF) into three different schemes (FAO, Chiriboga, Schejtman and other authors):⁴⁷
 - Subsistence FF: It is dedicated to self-consumption, most Andean producers are under this classification. It has limited productive resources, no access to technology and low income.
 - Transition FF: It produces to meet the family's food needs and begins to produce to sell, initiating its integration with the market. However, it has limitations in the control of natural resources, barriers to integrate into profitable chains, and to interact with more modern market agents, and, it has high dependence on the public sector and NGOs.
 - Consolidated FF: It has greater access to productive resources, it uses family labor and in some cases hired. It has articulation to markets, and to some extent it has surplus capitalization, although it may still be dependent on government support measures.

⁴¹ National Agricultural Census of the year 2012 of Peru (INEI, 2013).

⁴² National Adaptation Plan of Ecuador, 2023.

⁴³ National Adaptation Plan of Peru, 2021.

⁴⁴ Contribución Nacionalmente Determinada (CND) del Estado Plurinacional de Bolivia / Actualización de las CND para el periodo 2021-2030 en el marco del Acuerdo de París, Ministerio de Medio Ambiente y Agua – Autoridad Plurinacional de la Madre Tierra, 2021.

⁴⁵ Valdivia, C., Seth, A., Gilles, J. L., García, M., Jiménez, E., Cusicanqui, J., ... & Yucra, E. (2010). Adapting to climate change in Andean ecosystems: Landscapes, capitals, and perceptions shaping rural livelihood strategies and linking knowledge systems. *Annals of the Association of American Geographers*, 100(4), 818-834.

⁴⁶ In Bolivia, rural poverty affects 54% of its population, 98% of them indigenous (MMAYA, APMT 2021).

⁴⁷ These categories have their own specificities in the different countries, which vary depending on the productive assets of the productive units, the transfers received from the government, the sources of income of the family, the composition of the workforce, being clear, the need to implement policies and instruments in a differentiated manner, depending on the characteristics of family farming and the classifications of each country. Family farming in Latin America: A new comparative analysis, IFAD - RIMISP, July 2014.

26. Given their limited resources, both subsistence family farming and transitional family farming can be considered the most vulnerable to climate change⁴⁸. Established family farmers who can invest in adaptation are able to make better use of opportunities than those with few livelihoods who may lose them (Verner, 2010 in FAO 2014⁴⁹).
27. Bolivia, Ecuador and Peru have elements and challenges in common: i) family farming is the basic system of agri-food production and the largest generator of employment in the Andean rural environment, ii) agriculture and in particular family farming is highlighted as of fundamental importance for the development of these countries; iii) the producers of Andean family farming and their livelihoods are highly vulnerable to the effects of climate change on water availability, and on the production and productivity of their crops and breeding, which are the basis of the agri-food systems of these countries, iv) Under their Nationally Determined Contributions (NDCs) for adaptation, the three countries have emphasized the attainment of objectives, targets, and outcomes aimed at reducing vulnerability to climate change-related hazards in agriculture and water sectors. These priorities are outlined in Tables 2, 3, and 4 and are expected to yield numerous benefits, directly impacting producers engaged in Andean family farming.

1.5. Main problems faced by Andean family farming in Bolivia, Ecuador and Peru, intensified by climate change

28. The main problems faced by producers of Andean family farming in Bolivia, Ecuador and Peru, intensified by climate change are the following⁵⁰:
- a. Reduction of water availability due to of the melting of glaciers, changes in rainfall patterns, reduction of water sources due to deterioration of ecosystem services and inefficiency in water use;
 - b. Reduction of crop and breeding productivity due to alterations in climatic patterns and climate variability (temperatures, rainfall, humidity, winds and others) and loss of production and productive assets due to intensification and greater recurrence of extreme climatic events (droughts, floods, frosts, hailstorms, etc.);
 - c. Loss of agrobiodiversity due to alterations in weather patterns and deterioration of Andean ecosystems⁵¹.
29. Above factors are further amplified by conditions of *inequality, poverty, population growth and high population density, land use changes, with the consequent loss of biodiversity, land degradation, with serious impact on local and national economies due to their dependence on natural resources for commodities (IPCC, 2022⁵²)*.

1.6. Barriers that affect adaptation to climate change of Andean family farming in Bolivia, Ecuador and Peru

30. Factors that constitute barriers to the adaptation and climate resilience of these producers are:
- a. The limited availability of agroclimatic information to guide decisions of producers and institutions that provide services to this sector⁵³.
 - b. Limited access to appropriate technologies for climate resilience in water management and agricultural production that enhance ancestral and local indigenous knowledge and integrate and strengthen it with modern knowledge.
 - c. Limited technical assistance and absence of guidelines to reduce the risks of climate change in agriculture (production and business), due to weak capacities in the organizations providing these services⁵⁴.
 - d. Limited financial inclusion due to lack of knowledge of available financial options, illiteracy, skills and attitudes to manage their finances (financial literacy) and to generate a culture of savings.
 - e. Real and perceived high risks of finishing investments by small-scale producers and rural farmers.

⁴⁸ In Bolivia, there are more than 15 thousand family farming communities that are located in the Andean territory of 259 municipalities, 45% are subsistence productive units, 39% transition and 16% consolidated, and develop agricultural and non-agricultural activities depending on the amount of natural, physical, social, financial and human assets, with which they have (Study of characterization of the vulnerability and climate risk of producers of family farming Andean of Bolivia and its implications for policies that strengthen its resilience, PROSUCO, 2022). In Ecuador, 62% of family farming units are subsistence and are mainly concentrated in the highlands (Wong and Ludeña, 2006 in IFAD-RIMISP 2013).

⁴⁹ Laura Meza, family farming and climate change, in Family Agriculture in Latin America and the Caribbean: Policy Recommendations, Salomón Salcedo and Lya Guzmán editors, FAO 2014.

⁵⁰ The documents on nationally determined contributions and national adaptation plan to climate change, in Bolivia, Ecuador and Peru, highlight these problems in common. The results of the regional knowledge management process on Good Practices for Climate-Resilient and Low-Carbon Andean Family Farming, promoted by the Regional Project Andes Resilient to Climate Change, confirm this, based on the analysis of more than 300 experiences from Bolivia, Ecuador and Peru collected, and on the results of consultations carried out with experts from each of these countries.

⁵¹ The VI Report of the IPCC highlights that 85% of the natural systems (plant and animal species, habitats and communities) evaluated in the literature for biodiversity hotspots in the region, will be negatively affected by climate change. However, in the great biodiversity and in this case, in the agrobiodiversity of the region, is its richness and differential value, but also its strength in the face of climate change adaptation, conservation and sustainable development, is key. Small family farmers have a key role here through their ancestral knowledge in seed management, in situ conservation, etc.

⁵² VI IPCC Assessment Report. Report Group 2: Impacts, Adaptation and Vulnerability in the Andes, IPCC, 2022.

⁵³ Corroborated in the local consultations carried out in the local territories prioritized for the intervention of the project.

⁵⁴ Low or no state support for technical assistance and production services increases their vulnerability to climate variability and change (Olesen 2010 in FAO 2014).

- f. Lack of credit/banking histories among small-scale producers and lack of collateral and guarantees to access funding.
- g. Seasonality of income of producing families that can negatively affect the repayment of credits.
- h. Family farmers' have limited access to affordable capital to transition to more climate resilience and adaptive production options.
- i. Financial services and products that do not respond to the needs and capacities of the different strata of family farming, which affects the absence of demand⁵⁵.
- j. Insufficient connectivity and public infrastructure (e.g. catchment, distribution and plot irrigation systems) and natural infrastructure to support adaptation measures.
- k. Weak organizational level, which limits their ability to demand access to improved public services, generate scale and better negotiating conditions in the purchase of inputs, articulation with the market and generation of added value in production.

1.7. Capacities provided by small Andean family farming that need to be enhanced as adaptation to climate change

31. The following existing capacities by small Andean family farming need to be enhanced in view of strengthening climate change adaptation :
32. Family farmers do have strong social protection networks as, well as ancestral and/or traditional knowledge and technologies to conserve agrobiodiversity in situ, preserve species and preserve culture and traditions that can complement with science and technology to respond to current climate challenges. These farmers have developed strategies for efficient water use (e.g. planting and harvesting rainwater, among others)⁵⁶ in arid or semi-arid areas, perfected conservation techniques (organic agriculture and low-impact tillage) counteracting soil degradation, improving the resilience to drought and floods and contributing to the mitigation of greenhouse gases (FAO, 2010; FAO, 2011a).
33. High agro-biodiversity, due to the diversification of crops, traditional agricultural practices and agroforestry systems, which support ecosystem services of soil restoration and carbon sequestration, regulation of the hydrological cycle, provision of habitat for natural pollinators, and control of pests and diseases through natural controllers, which promotes dietary diversity and increases long-term yields, even with low levels of technology and limited resources (Altieri and Koohafkan, 2008; FAO, 2013, cited in FAO). They safeguard a crucial phylogenetic heritage for humanity, use varieties of lower yield than commercial ones (but rustic and tolerant to climate variability, being key to climate change adaptation) and also maintain an animal genetic heritage of Andean sheep and camelids, conserving local ecotypes in situ. Observations of agricultural performance after extreme weather events have revealed that resilience is closely linked to levels of agricultural biodiversity (FAO, 2010, cited in FAO, 2014⁵⁷).
34. Several communities have developed climate observation systems through nature signals (biological and astronomical indicators) that allow predicting the behavior of rainfall associated with the agricultural calendar (dry year or wet year), the beginning of the rainy season, frost, and other parameters with which they guide production, and which has been documented in the scientific literature, for example in Aymara communities in Bolivia⁵⁸, in the southern provinces of Ecuador⁵⁹ and in Ayacucho and Apurimac in Peru⁶⁰. However, the alteration in seasons of the agricultural calendar due to climate change is a challenge for these traditional climate observation systems.
35. These innovative practices and strategies need to be recovered and strengthened, combining them with modern knowledge to boost their adoption in a broad and sustainable way, to increase resilience and adaptive capacity in the face of climate change.

⁵⁵ In Bolivia, Ecuador and Peru, there are several reasons for the low insertion of microfinance products in subsistence and intermediate family farming: i) high interest rates on existing private financial products with respect to the payment capacity of the most vulnerable producing families; ii) there are no financial products designed ad-hoc to the needs of these segments; iii) lack of education and financial inclusion that even prevents them from accessing public financial products such as SIBolivia in that country, which have a low interest rate (0.5%); iv) there is no consistent demand from these segments of producers, for all the above, that pressures for the generation of an ad-hoc and viable supply; and v) public financial products for agricultural activities do not incorporate criteria or guide actions to ensure the climate resilience of the production or productive assets they finance (Diagnostic reports on microfinance services in Ecuador and Bolivia carried out by the Andes Resilient to Climate Change Project).

⁵⁶ Carrasco-Torrontegui, A., Gallegos-Riofrio, C. A., Delgado-Espinoza, F., & Swanson, M. (2021). Climate change, food sovereignty, and ancestral farming technologies in the Andes. *Current Developments in Nutrition*, 5(Supplement_4), 54-60.

⁵⁷ Laura Meza, la agricultura familiar y el cambio climático, en *Agricultura Familiar en América Latina y el Caribe: Recomendaciones de Política*, Salomón Salcedo y Lya Guzmán editores, FAO 2014.

⁵⁸ Valdivia, C., Seth, A., Gilles, J. L., García, M., Jiménez, E., Cusicanqui, J., ... & Yucra, E. (2010). Adapting to climate change in Andean ecosystems: Landscapes, capitals, and perceptions shaping rural livelihood strategies and linking knowledge systems. *Annals of the Association of American Geographers*, 100(4), 818-834.

⁵⁹ Kieslinger, J., Pohle, P., Buitrón, V., & Peters, T. (2019). Encounters between experiences and measurements: The role of local knowledge in climate change research. *Mountain Research and Development*, 39(2), R55-R68.

⁶⁰ Kirkland, E. (2012). Indigenous knowledge and climate change adaptation in the Peruvian Andes. *INTL1450: Political Economy of the Environment in Latin America*.

1.8. Problems that the project will focus on

36. Building climate resilience in rural communities and family farming is needed for food security in the Andean region. The project constitutes an opportunity to stimulate transformations that generate more sustainable development⁶¹, both at the level of national agrarian policies⁶² that should better incorporate aspects of climate resilience and at local levels. The project will focus on the three main problems faced by Andean family farming in the context of climate change: i) Reduction of water availability; ii) Reduced productivity and lost of production; and iii) Loss of agrobiodiversity. But it also will address the main barriers that inhibit climate resilience of agricultural systems: i) Insufficient access to adequate and timely climate information for decision-making; ii) Limited technical assistance for the adoption, use and operation of appropriate water management, agricultural production and agrobiodiversity conservation measures, and to articulate the ancestral knowledge and technologies; iii) Weak financial inclusion and limited access to financial services in line with their needs and capabilities to ensure adaptation measures.
37. To this end, the project will support the implementation of adaptation measures prioritized in the NDCs and National Adaptation Plans of Bolivia, Ecuador and Peru, related to Water and Agriculture (detailed in Tables 2, 3 and 4), in the prioritized territories.
38. Likewise, in the generation of enabling conditions that ensure the continuity and sustainability of adaptation measures. The approach and priorities identified are consistent with the climate and sectoral policy instruments of the three countries, as well as with recommendations on policy guidelines for adaptation to climate change of family farming promoted by FAO (*Family Farming in Latin America and the Caribbean: Policy Recommendations*, FAO 2014). The project aims, on the one hand, to reactivate technical assistance services for family farming provided by public and private actors, including climate information and technical assistance services, and on the other hand, to facilitate innovation processes which is considered a decisive factor in adaptation of family farming to climate change.

1.9. Identification and description of the project area and target population

39. The implementation will focus on Andean territories that have been prioritized with the national entities that will be partners of the project (Ministries of Environment and Ministries of Agriculture) based on the following criteria: (i) significant climate risks and indicators of rural poverty (ii) cooperation initiatives, with which to generate articulation, complementarity and synergies, to enhance results; (iii) capacity base in meteorological services to produce or improve local climate information; (iv) local organization (organized communities and government bodies) that ensures the necessary governance conditions for the implementation of the project and the sustainability of its actions; (vii) potential to link adaptive actions to agrobiodiversity value chains, (v) close proximity and interconnection, to make intervention more efficient; (vi) binational territory with shared Andean ecosystem case of Bolivia and Peru (TDPS Territory⁶³).
40. In Bolivia, local territories have been prioritized down to the municipal level, in Ecuador down to the cantonal level, and in Peru down to the district level. In the design stage of the project, smaller units will be selected within these territories, such as communities in Bolivia and Peru, and parroquias in Ecuador.
41. Prioritized municipalities in Bolivia (10):
- In the department of La Paz (4): Caquiaviri and Calacoto municipalities in Pacajes province, San Andrés de Machaca municipality in Ingavi province, and Papel Pampa municipality, in Gualberto Villarroel province.
 - In the department of Oruro (6): Curahuara de Carangas municipality in Sajama province, Pampa Aullagas municipality in Ladislao Cabrera province, San Pedro de Totora municipality in San Pedro de Totora province, Toledo municipality in Saucari province, Caracollo municipality in Cercado province, and Uru Chipaya municipality in Sabaya province.
42. The ten municipalities have strong indicators of vulnerability to climate change. Some of these municipalities, such as Curahuara de Caranga and Chipaya, have communities that identify as indigenous. The municipality of Chipaya is also a work area of the Andean Grains Program of the Ministry of Rural Development and Lands (MDRYT), with which the project will articulate interventions. The main climate threats they face are droughts, floods and frosts. Its main crops are potatoes, barley, quinoa and alfalfa. They are part of the altiplanic ecosystem and TDPS system that Bolivia shares with Peru.
43. Prioritized cantons in Ecuador (5):
- In the province of Cotopaxi: Salcedo canton.

⁶¹ Laura Meza, la agricultura familiar y el cambio climático, en Agricultura Familiar en América Latina y el Caribe: Recomendaciones de Política, Salomón Salcedo y Lya Guzmán editores, FAO 2014.

⁶² The lessons learned from the implementation of the project will contribute to strengthening the integration of adaptation to climate change into agricultural public policies.

⁶³ TDPS Territory – Endorheic System Titicaca-Desaguadero-Poopó-Salar de Coipasa, where there are initiatives and binational institutions.

- In the province of Tungurahua: Patate canton.
- In the province of Chimborazo: cantons Guamote and Alausi.
- In the province of Bolivar: Guaranda canton.

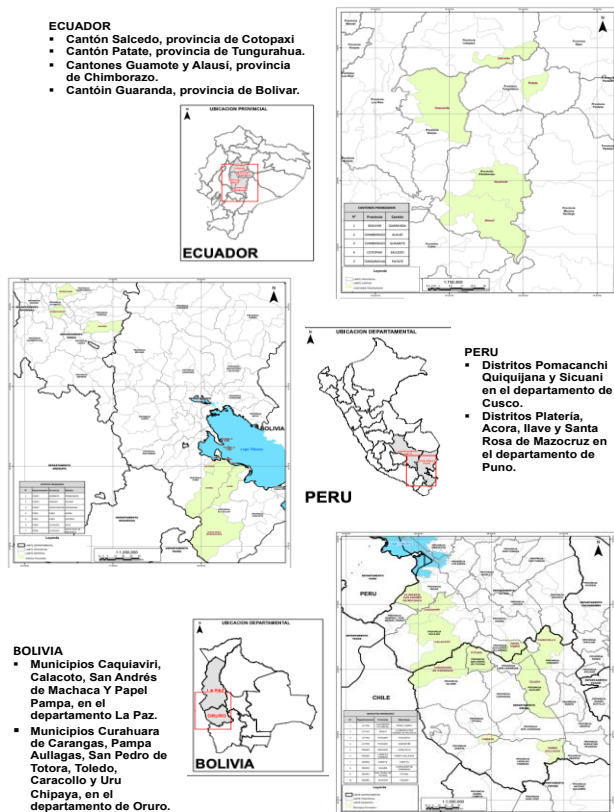
44. In the five prioritized cantons in Ecuador there are important challenges in the areas of food security and water resources management. For its prioritization, poverty indicators, presence of registered family farmers and climate projections where the impacts of climate change could be greater were contrasted.

45. Prioritized districts in Peru (7):

- In the department of Cusco (3): Pomacanchi district in the province of Acomayo, Quiquijana district in the province of Quispicanchi, Sicuani district in the province of Sicuani.
- In the department of Puno (4): Platería and Acora districts in the province of Puno, and districts Ilave and Santa Rosa de Mazocruz in the province of El Collao.

46. The seven prioritized districts in Peru are located in the Andean south of the country, which is projected to experience the most significant climate changes or hotspots in the future⁶⁴. These districts represent areas with high and very high current and future climate risks (up to 2030 and 2050) in agricultural and livestock production. They are categorized as poor and very poor, characterized by agrobiodiverse production, a culture of conservation, and organization based on peasant communities of Quechua and Aymara origin. The districts of the department of Puno are located in national and binational basins that are part of the TDPS system shared with Bolivia. In Ácora in Puno, the National Service of Meteorology and Hydrology (SENAMHI) and the Ministry of Agrarian Development and Irrigation (MIDAGRI) have promoted the formation of the second Agroclimatic Management Platform-PGA and⁶⁵ in Quiquijana in Cusco, the next one will be formed.

Figure 2: Prioritized local territories in Bolivia, Ecuador and Peru



⁶⁴ Source: Climate Scenarios to 2050 in Peru.

⁶⁵ Policy measure that is part of the country's competitiveness plan and that is also a prioritized measure within the framework of Peru's adaptation NDCs

1.9.1. Target Population

47. The target population of the project is made up of Andean family farming producers, linked to productive organizations and with different degrees of linkage to agricultural value chains. Special priority will be given to indigenous women and youth with a gender and generational approach that aims to reduce gaps.
48. The direct beneficiary population is estimated at around 6,000 households of producers of Andean family farming, which implies around 30,000 people between the 3 countries, who will improve their yields and reduce losses related to climate change and variability, will strengthen and diversify their livelihoods within the framework of the implementation of plans to improve agricultural production and rural enterprises⁶⁶; having access to and making use of agroclimatic and technological information, as well as improved technical and financial services.
49. Indirect beneficiaries are estimated at 175,000 rural men and women, who constitute 50% of the rural population of the prioritized localities (10 municipalities of Bolivia, 5 cantons of Ecuador and 7 districts of Peru), who will have access to agroclimatic information and on good adaptive practices, and who will be able to benefit from improved technical assistance and financing services.

1.9.2. Intervention scales

50. Resilience approaches require interventions and decision-making at different scales (Darnhofer et al. 2010).⁶⁷ The scales of intervention of the project include:
- Family property: will correspond to the family productive unit of the farmers.
 - Community: it will correspond to the organization of the producers.
 - Local management unit: it will correspond to the local government and its actions and services in support of small family producers.

1.9.3. Main partner actors

51. The actors with whom the project will articulate action are the following:

Public actors:

- Ministries of Environment and Agriculture (Environment for its regulatory and normative role in adaptation to climate change and Agriculture for its sectoral role in family farming).
- Local governments.
- Entities that generate and disseminate climate information.
- Entities (public and private) providing technical assistance or rural extension services for the improvement of productive technologies.
- Public entities that provide rural financial services in the prioritized areas.

Private and civil society actors:

- Producers and organizations of small producers of Andean family farming.
- Entities promoting experiences with innovative adaptation practices with potential for expansion and scaling.
- Private entities that provide rural financial services in the prioritized areas.
- Organisations representing peasants and indigenous peoples and women in the three countries.

Project / Programme Objectives:

52. The main objective of the project is: **to increase the resilience to climate change of the productive systems of small Andean family farmers vulnerable to climate change, in prioritized areas of Bolivia, Ecuador and Peru.** This will be achieved by facilitating access and use of integrated ad-hoc services of agroclimatic information, technical assistance (organizational, technological and market) and facilitating access to financing, for the implementation and scaling of innovative climate change adaptation solutions at family, associative and local scales.
53. The theory of change behind the main objective indicates that: *IF 1) The capacities of the stakeholders for public services on climate resilience of Andean agriculture are enhanced; 2) innovative adaptation solutions⁶⁸ are applied together with the farmers and 3) knowledge and experiences are exchanged across levels of governance, THEN the*

⁶⁶ This estimate is based on the budget amount that will be committed to support the implementation of climate change adaptation measures within the framework of plans for the improvement and climate resilience of agricultural production and plans for climate-resilient rural enterprises, and takes as a reference, the average investment range per family. used by IFAD in projects implemented in Bolivia, Ecuador and Peru.

⁶⁷ Darnhofer, I., Fairweather, J., & Moller, H. (2010). Assessing a farm's sustainability: insights from resilience thinking. *International Journal of Agricultural Sustainability*, 8(3), 186-198.

⁶⁸ Low cost technologies, easy implementation, predominant use of local resources, which recover good traditional practices and enhance them with modern technical knowledge.

project objective to increase the resilience to climate change of the productive systems of small Andean family farmers vulnerable to climate change, in prioritized areas of Bolivia, Ecuador and Peru will be achieved because the project will address institutional, technical, organizational and social barriers and gaps.

54. To address those gaps the project will:

- Strengthen local systems for the generation of meteorological, hydrological and agroclimatic information that is timely and accessible to multiple rural users: producers and agricultural organizations, local governments, entities providing rural technical assistance and financing services, generating capacities for its interpretation, use and application in productive decision-making, services and risk reduction.
- Identify, promote and accelerate the most suitable climate solutions in the region, strengthening the capacities of technical assistance providers and peasant extension services.
- Improve capacities in local governments to implement and finance the implementation of climate solutions on a larger scale in the territory.
- Strengthen the capacities of small Andean, peasant and indigenous family farmers and their organizations to implement climate solutions at the family and associative level, providing technical assistance, means and financial inclusion that allows them to reduce the negative impacts of climate change on water availability, agricultural production and productivity and Andean agrobiodiversity.
- Identification of available, national and international, sources of funding for rural farmers and dissemination of the information with beneficiaries of the project.
- Identification of guarantee funds that operate in the region that could help de-risk finance to microfinancial institutions to create targeted lines of credit for microlending at accessible terms to smallholder farmers to transition to more climate resilient practices.
- Technical assistance to family farmers on a set of climate adaptation solutions relevant to the local context to be linked to sources of accessible capital (through microlending or otherwise) in the target areas.
- Promote the associativity of small Andean family farmers and strengthen their organizations, to facilitate or improve access to technical assistance services, ad-hoc financial services, insertion into value chains and linkage with sustainable markets, prioritizing Andean agrobiodiversity products, and achieve climate resilience and sustainability of their livelihoods.
- In conjunction with public and private financial entities in rural areas, promote and facilitate access to financing for adaptation measures for small Andean family farming.
- Promote the regional exchange of experiences, innovations and lessons learned between the three countries.

55. This project will take into consideration the lessons learned, progress and best practices (strategies, methodologies and measures promoted) from previous projects, namely IFAD projects for poverty reduction and rural development in the Andean region, such as AVANZAR in Peru, ACCESOS in Bolivia, the SDC's projects on risk management and adaptation to climate change, as well as other cooperation, and government programs. It will be inscribed and articulated with the progress and lessons learned from the current Regional Resilient Andes Project, which is being executed in Bolivia, Ecuador and Peru and is financed by Swiss cooperation, and is facilitated by the Helvetas Swiss Intercooperation - Fundación Avina Consortium and IFAD as an strategic ally⁶⁹.

56. This project will directly strengthen the territorial and local adaptive action of producers of Andean family farming in a joint and decentralized work with public and non-public actors (NGOs, private agents, technical-academic entities) of subnational and local levels, which are closer and provide services to these producers and their indigenous organizations; but in alignment and articulation with the processes and actors national indicated above, to provide feedback with territorial innovations and learning, national policies, actions and services.

⁶⁹ The objective of the Regional Project Andes Resilient to Climate Change is "to contribute to the strengthening and articulation of the capacities of public and private actors to provide services aimed at improving resilience and adaptation to climate change, of rural Andean populations in poverty and vulnerability of Bolivia, Ecuador and Peru, aiming at their food security and water security". Its partners are the Ministries of the Environment, Ministries of Agriculture and Entities in charge of the issues of Economic and Social Inclusion. In Bolivia: The Plurinational Authority of Mother Earth-APMT, the Ministry of Environment and Water-MMAYA, the Ministry of Rural Development and Lands-MDRYT, and the Ministry of Development Planning-MPD. In Ecuador: the Ministry of the Environment, Water and Ecological Transition-MAATE, the Ministry of Agriculture and Livestock-MAG and the Ministry of Economic and Social Inclusion-MIES. In Peru: the Ministry of the Environment-MINAM, the Ministry of Agrarian Development and Irrigation-MIDAGRI, the Cooperation Fund for Social Development-FONCODES of the Ministry of Development and Social Inclusion-MIDIS.

Figure 3: Diagram of the theory of change

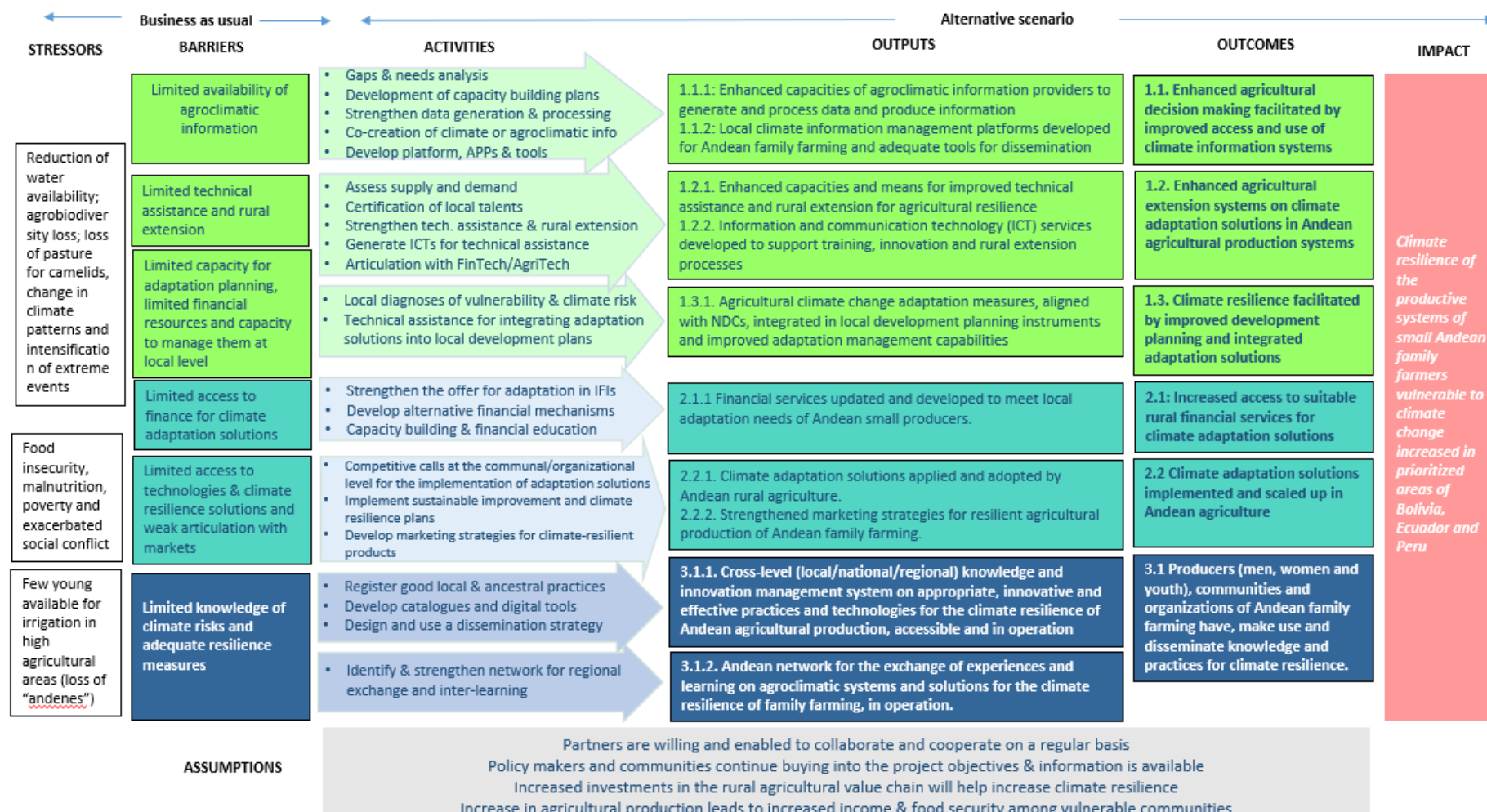


Table 1: Project components

Project Components	Expected Outcomes	Expected Outputs	Indicative Activities	Amount (US\$)	%
Component 1: Enhancing the capacities for public services on climate resilience.	Outcome 1.1 Enhanced agricultural decision making facilitated by improved access and use of climate information systems	1.1.1. Enhanced capacities of agroclimatic information providers to generate and process data and produce information according to the needs of different users.	<ul style="list-style-type: none"> - Assessment of capacities and needs of agroclimatic information. - Design and implementation of tailor-made capacity building plans. - Improvement of the local hydrometeorological or agrometeorological network to strengthen data generation and processing. 	454,500.00	3,84%
		1.1.2. Local climate information management platforms developed for Andean family farming and adequate tools for their dissemination	<ul style="list-style-type: none"> - Mapping of local actors and agroclimatic information needs of the different users. - Design and implementation of the platforms for the management and use of climate information including hidrologic data⁷⁰. - Local integration of agroclimatic data, crop and location information, and family farming producer registers. - Identification of traditional or ancestral systems of climate observation. - Co-creation of climate or agroclimatic information and guidelines for risk reduction, integrating local/traditional/ancestral knowledge, - Collective agroclimatic education and communication. - Development of tools and technological applications (APPs). 	488,000.00 ⁷¹	4,12%
	Outcome 1.2. Enhanced agricultural extension systems on climate change adaptation solutions in Andean agricultural production systems.	1.2.1. Enhanced capacities and means for improved technical assistance and rural extension for agricultural resilience.	<ul style="list-style-type: none"> - Assessment of the supply and demand for technical assistance and extension services and the situation of these service providers. - Identification, strengthening and certification of local talents (expert and innovative family farmers), as promoters and extensionists of adaptation solutions, in partnership with competent institutions. - Strengthening of technical assistance and rural extension systems for the improvement and climate resilience of Andean agricultural production systems and their rural. - Development of technical and/or financial tools for innovation in rural technical assistance based on local talents. 	780,000.00	6,59%
		1.2.2. Information and communication technology (ICT) services developed to support training, innovation and rural extension processes.	<ul style="list-style-type: none"> - Support in the generation of appropriate ICTs for technical assistance and rural extension. - Articulation with FinTech/AgriTech companies, according to local conditions. 	300,000.00	2,53%

⁷⁰ Peru has the National Water Resources Management System (SNGRH) managed by the ANA.

⁷¹ The project will seek to articulate resources from public and cooperation sources that are linked to the expected product and generate synergies. For example, public resources from the ministries of agriculture and meteorological services, or cooperation resources such as the ENANDES regional project financed by the Adaptation Fund, among others, which will be identified during the project design stage.

Project Components	Expected Outcome s	Expected Outputs	Indicative Activities	Amount (US\$)	%
	Outcome 1.3 Climate resilience facilitated by improved development planning and integrated adaptation solutions for Andean agriculture	1.3.1. Agricultural climate change adaptation measures, aligned with NDCs, and National Adaptatoin Plans integrated in local development planning instruments and improved adaptation management capabilities.	<ul style="list-style-type: none">- Local diagnoses of vulnerability and climate risk baselines and participatory identification of local adaptation solutions (actions and projects).- Technical assistance for the integration of local adaptation solutions into local development plans with gender approach.- Technical assistance for leveraging public and private funds to implement local adaptation solutions (including co-financing contributions and technical assistance).	1,425,000.00	12,04%
SUBTOTAL C1				3,447,500.00	29,12%
Component 2: Applying and scaling up innovative adaptation solutions.	Outcome 2.1. Increased access to suitable rural financial services for climate change adaptation solutions	2.1.1 Financial services updated and developed to meet local adaptation needs of Andean small producers.	<ul style="list-style-type: none">- Articulation and strengthening of the offer of financial services of IFIs and State Development Banks.- Development of alternative financial mechanisms: Revolving Funds (FORE); creation and strengthening of UNICAS, for adaptation innovation, which favor the access of women to youth and indigenous peoples.- Articulation and alliances with entities that provide training in financial education and inclusion to provide training to the target groups of the project.	625,000.00	5,28%
	Outcome 2.2. Climate change adaptation solutions implemented and scaled up in Andean agriculture.	2.2.1. Climate change adaptation solutions applied and adopted by Andean rural agriculture.	<ul style="list-style-type: none">- Local competitive calls at the communal/organizational level for the implementation of sustainable improvement and climate resilience plans for Andean agricultural production.- Enhancements in rural infrastructure, including water storage and irrigation.- Rural enterprises, promoting the participation and leadership of indigenous women and youth.- Implementation of sustainable improvement and climate resilience plans for agricultural production and inclusive rural enterprises, with financial support, technical assistance, monitoring, and evaluation of the project.	6,066,000.00	51,24%
		2.2.2. Strengthened marketing strategies for resilient agricultural production of Andean family farming.	<ul style="list-style-type: none">- Development and implementation of diversified marketing strategies for climate-resilient primary and processed products and their articulation to economic circuits and markets.	646,500.00	5,46%
SUBTOTAL C2				7,337,500.00	61,98%

Project Components	Expected Outcomes	Expected Outputs	Indicative Activities	Amount (US\$)	%
Component 3: <i>Promoting knowledge management.</i>	<i>Outcome 3.1 Producers (men, women and youth), communities and organizations of Andean family farming have, make use and disseminate knowledge and practices.</i>	<i>3.1.1. Cross-level (local/national/regional) knowledge and innovation management system on appropriate, innovative and effective practices and technologies for the climate resilience of Andean agricultural production, accessible and in operation.</i>	<ul style="list-style-type: none"> - <i>Strengthening knowledge management systems and platforms on appropriate, innovative and effective practices and technologies for the climate resilience of Andean agricultural production.</i> - <i>Collection and registration of good local / traditional/ ancestral practices, learning communities and establishment of knowledge routes.</i> - <i>Development of interactive catalogues and digital tools.</i> - <i>Design and implementation of an inclusive dissemination strategy.</i> 	603,911.00	5.10%
		<i>3.1.2. Andean network for the exchange of experiences and learning on agroclimatic systems and solutions for the climate resilience of family farming, in operation.</i>	<ul style="list-style-type: none"> - <i>Identification and strengthening of network for exchange and inter-learning for adaptation to climate change in the Andean region.</i> - <i>Actor mapping</i> - <i>Web platform</i> - <i>Analysis of the supply and demand of knowledge and experiences</i> 	448,911.00	3.79%

SUBTOTAL C3	1,052,828.00	8.89%
ACTIVITY BUDGET (A)	11,837,822.00	
PROJECT EXECUTION COST (B)	1,065,404.00	9%
TOTAL PROJECT COST (C) = A + B	12,903,226.00	
FEE CHARGED BY THE IMPLEMENTING ENTITY FOR PROJECT CYCLE MANAGEMENT	1,096,774.00	8.5%
REQUESTED FUNDING AMOUNT	14,000,000.00	

Projected Calendar:

57. The term of execution of the project is 4 years (48 months). Given the current level of proposal formulation, the main milestones foreseen for the preparation and subsequent implementation of the project are presented below:

MILESTONES	EXPECTED DATES
Submission of Concept Note for review and approval of the Adaptation Fund	Until November 2023
Submission of the project document (after approval by the FA of the Concept Note)	August 2024
Start of project implementation	September 2024
Mid-term review	September 2026
Project closure	September 2028
Final evaluation	September 2029

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Project components

58. As indicated above, **the objective of the project is to increase the resilience to climate change of the productive systems of small Andean family farmers vulnerable to climate change, in prioritized areas of Bolivia, Ecuador and Peru.** This will be achieved by facilitating access and use of integrated ad-hoc services of agroclimatic information, technical assistance (organizational, technological and market) and facilitating access to financing, for the implementation and scaling of innovative climate change adaptation solutions at family, associative and local scales. To achieve this goal, the project is structured based on 3 components.
59. The first focuses on improving the capacities of public services in terms of climate resilience (climate information systems, agricultural extension, and adaptation solutions for Andean agriculture integrated into local development planning and management). The second focuses on the financing, application and expansion of innovative solutions for the adaptation of agriculture to the conditions of climate change. The third focuses on knowledge management on appropriate, innovative and effective practices and technologies for adaptation to climate change in Andean family agriculture, made available to producers, communities and organizations for implementation and scaling. The project is in line with the strategic results of the Adaptation Fund and with the adaptation NDCs of Bolivia, Ecuador and Peru, as well as with the National Adaptation Plans.
60. The project is in line with the strategic results of the Adaptation Fund and with the adaptation NDCs of Bolivia, Ecuador and Peru, as well as with the National Adaptation Plans.
61. The three countries face similar problems but in different contexts. This is an opportunity for promoting the exchange of experiences and learning among them, capitalizing on the knowledge and experiences of each country and making it available to their peers. This will encourage learning within the framework of the project, and identify opportunities for replication and scaling of good adaptation practices in different contexts. It will also allow, in the case of Peru and Bolivia, to intervene in a binational territory called TDPS - Endorheic Water System of Lake Titicaca, Desaguadero River, Lake Poopó, Salar de Coipasa, where 4 of the 7 prioritized districts in Peru and the 10 prioritized municipalities in Bolivia are located, and in which there are binational ⁷²initiatives and institutionality. The project will strengthen the exchange, cooperation and interlearning of actors in areas of knowledge related to water management, soils, agrobiodiversity, and adaptation to climate change in Andean family farming in highland ecosystem (Peru and Bolivia) and high Andean páramo ecosystem (Ecuador).
62. The following section presents the details of the components, outcomes, outputs and activities of the project.

COMPONENT 1:

Enhancing capacities for public services on climate resilience (US\$ 3,447,500.00)

63. The project will start by assessing the conditions of producing families, communities, and family farming groups in each area. This assessment will use a Climate Resilience Index (IREC)⁷³ to categorize the beneficiary groups based on their productivity, organization, entrepreneurial skills, and climate risk readiness. This index will allow to establish the level of climate risk they have in their productive activity, from the management of natural resources, production, value-added generation activities and marketing. This will make it possible to

⁷² In 1996 the Binational Authority of the Water System Lake Titicaca, Desaguadero River, Lake Poopó, Salar de Coipasa was formed, created by binational agreement between both governments with the objective of promoting and conducting actions, programs and projects, for the conservation, control and protection of water and hydrobiological resources of the TDPS Water System; contribute in this area, the rational use of natural resources: water, biodiversity and soil; contribute to knowledge, prevention and adaptation to climate change, to strengthen the integrated management of water resources at the binational level Peru – Bolivia.

⁷³ This index will be designed based on the IDO organizational development index used by IFAD and the climate-smart agriculture framework, developed by CGIAR (<https://ccafs.cgiar.org/climate-smart-villages>) and applied by FAO, as well as the resilient agriculture experience of HELVETAS in Bolivia. Its implementation will be important in adapting services to the different needs of beneficiary groups. Its results will be used to guide the implementation of components 2 and 3 of the project.

identify the different needs of capacity building, technical assistance services, financial services, of these beneficiary groups, which will guide the direction of improvement of rural services that the project will promote and support.

Outcome 1.1 Enhanced agricultural decision making facilitated by improved access and use of climate information systems

64. In the areas of intervention, the project will support the strengthening of systems for the generation of local meteorological, hydrological and agroclimatic information, so that they are timely and accessible to multiple rural users. The project will improve climate information generation at the local level (predictions, forecasts or meteorological, hydrological, agrometeorological alerts) in each country. This includes making the information culturally appropriate, effectively communicating it (using methods like community radios), and applying it to help small Andean farmers, local governments, and rural service providers make informed decisions about production and risk reduction.⁷⁴ To this end, information generators (local offices of meteorological services or technical and academic entities with a local presence, which record climate data and produce information, and local offices of the agricultural sector) will be connected with the end users of the information (producers and service entities), so that it responds to the needs and demands of these users. Alliances will be generated with technical and/or academic entities, local entities of the agricultural sector, local governments, entities providing rural services, and producer organizations.
65. Depending on what is required in each country, the sustainability of this component could require not only strengthening the capacities of agroclimatic information providers, but also improving equipment for the registration and monitoring of climate or agroclimatic data at the local level in the targeted areas. This will be coordinated with the meteorological services of each country: SENAMHI of Bolivia, INAMHI of Ecuador and SENAMHI of Peru. Articulation, complementarity and synergies of this component 1, outcome 1.1 and outputs 1.1.1 and 1.1.2 will be sought with the ENANDES+ regional project financed by the Adaptation Fund, and implemented by the World Meteorological Organization (WMO) with the Meteorological Services of the Region and which seeks to strengthen the capacities of these agencies for the generation of climate services.

Output 1.1.1. Enhanced capacities of agroclimatic information providers to generate and process data and produce information.

Indicative activities envisaged under this framework are as follows:

- Assessment of capacities and needs of agroclimatic information service providers to produce and disseminate information according to the needs of different local users, in particular small Andean farmers.⁷⁵
- Design and implementation of tailor-made capacity building plans.⁷⁶
- Improvement of the local hydrometeorological or agrometeorological network to strengthen data generation and processing⁷⁷.

Output 1.1.2. Local climate information management platforms developed for Andean family farming and adequate tools for dissemination.

Indicative activities envisaged under this framework are as follows:

- Mapping of local actors and assessment of the meteorological, hydrological and agroclimatic information needs of the different users and the conditions required for their use and application.

⁷⁴ In Peru, the Agroclimatic Management Platforms-PGA are available, which are a re-creation and strengthening of the successful model of the Agroclimatic Tables of Colombia. The Andes Resilientes regional project is providing technical support in the formation and operation of the PGA of the district of Acora in the department of Puno. In Bolivia there is the Early Warning System-SAT Agropecuario and the Pachayatiña Project of EUROCLIMA. In Ecuador, it will be consulted what initiative or experience close to this issue has been had from INAMHI or from a cooperation project, to take it as a reference or baseline.

⁷⁵ The diagnoses of capacities and needs of information service providers (activity 1.1.1.1), will include, among others, the identification of traditional climate observation systems (activity 1.1.2.4) and will be carried out for each of the prioritized localities in each country, and will be integrated with the mapping of the information needs of producers (activity 1.1.2.1), with an information chain view that addresses from generation to use / application according to the conditions of the actors in each municipality.

⁷⁶ With this logic, capacity building plans will be designed to address the needs of all actors involved. The implementation mechanisms and strategies with each actor should be differentiated (for information providers, for farmers, for municipalities, etc.). Plans should include, inter alia, the design or strengthening of governance mechanisms for local platforms (activity 1.1.2.3) and the development of tools and PPPs to improve dissemination and access to agroclimatic information (activity 1.1.2.8).

⁷⁷ This activity will be part of the implementation of capacity building plans and according to what the diagnoses establish.

- Design and implementation of the governance mechanism for the formation or strengthening of local platforms for the management and use of climate information.
- Local integration of agroclimatic data, crop and location information, and family farming producer registers.

Outcome 1.2. Enhanced agricultural extension systems on climate change adaptation solutions in Andean agricultural production systems

66. Based on a characterization of the supply and demand of technical assistance, the project will organize technical assistance services and agricultural extension with the aim of addressing the identified barriers in agricultural extension systems, like the lack of understanding of climate change impacts and adaptation solutions, and the difficulties in coordination among the different service providers.

Output 1.2.1. Enhanced capacities and means for improved technical assistance and rural extension for agricultural resilience.⁷⁸

Indicative activities envisaged under this framework are as follows:

- Assessment of supply and demand for technical assistance and extension services and the situation of these service providers.
- Characterization of the supply and demand of technical assistance services for the sustainable improvement of water availability, use and efficient management of water in agricultural production.
- Identification, strengthening and certification of local talents (expert and innovative family farmers), as promoters and extensionists of adaptation solutions, in partnership with competent institutions.
- Strengthening of technical assistance and rural extension systems for the improvement and climate resilience of Andean agricultural production systems and their rural enterprises in each municipality/district/canton, with horizontal methods of extension, through institutional alliances (articulating capacities of local talents, local government personnel and institutions with local presence).
- Development of technical and/or financial tools for innovation in rural technical assistance based on local talents, for the provision of services linked to the implementation of plans for sustainable improvement and climate resilience of Andean agricultural production and inclusive rural enterprises, implemented at the national level of families and producer organizations⁷⁹.

Output 1.2.2. Information and communication technology (ICT) services developed to support training, innovation and rural extension processes.

Indicative activities envisaged under this framework are as follows:

- Support in the generation of appropriate ICTs for technical assistance and rural extension.
- Articulation with FinTech/AgriTech companies, according to specific local conditions.

Outcome 1.3. Local governments plan and implement climate change adaptation actions according to their needs, integrated into their development planning instruments and aligned with NDCs.

67. The purpose is to promote local development plans that will enable public and private investments oriented to adaptation to climate change, involving the territorial level for the management and improvement of natural resources and ecosystem services that sustain the production of small Andean family farmers. For example: investments to improve water availability, via the recovery and conservation of ecosystem services of water regulation, such as the planting and harvesting of water, the protection of water sources, the recovery and conservation of prairies and pastures, among others; investments for the recovery and conservation of ecosystem services for erosion control, such as the formation of terraces, infiltration ditches, reservoirs for harvesting water for efficient irrigation, among others. These actions will be linked in each country, with the

⁷⁸ In some municipalities, the local government is the sole provider of technical assistance services, and they have significant limitations in terms of technical capacities, number of personnel, logistics to reach communities, among other aspects. On the other hand, from a social perspective, some experiences of training local talents in Bolivia, realize that their farmer peers do not recognize local talents as paid service providers, since they do not have professional certification, and only usually recognize mobilization expenses when they provide the service outside the community. This limits the scope of technical assistance that local talent could provide, since their investment of time is not compensated by a payment that allows them to meet family needs. Based on both considerations, this output includes the improvement of capacities of all actors with potential to provide assistance services in each municipality: this includes local governments, local technicians, teachers of agricultural institutes, local talents or expert farmers, or other actors identified in each locality. This will make it possible to expand the scope of technical assistance, as well as to adapt it to the conditions of each locality.

⁷⁹ through the implementation of properties or demonstration farms supported by the Fund, among other actions.

NDC measures for adaptation to climate change prioritized in the areas of water and agriculture, and with local development planning instruments and with national programs linked to adaptation to climate change. The investments will benefit agricultural production for food security and for inclusive rural enterprises of small producers' organizations, which will be supported by the project.

68. To this end, the project will establish strategic alliances with subnational governments, and other public and private actors in local territories and will provide technical assistance and capacity building services for the design of these plans, aligned to the NDCs, and for the formulation of public investment projects focused on the management of natural resources and recovery of ecosystem services that may have a greater impact on the improvement and climate resilience of agricultural activities and rural enterprises of families, communities and organizations of small Andean family producers. The project will establish a fund for co-financing contributions.

Output 1.3.1. Agricultural climate change adaptation measures, aligned with NDCs, integrated in local development planning instruments and improved adaptation management capabilities.

The activities envisaged under this framework are as follows:

- Assessments of vulnerability and climate risk and participatory identification of local adaptation solutions (actions and projects) with gender approach.
- Identification of ecosystem based adaptation measures that can be integrated in three plans
- Technical assistance for the integration of local adaptation solutions into local development plans.
- Technical assistance for leveraging public and private funds to implement local adaptation solutions (including co-financing contributions and project technical assistance)⁸⁰.

COMPONENT 2:

Implementing and scaling up innovative adaptation solutions (USD\$ 7,337,500.00)

This component is organized based on 2 outcomes:

Outcome 2.1. Increased access to suitable rural financial services for climate change adaptation solutions.

69. This result involves: (i) articulation and cooperation with state and private entities that provide public and private microfinance services in rural Andes, to improve, adapt or generate products to finance activities for the climate resilience of agricultural production and its enterprises, and in accordance with the needs and capacities of the different segments of Andean family farming; (ii) generation of alternative financial mechanisms to target groups with greater precariousness, based on successful experiences carried out in the region, and (iii) articulation with the entities that manage public agricultural insurance, so that the coverage of such insurance can reach the target groups.
70. The development of alliances will seek to reduce the gaps in access to financing and diversify the supply of services, according to the needs of the different segments of producers and their organizations, and according to characteristics of gender, youth and interculturality, and that offer disbursement and repayment conditions according to the productive cycle of the farmer; technological improvements (Innovative credit score systems). This action will include financial education⁸¹.

Output 2.1.1. Financial services updated and developed to meet local adaptation needs of Andean small producers.

Indicative activities identified are following:

⁸⁰ In the case of local governments the project aims to provide technical assistance through workshops, research and direct technical assistance through specialists and consultants that could guide and advise the local governments in the integration of adaptation climate solutions in their development planning instruments, as well as identifying potential sources of public and private funding that could be leveraged to complement existing public budget of these institutions to tackle climate change.

⁸¹ In the case of Bolivia in alignment with the PDES 2021-2025 considering the principles of complementarity, reciprocity, solidarity, redistribution, equality, legal security, sustainability, balance, justice and transparency

- Articulation and strengthening of the offer of financial services of IFIs⁸² and State Development Banks.
- Development of alternative financial mechanisms: Revolving Funds (FORE); creation and strengthening of UNICAS⁸³, for adaptation innovation, which favor the access of women to youth and indigenous peoples.
- Articulation and alliances with entities that provide training in financial education and inclusion to provide training to the target groups of the project.

Outcome 2.2. Climate change adaptation solutions implemented and scaled up in Andean agriculture.

71. This outcome aims to empower small agricultural producers, families, and communities to cultivate climate-resilient, sustainable, and inclusive farming. This is achieved through the preservation and responsible use of Andean agrobiodiversity and native breeding. By reviving ancestral practices, traditional knowledge, and exchange methods (for seeds, products, and knowledge), the aim is to bolster food security and connect production to economic networks at local, regional, or national levels. This approach not only enhances the economy and climate resilience of small producers and their organizations but also triggers local development.

Output 2.2.1. Climate change adaptation solutions applied and adopted by Andean rural agriculture.

72. The project will provide technical assistance and direct resources to families, communities and/or organizations, to: i. implement solutions for the improvement and climate resilience of their productive systems and their enterprises⁸⁴; ii. promote and strengthen associativity; iii. develop marketing strategies for its products and the articulation to markets. The mechanism for the participation of families, communities and/or organizations of small producers and access to project resources will be through calls during the two initial years of execution and follow up during project implementation. Participating organizations will provide counterpart resources in a percentage to be determined in relation to the total cost of the interventions. In organizations made up of women, youth and indigenous people, these percentages of counterpart will be lower, to favor their participation.
73. As described in output 2.1.1, the project will also articulate efforts with microfinance institutions and develop and promote new alternative mechanism like UNICAS and revolving funds (FORE), that could help overcoming existing barriers to access funding. The project will also provide training in financial education and inclusion, as well as technical assistance to develop plans for agricultural production and inclusive rural enterprises, and it will identify and systematize information of available national and international funding with direct access for small farmers.

The indicative activities under this framework are as follows:

- Local competitive calls at the communal/organizational level; for the implementation of sustainable improvement and climate resilience plans for Andean agricultural production and inclusive rural enterprises⁸⁵, promoting the participation and leadership of indigenous women and youth.

⁸² For the development of this concept note, interviews with financial institutions have taken place, for example with CRECER in Bolivia, the cooperative of savings and credit San Jose in Ecuador and CONFIANZA financing in Peru.

⁸³ UNICAS are an innovative mechanism that involves the formation of savings and credit groups, which base their strength on the collaborative work of a group of individuals who know and support each other to promote family savings and use the accumulated resources to lend them to those members of UNICA who need it most. They allow households far from the agencies of regulated financial entities (banks, savings banks, financial institutions, etc.) to access informal financial services. UNICAs are not limited to savings and credit, as they also offer insurance in the form of solidarity funds to help those households that face a specific negative situation. Better access to these financial services allows households to make productive investments and protect themselves from negative shocks. UNICAs can be a step towards financial inclusion in rural areas, improving access to regulated financial services. In Peru, its implementation and expansion has been supported by COFIDE, Development Bank of Peru, through its Inclusive Rural Business Development Program (PRIDER). Through the regional project proposal, the aim is to replicate, adapt and expand this model in the three countries, as an alternative strategy for autonomous financial services for rural households that currently do not have access to regulated services, and as a first step towards their financial inclusion and improved access to regulated financial services.

⁸⁴ Risk reduction and adaptation measures to climate change will involve the different links in the value chain (natural resources, agricultural production, processing, marketing). As appropriate, they will be implemented at the level of family production units (farms) and/or at the collective level (community and producer organizations).

⁸⁵ The productive improvement plans will incorporate NDC adaptation measures in Water and Agriculture prioritized by each country, according to the needs of the producing organizations and the conditions of the territory. And inclusive rural entrepreneurship plans will incorporate risk assessment and opportunity management regarding climate change in value chains. They are plans at a communal and/or organizational scale.

- Implementation of sustainable improvement and climate resilience plans for agricultural production and inclusive rural enterprises, with financial support, technical assistance,⁸⁶ monitoring and evaluation of the project.

Output 2.2.2. Strengthened marketing strategies for resilient agricultural production of Andean family farming.

74. Strategies will be developed for the promotion, diversified marketing and articulation of climate-resilient primary and transformed production to economic circuits and markets.

The indicative activities under this framework are as follows:

- Development and implementation of diversified marketing strategies for climate-resilient primary and processed products and their articulation to economic circuits and markets.
- Promotion of fairs and seller-buyer gatherings.
- Articulation with technological platforms⁸⁷.

COMPONENT 3: Promoting knowledge management (USD \$ 765,000.00)

75. In the last ten years, Bolivia, Ecuador, and Peru have conducted research and trials to address challenges faced by small family farming in the Andes, including climate change. These efforts have generated valuable insights to improve and expand successful practices. Furthermore, within the Andean region, there exists ancient and traditional wisdom, practices, and technologies for handling the risks posed by its pronounced climate fluctuations. These approaches offer significant advantages in fostering climate resilience. However, they have been diminishing over time and necessitate revitalization and practical application.
76. The project seeks to value and make available for use, knowledge about effective technologies to address climate change challenges in the *sustainable management of natural resources (water, soil and vegetation) of mountain ecosystems and the ecosystem services they provide (water regulation, erosion control, etc.), the recovery, conservation and sustainable use of Andean agrobiodiversity (varieties, seeds), and the resilient and sustainable management of Andean agricultural production systems*; which are articulated in *local, traditional or ancestral knowledge, and combined with modern technical knowledge*

Outcome 3.1 Producers (men, women and youth), communities and organizations of Andean family farming have, make use and disseminate knowledge and practices for climate resilience.

77. For this knowledge to be practical, it should align with users' needs and preferences. Modern interactive methods can enhance the use of knowledge. Applying these methods to manage beneficial practices for family farming can speed up their spread and adoption. Drawing from successful field school and farmer-to-farmer extension practices, approaches like apps and digital extensions can play a crucial role.
78. The project will assess and leverage the best practices on climate resilience generated in each country within the framework of systematizations supported by different cooperation projects⁸⁸ and related national and regional knowledge management platforms⁸⁹, including the Resilient Andes project and within the framework of the *Regional Knowledge Management Process on Good Practices for an Andean Family Agriculture Resilient to Climate Change and low in carbon*, developed in joint action with the International Potato Center-CGIAR and the Bioversity-CIAT Alliance, which has compiled and established a repository with more than 300

⁸⁶ Technical assistance will be provided from component 2, activity 2.1.1.4.

⁸⁷ The project implementation will aim to articulate with existing platforms with agroecological data, for example LACCHAIN, developed by the Interamerican Development Bank (IDB), which facilitates traceability and transparency, to enhance confidence between producers and consumers; this platform also allows the identification of technological solutions for agriculture, based on block chain. IFAD also will start a project, Agroweb3, that could be helpful to articulate with this outcome.

⁸⁸ For example, in Ecuador, a Systematization on Good Practices of Sustainable Land Management, with the Ministry of Environment, Water and Ecological Transition (MAATE); in Bolivia, a Systematization on Good Practices promoted within the framework of Government Programs for Rural Productive Development, with the Ministry of Rural Development and Lands (MDRYT).

⁸⁹ In the project design phase, the existing and related knowledge management platforms at national and regional level will be assess, including the EncontrAR web platform (www.encontrarandes.org), to capitalize on these advances, seeking their articulation, as support from result 2.2. Climate change adaptation solutions implemented and expanded in Andean agriculture.

local Andean experiences in Bolivia, Ecuador and Peru, and systematized the innovations and good practices promoted in these experiences. As a result, the knowledge has been made available to the public through the EncontrAR web platform and seeks to connect the supply and demand of knowledge about Andean family agriculture in a context of climate change.

Output 3.1.1. Cross-level (local/national/regional) knowledge and innovation management system on appropriate, innovative and effective practices and technologies for the climate resilience of Andean agricultural production, accessible and in operation.

The indicative activities under this framework are as follows:

- Strengthening the capacities of communities and/or organizations in the use of technologies developed by the project, adapting the application of technologies to the local reality, experience of use and promoting the role of young people in the adoption of new technologies for family farming.
- Assessment of needs for strengthening, expansion and functionality of knowledge management systems and platforms related to the objective of the project, and their adaptation with emphasis on greater accessibility (native languages, interculturality and conditions of digital connectivity in rural areas).
- Training of young people and local talents to facilitate access to information and communication technology.
- Collection and registration⁹⁰ of good local/traditional/ancestral practices, learning and establishment of knowledge routes.
- Development of interactive catalogues and digital tools on appropriate and innovative climate solutions that integrate traditional and modern knowledge, in different Andean ecosystems, for direct use by producers and rural extensionists.
- Design and implementation of an inclusive dissemination strategy considering gender, age, native language, for the dissemination of climate solutions.

Output 3.1.2. Andean network for the exchange of experiences and learning on agroclimatic systems and solutions for the climate resilience of family farming, in operation.

79. The project will promote an Andean network for the exchange of experiences and learning in agroclimatic systems (Component 1) and solutions for the climate resilience of family farming. The project will promote processes of exchange and interlearning among peers (meteorological services, local governments, producers and entities providing rural services for agricultural production in Bolivia, Ecuador and Peru) to address climate challenges in the Andean region, scale successful experiences, strengthen common and specific learning of each locality and country, in relation to climate information systems and knowledge management tools and promote feedback on the processes of each country from the consolidated learnings.

The indicative activities in this framework are following:

- Identification and strengthening of network for exchange and interlearning for adaptation to climate change in the Andean region⁹¹.
- Identification of traditional or ancestral systems of climate observation, and recovery and revaluation of their knowledge systems.
- Co-creation of climate or agroclimatic information and guidelines for risk reduction, integrating local/traditional/ancestral knowledge, and its transmission through existing media such as community radios, considering native language, gender, age, local language.
- Collective agroclimatic education and communication for social change focused on producers of Andean family farming, and promotion and strengthening of user networks with active involvement of women and youth.
- Development of tools and technological applications (PPPs) for dissemination and access to agroclimatic information and, in accordance with it, guidelines to reduce risks of affectation in crops and breeding.

B. New and innovative solutions on climate change adaptation, new approaches, technologies and mechanisms.

⁹⁰ In the case of Ecuador in SENADI.

⁹¹ Strengthening can include workshops, internships, visits, learning routes, others, depending on the type of actor.

Innovative elements on which the project will focus:

80. On the expansion, scaling and replication of innovative strategies and mechanisms used for adaptation to climate change and the reduction of climate risks. It will assimilate and improve lessons learned and good practices, including the rescue and dissemination of ancestral knowledge, which have contributed to previous interventions such as IFAD rural development and poverty reduction projects implemented in the region (e.g. ADVANZA Project in Peru, executed with the Ministry of Agriculture, ACCESOS Project in Bolivia, executed with the Ministry of Rural Development and Lands); projects facilitated by Helvetas Swiss Intercooperation and Fundación Avina on adaptation to climate change, climate risk management, natural resource management (e.g. Climate Change Adaptation Project-PACC Peru, Disaster Risk Reduction Program in Bolivia, both financed by the SDC; government programs/projects (e.g. Empoderar in Bolivia), Climate-Smart Livestock (GCI) in Ecuador, Adaptation to the Impacts of Climate Change on Water Resources of the Andes (AICCA), and Strengthening the resilience of communities to the adverse effects of climate change with emphasis on food security in the Jubones River basin and Pichincha Province (FORECCSA).
81. In the promotion of articulated local measures of adaptation to climate change that enhance agricultural resilience to climate change, focusing on the management of natural resources, the conservation of Andean agrobiodiversity, agricultural production, and businesses associated with agricultural value chains, which contribute to the water and food security of small producers of Andean family farming and the sustained improvement of their livelihoods.
82. In the articulation and access of innovative financial and non-financial services to help in the adaptation to climate change of small producers of Andean family farming.
83. In the association of multiple stakeholders, producers and organizations of small producers of Andean family farming, government entities of different levels, entities that generate and disseminate climate information, entities providing technical assistance services or rural extension for the improvement of productive technologies, rural production and productivity, entities promoting experiences with innovative practices of adaptation with potential for expansion and scaling up.
84. Public and private entities that provide rural financial services, Ministries of Environment and Agriculture (Environment for its regulatory and normative role in adaptation to climate change and Agriculture for its sectoral role in family farming).

C. Economic, social and environmental benefits on the most vulnerable communities, including gender considerations. Mitigation of impacts in compliance with the Environmental and Social policy of the Adaptation Fund.

85. The project aims to generate economic benefits for small producers, communities and organizations of Andean family farming based on the reduction of climatic risks and the sustainable improvement of their agricultural and livestock production and productivity, their articulation to economic circuits and diversified markets, and the development of rural enterprises to diversify their sources of income. The project expects to reduce the economic damages that result from a greater exposure of rural communities to climate risk, but on the other hand take advantage of the economic synergies that strengthen the access to financial and non-financial services that integrate climate change adaptation.
86. The social benefits will be expressed in: (i) the strengthening of the communities' own organization and the association of producer families; (ii) the strengthening of the ancestral and collective forms of work typical of Andean indigenous populations (e.g. the ayni or mutual aid work between families, and the minka, community work for social purposes); (iii) the recovery and enhancement of the traditional and ancestral knowledge and practices of these populations, which will be strengthened with modern knowledge; and that will be applied in the process of implementing plans for the improvement and climate resilience of agricultural production and inclusive rural enterprises. There will be an increase in the participation of indigenous women and youth in the processes of agricultural improvement and innovation, and empowerment of rural women, based on the support of the project for the use of their potential and for the development of their economic initiatives linked to agricultural production.
87. In the prioritized locations, the environmental benefits of the project will focus on the recovery and conservation of ecosystem services for water regulation and soil erosion control. They will be expressed specifically: (i) in the improvement of water availability as a result of practices to protect water sources, capture, storage and

infiltration of water, restoration of meadows or natural pastures that maintain important carbon stocks in Andean ecosystems; (ii) in the recovery and conservation of Andean agrobiodiversity (native species and varieties).

88. The project concept outlined in this note has been assessed using the SECAP tool (Social, Environmental, and Climate Assessment Procedures) provided by IFAD. This assessment adheres to the Adaptation Fund's guidelines to ensure that the intervention avoids any unintended negative social or environmental effects and upholds human rights and environmental preservation, or mitigates any potential negative outcomes. This screening has made it possible to identify minor social and environmental risks typical of the contexts in which the project will intervene and that must be reduced (please refer to Annex IV).
89. Environmental risks are related to productive agricultural and livestock activity. With respect to livestock production, in the three countries, the producers of small Andean family farming have already introduced cattle and pigs, accompanied by forage and foreign pastures with low or moderate environmental impacts. The project will support efficiency in livestock management to achieve better yields for people in accordance with environmental conditions and the carrying capacity of family and common farms; and will monitor closely to mitigate potential negative effects. This monitoring will be extended to the increase in production and improvement of crop yields, to avoid it may bring greater pressure on existing soils, opening of new lands and impacts on native vegetation, scrublands and in some cases forests.
90. Minor social risks are associated with working with Andean family farm producers who are considered an indigenous population because they descend from original populations that inhabited those geographical regions hundreds of years ago, before the establishment of the current borders, and who totally or partially conserve their own institutions, customs, practices, cultural patterns and ways of life. As it is known, there are international and national regulations for the protection of the rights of these populations, which the project will rigorously observe. The actions of the project will be carried out with respect to their social and cultural identity, their customs, traditions and their institutions; and will be aimed at saving the livelihoods, culture and environment of these peoples, in accordance with their aspirations, ways of life and decisions. In the event of becoming aware of any measure that could affect the collective rights of indigenous peoples, the project will promote the Free Consultation and Advance Consent (FPIC) instrument regarding the measure.
91. Another of the social risks identified in the context are gender and generational aspects linked to demographic processes of job search outside the rural area, rural-urban migration and feminization of agricultural work. Women assumed important roles in agricultural work, but there are still significant gaps in terms of land clearing and land ownership and in some agricultural sectors or items, involvement of boys and girls in productive work. Women, indigenous peoples and young people face various conditions of systemic inequality (gender, ethnicity and social condition, among others) that affect the impact of the effects of climate change to be asymmetric and suffer the greatest negative impacts. The participation and active involvement of these social groups is key in managing climate change and will be a priority for the project. Using intersectional approaches as analysis tools, territorial diagnoses will be made in the intervention areas in each country, which intersect categories of gender, ethnicity and culture, and youth, for the design of intervention strategies that enhance the capacities of these social groups, so that they go from being a disadvantaged population to agents of change and thus ensure that the project's action contributes to achieving gender equality, intercultural development and inter-generational survey as a whole.
92. The affirmative action that the project will promote will take as a reference the policy frameworks that are available in the three countries in this regard. In Peru, the Gender and Climate Change Action Plan developed by the Ministry of Women and Vulnerable Populations and the Ministry of the Environment of this country. In Ecuador, the National Strategy for Rural Women developed by the Ministry of Agriculture and Livestock. In Bolivia, the Guidelines for the Inclusion of Gender in the Plurinational Climate Change Policy. From the project, concrete actions will be generated that allow contributing to compliance with the regulatory framework, developing an action towards gender equality.

D. Cost-effectiveness of the project including the contribution of the regional approach to cost-effectiveness.

93. The project will develop cost-effective productive system models for the climate resilience of family farming. With this models, it is expected to satisfy two economic criteria. On the one hand, the project activities are aimed at reducing the incremental costs of climate risk in agricultural activities, but on the other hand, the

project establishes as an exit strategy a resilient agriculture model that is sustainable over time due to the enhanced capacities of the participating actors (public and private services).

94. The demonstrative nature of the project and its potential for scalability both, in the countries and in a regional context, is another cost-effectiveness factor, given that the project will work together with the rural extension systems of the Ministries of Agriculture, so that the good practices will be adopted beyond the project and then replicated in other similar programs or public policy guidelines for future projects. The project includes advocacy activities with local governments and the extension services of Ministries of Agriculture linked to the different components of the project on concrete work with communities to shorten communication paths between actors and promote learning. This framework is expected to encourage the development, valuation and certification of local talents appropriate to the conditions of the communities.
95. Another of the cost-effectiveness criteria that the project has raised is to group the intervention in concentrated geographical spaces to reduce the logistics of the project and effectively reach more people, in the case of Bolivia and Peru, efforts have been concentrated in a similar ecosystem that is the Altiplano region shared between Bolivia and Peru and municipalities with a significant population to reach the proposed numbers. In the regional context of the three countries, the project focuses on climate change adaptation solutions in family farmers in mountain contexts, which generates an important synergy to share experiences of sustainable practices, as well as in terms of the most effective rural extension mechanisms.
96. Likewise, an emphasis will be placed on reducing procurement costs by simplifying them through appropriate technologies that farmers themselves can implement without the need for expensive engineering designs or expensive infrastructure works. For example, the restoration of traditional dams, the rehabilitation of existing irrigation systems, recovery of pastures through community work and other low-cost measures.
97. To provide technical assistance, the project will seek synergies and co-financing from actors that provide technical assistance and rural banks, hoping that these actors will be interested in the project and can bring resources to generate research and extension processes that interest both parties.
98. Likewise, cost-efficient rural extension technologies will be promoted, making use of the decades of experience that both, farmers and the Ministries of Agriculture have in implementing field schools and peasant-to-farmer training systems, effectively involving women and youth.

E. Consideration of national and subnational development strategies, NDCs and National Adaptation Plans

99. The components of the project are aligned with the National Adaptation Plans and the Nationally Determined Contributions-NDC of the Plurinational State of Bolivia and the Republics of Ecuador and Peru, referring to climate change adaptation measures in the areas of Water and Agriculture, to promote their implementation, so that they generate benefits and increase climate resilience in the small producers of Andean family farming in these countries.
100. The alignment and contribution of the project to the fulfillment of the goals of the Adaptation NDCs of Bolivia, Ecuador and Peru, is expressed in Tables 2, 3 and 4, respectively. The specific contribution to the national targets in each case will be determined during the design phase, in agreement with each country, and its progress and contribution will be reflected in the monitoring and evaluation systems of NDC indicators of these countries.

TABLE 2: ALIGNMENT AND CONTRIBUTION WITH THE ADAPTATION MEASURES OF THE UPDATE OF THE NATIONALLY DETERMINED CONTRIBUTION OF THE PLURINATIONAL STATE OF BOLIVIA 2021-2030

Area	Adaptation Measures	Indicator	Baseline	Goal to 2030	Project
Integrated Water Resources Management	Water sowing and harvesting systems, irrigation systems fed by small reservoirs that allow management of periods of drought	M3 of water storage capacity.	Baseline 2020: 919 million m3.	Target (20) By 2030 , 1.4 billion m3 of water storage capacity. 60% with national effort and 40% with cooperation.	To be defined in the complete project proposal
Food production	Revitalized irrigation systems, with dams and water harvesting with innovation and technological development, promoting	Há under irrigation	Baseline 2020: 519,597 ha under irrigation.	Target (21) By 2030, 1.3 million hectares under efficient irrigation. 77% with	To be defined in the complete

Area	Adaptation Measures	Indicator	Baseline	Goal to 2030	Project
	cooperation between users and technology transfer.			own effort and 23% with cooperation	project proposal
Agriculture	Improvement of the agricultural production system, financial investment mechanisms and technology transfer for food production per agricultural production unit in vulnerable situations.	% increase in production of strategic crops	Baseline 2020: 20,196,561 metric tons of food production.	Target (29) By 2030, crop production will increase by 70% strategic at the national level. 64% with national effort and the rest with international cooperation.	To be defined in the complete project proposal
	Improvement of institutional articulation mechanisms for the provision of goods and services.				
	Access to differentiated financing with a focus on resilience and adaptation to climate change and commercial articulation.				
	Financial and technological investments aimed at the development of agricultural innovations (improved seeds resistant to climatic variations, integrated pest management, among others).	% increase in average yield of strategic crops	Baseline 2020: 7.6 ton/ha national average. 80% with national effort. Remaining with cooperation	Goal (30) Until 2030, the average yield of strategic crops at the national level (cereals, stimulants, fruit trees, vegetables, oilseeds and industrial, tubers and roots, forages among others) will increase by 60%.	To be defined in the complete project proposal
	Recovery of good practices and ancestral knowledge.				
	Implementation of focused technified irrigation.				
	Strengthening productive capacities through technical assistance				
	Germplasm and seed banks.	Amount of investment in productive resilient infrastructure	Baseline 2020: 517 million bolivianos.	Goal (31) By 2030, 15 billion bolivianos in productive resilient infrastructure. 10 billion with national effort. Remaining with international cooperation.	To be defined in the complete project proposal
	Focused technified irrigation systems.				
	Sheds, stables, livestock enclosures, drinking fountains, feeders.				

Source: Update of Bolivia's NDCs for the period 2021-2030 under the Paris Agreement (MMYA-APMT, 2021).

TABLE 3: ALIGNMENT AND CONTRIBUTION WITH THE SPECIFIC OBJECTIVES AND ADAPTATION MEASURES OF THE NATIONAL PLAN FOR ADAPTATION TO CLIMATE CHANGE OF THE REPUBLIC OF ECUADOR 2023-2027

Obj. NAP Specifics	Implementation Goal to 2027	Indicator	Project
Promote access to and use of historical and future climate and ocean information.	Target 1.1: Enable historical and future climate information to be accessed by 10,000 people. Target 1.2: Conduct 10 training courses/workshops/training for the use/application/interpretation of climate projections.	Indicator 1.1.1: 10,000 people have accessed historical and future climate and ocean information. Indicator 1.2.1: Number of training workshops conducted.	To be defined in the complete project proposal
Orient the Implementation of adaptation measures that reduce climate risk, promoting the gender approach.	Target 3.1: Guide the implementation of measures identified in sectoral climate risk analyses in prioritized adaptation sectors, promoting the inclusion of a gender approach. ▪ Water Heritage; ▪ Food Sovereignty, Agriculture, Livestock, Aquaculture and Fisheries	Indicator 3.1.1: Number of prioritized adaptation sectors that have implemented measures identified from climate risk analyses.	To be defined in the complete project proposal
Integrate change adaptation to the climate change in development planning at the local level.	Target 4.2: 1 guide for mainstreaming climate change adaptation into local development planning.	Indicator 4.2.1: Number of technical guides for incorporating climate change adaptation into local development planning.	To be defined in the complete project proposal
NAP Sector	Recommended actions		Project
Water Heritage	Develop practices of efficient use and distribution and planting of water in the soil in areas with water deficit. Implement sustainable soil management practices that contribute to improving the processes of the hydrological cycle, in basins that present sedimentation problems considering future climate scenarios.		To be defined in the complete project proposal
Food Sovereignty, Agriculture, Livestock, Aquaculture and Fisheries	Expand the coverage of technified parcel irrigation systems (national policy). ▪ Promote rainwater harvesting (practice at producer level). ▪ Encourage the planting of water. Improve the productive financial infrastructure for the development of agricultural activities. ▪ Increase formal access to productive credit. Develop good agricultural practices to improve soil health, optimize soil nutrients and combat pest and weed pressure on crops:		To be defined in the complete project proposal

Obj. NAP Specifics	Implementation Goal to 2027	Indicator	Project
	<ul style="list-style-type: none"> Use of organic fertilizers, in combined and business production systems as a complement to the fertilization process and in productive systems of self-consumption (Peasant Family Agriculture) as the main fertilization practice, through the realization of: compost, bioles, lumbriculture, bocashi, among others. Practices for crop rotation sequentially. <p>Implement programs that promote the development of seed banks resistant to climate variability, considering local biophysical conditions, prioritizing the planting of native crops and including ancestral knowledge (national and local policy - INIAP and academia).</p>		

Source: Ecuador's National Plan for Adaptation to Climate Change (2023)

TABLE 4: ALIGNMENT AND CONTRIBUTION WITH THE ADAPTATION MEASURES OF THE NATIONAL PLAN FOR ADAPTATION TO CLIMATE CHANGE OF THE REPUBLIC OF PERU

Adaptation Measures	Indicator	Baseline	Goal to 2030	Project
CODE. AGU.1 Improvement and construction of reservoirs for the provision of water service for agricultural use in watersheds vulnerable to climate change.	Volume (M3) of surface water stored in reservoirs for the provision of water service for irrigation in basins vulnerable to climate change.	4498,75	4595,75	To be defined in the full project document
CODE. AGU.2 Implementation of interventions related to the planting and harvesting of water for agricultural water security in watersheds vulnerable to climate change.	Volume (M3) of infiltrated water for aquifer recharge in basins vulnerable to climate change	0	To be defined	To be defined in the full project document
CODE. AGU.5 Implementation of technified irrigation systems in watersheds vulnerable to climate change.	Technified irrigation intensity for agricultural production in basins vulnerable to climate change.	7,10%	16,40%	To be defined in the full project document
CODE. AGRI.2 Implementation of soil erosion management and control technologies in areas vulnerable to hazards associated with climate change.	Number of agricultural producers receiving technical assistance to implement soil erosion management and control technologies.	10,260 producers trained per year (2017)	86.732	To be defined in the full project document
CODE. AGRI.5 Productive diversification in crops and breeding with greater vulnerability to climate change.	% of producers who diversify their production systems into crops and breeding with greater vulnerability to climate change.	78% (1.750.335) (INEI 2016).	96,18%	To be defined in the full project document
CODE. AGRI.7 Management of natural grasslands to ensure the feeding of the offspring and reduce their vulnerability to climate change.	Number of hectares of natural grassland managed in areas vulnerable to climate change	5,405,638 ha of natural grasslands of regular condition (2012). Source: UNALM	5,873,638 ha	To be defined in the full project document
CODE. AGRI.14 Implementation of strategic agroclimatic information services for adaptation to the effects of climate change.	% of agricultural producers who access agroclimatic information in the face of the effects of climate change.	1,69% (INEI 2016; INEI 2015a)	4,94%	To be defined in the full project document
CODE. AGRI.15 Implementation of adaptive technological innovation services in the face of climate change in agricultural value chains.	Number of agricultural producers with technical assistance for technological innovation adaptive to climate change in agricultural value chains.	54.916 PEI MINAGRI 2016 - 2018.	101.978	To be defined in the full project document
CODE. AGRI.16 Implementation of business strategies that incorporate the management of risks and opportunities in the face of climate change.	Number of agricultural producers with business plans that incorporate the management of risks and opportunities in the face of climate change in value chains.	20.338 MINAGRI quarterly monitoring reports (2015, 2016, 2017)	32.248	To be defined in the full project document

Source: Peru's National Plan for Adaptation to Climate Change (2021).

F. Compliance of the project with national legislation and standards

101. In all three countries, the project is aligned with existing regulations Table . With agricultural policies and fiscal instruments to favor a more resilient agriculture to the climate. These policies in the countries are favoring good agroecological practices and quality standards for a better adapted agriculture with less environmental impact and that reduces greenhouse gas emissions.

102. Likewise, in the three countries there are policies aimed at maintaining and encouraging the cultural heritage of the Andean inhabitants through their knowledge and their ancestral agricultural practices.

103. The project with its regional scope and its lessons will contribute to the fulfillment of the La Paz Declaration signed on October 30, 2021 in the framework of the VI Meeting of the Bolivia-Peru Binational Ministerial Cabinet, which in its axis 1: environment and resources cross-border water resources, commits the two countries to work on the recovery and appreciation of the traditional and ancestral knowledge and practices of the indigenous or native Peruvian and Bolivian peoples; as well as intercultural dialogue between ancestral and modern sciences and integrate them into the set of risk prevention measures due to climate change, management of natural resources in balance with the environmental functions of the high Andean ecosystems, to guarantee the quality of life of the towns, in the endorheic water system Lake Titicaca, Desaguadero River, Lake Poopó and Salar de Coipasa (TDPS Spanish Acronym). The project will also contribute to the purpose of forming a proactive agenda to strengthen family farming and food security, which is indicated in the Declaration signed by the Ministers of Agriculture of Bolivia, Colombia, Ecuador and Peru at the session of the Agricultural Forum Andino of February 5, 2021, carried out within the framework of the Andean Community. The declaration emphasizes the key role of family farming for the sustained, sustainable and integrated development of the agricultural and rural sector of the Andean countries, the need to promote regional strategies that allow better market conditions for agricultural producers, as well as how to promote family farming with an agroecological approach, recognizing its social, economic, environmental importance and contribution to food security, and take advantage of the opportunities of the Andean subregion to satisfy the growing demand for food worldwide.

TABLE 5. Relevant laws and regulations in each country

<p>In Bolivia, the project is consistent with the following laws and regulations:</p> <ul style="list-style-type: none"> • The updated NDC 2021-2030 (2022). As seen in the alignment analysis carried out in section B, the project would contribute to the implementation of several adaptation measures established in Bolivia's updated CRC document. • Economic and Social Development Plan 2021-2025 (PDES) (2021). It is the axis by which planning in Bolivia is articulated and on which the CRC was also based. Its formulation responds to the objectives of the General Plan for Economic and Social Development for Living Well (PGDES). • Law on the State Planning System No. 777 (2016). Its purpose is to establish the Integral State Planning System (SPIE), which will lead the planning process for the integral development of the Plurinational State of Bolivia, within the framework of Vivir Bien, linking the participation of all levels of government. • Mother Earth Law No 300 (2012). It establishes the norms and foundations of integral development in harmony and balance with Mother Earth to Live Well. • Law No. 338 of 2013, Law of original indigenous peasant economic organizations OECAS and community economic organizations OECOM for the integration of sustainable family farming and food sovereignty. • Risk Management Law No. 602 (2015). It includes risk reduction through prevention, mitigation and recovery and attention to disasters and/or emergencies through preparedness, warning, response and rehabilitation. • National Strategy for Agricultural Risk Management and Adaptation to Climate Change 2017-2020. It seeks to respond and contribute to the fulfillment of national policies and plans, for socio-economic development and Agricultural Sector Plan, through the approach of actions for the prevention and reduction of vulnerabilities to latent and extraordinary risks in the agricultural sector. Currently the strategy is in adjustment of its new version. • Law 2878 - Law for the promotion and support of the irrigation sector for irrigated agricultural and forestry production in Bolivia. Plays a fundamental role in adaptation to climate change by establishing a regulatory framework that promotes sustainable and efficient practices in water management in the agricultural and forestry sector.
<p>In Ecuador , the project is consistent with the following laws and regulations:</p> <ul style="list-style-type: none"> • National Climate Change Strategy (ENCC) 2012-2025 (2021). Guiding instrument of national policy in the medium and long term for the mainstreaming of climate change at the different levels of climate change action. • Government, establishing priority sectors of intervention and lines of action that lead towards a competitive, sustainable and low-carbon economy. • National Plan for Adaptation to Climate Change 2023-2027 (2023). Instrument focused on avoiding or reducing current and future damage caused by climate change, through the proper implementation of adaptation strategies in the territory, in such a way as to contribute to a more resilient economy and society. The project is mainly aligned with adaptation measures in the Food Sovereignty, Agriculture, Livestock, Aquaculture and Fisheries sector, and with the Water Heritage sector. • National Climate Finance Strategy - EFIC (2021). It guides the effective and efficient access, management, allocation and mobilization of international, national, public and private climate finance to promote low-carbon and climate-resilient development, in line with national planning instruments and international climate commitments. • National Agricultural Strategy for Rural Women - ENAMR (2020). Its objective is to provide opportunities for a dignified and peaceful life for rural inhabitants, especially rural women, with access to resources, assets and opportunities. • Specific Plan for Disaster Risk Management of Ecuador 2019 - 2030 (2019). It guides the actions of the State at all levels in the context of the National Decentralized Risk Management System. (SNGRE, 2019). • Organic Law on Agrobiodiversity, Seeds and Promotion of Sustainable Agriculture (2017). It regulates, among other things, models of sustainable agriculture; respecting diverse identities, knowledge and traditions in order to guarantee the self-

sufficiency of healthy, diverse, nutritious and culturally appropriate food to achieve food sovereignty and contribute to Good Living or Sumak Kawsay.

- **Organic Law of the Food Sovereignty Regime (2009)**: Establishes the mechanisms through which the State will guarantee individuals, communities and peoples the self-sufficiency of healthy, nutritious and culturally appropriate food on a permanent basis.

In Peru, the project is consistent with the following laws and regulations:

- **Framework Law on Climate Change - No. 30754** and the **National Strategy for Climate Change (ENCC)** that seek to increase the resilience of the most vulnerable populations.
- **Peru's National Climate Change Adaptation Plan 2021**. Approved by RM 096-2021. The plan is the product of a participatory, multisectoral, multilevel and multi-stakeholder process led by MINAM. It guides the implementation of the NDC measures to be implemented by 2030 to increase resilience and sustainable development. It covers 7 prioritized thematic areas: water, agriculture, fisheries and aquaculture, forests, health, tourism and transport. As noted above, the proposal aligns and is consistent with NDC measures in the thematic areas of water and agriculture.
- **The Risk Management and Climate Change Adaptation Plan of the Agricultural Sector-GRACC-A Plan**<https://www.midagri.gob.pe/portal/download/pdf/especiales/plangracc/plangracc.pdf>. It is a multisectoral document that seeks to reduce climate risks and vulnerabilities, as well as reduce the negative effects of climate change in the agricultural sector, through strategies, policy guidelines and actions agreed with the regions.
- **Law No. 30355 on the Promotion and Development of Family Farming (2015)**. It is a national standard to promote family farming, recognizing its importance for food sovereignty and for the conservation of agrobiodiversity.
- **National Strategy for Family Farming ENAF 2015-2021**. It proposes to guide and organize the integral intervention of the State in favor of the achievement of favorable results for family farmers, within the framework of a commitment to the social and economic inclusion of the rural population.
- **Law No. 3055 of 2015, Law on the Promotion and Development of Family Farming** to improve access to natural, productive, technical and financial resources, support their associativity and their stable and adequate articulation with the market, and guarantee social protection and well-being of families based on sustainable land management.

G. Other funding sources

TABLE 6: PROJECTS WITH WHICH THERE IS POTENTIALLY ARTICULATION, COMPLEMENTARITY AND POSSIBLE COOPERATION⁹²

PROJECT NAME	COUNTRIES AND LOCALITIES INVOLVED	MAIN RESULTS AND/OR ACTIVITIES OF THE PROJECT	MAIN ACTORS INVOLVED.	STATUS AND BUDGET	IMPLICATIONS
Certification of Climate Change Adaptation Portfolios of Inclusive Financial Service Providers for Scaling up Adaptation Finance for Smallholder Farmers (CCA Certificates 4 IFSPs)	<ul style="list-style-type: none"> Global: Colombia and other countries 	<p>Outcome 1.1: Increased investments in Climate Change Adaptation</p> <p>Outcome 2.1: Enhanced knowledge and capacity supported by monitoring and evaluation</p>	<p>Funder: The GEF</p> <p>Implementing Agency: IFAD</p> <p>Executing Agency: BNP Paribas</p>	<p>Status: Project Approved for Implementation. Drafting of Financial agreement among parties is taking place</p>	<p>There is no geographical overlap, but thematic affinity on inclusive financing links both projects, options for cooperation will be explored.</p>
Regional Project Andes Resilient to Climate Change.	<p>Countries: BOLIVIA, ECUADOR and PERU.</p> <p>Departments or Provinces:</p> <ul style="list-style-type: none"> Departments of La Paz and Cochabamba in Bolivia. Provinces of Cotopaxi, Azuay, Chimborazo and Bolívar, in Ecuador. <p>Departments of Cusco and Puno in Peru.</p>	<p>Outcome 1: National and subnational climate change adaptation policies strengthened and implemented with priority in vulnerable rural poor populations of the Andes.</p> <p>Outcome 2: Good practices for adaptation to climate change strengthen the food and water security of rural Andean women and men in poverty and vulnerability and are scaled up.</p> <p>Outcome 3: Progress in adaptation measured with adequate and gender-sensitive indicators allows transparent reporting on the effectiveness of policies and measures implemented.</p> <p>Outcome 4: Andean regional learning on climate change adaptation with a pro-poor approach, highlighted and shared globally</p>	<p>Funders: Swiss Agency for Cooperation and Development-SDC</p> <p>Executing entity: HELVETAS Swiss Intercooperation-AVINA Foundation Consortium</p> <p>Counterparts: Ministries of the Environment, Agriculture and Governing Agencies on climate change, and on economic and social inclusion of Bolivia, Ecuador and Peru.</p>	<p>Status: In execution, phase 1 (May 2020- July 2024). To be designed, phase 2 (August 2024-July 2028)</p> <p>Budget: Phase 1: Total CHF 4'850,000 Phase 2: Total CHF 4'000,000</p>	<p>There is geographical coincidence and thematic affinity. The second phase plan of Resilient Andes will give more strength to the support and accompaniment in the implementation of improved policies in local territories.</p> <p>Articulation between both projects will be ensured, to achieve complementarity and synergies that enhance their results.</p>
Regional Project "Building climate services and adaptive capacities in the Andes-ENANDES +". Phase 1.	<p>Countries:</p> <ul style="list-style-type: none"> COLOMBIA, PERU, CHILE within the framework of ENANDES. ARGENTINA, BOLIVIA AND ECUADOR, INTEGRATED WITHIN THE FRAMEWORK OF THE Swiss contribution, ENANDES +. 	<p>Outcome 1: Strengthened capacities of National Hydrometeorological Services and Regional Climate Centres to produce and communicate weather, water and climate information and services.</p> <p>Outcome 2: Strengthened institutional coordination, tools and processes that add value and "translate" information from services in weather, water and climate, into usable knowledge and services.</p> <p>Outcome 3: Institutions and stakeholders co-design and implement local activities to demonstrate greater resilience and adaptation to climate variability and change, through the use of information from services in Weather, Water and Climate.</p> <p>Outcome 4: Improved regional coordination and planning: (i) generates positive synergies, (ii) strengthens human capacities, and (iii) synthesizes lessons learned that facilitate scaling up and replication in other contexts.</p>	<p>Funders: Adaptation Fund and Swiss contribution from SDC.</p> <p>Implementing Agency: World Meteorological Organization.</p> <p>Counterparts and direct beneficiaries: National Meteorological Services, Ministries of the Environment, Ministries of Agriculture and Disaster Risk Management Offices.</p>	<p>Status: In execution, phase 1 (July 2022 – September 2026).</p> <p>Budget: Total: CHF 13'332,250 CHF 7'432,250 (56%) UN Adaptation Fund. CHF 5'900,000 (44%) SDC contribution.</p>	<p>There is geographical coincidence at the country level (Peru, Bolivia and Ecuador), and there are strong thematic links between ENANDES and the proposal. There will be coordination and exchange of information to ensure articulation and synergies. While ENANDES focus on the hydrometeorological components, the proposed project will focus on agrometeorological components and the linkages with agricultural extension systems.</p>

⁹² In order to avoid duplication risk, for projects that have geographical coincidence and/or thematic affinity, at final proposal design stage, consultations will be held with these projects to ensure that there is no overlap in the design and implemetnation of the project. In addition, among the functions of the Project Coordinator, it will be proposed that he/she has periodic meetings with the coordinators of other initiatives. In the case of Andes Resilientes, being the implementing consortium of both projects, it will ensure that there is no duplication. The consortium has experience in this regard.

Resilient Puna: Ecosystem-based approaches for sustainable high Andean communities and ecosystems in Peru.	Country: PERU. Departments: <ul style="list-style-type: none"> Arequipa, Cusco, Apurimac and Puno. Districts: <ul style="list-style-type: none"> 91 districts in total. 48 districts prioritized by the presence of glaciers, wetlands, high pressure on the ecosystem and high number of camelids. 43 districts will benefit from capacity building, pre-investment support and technical assistance. 	Component 1: Puna ecosystems and climate-resilient agribusiness at the local landscape level. <ul style="list-style-type: none"> Product 1.1. Investments for adaptation based on EbA ecosystems and climate-resilient value chains. Product 1.2. Recovery of ancestral knowledge and practices and local monitoring committees and observation systems. Component 2: Public and private financing for EbA measures and climate-resilient agribusiness. <ul style="list-style-type: none"> Product 2.1. Access to financial schemes and markets for EbA measures and resilient agribusiness. Component 3: Integrated landscape planning, and governance platforms. <ul style="list-style-type: none"> Product 3.1. Climate landscape plans and coordinated actions between stakeholders in target landscapes. 	Funders: Green Climate Fund. Accredited implementing agency: GIZ Leading entity: Ministry of Agrarian Development and Irrigation (MIDAGRI). Executing partners: PROFONANPE and GIZ Peru. Technical and facilitating role: Ministry of the Environment. Direct beneficiaries: smallholders, high Andean communities, producer associations.	Status: Concept note approved by the GCF (2021) and full proposal under development (2022-2023). Budget: Total, EUR 77.33 million GCF: EUR 36.55 million. National, regional and local governments, NGOs and producer associations: EUR 40.78 million.	During the development of the complete proposal, communication and exchange of information will be ensured to avoid duplication and promote complementarity and joint action of activities in Cusco and Puno.
AVANZAR RURAL.	Country: PERU. Departments: Amazonas, Ancash, Cajamarca, Lima and San Martín. Districts: <ul style="list-style-type: none"> 101 districts. 	Component 1: Sustainable use of natural resources in rural business development. Component 2: Sustainable and inclusive rural business development. Component 3: Capacity development and knowledge management. Component 4: Project Administration and Management.	Funders: IFAD and Government of Peru. Executor: Ministry of Agrarian Development and Irrigation, through the AGRORURAL Program.	Status: running (September 2020-December 2025) Budget: US\$ 71,495,000 total. IFAD: 33.5%. Government: 57.5%. Users: 9%.	There is no geographical overlap, but thematic links. Coordination will be ensured so that their learnings are shared with the project.
MERCAGRO.	Country: PERU. <ul style="list-style-type: none"> It will include Andean areas. 	In design. At the concept note level, the following components have been proposed: Component 1: Implementation of marketing infrastructure and animal benefit. Component 2: Extension services for the improvement of the commercialization of agricultural products in national and international markets. Component 3: Knowledge Management	Funders: IFAD. Executor: Ministry of Agrarian Development and Irrigation	Status: in design. The project design is expected to be approved by IFAD's Executive Board by the end of 2023.	Communication and exchange of information will be ensured to establish possible links in case there are geographical and thematic coincidences.
ACCESOS, SECOND PHASE.	Country: BOLIVIA. Departments: Chuquisaca, Cochabamba, La Paz, Oruro, Potosí and Tarija. Municipalities: <ul style="list-style-type: none"> 45 municipalities in total. 24 from the valleys of Chuquisaca, Cochabamba, La Paz, Potosí and Tarija. 15 in the Altiplano in the departments of La Paz, Oruro and Potosí. 5 municipalities in the Chaco region, in Chuquisaca and Tarija. 1 Municipality of Yungas in the department of La Paz. 	Component 1: Sustainable and climate-resilient production systems of smallholder farmers, and income diversification through rural entrepreneurship. <ul style="list-style-type: none"> Subcomponent 1.1. Support for the construction of resilient infrastructures and protection of water sources. Subcomponent 1.2. Adaptation of key agricultural production systems. Subcomponent 1.3. Development of non-agricultural opportunities. Component 2: Management of resilience and adaptation to climate change by producers, governments, and aid institutions. <ul style="list-style-type: none"> Subcomponent 2.1. Support for MDryT climate services to reduce the country's vulnerability to climate change. Component 3: Administrative management	Funders: IFAD (USD 23 million. 31.6%), OFID (USD 25 mill. 34.4%), the Government of Bolivia (USD 8.4 thousand. 11.6%), the Autonomous Municipal Governments (USD 4.1 mill. 5.6%) and the beneficiaries (USD 12.2 thousand. 16.8%). Executor: Ministry of Rural Development and Lands. Direct beneficiaries: rural smallholders	Status: In implementation (2022-2027). Budget: Total: USD 72.7 million. Component 1 (81.2%). Component 2 (11.4%). Component 3 (7.4%).	The project began implementation at the end of 2022. There is coincidence in highland territory, but not in municipalities. There are thematic links. During the development of the full proposal, it will be coordinated to establish exchange and cooperation.
FRONTERA AGROECOLOGICA	Country: BOLIVIA. Municipalities: the municipalities that will be prioritized for implementation	Component 1: Promotion for territorial agroecological transitions and integral farms with a focus on adaptation to climate change. Component 2: Development of markets for agroecological products.	Funders: IFAD - AFD Executor: Ministry of Rural Development and Lands, and APROCAM.	Status: In process of design. Expected for approval by the end of 2023	It will cover highland border municipalities, the ecosystem in which the project will be concentrated in Bolivia. At the

	are under evaluation. Consider altiplanic zone.	Component 3: Strengthening capacities and enabling conditions towards sustainable agri-food systems.			stage of development of the full proposal will be coordinated to examine articulations and cooperation.
EMPRENDER	Country. ECUADOR. Province: Imbabura and Carchi.	Component 1. Territorial productive planning for the development of agribusiness. Component 2. Specific services for the strengthening of agribusiness (production and marketing systems, business management of organizations of entrepreneurs and rural MSMEs articulated to small-scale producers. Component 3. Project management, planning, monitoring and evaluation.	Funders: IFAD. Executor: Ministry of Agriculture and Livestock.	Status: Will start in 2024. Budget: Total US\$ 26,579 mill. IFAD: US\$ 20 mill. Government of Ecuador US\$ 5 mill. Beneficiaries US\$ 1,579 million in kind.	Communication and exchange of information will be ensured to establish possible thematic links around services for the strengthening of agribusiness from a sustainability and resilience perspective.
Andean Landscapes Project	Country. ECUADOR. Province: Cotopaxi, Bolívar, Pichincha and Indabura.	Component 1. Strengthen governance and public policies for Sustainable Land Management – SLM. Component 2. Implement mechanisms for conservation, restoration and sustainable land management in productive and forest landscapes. Component 3. Encourage increased productivity in sustainable value chains through improved rural extension, marketing and financial services.	Funder: European Union Executor: Ministry of Environment, Water and Ecological Transition, Ministry of Agriculture and Livestock and FAO	Status: Effective until September 2025	There is territorial coincidence with the provinces of Cotopaxi and Bolívar. There is thematic closeness with its component 3. Exchange will be established to learn about their experience and learning, and see how to assimilate them into the project.
Subsidized agricultural insurance for small and medium producers vulnerable to climate change.	Country. ECUADOR. Project at national level (all regions, zones, provinces and cantons of Ecuador)	Includes: ▪ Dissemination and training on the agricultural insurance system as a mechanism for transferring climate and biological risk. ▪ Subsidy for the acquisition of agricultural insurance policies for climate vulnerability according to areas, crops, breeding and producers.	Executor: Ministry of Agriculture and Livestock (MAG) Beneficiaries: (a) 102,842 small and medium-sized agricultural producers (b) 17,309 small and medium-sized livestock producers Total: 120,151	Status: Current (2022 – 2025)	Within the framework of component 2 of the regional project proposal, it will be coordinated with the MAG so that the families using the project can access agricultural insurance.

H. Knowledge and learning management

116. Knowledge management will take place horizontally at two levels: among farming families, including women and youth participating in the project, making use of participatory methodologies of sharing knowledge from farmer to farmer or field schools. And at the level of rural extension systems and Ministries of Agriculture in the countries. These knowledge management mechanisms will serve to exchange points of view and experiences among project participants in a country, but also between the three countries through virtual meetings and visits to sites of interest, as well as shared workshops to work on the different topics addressed by the project.
117. There will also be knowledge management mechanisms that will establish a dialogue between farmers and their knowledge and practices, including ancestral and indigenous knowledge and the more technical and academic knowledge of agricultural extension workers and the Ministry of Agriculture. These more vertical processes of exchange of experiences and knowledge will serve for farmers to share their knowledge during the development of rural extension instruments and tools developed with the project.
118. Finally, the project will facilitate an exchange between the actors of the 3 participating countries, in regional processes of exchange of experiences and knowledge.
119. The exchange will also place emphasis on strengthening capacities, knowledge and skills of certain disadvantaged groups to reduce gender and generational gaps, also considering interculturality, and will encourage better participation, involvement in decision-making processes and leadership of women and youth.

I. Consultative process and compliance with environmental and social standards, policies and safeguards, including gender considerations of the Adaptation Fund

120. Consultations were carried out with local actors in a group of localities prioritized for intervention in each country. In Bolivia in the municipalities of Caquiaviri in the department of La Paz and Caracollo in the department of Oruro. In Ecuador in the cantons Salcedo of the province of Cotapaxi and Patate of the province of Tungurahua. In Peru in the districts of Acora and Ilave, in the department of Puno; and Quiquijana, from the department of Cusco. The consultations included interviews with local government authorities and officials, and representatives of public and private institutions with local presence, and focus group meetings with community authorities, leaders of producers' associations, and community leaders (see Annex 1).
121. The main elements addressed in the local consultations were:
 - Characteristics and risks of the livelihoods of beneficiary population
 - Institutionality, social organization, gender and youth
 - Access to climate information and knowledge on climate risk reduction practices
 - Training and technical assistance, access to credit and insurance
 - Linkage with project activities, agricultural production, water resources, local knowledge management
122. Climate risks worry farmers, mainly droughts and floods are frequent, although frosts and strong winds are also highlighted. Not only drought is a concern, but changes in rainfall patterns, high temperatures and periods of drought within the growing season. These affect productivity, yields and in some cases generate crop losses. Livestock are also affected by lack of water, high temperatures and frost. The low productivity is explained by, especially, droughts, which affect the feeding of livestock, since it is not only brew but also fodder. In addition to drought, frost poses another significant climatological threat. With rising temperatures, the likelihood of frost diminishes. However, when it does occur, it can drastically alter the economic landscape of communities in just a matter of days. It was also mentioned that migration increased as an effect of climate change, as well as the appearance of diseases in farm animals.
123. As for the social organizations present in the territory (local NGOs, women's associations, others) they support both agricultural production and advocacy and representation work with local governments and also the preparation of local fairs where agricultural production is presented and promoted. There was a good participation of women in the workshops, however the lack of participation of young people was widespread.
124. Local consultations confirmed the need to improve climate services for farmers' decision-making, many of them lack these services and if they have access to climate information, it is very general or difficult to read and interpret for decision making. Farmers require information that suits their forecasting and decision-making

needs at key moments of the growing season. In addition, they require that their capacities be strengthened through training and greater involvement in decision-making.

125. As for other technical assistance services and financial services these are largely absent, there are technical assistance services through government programs but they are sporadic, they occur while the programs are in force and then other programs appear, it is not given systematically. In the case of Peru, experiences in linking markets and developing value chains are highlighted, in Bolivia the programs have been aimed at strengthening the organization and some prioritized crops, while in Ecuador technical assistance programs have prioritized technological aspects of organization and access to markets.
126. In terms of financial and insurance services in all three countries, low levels of access to rural finance services, both credit and insurance, are common; it was also observed that there is little access to financial education, and lack of information on how to access.
127. The local consultations also highlighted the need to make a better management of water resources, improve access to water sources and in some cases improve infrastructure for water storage, rainwater capture and reservoirs, also highlights the need to strengthen the capacities of farmers themselves for better management of their ancestral knowledge.

J. Justification of the requested funding.

128. The project is needed to strengthen the adaptation and resilience capacities of family farming in rural communities in the Andes of Bolivia, Ecuador and Peru. As described at the beginning and highlighted throughout the document, family farming is very vulnerable to climate change, which puts at risk agricultural production destined for local, national markets and in some cases international value chains, putting at risk the food security of large segments of the population in the countries.
129. With an investment of US\$ 14 million, work will be carried out with 6,000 family farming households, which implies an investment of US\$ 2,333 per household to strengthen both the agricultural production of these households and strengthen their capacities to face the challenges of climate change, structurally improve access to climate services but also technical and financial assistance services. In the project design phase it is expected to work on an economic model to estimate the Internal Rate of Return (IRR) of the investment.
130. This project will improve the conditions for a resilient development of family farming to strengthen capacities of both public and private actors, adding to the project sustainability, but also to improve the conditions of actors to access services that strengthen their resilience and adaptive capacity to take advantage of changing conditions in agricultural market niches and to face the growing risks of climate change. In this context, the project will mainly strengthen the role of women and youth in the development of agricultural activity, including better access to markets for agricultural products and better access to financial and non-financial services for agriculture.
131. Through this project, it is expected to develop a cost-effective model of resilience of family farming that integrates components of organizational development, climate and technical assistance services and improved capacities of farmers, in articulation with public and private actors that provide services in the area prioritized by the project. It is hoped that this refined model of climate resilience can later be used by the Ministries of Agriculture to strengthen policies and technical assistance activities for family farming.

K. Sustainability of results.

132. Financial, institutional, social and technological aspects and innovation determinants of the sustainability of the project have been identified.
133. Regarding the financial aspects, the project has been involved from the beginning and also contemplates the participation of the Designated National Authorities in climate funds such as the Adaptation Fund in the steering committee of the project, which will promote that the project is an integral part of the climate financing strategies in the agriculture sector of the three countries. In addition, the synergy between the project and other IFAD interventions in the three countries is being reviewed and with a second phase of the Resilient Andes project funded by Swiss Cooperation.
134. In terms of institutional aspects, the participation of the Ministries of Agriculture and their rural extension systems will be key to ensuring the sustainability of the results of the project over time. This will be achieved

through the participation of the Ministries of Agriculture in the steering committee of the project, as well as the accompaniment of the Ministries of Agriculture to the key activities of the project.

135. The involvement of the Ministries of Agriculture of the three countries and their own extension systems in monitoring the project is a key aspect for the sustainability of the project and for developing potential scaling up strategies.
- Demonstrate to country Ministries of Agriculture and their rural extension systems that climate resilience practices can be cost-effective. An important element in this regard is to demonstrate to extension and innovation systems the importance and concrete benefit of integrating climate change considerations into local production practices.
 - The project will also develop the technical tools needed for the dissemination of climate-resilient adjusted agricultural practices.
 - The project will demonstrate, based on evaluations of the production system, how a resilience approach contributes to maintaining crop yields and making agricultural production safer.
136. There are also social aspects that are taken into account to ensure the sustainability of the project considering that the project aims to strengthen the capacities of family farming in the three countries. On the one hand, the strengthening of grassroots organizations, in terms of their advocacy and accompaniment capacities will be a relevant factor, in this process it will seek to promote a focus on gender equity and generation with the participation of women and young people in decision-making processes. The involvement of disadvantaged individuals and families will also be sought to promote greater social equity.
137. In terms of technological and innovation factors, the project seeks to generate true technology transfer and strengthen the capacities of local actors for both technological and organizational innovation. The project will use knowledge management and innovation techniques that draw on decades of experience in field schools and farmer-to-farmer training methods, ensuring the sustainability of these innovation processes over time.

L. Summary of the environmental and social impacts and risks identified as relevant to the project

The environmental and social impacts and risks identified during the assessment highlight the following:

138. The preliminary environmental and social risk is classified as B. This category is based on the fact that the project could i) be implemented in areas where there is a presence of indigenous populations, because the project will work mostly with small producers in indigenous communities who have their own knowledge and skills. The project will implement and strengthen free, prior and informed consent (FPIC) processes according to local governance systems, as well as processes related to the planning and execution of projects and ventures that respond to the requirements and plans for the integral development of indigenous peoples; the actions of the project will avoid territories in conflict.
139. Some moderate risks have been identified at this concept note stage because the project could (a) involve or lead to procurement through primary suppliers of natural resource materials; b) involve or lead to the release of pollutants into the environment due to routine or non-routine circumstances with the potential for adverse local, regional and/or transboundary impacts; (c) involve or lead to non-environmentally sustainable primary production of living natural resources; d) involve or lead to participation in forestry areas, including the exploitation of natural forests, the development of plantations and/or reforestation; (e) be located in an area that is or has been contaminated by an external source; (f) financing activities linked to livestock farming – extensive and intensive systems and animal products; (g) involve or lead to the use of tangible and/or intangible forms of cultural heritage for commercial or other purposes; (h) operate in a value chain where there have been reports of forced labour; (i) involve children below the nationally defined minimum working age or above the nationally defined minimum working age, but below the age of 18 in supported activities or value chains.
140. During the final design phase, other environmental and social considerations will be verified, which at this stage cannot be determined with the information available. If these considerations are verified, the respective management measures will be incorporated, the necessary information will also be provided to the project executors and the tools and procedures will be established to avoid that, through the proposed actions, environmental and social safeguards are breached. Therefore, in the design stage of the project, the risks will be reviewed and analyzed again, with more specific information that is raised in the field visits to be carried out, in each of the locations planned for intervention in the three countries.

141. The project will develop an Environmental, Social and Climate Management Plan, incorporating the measures to manage the determined risks, allocating the necessary resources for its implementation.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>	X	
<i>Access and Equity</i>	X	
<i>Marginalized and Vulnerable Groups</i>		X
<i>Human Rights</i>	X	
<i>Gender Equity and Women's Empowerment</i>		X
<i>Core Labour Rights</i>		X
<i>Indigenous Peoples</i>		X
<i>Involuntary Resettlement</i>	X	
<i>Protection of Natural Habitats</i>	X	
<i>Conservation of Biological Diversity</i>	X	
<i>Climate Change</i>	X	
<i>Pollution Prevention and Resource Efficiency</i>		X
<i>Public Health</i>		X
<i>Physical and Cultural Heritage</i>	X	
<i>Lands and Soil Conservation</i>		X

PART III: ARRANGEMENTS FOR PROJECT IMPLEMENTATION

M. Actors, roles and instances of governance of the project.

142. PROJECT GOVERNANCE INSTANCES, ROLES AND RESPONSIBILITIES.

N. Alignment of project components with the strategic results framework of the Adaptation Fund

The project components are aligned with the strategic results framework of the AF, as shown below:

TABLE 7: ALIGNMENT OF THE PROJECT WITH THE STRATEGIC RESULTS FRAMEWORK OF THE ADAPTATION FUND

Project objective(s)	Project objective indicator(s)	Results of the Fund	Fund performance indicator
Objective: to increase the resilience to climate change of the productive systems of small Andean family farmers vulnerable to climate change, in prioritized areas of Bolivia, Ecuador and Peru	Number of direct beneficiaries of the project.	Impact: Increased resilience at community, national and regional levels to climate variability and change.	
Project Outcome(s)	Project result indicator(s)	Results and Outputs of the Fund	Fund performance and output indicator
Outcome 1.1 Enhanced agricultural decision making facilitated by improved access and use of climate information systems	Number of producers (men, women and youth) who make use of climate information systems for climate risk management in their crops, breeding and enterprises.	Outcome 1: Reduced exposure to climate-related hazards and threats. Output 1.2: Target population groups covered by appropriate risk mitigation systems.	1. Relevant information on threats and hazards generated and disseminated in a timely manner to interested parties. 1.2.1. % of the target population covered by appropriate risk mitigation schemes

		Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning.	3.2.2 Number of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders.
Outcome 1.2. Enhanced agricultural extension systems on climate change adaptation solutions in Andean agricultural production systems.	Number of institutions that adapt their technical assistance services to advise and train in the implementation of climate change adaptation solutions in Andean agricultural production systems. Number of personnel trained to provide technical assistance services for climate change adaptation solutions in agricultural production systems.	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socio-economic and environmental losses Output 2.1: Strengthened capacity of national and subnational centres and networks to respond rapidly to extreme weather events	2.1. Increased capacity of staff to respond to and mitigate the impacts of climate-related events of selected institutions 2.1.2 Number of target institutions with greater capacity to minimize exposure to climate variability risks (by type, sector and scale)
Outcome 1.3 Climate resilience facilitated by improved development planning and integrated adaptation solutions for Andean agriculture.	Number of local governments that incorporate change adaptation actions and projects in their local development planning and management instruments, in accordance with their needs and in alignment with the country's NDCs.	Outcome 7: Improved policies and regulations that promote and enforce resilience measures Output 7.1: Better integration of climate resilience strategies into countries' development plans	7.1 Climate change priorities are integrated into the national development strategy 7.1.2 Number of specific development strategies with built-in climate change priorities
Outcome 2.1. Increased access to suitable rural financial services for climate change adaptation solutions.	Nº of innovative and diversified financial services and products to finance climate change adaptation solutions in agricultural production and rural businesses of small producers of Andean family farming.	Outcome 4: Increased resilience within relevant development sector services and infrastructure assets . Output 4.1: Vulnerable development sector services and strengthened infrastructure assets in response to climate change impacts, including variability.	4.1. Responsiveness of development sector services to the needs arising from a changing and changing climate. 4.1.1. Number and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale).
Outcome 2.2. Climate change adaptation solutions implemented and scaled up in Andean agriculture.	Number and % of producers (men, women and youth) who know and apply appropriate change adaptation responses.	Outcome 3: Increased awareness and ownership of adaptation and climate risk reduction processes at the local level. Outcome 8: Support the development and dissemination of innovative adaptation practices, tools and technologies. Output 8.1: Viable innovations, effective and efficient adaptation technologies are implemented, scaled up, encouraged and/or accelerated	3.1. % of target population aware of expected adverse effects of climate change and appropriate responses 3.2. % of the target population implementing appropriate change adaptation responses. 8.1 Implement, scale-up, encourage and/or accelerate innovative adaptation practices at regional, national and/or subnational levels 8.1.2. Number of key findings on effective adaptation practices, products and technologies generated.
Outcome 3.1 Producers (men, women and youth), communities and organizations of Andean family farming have, make use and disseminate knowledge and practices for climate resilience.	Number of households that improve their yields and reduce losses related to climate change and variability. % of households strengthening and diversifying their livelihoods to cope with climate risks.	Outcome 6: Livelihoods and sources of income of vulnerable people are diversified and strengthened in targeted areas Output 6.1: Specific individual and community livelihood strategies are strengthened in relation to climate change impacts, including variability	6.1 % of households and communities with more secure access to livelihoods 6.2. % of the target population with sustainable and climate-resilient alternative livelihoods 6.1.1. Number and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

- A. Record of endorsement on behalf of the government⁹³** *Provide the name and position of the government official and indicate date of endorsement for each country participating in the proposed project/programme. Add more lines as necessary. The endorsement letters should be attached as annexes to the project/programme proposal.*

Angel Sandoval, Climate Change Undersecretary, Ministry of the Environment, water and Ecological Transition, Ecuador	Date: May, 06, 2024
Carlos David Guanchalla Terrazas, Viceminister of Planning and Coordination, Ministry of Development and Planning, Bolivia	Date: November, 6, 2023
Milagros Sandoval Diaz, Head of the General Directorate of Climate Change and Desertification, Ministry of Environment, Peru	Date: January, 19, 2024

- B. Implementing Entity certification** *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to <u>implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Implementing Entity Coordinator Ms Janie Rioux Senior Technical Specialist – Climate Change- AF coordinator	
Date: July, 04, 2024	Email: j.rioux@ifad.org
Project Contact Person: Mr Oliver Page, Regional Climate Change and Environmental Specialist, LAC	
Email: o.page@ifad.org	

⁹³ Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

Annex 1: Summary of local consultations in Bolivia, Ecuador and Peru

Logistical details of the consultations: Consultations with local actors from prioritized territories in Ecuador, Bolivia and Peru took place between April 27 and May 11, 2023, according to the following detail:

Country	Date	Type of query	Territory / Institution	Details of participants
Peru	27/04/2023	Multi-stakeholder face-to-face workshop	- Ácora (province and department of Puno) - Ilave (El Collao province, Puno department) - Quiquijana (Quispicanchi Province, Cusco Department)	Face-to-face workshops were held with 9 social actors from the districts of Ácora (province and department of Puno), Ilave (province El Collao, department of Puno), Quiquijana (province of Quispicanchi, department of Cusco). The consultations were conducted with focus groups in each of the districts.
		Face-to-face interview with institutional actors		Individual interviews were conducted with 4 institutional actors from the 3 districts, including municipal authorities, who participated accompanied by several officials from their institutions.
Bolivia	02/05/2023	Multi-stakeholder face-to-face workshop	Municipality of Caquiaviri and Municipality of Caracollo	It was attended by 6 people from the municipality of Caquiaviri (Department of La Paz) and 10 people from the municipality of Caracollo (Department of Oruro)
Ecuador	09/05/2023	Multi-stakeholder face-to-face workshop	Cotopaxi Province: Salcedo Canton	6 people attended, including: actors from territorial offices of the central government; representatives of rural extension organizations and actors of farmers' associations.
	10/05/2023	Multi-stakeholder face-to-face workshop	Tungurahua Province: Patate Canton	The workshop was attended by 17 people, including: government representatives (MAATE and MAG), provincial and parish GAD, Fondo de Páramos, associations of agricultural producers, water management associations.
	11/05/2023	Virtual interview with local technicians	Ministry of Agriculture and Livestock (MAG)	With the support of the MAG, a virtual interview was conducted with six territorial technicians from prioritized territories, both from the MAG and the National Institute of Popular and Solidarity Economy (IEPS).

The following is a systematization of the main aspects surveyed during the local consultations in the three countries:

Topic consulted	Answers
<i>General characteristics</i>	Poverty is the greatest urgency in the family farming sector, which is not only dedicated to agriculture as its only economic source, but seeks to diversify its sources of income and livelihoods through entrepreneurship. In many cases subsistence agriculture is practiced.
<i>Main products and value chains</i>	In Peru , the actors of prioritized territories highlighted the production of milk and cheese as the main derivative, but the low productivity is notorious. Cattle fattening was also mentioned as a "business activity" in which more profit is expected. Then the breeding and commercialization of alpaca. Agricultural activity, led by quinoa, followed by potatoes and other tubers, is not large, hooked to value chains, which allow buyers' markets, beyond district capitals and department capitals. In Bolivia it was mentioned: i) <u>livestock</u> of camelids with the production of fresh meat, charque, and handicrafts with fabrics, sheep take advantage of meat, wool and milk, and cattle production of milk and cheese; ii) <u>agriculture</u> have production of tubers such as potatoes and goose, in cereals with the production of quinoa and cane; in vegetables, mainly onion; iii) <u>tourism</u> through promotion and visits to the chullpas (old funeral tower of Aymara and Quechua origin) in the area, and visits to the colonial churches that exist in the municipality; iv) <u>stucetuary</u> taking advantage of the existing quarries and, they also have two copper mines, adjacent to other municipalities, some of them are venturing into mining activity. In Ecuador , in addition to agricultural products such as strawberry, strawberry, blackberry, apple, tangerine, corn and avocado, some ventures focused on cheese, ecotourism, trout, honey, among others, are mentioned.
<i>Climate risks</i>	The impacts of climate change are felt as a reality very close to all the territories that were consulted, especially in changes in temperature and precipitation, intense rains, frosts and hailstorms destroy crops. Another danger is sudden changes in climate, very strong heat waves are mentioned that burn the plants, dry the seeds dry and drought occurs that reduces the amount of water in the rivers and in the basins on which they depend.
<i>Main effects</i>	The greatest impact is the loss of crops, especially potatoes, the loss of fodder and grains; The native grasslands, their pastures and grasslands are lost and reduced. Livestock and other animals are lost because of the drought. In very strong or occasional events, they have suffered the loss of people and animals due to lightning strikes. Impacts on health, on the roles of men and women, young people and the elderly are mentioned. High mortality of baby alpacas and calves is also mentioned. The impacts of climate change are also causing a stronger reliance on agrochemicals as they cause diseases and pests on crops that hinder farmers' ability to have organic practices.
<i>Adaptation actions by the government</i>	Local government interventions are known to prevent risks, but almost always as responses to the events that occur. There are also early warning systems, tools have been delivered and there are several projects, but more support is still needed.
<i>Social organization of the community</i>	The rural population in Peru and Ecuador is organized fundamentally following what the regulations indicate in rural areas, with the known political perspective, partialities, peasant communities, populated centers and districts. In Peru the communal organization is through the board of directors, lieutenants, sector chiefs, judge. Qualified community members decide on the

Topic consulted	Answers
	community's land, often unfairly. In Bolivia it was mentioned in greater detail that the traditional form of organization of the municipality is ayllus and markas, these are organized by communities, ayllus and municipality, Caquiaviri is composed of 16 markas, 15 markas are original and one marka (Tupac Katari) is union. Normally they have meetings every end of the month (Tantachawi), some communities meet every 15 days, or when they need to do extraordinary meetings. They also have educational councils, which are in charge of the District Directorate and meet when they have topics or matters to discuss; On the other hand, the Board of Neighbors is recognized, with its deputy mayors, who convene the meetings of their markas.
<i>The role of women and youth</i>	There was a good participation of women and young people in the consultations. In Peru there is an effective presence of women. His role is decisive as a leader of producer organizations and their communities. They are involved in almost all the economic activities mentioned. The presence of young people is lower. Women's involvement in production, commercial and water management is high. Leaders of economic organizations are observed. It is observed that a representative average is 70% of women's participation. The presence of young people is minimal in general. In Bolivia it was mentioned that the participation of women is fundamental, it must be egalitarian as a chacha-warmi relationship (man-woman), the social function must be fulfilled, basically, by the recognition of the right to own their lands. They participate equally, but some authorities (men) exercise machismo, since they still believe that women do not have to give their opinion or make decisions, but it does not happen in all the markas of the municipality. Young people also participate in the meetings and can issue their criteria, according to the regulations of each marka, the authorities or those who direct are the jachas (elder), who often discriminate, mainly with women. In Ecuador , it was mentioned that the men of the community have migrated in search of employment opportunities, which means that agricultural activity falls mainly on women, young people, and the elderly. It is said that men usually return mainly for sowing and harvesting.
<i>Access to climate information</i>	It is perceived that the available climate information has a high degree of complexity, and therefore, is distant from the reality of the territories. There is no clear information on the impacts of climate change on social indices, such as poverty, unemployment, child malnutrition, nor is there an influence of the urgency of this information on state investment relevant to the agricultural sector. Some communities only access information about climate predictions through radio; However, it is not entirely reliable; Before it was possible to rely on weather conditions to make predictions, now, it is no longer possible. In Peru, the role of the Agroclimatic Management Platform was highlighted, where the transmission of fluid and valuable information through WhatsApp is appreciated, with messages that come from the producers of the upper zone; There is a lot of information exchange through that medium.
<i>Access to information on adaptation practices</i>	It was mentioned that more technical knowledge is required, however, ancestral knowledge and practices were highlighted, although it was also recognized that they are practiced in a very limited way and are being lost.
<i>Training and technical assistance for adaptation</i>	It was mentioned that local governments and some rural extension organizations present in the localities provide training workshops, but it is not enough.
<i>Access to financial services</i>	Access to credit is key to the diversification of family farmers' livelihoods, but there is still a very limited percentage of farmers who can access it for reasons of formalization of their organizations and lack of information to understand how credits work. Access to benefits such as credit and agricultural insurance is interpreted as a service that is being focused on farmers with greater capacity, and that is not accessible to small farmers.
<i>Access to Agricultural Insurance</i>	Although the governments of the three countries offer agricultural insurance, this information is not known by farmers' associations, who do not benefit and request that these benefits can be better socialized at the community level.
<i>Implementation of adaptation actions</i>	It was mentioned that they protect the basins that function as water reservoirs to supply livestock, clean rivers, protect the water source with meshing, harvest rainwater, make use of firecrackers against hailstorms, burning straw when frost comes or blowing to protect crops. In Bolivia some communities practice fasting or wajtas to call the rain. There are also some projects that support some communities in drilling wells, but there are no measures or actions to protect the water when these wells dry up, the community is not doing anything now. They need to do reforestation with native species.
<i>Interest in the proposal</i>	In the three countries it is perceived that there is interest in the implementation of a project on adaptation to climate change that can reduce water pollution, improve soil fertility, increase sustainable access to water, vegetable production and organic Andean crops, without the exaggerated use of agrochemicals since these in turn pollute arable land and contaminate the water table in the subsoil. There is also interest in accessing climate information related to potential impacts on ventures in the agricultural sector.

NOTE: There is a detailed report on the systematization of consultations for each country, which could be provided to the Adaptation Fund, but which was not included in the submission of the Concept Note.

List of local actors consulted in Bolivia, Ecuador and Peru

ECUADOR

Workshop in Latacunga - Ecuador with participants of Salcedo canton

No.	NAME	ROLE AND COMMUNITY / ORGANIZATION
1	DOLORES MISE	CODESPA REPRESENTATIVE IN CANTON LATCEANJO
2	SEGUNDO TOCUMBE	MICC AUTHORITY IN CANTON LOTOJA
3	ANA MILLINGALLI	SECRETARY OF YANAHORCO COMMUNITY IN CANTON PUJILY

Workshop with participants from the Patate Canton - Ecuador

No.	NAME	ROLE AND COMMUNITY / ORGANIZATION
1	Roman Soria	Representative of Primavera Asociacion - Los Andes Community
2	Fabián Soria	Representative of Primavera Asociacion - Los Andes Community
3	Mario Ibarra	Authority of Tantapi Community
4	Manuel Soria	Authority of Los Andes Community
5	Nelson Chicarita	Representative of Los Andes Community
5	José Velasco	Representative of Los Andes Community
6	Iván Aponte	Representative of Potate Viejo Community
7	Patricio Velasco	Authority of Water Committee
8	Herlinda Quispe	Representative of Los Andes Community
9	Elizabeth Morales Alba	Authority of Huachi Grande Community
10	Edgar Castro	Representative of Huachi Grande Community
11	Marco Ramirez	Representative of Huachi Grande Community

PERU

Workshop in Acora Municipality - Peru

No.	NAME	ROLE AND COMMUNITY / ORGANIZATION
1	JACOBO AGUILAR ALAVE	AUTHORITY IN CULTA
2	CORINA QUISPE GOMEZ	REPRESENTATIVE OF CARITAMAYA
3	LUCRECIA CATAORA HUARCAYA	AUTHORITY IN CULTA
4	BELARMINO QUISPE JUQUILLA	AUTHORITY OF CARITAMAYA
5	LUZMILA MENDOZA QUISPE	AUTHORITY OF YANAQUE ANDINO
6	Diego Olazaya	LOCAL AUTHORITY OF ACORA
7	Fausto Quispe León	LOCAL AUTHORITY OF ACORA
8	Juan Zurita Chora	LOCAL AUTHORITY OF ACORA
9	Apolinario Lijano	LOCAL AUTHORITY OF ACORA
10	Corina Quispe Gomez	LOCAL AUTHORITY OF ACORA

Workshop with participants from the Ilave Municipality in Puno – Peru

No.	NAME	ROLE AND COMMUNITY / ORGANIZATION
1	Rogelio Quispe Mamani	Representative of Illave Municipality
2	Edelfina Ticona Mamani	Representative of Collao Municipality
3	Paul ChaguaChoquegonza	Representative of Collao Municipality
4	Lucía Hinojoza Moza	Asoc. Artesanas Trenza de Oro
5	Juan José Romos Aguilar	Authority of Kur. Kullao
6	Yolanda Vidal Ticona	Representative of Mañazo Community

7	Ronaldo Huilahuaña	CEPRODER de la MPC
8	Miflin Azencco Huallpa	Representative of Illave Municipality
9	Lucía Mamani Pacar	Central de Artesanas
10	Susana Velasquez Paredes	Representative of Illave Municipality
11	Elsa Mucho Alania	Representative of Illave Municipality
12	Zenebia Gomez Mamani	Representative of Illave Municipality
13	Alipia Tacanahui A.	Representative of Illave Municipality
14	Jesús Gregorio Tuco C.	Representative of Illave Municipality
15	Juan Encimas Aguilar	Authority of Illave Municipality
16	Jesús G. Tuco	Representative of Illave Municipality

BOLIVIA**Workshop in Caquiaviri Municipality, La Paz - Bolivia**

No.	NAME	ROLE AND COMMUNITY / ORGANIZATION
1	Roberta Tiñini Mita	Mama Talla (local authority) in Kasillorca Community
2	Maribel Mita	Authority in Caquiaviri Municipality
3	Hilarión Chipana Mayta	Authority in Caquiaviri Municipality
4	Hilda Vargas Tumini	Authority in Caquiaviri Municipality
5	Nely Yupanqui Limache	Representative of Caquiaviri Municipality
6	Ing. Liliana Mamani Julián	Representative of Caquiaviri Municipality

Workshop in Caracollo Municipality, Oruro - Bolivia

No.	NAME	ROLE AND COMMUNITY / ORGANIZATION
1	Juan Carlos Mamani	Representative of Pasto Grande Community
2	Clara Gutiérrez Hinojosa	Representative of Caracollo
3	Ponciano Salamanca	Authority in Caracollo
4	Silvia Luz Balderrama	Representative of Bartolina Sisa organization, from Humahuarijta community
5	Emilio Nicolas Correa	Representative of Jancolupo community
6	Felipe Aquino	Local authority (Major Mallku) in Caracollo
7	Freddy Pinaya López	Local authority in Collpaña community
8	Francisca Flores	Local authority in Ataraque community
9	Rosalía Chiosa	Local authority in Caihuasi community
10	Jhoselyn Tatopa	Representative of Caracollo

Entidad acreditada:



Consortio ejecutor:



En articulación con el proyecto:



Impulsado por:



Annex II - Project Formulation Grant (PFG)

Submission Date: Jan 25th, 2024

Adaptation Fund Project ID:

Country/ies: Bolivia, Ecuador and Peru

Title of Project/Programme: Increasing the resilience to climate change of smallholder family farmers livelihoods in the Andean region of Bolivia, Ecuador and Peru

Type of IE (NIE/MIE):

Implementing Entity: IFAD

Executing Entity/ies: Helvetas-Avina

A. Project Preparation Timeframe

Start date of PFG	Sep 2024
Completion date of PFG	Aug 2025

B. Proposed Project Preparation Activities (\$)

Describe the PFG activities and justifications:

List of Proposed Project Preparation Activities	Output of the PFG Activities	USD Amount
Hiring multidisciplinary team (finance, CC, social inclusion, technical coordinator, rural development, local consultants)	Validated project document by governments	25,000
Gathering local information for more accurate diagnosis	Project base line	15,000
Participatory consultations with stakeholders	Report of ample participatory consultation	30,000
Preparation of safeguard studies and report	Safeguard studies and report, including Targeted Adaptation Assessment, ESCMP and Stakeholder Engagement Plan	30,000
Consultancy	M&E Plan	5,000
Total Project Formulation Grant		100,000

C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator, IE Name	Date (Month, day, year)	Project Contact Person	Email Address
Ms Janie Rioux Senior Technical Specialist – Climate Change- AF coordinator	04/04/2024	Mr Oliver Page, Regional Climate Change and Environmental Specialist, IFAD	j.rioux@ifad.org o.page@ifad.org

Entidad acreditada:



Consortio ejecutor:



En articulación con el proyecto:



Impulsado por:



Annex III Letters of Endorsement



Ministerio del Ambiente, Agua
y Transición Ecológica



ADAPTATION FUND

Letter of Endorsement by Government

May 06, 2024

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for: *Increasing the resilience to climate change of the livelihoods of small family farmers in the Andean region of Bolivia, Ecuador and Peru*

In my capacity as designated authority for the Adaptation Fund in Ecuador, I confirm that the above regional project proposal is in accordance with the priorities of the national government and regional priorities, in the implementation of adaptation activities to reduce the adverse impacts and risks that he poses climate change in Ecuador and the Andean region.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by International Fund for Agricultural Development and executed by Helvetas Swiss Intercooperation Consortium - Avina Foundation

Sincerely,

Angel Sandoval
CLIMATE CHANGE UNDERSECRETARY
Ministry of the Environment, Water and Ecological Transition of Ecuador

Dirección: Calle Piedra 788 y Andalucía
Código postal: 17025 / Quito Ecuador
Teléfono: +593 2 388 7800
www.ambiente.gub.ec



Letter of Endorsement by Government PLURINATIONAL STATE OF BOLIVIA

November 6th, 2023

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for: *Increasing the resilience to climate change of the livelihoods of small family farmers in the Andean region of Bolivia, Ecuador and Peru*

In my capacity as designated authority for the Adaptation Fund in Plurinational State of Bolivia, I confirm that the above regional grant proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Plurinational State of Bolivia and the Andean region.

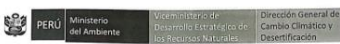
Accordingly, I am pleased to endorse the above grant proposal with support from the Adaptation Fund. If approved, the project will be implemented by International Fund for Agricultural Development and executed by Helvetas Swiss Intercooperation Consortium - Avina Foundation.

Sincerely,

Carlos David Soto Challa Terrazas
Vice Minister of Planning and Coordination
Designated Authority for Plurinational State of Bolivia

"2023 AÑO DE LA JUVENTUD HACIA EL BICENTENARIO"

Av. Mariscal Santa Cruz N° 1092 - Casilla N° 12814 - Central Potosí 5911 50850019 - Fax 591-2) 2312641
www.planificacion.gob.bo - contactanos@planificacion.gob.bo



Lima, January 19th 2024

LETTER N° 00001-2024-MINAM/VMODERN/DGCCO

Messrs:
The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Washington
United States -
Email: Secretariat@adaptation-fund.org
Fax: 202 522 3240/5

Subject: Endorsement of Concept Note: *Increasing the resilience to climate change of smallholder family farmers livelihoods in the Andean region of Bolivia, Ecuador and Peru*.

I am writing on behalf of the Ministry of the Environment of Peru, serving as the governing body for the National Climate Change Strategy of Peru and the Designated Authority for the Adaptation Fund through the General Directorate of Climate Change and Desertification.

Within this framework, we received the concept note *"Increasing the resilience to climate change of smallholder family farmers livelihoods in the Andean region of Bolivia, Ecuador and Peru"*. I am pleased to express our endorsement of the presentation of this concept note to the Adaptation Fund, as it aligns with our national and regional climate change priorities.

In the event of approval, we commit to ensuring that the full project proposal directly contributes to our climate change adaptation targets. This aligns with the recommendations previously communicated to the International Fund for Agricultural Development (IFAD), designated as the implementing entity, and HELVETAS Swiss Intercooperation Consortium - AVINA, serving as the executive entity.

We extend our sincere appreciation for your attention to this matter and thank you for your kind consideration.

Milagros Sandoval Díaz
Head of the General Directorate of Climate Change and Desertification
Ministry of Environment
Designated Authority

Cc: VMODERN

Canal telefónico: 811-8888
www.gob.pe/minam



Annex IV Brief Initial Social Assessment on Gender, Youth and Indigenous People

General poverty situation. In recent years, national poverty rates in Bolivia and Ecuador have fallen from 59.6% (2006) to 36.3% (2021)⁹⁴ and from 32.4% (2012)⁹⁵ to 25.2% (2022)⁹⁶, respectively, while in Peru the values increased from 25.8% (2012) to 27.5% (2022)⁹⁷. In all three countries there is still a gap between rural and urban areas, in terms of poverty, with higher values in Ecuador where rural poverty is more than twice as high as urban poverty, and in terms of extreme poverty, the highest values are found in Peru where rural figures are up to six times higher than the percentage of extreme poverty in urban areas, as shown in Table 1.

Tabla 1: Percentage of por and extreme por in rural and urban áreas of Bolivia, Ecuador y Perú

Country	Percentage of Poverty		Percentage of extreme Poverty	
	Rural	Urban	Rural	Urban
Bolivia	47.9	31.4	28.8	7.2
Ecuador	40	18	17.5	5.1
Perú	41.1	21.1	12.5	2.6

Fuentes: ENEMDU ANUAL 2022 – INEC (Ecuador)/ Instituto de Estudios Peruanos – Pobreza Rural, INEI (Perú)/ INE CNPV 2012, SWISSINFO, 2022 (Bolivia)⁹⁸

6. **Gender.** In Bolivia, rural women represent 40.4% of the total population of women in the country (CNPV, 2012); in Ecuador 49.6% of the population are women⁹⁹; and in Peru according to INEI estimates (2021), women represent 50.4% of the total population.
7. According to the Global Gender Gap Index (GGGI) 2023 report, Peru has evolved positively towards gender parity thanks to health and education indicators¹⁰⁰; while Bolivia¹⁰¹ and Ecuador¹⁰² have fallen back in the ranking due to values in economic and political empowerment indicators, respectively.
8. In terms of education, rural women in Ecuador continue to have higher illiteracy rates compared to the national level (14%), with higher values in the provinces of Cotopaxi (18%), Chimborazo (17%) and Bolívar (17%)¹⁰³. In Bolivia, although there has been progress in reducing the illiteracy gap among women, by 2021 rural women had less access to education than rural and urban men, with a 10 and 15% difference, respectively¹⁰⁴. In Peru, the largest educational gaps between men and women in 2021 were in the departments of Puno (22%) and Cusco (20%)¹⁰⁵.
9. In the economic dimension, the labor activity rate of women is lower than the rate of their male peers, so in Bolivia the gap in labor participation of men and women is 17%¹⁰⁶; in Ecuador it is 24%¹⁰⁷; and in Peru it is 18%¹⁰⁸, however, in Puno and Cusco there are the smallest gaps, 8 and 4% respectively¹⁰⁹.

⁹⁴ Ministerio de Economía y Finanzas, 2022. <https://repositorio.economiayfinanzas.gob.bo/documentos/comunicacion/22-02-bitacora-economica.pdf>

⁹⁵ Gobierno de Ecuador, 2012. <https://www.presidencia.gob.ec/en-2012-ecuador-reduce-la-pobreza-de-371-a-324-segun-la-cepal/#:~:text=seg%C3%BAAn%20la%20Cepal-En%202012%2C%20Ecuador%20reduce%20la%20pobreza%20de%2037%2C1%20a,Social%20de%20la%20regi%C3%B3n%202012>

⁹⁶ Instituto Nacional de Estadística y Censos - INEC 2022.

⁹⁷ Instituto Peruano de la Economía. Evolución de la pobreza. <https://www.ipe.org.pe/portal/evolucion-de-la-pobreza-regional-2004-2021/#:~:text=La%20pobreza%20en%20el%20Per%C3%BA,econ%C3%B3mico%20y%20elevadas%20presiones%20inflacionarias>

⁹⁸ Bolivia: SWISSINFO, 2022: https://www.swissinfo.ch/spa/bolivia-pobreza_bolivia-registra-11-1---de-pobreza-extrema-y-36-6---de-moderada-en-2021/47296236#:~:text=%2D%20Bolivia%20report%C3%B3%20que%20la%20pobreza,establecer%20los%20C%C3%ADndices%20de%20desigualdad

Perú: <https://www.ipe.org.pe/portal/evolucion-de-la-pobreza-regional-2004-2021/#:~:text=La%20pobreza%20en%20el%20Per%C3%BA,econ%C3%B3mico%20y%20elevadas%20presiones%20inflacionarias>

<https://www.gob.pe/institucion/inei/noticias/755874-pobreza-monetaria-afecto-al-27-5-de-la-poblacion-del-pais-en-el-ano-2022>

Ecuador: ENEMDU ANUAL 2022 – INEC

⁹⁹ Instituto Nacional de Estadística y Censos - INEC (2021). Proyección de la población ecuatoriana, por años calendario, según regiones, provincias y sexo. <https://www.ecuadorencifras.gob.ec/proyecciones-poblacionales/>

¹⁰⁰ <https://observatorio.ceplan.gob.pe/ficha/t91>

¹⁰¹ <https://datosmacro.expansion.com/demografia/indice-brecha-genero-global/bolivia>

¹⁰² <https://www.espa.edu.ec/noticias/ecuador-retrocede-resultados-del-reporte-sobre-la-brecha-mundial-de-genero-2023-del-foro-economico-mundial/#:~:text=Es%20precisamente%20esta%20C%C3%B3lumbia%20categor%C3%ADa,el%20per%C3%ADodo%202022%20a%202023>

¹⁰³ INEC (2018). Atlas de Género. https://www.ecuadorencifras.gob.ec/documentos/web-inec/Bibliotecas/Libros/Atlas_de_Genero_Final.pdf

¹⁰⁴ Centro de Investigación y Promoción del Campesinado (CIPCA), 2021. https://cipca.org.bo/docs/publicaciones/es/274_brechas-de-genero-para-web.pdf

¹⁰⁵ CEPLAN, 2022. <https://observatorio.ceplan.gob.pe/ficha/t91>

¹⁰⁶ PNUD, 2020. <https://hdr.undp.org/sites/default/files/Country-Profiles/es/BOL.pdf>

¹⁰⁷ Sistema de Naciones Unidas en Ecuador, 2022. <https://ecuador.unwomen.org/sites/default/files/2022-12/Perfil%20Nacional%20sobre%20Igualdad%20de%20G%C3%A9nero%20ECUADOR.pdf>

¹⁰⁸ Encuesta Nacional de Hogares – ENAHO, ComexPeru, 2022. <https://www.comexperu.org.pe/articulo/brechas-laborales-de-genero-en-2021-cual-es-la-importancia-de-la-digitalizacion-para-reducirlas>

¹⁰⁹ CEPLAN, 2022. <https://observatorio.ceplan.gob.pe/ficha/t91>

10. In relation to gender violence, Bolivia is one of the countries in the region with the highest rate of femicide, and the highest in South America, with at least 100 deaths of women per year (ECLAC, 2021)¹¹⁰. In Ecuador, 65 out of every 100 women have experienced at least one incident of some type of violence in one of the different spheres throughout their lives¹¹¹. In Peru 7 out of 10 adult women have been victims of psychological, physical and / or sexual violence at some point in their lives¹¹², and in rural areas physical violence against women ever exercised by the husband or partner, stands at 26%¹¹³, among the departments with the highest victims of femicide (2015-2021) is Puno (41)¹¹⁴.
11. **Youth.** In Bolivia, Law No. 342 on Youth, recognizes as young men and women between 16 and 28 years of age, and as of 2018 represented 23.4% of the total population in the country (50.8% are men and 49.2% women); 71.1% live in urban areas and 28.9% in rural areas. After finishing high school, young people opt to go to the main cities to continue studying with the support of their parents; if they do not meet their expectations of study and work, they return to their communities to work the land that their parents allow them to work or endow (smallholdings)¹¹⁵. In Bolivia there are gaps, the main difficulty being insufficient opportunities for comprehensive training and access to financing to develop agricultural and non-agricultural enterprises. Young women have the least opportunities to continue their education and access their own enterprises to achieve economic empowerment.
12. In Ecuador, the youth population is between 18 and 29 years of age¹¹⁶ and, according to figures from the Technical Secretariat for Youth - SETEJU (2021), represents approximately 20% of the national population. In the area of intervention, between 40 and 50% are women and the presence of urban youth is not representative. Rural youth are at a significant disadvantage compared to their urban peers, in areas such as access to education, security, health and access to livelihoods; and considering ethnic origin, Montubio, indigenous and Afro-Ecuadorian youth have a higher concentration of poverty by NBI (RIMISP, 2017).
13. In Peru, according to the National Youth Policy (2019), young people are considered to be anyone between 15 and 29 years old; this population represents 23% of the national total (52% are women and 48% are men), 82% reside in urban areas and 18% in rural areas¹¹⁷. The Multidimensional Deprivation Indicator for Youth (2017), reflected that 2 out of 5 young people in Peru suffer deprivation in the dimensions of well-being: education, employment, health, participation and social inclusion. These inequalities have been exacerbated as a consequence of the COVID 19 pandemic, becoming more acute for young populations with higher levels of social vulnerability such as rural indigenous and Afro-Peruvian women living in poverty, young people with disabilities and LGTBI youth, who are more likely to be discriminated against¹¹⁸.
14. **Indigenous peoples (IP).** The situation of poverty and extreme poverty among indigenous peoples shows marked gaps with respect to national averages; in Ecuador, 54% of the indigenous population is in poverty vs. 22% at the national level and 32% is in extreme poverty vs. 7% at the national level¹¹⁹; in Bolivia 45% of the indigenous population is in poverty vs. 22% nationally, and 31% in extreme poverty vs. 12% nationally¹²⁰; and in Peru 38% of the indigenous population is in poverty vs. 9% nationally¹²¹ and 18% in extreme poverty vs. 5% nationally¹²². According to the World Bank (2015) in a report for Latin America, the simple fact of being born to indigenous parents significantly increases the probability of growing up in an impoverished home, thus contributing to a cycle of poverty that hinders the full development of indigenous children. ECLAC (2014) notes that indigenous infant mortality, as an indicator of structural inequities, continues to be systematically higher than non-indigenous, with greater inequalities in Peru and Bolivia compared to other Latin American countries. The situation of inequality and exclusion has left Indigenous Peoples more exposed to the impacts of climate change and natural hazards (World Bank, 2015).
15. In Ecuador, according to ENEMDU figures, 8% of the population is indigenous. At the level of the area of intervention, in the province of Cotopaxi the Panzaleo are present with 27,061 inhabitants (3.3% of the national total); in the province of Tungurahua the Chibuleo with 3,793 (0.5% of the total), the Kisapincha with 4,129 inhabitants (0.5% of the total),

¹¹⁰ [https://www.undp.org/es/es/bolivia/igualdad-de-genero#:~:text=Entre%20las%20mayores%20expresiones%20de,a%C3%B1o%20\(CEPAL%2C%202021\).](https://www.undp.org/es/es/bolivia/igualdad-de-genero#:~:text=Entre%20las%20mayores%20expresiones%20de,a%C3%B1o%20(CEPAL%2C%202021).)

¹¹¹ Cuentas satélite de violencia de género.

¹¹² Banco Mundial (2023). Recuperado de : <https://blogs.worldbank.org/es/latinamerica/retos-y-alternativas-para-enfrentar-la-violencia-de-genero-en-peru>

¹¹³ INEI (2023). Recuperado de: <https://www.inei.gob.pe/estadisticas/indice-tematico/brechas-de-genero-7913/>

¹¹⁴ Informe de diseño del proyecto "Mejora de los servicios de comercialización de productos agrícolas para la venta en los mercados de consumo". FIDA, Gobierno del Perú, 2023. Documento de trabajo.

¹¹⁵ Informe de Diseño del Programa Impulsando Transiciones Agroecológicas en la Agricultura Familiar para la Seguridad Alimentaria con Soberanía. FIDA, Estado Plurinacional de Bolivia, 2023. Documento de trabajo.

¹¹⁶ Instituto Nacional de Estadística y Censos - INEC

¹¹⁷ Secretaría Nacional de Juventudes – SENAJU, 2021. <https://juventud.gob.pe/2022/12/senaju-presento-informe-nacional-de-juventudes-2021-para-conocer-la-situacion-actual-de-los-jovenes-peruanos-de-15-a-29-anos/>

¹¹⁸ Informe de diseño del proyecto "Mejora de los servicios de comercialización de productos agrícolas para la venta en los mercados de consumo". FIDA, Gobierno del Perú, 2023. Documento de trabajo.

¹¹⁹ Encuesta Nacional de Empleo Subempleo y Desempleo - ENEMDU

¹²⁰ CEPAL / FILAC, op. cit., pp. 171-172

¹²¹ Datosmacro. Com: Perú Tasa de alfabetización

¹²² Ministerio de Cultura. Situación de pobreza. <https://centroderesursos.cultura.pe/sites/default/files/rb/pdf/Cartilla%20Peru%202020.pdf>

the Salasaka with 5,275 inhabitants (0.6% of the total), the Kichwa Tungurahua with 196,252 (23.6% of the total); in the province of Bolívar the Waranca with 607 (0.1% of the total); and in the province of Chimborazo the Puruhá with 64,676 inhabitants (7.8% of the total). All these Peoples are part of the Kichwa Nationality, which is the most representative of Ecuador in terms of number of inhabitants¹²³. In Bolivia, according to the 2012 Census, 41% of the Bolivian population is indigenous, and of these 46% is Quechua and 42% Aymara. In the area of intervention, in the province of La Paz 9% are Quechua, 84% Aymara and 7% belong to other minority indigenous original peasant peoples (PIOC); in the province of Oruro 47% are Quechua, 49% Aymara and 4% PIOC. The Aymara and Quechua peoples identify themselves as 16 different nations, but in terms of recognition they are assumed to be two. In Peru, 2.6% of the population is indigenous¹²⁴; at the intervention level in Cusco 94% is Quechua and in Puno 62% is Quechua, 35% Aymara and 0.18% Uro¹²⁵.

16. **Cultural heritage.** In the prioritized area in Bolivia (department), Ecuador (province) and Peru (department), there are different elements that are part of the cultural heritage. Annex 2 presents the information gathered at this stage, which should be confirmed during the design stage, when a more detailed approximation of the area of intervention is available.
17. **Marginalized groups.** In the area of intervention, in the prioritized departments in Bolivia, minority PIOC are present, representing between 4 and 7% of the departmental total; in Ecuador, Afro-Ecuadorians, blacks, mulattos and montuvios are present, each representing less than 0.5% of the population of the prioritized provinces¹²⁶; and in Peru, the Uro ethnic group is present, representing 0.18% of the population of the department of Puno. Another vulnerable group is the disabled population, which at the national level in Ecuador amounts to 2.6%¹²⁷, in Bolivia 0.86%¹²⁸ and in Peru 5.2% of the population¹²⁹. Regarding the LGBTIQ+ population (lesbian, gay, bisexual, transgender, intersex and queer), in Ecuador 72% reported having experienced discrimination, 49% reported having experienced some episode of violence and 33% had an experience of exclusion¹³⁰. In Bolivia and Peru, national surveys do not include information on the subject and there are serious methodological limitations to know their situation^{131,132}; however, the testimonies of leaders of LGTBIQ+ groups indicate that stigmas, prejudices and discrimination towards these populations persist¹³³. During the design stage, more detailed information will be gathered on the presence of marginalized population groups in the area of intervention, and inclusive strategies will be considered so that they can access the expected benefits.
18. **Nutrition and food security.** In Bolivia, chronic malnutrition decreased from 27% (2008) to 16% (2016)¹³⁴, however, levels of chronic malnutrition are higher in rural areas than in urban areas (respectively 24% vs 12%) and twice as high in minors whose mothers speak Quechua and Aymara. A case study developed in municipalities of the Altiplano reports that malnutrition is linked to indigenous populations¹³⁵, families with fewer resources and children of mothers without formal education. Other studies indicate that nutritional improvements in families are directly related to the economic income of women and the role they play as responsible for food and family welfare. On the other hand, according to the Demographic and Health Survey (2016) children and adolescents are affected by overweight and obesity, exceeding 10%, above the Latin American average of 7.6% for 2012 (PAHO/World Health Organization WHO, 2016)¹³⁶.
19. In Ecuador, chronic malnutrition decreased 2.3 percentage points in the last 10 years, however, the percentage of population with chronic malnutrition in rural areas (29%) is still higher than in urban areas (20%), and in the indigenous population it exceeds 40%. The rural highlands are the region with the highest percentage of chronically malnourished children (28%). The percentage of children and adolescents affected by obesity and overweight at the national level reaches 35%¹³⁷. At the national level, 43% of people live in moderate food insecurity and 11% in severe food insecurity¹³⁸.
20. In Peru, according to the Demographic and Family Health Survey (ENDES), the population with chronic malnutrition in 2012 was 18% and in 2021 11%; and in rural areas, chronic child malnutrition was 25% (INEI, 2017). The prevalence of chronic malnutrition was higher in the indigenous population with respect to the non-indigenous population (56%

¹²³ Nacionalidades y pueblos indígenas, y políticas interculturales en Ecuador: Una mirada desde la educación

¹²⁴ INEI. Censo Nacional 2017. Participación política de los pueblos indígenas

¹²⁵ INFOBAE. Situación de pobreza en la población indígena (ENAH0)

¹²⁶ ENEMDU ANUAL 2022

¹²⁷ ENEMDU

¹²⁸ UDAPE, 2023

¹²⁹ INEI. Nota de prensa día internacional de la discapacidad

¹³⁰ SETEJU, 2021.

¹³¹ Secretaría Nacional de Juventudes, 2022.

¹³² <https://www.defensoria.gob.bo/noticias/defensoria-del-pueblo-presenta-la-primera-encuesta-virtual-sobre-poblacion-lgbtiquen-bolivia>

¹³³ <https://bolivia.unfpa.org/es/news/igualdad-en-dignidad-y-en-derechos-para-las-personas-lgbtiquen-una-tarea-pendiente>

¹³⁴ <https://www.minsalud.gob.bo/images/Documentacion/EDSA-2016.pdf>

¹³⁵ Disponible en: https://www.sdgfund.org/sites/default/files/case_study_bolivia_sp_vgd.pdf

¹³⁶ Informe de Diseño del Programa Impulsando Transiciones Agroecológicas en la Agricultura Familiar para la Seguridad Alimentaria con Soberanía. FIDA, Estado Plurinacional de Bolivia, 2023. Documento de trabajo.

¹³⁷ Encuesta Nacional de Salud y Nutrición - ENSANUT 2012-2018

¹³⁸ ENEMDU ANUAL (2022)

versus 22%)¹³⁹. Chronic diseases, overweight and obesity have steadily increased in the young population in the last ten years; one in four children (24.4%) aged 5 to 9 years has some degree of excess weight (overweight or obesity)¹⁴⁰, and INEI (2022) reports that in 2021, 25.8% of the population aged 15 and over had obesity, 7.5 percentage points higher than in 2016 (18.3%). More than 50% of the population suffers from food insecurity and about 20% is in a situation of severe food insecurity¹⁴¹.

21. **Forced labor and child labor.** ECLAC and ILO (2022)¹⁴², report that as of 2016 among the countries with the highest prevalence of child labor are Bolivia (26%) and Peru (21.8%); and the U.S. Government's Office of International Labor Affairs reports that in Bolivia there are reports of forced labor and in Ecuador child labor associated with the cattle chain.
22. In Bolivia, by 2019 more than 724, 000 girls, boys and adolescents aged 5 to 17 years would perform a labor activity or work, this implies a percentage decrease of 2.03% compared to the 2016 figure. As of 2019, the highest percentage of working children and adolescents is concentrated in the La Paz - Cochabamba axis, and Oruro is one of the departments with the fewest working children and adolescents. The activities in which most children and adolescents participate are associated with the family and community framework, and in 2008, agriculture accounted for more than 50% of working children and adolescents¹⁴³.
23. In Ecuador, agriculture and livestock are the activities that employ the most child and adolescent labor. Child labor for children under 15 years of age is most intense in the central-southern zone of the Ecuadorian Sierra; and in Cotopaxi, Bolívar and Chimborazo, the incidence of child labor is around 20%. In the indigenous population, the incidence of child labor (boys and girls between 5 and 14 years of age) reaches 26%¹⁴⁴.
24. In Peru, 25.3% of children and adolescents between 5 and 17 years of age work, 71% of which are concentrated mainly in family agriculture. Among the most affected departments are Cusco and Puno¹⁴⁵.
25. During the project design stage, more detailed information will be collected to determine the occurrence of child labor and forced labor in the intervention municipalities and in agricultural activities at the family level. Likewise, a list of labor activities and dangerous, unhealthy or harmful jobs that violate the dignity and integrity of children and adolescents approved in each country will be taken into account, if applicable.

¹³⁹ Revista Panamericana de Salud. Situación de salud y nutrición de niños indígenas y niños no indígenas de la Amazonía. <https://iris.paho.org/handle/10665.2/10008#:~:text=La%20prevalencia%20de%20desnutrici%C3%B3n%20cr%C3%B3nica,fueron%20diferentes%20en%20ambas%20poblacion es.>

¹⁴⁰ INEI. Nota de prensa (2021) https://m.inei.gob.pe/media/MenuRecursivo/noticias/nota-de-prensa-no-075-2022-inei_1.pdf

SciELO Perú. Revista Peruana de Medicina Experimental y de Salud Pública http://www.scielo.org.pe/scielo.php?script=sci_arttext&pid=S1726-46342013000200019#:~:text=En%20el%20Per%C3%BA%2C%20uno%20de,alcanzan%20el%2014%2C2%25.

¹⁴¹ Informe FAO s://www.comexperu.org.pe/articulo/nuevos-datos-sobre-inseguridad-alimentaria-de-la-fao-ubican-al-peru-como-el-peor-pais-de-la-region Encuesta Nacional de Hogares (ENAH) 2022)

¹⁴² https://repositorio.cepal.org/bitstream/handle/11362/47896/1/S2200347_es.pdf

¹⁴³ Defensoría del Pueblo, 2021. <https://www.defensoria.gob.bo/uploads/files/informe-defensorial-trabajo-infantil-y-adolescente-en-boliviavulneracion-del-derecho-a-la-proteccion-de-ninys-y-adolescentes-con-relacion-al-trabajo.pdf>

¹⁴⁴ ENEMDU y Encuesta Nacional de Trabajo Infantil

¹⁴⁵ Encuesta Nacional de Hogares sobre Condiciones de Vida y Pobreza (ENAH) del Instituto Nacional de Estadística e Informática (INEI).