



Development of an enabling environment for sustainable businesses based on the native biodiversity of Ecuador

Part I: Project Information

GEF ID

10219

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

CBIT **No**

NGI **No**

Project Title

Development of an enabling environment for sustainable businesses based on the native biodiversity of Ecuador

Countries

Ecuador

Agency(ies)

CAF

Other Executing Partner(s)

Ministry of Environment, Water and Ecological Transition

Executing Partner Type

Government

GEF Focal Area

Biodiversity

Taxonomy

Biodiversity, Focal Areas, Species, Wildlife for Sustainable Development, Mainstreaming, Agriculture and agrobiodiversity, Influencing models, Transform policy and regulatory environments, Stakeholders, Beneficiaries, Private Sector, Financial intermediaries and market facilitators, SMEs, Gender Equality, Gender Mainstreaming, Capacity, Knowledge and Research, Learning, Theory of change, Plant Genetic Resources, Convene multi-stakeholder alliances, Deploy innovative financial instruments, Strengthen institutional capacity and decision-making, Capital providers, Local Communities, Civil Society, Community Based Organization, Type of Engagement, Partnership, Information Dissemination, Participation, Consultation, Sex-disaggregated indicators, Gender-sensitive indicators, Women groups, Knowledge Generation, Knowledge Exchange

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 1

Submission Date

6/16/2021

Expected Implementation Start

11/15/2021

Expected Completion Date

11/15/2025

Duration

48In Months

Agency Fee(\$)

280,734.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

| Objectives/Programs | Focal Area Outcomes | Trust Fund | GEF Amount(\$) | Co-Fin Amount(\$) |
|-------------------------------|--|-------------------|-----------------------|--------------------------|
| BD-1-1 | Biodiversity Mainstreaming in Priority Sectors | GET | 3,119,266.00 | 21,201,297.00 |
| Total Project Cost(\$) | | | 3,119,266.00 | 21,201,297.00 |

B. Project description summary

Project Objective

Ecuador has basic conditions that facilitate the development of businesses that sustainably use native biodiversity

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing(\$) | Confirmed Co-Financing(\$) |
|-------------------|----------------|-------------------|------------------|------------|----------------------------|----------------------------|
|-------------------|----------------|-------------------|------------------|------------|----------------------------|----------------------------|

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing(\$) | Confirmed Co-Financing(\$) |
|---|----------------------|---|---|------------|---------------------------|----------------------------|
| 1. Enabling conditions for the development of sustainable businesses based on native biodiversity | Technical Assistance | <p>Outcome 1. Institutional arrangements that support the development of businesses based on the sustainable use of native biodiversity.</p> <p>Outcome 2. Improved capacities for the development of sustainable value chains based on native biodiversity</p> | <p>1.1. Environmental regulations that facilitate the sustainable use of native biodiversity.</p> <p>1.2. Relevant norms and regulations that support the development of businesses based on the sustainable use of native biodiversity.</p> <p>1.3. Interagency coordination mechanism for the promotion of businesses based on the sustainable use of native biodiversity</p> <p>2.1. Baseline and information integration of business initiatives based on the sustainable use of native biodiversity.</p> <p>2.2. Guidelines to promote businesses based on native biodiversity</p> <p>2.3. Mechanism for capacity building and</p> | GET | 1,247,600.00 | 5,996,931.00 |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing(\$) | Confirmed Co-Financing(\$) |
|---|----------------------|--|---|------------|---------------------------|----------------------------|
| 2. . Increase availability of financing | Technical Assistance | Outcome 3. Financial mechanisms and instruments in support of business ventures based on the sustainable use of native biodiversity. | 3.1. Analysis of market-demand for sustainable products from native biodiversity 3.2. Green financing lines for businesses based on native biodiversity | GET | 798,600.00 | 11,000,000.00 |
| 3. Demonstration pilot interventions | Technical Assistance | Outcome 4. Optimised demonstration sustainable supply chains | 4.1. Four optimised demonstration supply chains (community and private models). 4.2. Learning and good practice from the project documented and disseminated | GET | 791,460.00 | 3,804,366.00 |
| Monitoring & Evaluation | Technical Assistance | | | GET | 133,070.00 | 200,000.00 |
| Sub Total (\$) | | | | | 2,970,730.00 | 21,001,297.00 |
| Project Management Cost (PMC) | | | | | | |
| | GET | | 148,536.00 | | 200,000.00 | |

Project Management Cost (PMC)

| | | |
|-------------------------------|---------------------|----------------------|
| Sub Total(\$) | 148,536.00 | 200,000.00 |
| Total Project Cost(\$) | 3,119,266.00 | 21,201,297.00 |

C. Sources of Co-financing for the Project by name and by type

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Investment Mobilized | Amount(\$) |
|--------------------------------|--|-----------------------------|-----------------------------|-------------------|
| Recipient Country Government | Ministry of Environment, Water and Ecological Transition | In-kind | Recurrent expenditures | 5,387,218.00 |
| Recipient Country Government | Ministry of Environment, Water and Ecological Transition | In-kind | Investment mobilized | 2,770,000.00 |
| Private Sector | Wikiri | In-kind | Recurrent expenditures | 1,058,000.00 |
| Private Sector | Wikiri | Grant | Investment mobilized | 102,000.00 |
| Private Sector | Ethniessence | In-kind | Investment mobilized | 112,900.00 |
| Private Sector | COPROBICH | In-kind | Investment mobilized | 85,197.00 |
| Private Sector | COPROBICH | In-kind | Recurrent expenditures | 414,803.00 |
| Private Sector | SUMAK MIKUY | In-kind | Recurrent expenditures | 93,600.00 |
| GEF Agency | CAF | Loans | Investment mobilized | 11,000,000.00 |
| Civil Society Organization | Fundaci?n Jambatu | In-kind | Recurrent expenditures | 77,000.00 |
| Recipient Country Government | Agrocalidad -Ministry of Agriculture | In-kind | Recurrent expenditures | 21,975.00 |
| Recipient Country Government | MIPRO (Ministry of Production | In-kind | Recurrent expenditures | 78,604.00 |

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Investment Mobilized | Amount(\$) |
|-------------------------|----------------------|----------------------|----------------------|---------------|
| Total Co-Financing(\$) | | | | 21,201,297.00 |

Describe how any "Investment Mobilized" was identified

[1] Wikiri will invest complementary funds. [2] Ethniessence will invest to cover technical assistance and follow-up of farmers to obtain BPA and organic certifications. [3] CAF will channel resources to fund the credit lines. [4] COPROBICH will invest complementary funds.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

| Agency | Trust Fund | Country | Focal Area | Programming of Funds | Amount(\$) | Fee(\$) |
|---------------------------|------------|---------|--------------|----------------------|--------------|------------|
| CAF | GET | Ecuador | Biodiversity | BD STAR Allocation | 3,119,266 | 280,734 |
| Total Grant Resources(\$) | | | | | 3,119,266.00 | 280,734.00 |

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)
PPG Required **false**

PPG Amount (\$)
100,000

PPG Agency Fee (\$)

| Agenc y | Trust Fund | Country | Focal Area | Programmin g of Funds | Amount(\$) | Fee(\$) |
|-------------------------|---------------|---------|---------------|--------------------------|------------|-------------|
| CAF | GET | Ecuador | Biodiversity | BD STAR Allocation | 100,000 | |
| Total Project Costs(\$) | | | | | 100,000.00 | 0.00 |

Core Indicators

Indicator 3 Area of land restored

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| 0.00 | 18500.00 | 0.00 | 0.00 |

Indicator 3.1 Area of degraded agricultural land restored

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| | 18,500.00 | | |

Indicator 3.2 Area of Forest and Forest Land restored

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| | | | |

Indicator 3.3 Area of natural grass and shrublands restored

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| | | | |

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| | | | |

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| 7000.00 | 0.00 | 0.00 | 0.00 |

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| 7,000.00 | | | |

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| | | | |

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| | | | |

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| | | | |

Documents (Please upload document(s) that justifies the HCVF)

| Title | Submitted |
|-------|-----------|
| | |

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

| | Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---------------|--------------------------|--------------------------------------|--------------------------|-------------------------|
| Female | 2,500 | 9,500 | | |
| Male | 2,500 | 9,500 | | |
| Total | 5000 | 19000 | 0 | 0 |

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Core Indicator 4 correspond to the national area of organic agriculture with native species (certified organic and undergoing transition to organic agriculture) reported by AGROCALIDAD + the area of Wikiri sponsored reserves + the area of morti?o harvesting areas managed by Sumak Mikuy.

Part II. Project Justification

1a. Project Description

Changes.

1. The number of demonstration supply chains was modified. In the PIF it was three, now they are four.
2. The text of output 4.2 was modified from 'Learning and good practice from demonstration sustainable supply chains' to 'Learning and good practice from the project documented and disseminated'.

Global environmental problem and baseline scenario

3. This project proposal focusses on the global problem of biodiversity loss in Ecuador which is caused by (i) habitat deterioration and destruction mainly from land use change, (ii) pollution from a range of sources, (iii) overexploitation and unsustainable use, (iv) invasive alien species, and (v) climate variability and climate change.
 4. Despite important developments to confront the main pressures, Ecuadorean biodiversity is threatened. For example:
 - a. The area of native forests declined from 14.5 million in hectares in 1990 to 12.7 million hectares in 2014 (MAE, 2016). The annual deforestation rate has reduced from -0.65% between 1990-2000 to -0.37% between 2008-2014. However, this figure is still high. The main driver is expansion of the agriculture frontier (Sierra, 2013; Torres et al., 2020).
 - b. The percentage of threatened endemic plants^[1] increased from 74.11% in the year 2000 to 77.95% in the year 2010. The main pressure is habitat loss caused by land use change (farming, mining, urbanisation) Leñ-Yñez et al., (2011).
 - c. The percentage of threatened birds³ has not changed much in the past decades. It was 10% in 2002 and 9.12% in 2019 (Granizo et al., 2002; Freile et al., 2019). The main pressure is habitat degradation and loss due to deforestation, expansion of the agriculture frontier and wetland alteration and desiccation.
 - d. The number of threatened³ Ecuadorean amphibian species doubled between 2011 and 2021 (Ron et al., 2011; Ortega-Andrade et al., 2021). More than half of the Ecuadorean amphibian species are threatened³ (57.1%) (Ortega-Andrade et al., 2021). Most threatened species are found in montane forests and paramos. Habitat alteration and destruction, climate change and chytridiomycosis are the major threats (Cisneros-Heredia et al., 2010; Menéndez-Guerrero & Graham, 2013; Guayasamin et al., 2020; Ortega-Andrade et al., 2021).
 - e. Naranjo et al., (2018) assessed the conservation status of eight potato wild relatives and found that five were Endangered (62.5%), two were Vulnerable and one was Near Threatened.
-

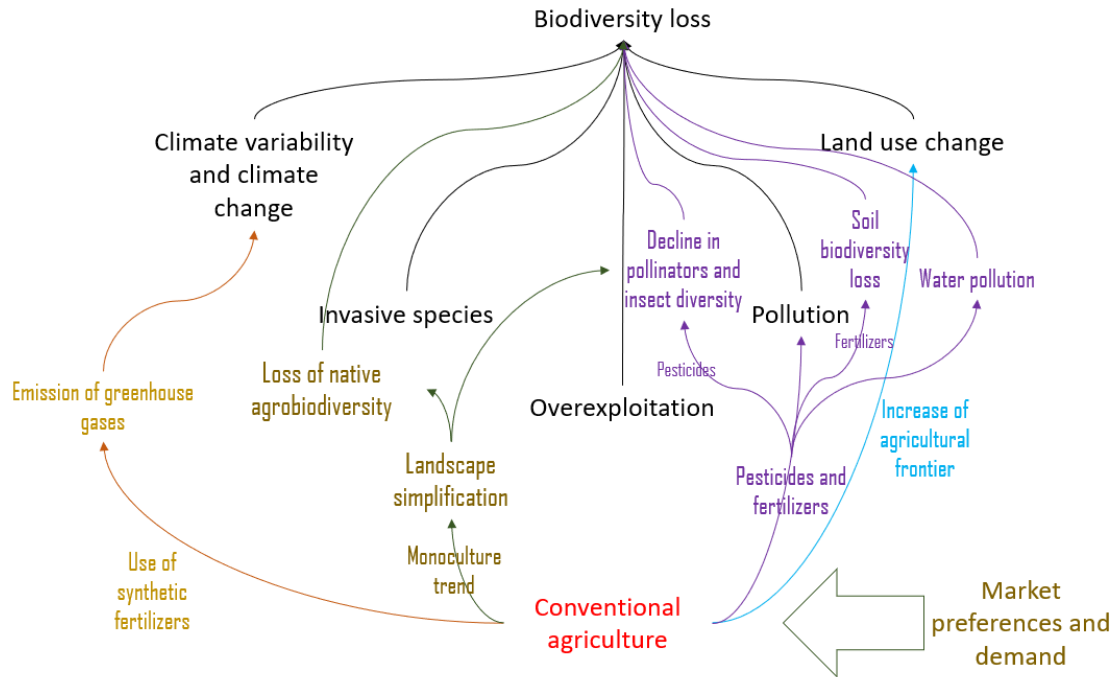
f. Wildlife trade is still a major extinction driver. Two conspicuous cases occurred recently in Galapagos. In 2018, 123 Galapagos tortoises were stolen from a breeding facility in Isabela Island and in March 2021 185 baby tortoises (10 were dead) were found in a suitcase in Seymour Airport (Baltra Island) (Anon, 2018a; Anon, 2021). Tirira (2013) reported that from 2,171 illicit trade detentions of native primate species, 98% were live animals for pet trade. The most traded animals were *Saimiri cassiquiarensis* and *Cebus aequatorialis*, respectively listed Near Threatened and Critically Endangered in the Ecuadorean Red List (Vallejo, 2018; Vallejo & Boada, 2018).

Conservation status of endemic Ecuadorean plants in 2000 and 2010.

| IUCN Red List Category | 2000 | Percentage | 2010 | Percentage |
|------------------------|-------------|------------|-------------|------------|
| Extinct | 3 | 0.07 | 3 | 0.07 |
| Extinct in the wild | 0 | 0 | 1 | 0.02 |
| Critically endangered | 282 | 7.03 | 353 | 7.84 |
| Endangered | 838 | 20.89 | 1071 | 23.8 |
| Vulnerable | 1850 | 46.12 | 2080 | 46.22 |
| Near threatened | 394 | 9.82 | 362 | 8.04 |
| Least concern | 198 | 4.94 | 257 | 5.71 |
| Data deficient | 307 | 7.65 | 317 | 7.04 |
| Not assessed | 139 | 3.47 | 56 | 1.24 |
| Total | 4011 | 100 | 4500 | 100 |

Source: León-Yáñez et al., 2011.

- The loss of Ecuadorean native biodiversity is of global significance. There are valuable resources in native biodiversity. For example:
- Ecuador has 36 native races of maize (Timothy et al., 1963; Tapia et al., 2017), six landraces of quinoa (*Chenopodium quinoa*) (Gandarillas et al., 1989) and 350 native varieties of potatoes (*Solanum tuberosum*) (Andrade-Piedra & Torres, 2011).
- The alkaloids found in *Phaedranassa* species from Ecuador could be used for palliative treatment of Alzheimer's disease (Moreno et al., 2020; León et al., 2021). These are wild herbs endemic of the northern Andes, locally named "ashpa cebolla" (fake onion in Kichwa). Six species are endemic to Ecuador and one species is also found in Southern Colombia (*Phaedranassa dubia*). Alkaloids have been found in six species, most of them are threatened: *P. cinerea* (Vulnerable), *P. cuencana* (Endangered), *P. gluciflora* (Endangered), *P. tunguraguae* (Endangered), *P. brevifolia* (Endangered) and *P. dubia* (not assessed) (León-Yáñez et al., 2011). *Phaedranassa cuencana*, which was discovered in 2006 and described in 2015, has the highest concentration of alkaloids (Minga et al., 2015; Moreno et al., 2020).
- A new family of antimicrobial peptides (Cruzioseptins) were found in skin secretions of *Cruziophyla calcarifer* (Proaño-Bolaños et al., 2016). Cruzioseptins have a broad range of antimicrobial and antifungal activity and could serve to develop antileishmanial therapies (Mendes et al., 2020; Cuesta et al., 2021). *Cruziophyla calcarifer* is listed as Near Threatened in Ecuador (Ron et al., 2018).
- Human activities contribute to exacerbate biodiversity loss. The example of conventional agriculture in Ecuador is shown in the following figure.



7. Conventional agriculture is driven by forces like the increasing global food demand, price volatility, agribusiness concentration and globalization of food systems. The main changes in food consumption patterns and preferences motivate an increasing demand for few crops like soybean, palm oil and maize, leading to landscape simplification. For example, of the 350 native varieties of potatoes found in Ecuador, only 14 are found in the local markets of Andean communities (Andrade-Piedra & Torres, 2011). Potato farmers prefer the genetically improved varieties that are demanded by consumers and industry.

8. The global movement in favour of sustainable production has been driven by more stringent government regulations, stakeholder pressure to address environmental and social issues, and increased awareness of customers and consumers. This has led to important trends like voluntary certification schemes (e.g., Forest Stewardship Council, Marine Stewardship Council, Roundtable on Sustainable Palm Oil certification, Fairtrade certification) and green and sustainable finance initiatives.

9. Regarding certification, in Ecuador various important production chains are obtaining voluntary certifications to cover the growing international demand for certified produce. For example:

10. In the forestry sector, until May 2018 there were 57,466 ha certified with the Forest Stewardship Council (FSC) standard[1].

11. In the aquaculture sector, an Ecuadorean shrimp farm was the first in the world to obtain the Aquaculture Stewardship Council certification (ASC) in 2014 (Anon, 2014). Nowadays, there are 28 ASC certified farms. Until April 2021, AGROCALIDAD has registered: (i) 2,120.04 ha of organic certified shrimp, about 9% of the 220,000 ha total area of shrimp farms, and (ii) 7.27 ha of organic certified tilapia.

12. In the farming sector, about 2.7% of the total area of the main permanent crops has been certified organic

Area of organic certified land of the main permanent crops in Ecuador.

| Crop | Percentage of permanent crops area in 2019 ^[a] | Total area (ha) in 2019 ^[a] | Area of organic certified land (including in-conversion areas) in 2021 | |
|------------|---|--|--|------------|
| | | | Area (ha) ^[b] | Percentage |
| Cocoa | 39.0 | 601,954 | 8,494.89 | 1.4 |
| Oil palm | 15.98 | 246,574 | 9,702.92 | 3.9 |
| Banana | 12.34 | 190,381 | 16,981.40 | 8.9 |
| Plantain | 10.38 | 160,198 | 662.22 | 0.4 |
| Sugar cane | 8.18 | 144,116 | 645.77 | 0.4 |

[a] INEC, 2020. The total area of permanent crops in 2019 was 1,543,334 ha.

[b] AGROCALIDAD records April 2021.

Nevertheless, the surface of organic certified native crops is minimal: 15,685 ha, about 0.3% of the total farming land.

Surface of native crops certified organic in Ecuador.

| Spanish name | English name | Certified (ha) | Transition (ha) |
|-------------------------------|----------------------------------|------------------|-----------------|
| Cacao | Cocoa | 8,479.36 | 1,116.98 |
| Camarón blanco | Shrimp | 2,121.56 | - |
| Quinoa | Quinoa | 1,074.82 | 206.60 |
| Guayusa | Guayusa | 560.24 | 54.56 |
| Hongos recolección silvestres | Wild edible mushrooms | 280.00 | - |
| Canela amazónica/ Ishpingo | Amazon cinnamon | 211.40 | 51.74 |
| Uvilla | Goldenberries | 133.64 | 0.66 |
| Maracuyá | Passion fruit | 129.24 | 10.80 |
| Yuca | Cassava, mandioca | 128.85 | 46.20 |
| Ají | Chilli, chilli pepper | 64.89 | 0.21 |
| Camote | Sweet potato | 12.37 | 4.12 |
| Chocho | Andean lupin, pearl lupin | 5.79 | - |
| Papa | Potato | 3.93 | - |
| Zanahoria blanca | Arracacha, white carrot | 1.16 | - |
| Otros | Other | 833.32 | 153.14 |
| Total | | 14,040.56 | 1,645.02 |

Source: AGROCALIDAD. Until 27 April 2021. Bold indicate the species that are part of the project demonstration supply chains.

13. Various entities promote certification. The PROAmazonia programme (GEF ID 9055) is supporting certification of oil palm small farms and aim to achieve 11,936 ha of RSPO certified palm by 2022. The Global Marine Commodities project (GEF ID 5271) backed a fishery improvement project of the fishery for small pelagic fish aiming to obtain the MarinTrust certification. The Ecuadorean Fair Trade Coordinator (CECJ) promotes FairTrade and Small Producer's Symbol (SPP) certification.

14. Regarding green and sustainable financing, some Ecuadorean financial institutions offer green credit lines. The financial system is composed by four public entities, 24 private banks and 887 cooperatives of saving and credit (credit unions). Only five private banks and one cooperative offer green credit lines: Banco Bolivariano, Banco Desarrollo de los Pueblos (CODESARROLLO), Banco

Pichincha, Banco ProCredit, PRODUBANCO and the Cooperative of Saving and Credit CACPECO. However, most credit lines are focused on energy efficiency. Only PRODUBANCO and CODESARROLLO have green credit lines for sustainable production. Public banks do not have green credit lines *per se*, but BanEcuador launched on 23 April 2021 the first national credit line for organic production. This credit line focus on MIPYMES and associations how are certified or want to be certified organic.

15. A major advance was the launch in 1996 of UNCTAD's BioTrade initiative to generate tangible economic benefits from native biodiversity-based products and services. In Ecuador, the Andean BioTrade Project contributed to mainstream BioTrade considerations into public policy and to advance BioTrade businesses. Government support to BioTrade development declined after project closure. However, BioTrade was included into the Organic Code on the Environment which entry into force in April 2018 and established a new environmental legal framework for the country. The COA states that the national environmental authority will regulate and promote BioTrade.

16. The Regulation to the Organic Code on the Environment was issued in June 2019, it:

17. Created the National Committee for Natural Heritage that, among other duties, must "coordinate the establishment of intersectoral policies and regulations that promote the sustainable use of biological resources and that contribute to the development of BioTrade, the bioeconomy, the conservation of environmental services, sustainable production and consumption, extended producer responsibility, the use of waste for industry, environmental incentives, among others". This committee is not yet operational, MAATE is drafting its operational regulations.

18. Established that:

19. There will be a national plan to promote the utilisation, processing, and sustainable use of biodiversity (article 244).

20. MAATE must secure public funding and will coordinate with the national financial system to develop credit lines to incentive the utilisation, processing and sustainable use of biodiversity and its components (article 245).

21. Established the National registry of activities related to the utilisation, processing and sustainable use of biodiversity and its components (article 246).

22. In May 2019, the environmental authority issued guidelines for the promotion of bioendeavours (Ministerial Agreement 034 of 15 May 2019). These guidelines:

23. Define that bioendeavours are public, private, academic and community associations initiatives related to the sustainable use of native biodiversity that contribute to its valuation and the conservation of the natural heritage.

24. Establish that bioendeavours are a type of BioTrade and provide environmental, social, and economic guidelines (e.g., deforestation-free native crops, no monoculture farming, gender approach).

25. Establish a number of actions of the national authority to incentive bioendeavours like (i) develop secondary regulations, (ii) incentive bioendeavours under the BioTrade principles and criteria, (iii) promote interinstitutional coordination, (iv) promote the BioEcuador brand to improve their market positioning.

26. Developing responsible businesses that sustainably use native biodiversity is a main conservation approach which is mainstreamed along the national biodiversity strategy (MAE, 2016). MAATE in collaboration with other entities has been promoting community-based entrepreneurial ventures. For example, the PROAmazonia programme has implemented two competitive funds to finance bioendeavours based on the use of Non-Timber Forest Products.

27. The development of native biodiversity-based sustainable businesses can contribute to confront the main causes of biodiversity loss. For example, a transition from conventional to organic agriculture that uses native agrobiodiversity can reduce the input of pollutants to the environment, improve soil conditions and increase species richness in the fields (M?der et al., 2002; Bengtsson et al., 2005; Pfiffner & Balmer, 2011; Underwood et al., 2011; Bavec & Bavec, 2015; Rundl?f et al., 2016). In spite of this, businesses based on the sustainable use of native biodiversity face a number of challenges to develop and mature.

28. The main problem to advance on this direction is a limited enabling environment, which restrains growth and productivity of businesses based on the sustainable use of native biodiversity. Bioendeavours, like any other venture, face the general conditions of the Ecuadorean business environment plus challenges that are specific to this kind of business.

29. Regarding the general national conditions:

a. Ecuador has a doing business score of 57.7 / 100, it ranks 129 out of 190 countries (World Bank, 2020). The three main limitations are (i) getting credit (45.0/100), (ii) protecting minority investors (44.0/100) and (iii) resolving insolvency (25.5/100). Ecuador is among the lowest-ranked countries in terms of the cost (time and money) of starting a business.

b. Ecuador has a high Total early-stage Entrepreneurial Activity (TEA). It has been above 25% between 2012 and 2019, much higher than Chile and Colombia who have better entrepreneurial framework conditions (Bosma et al., 2020; Lasio et al., 2020). The TEA increased from 29.62% in 2017 to 36.2% in 2019. This means that in 2019 about 3.6 million persons were starting and running a new business (start-ups). A continuing trend has been that TEA is composed of many low-impact, necessity-driven businesses. In 2019, around 82.7% of early-stage entrepreneurs reported that they started a business because of a lack of better options (Bosman et al., 2020). In 2019, the entrepreneur demographics were: (i) 53.5% were men, (ii) the majority were between 25 and 44 years of age (32.1% 25-34 years old and 24.6% 35-44 years old), (iii) the majority had primary and secondary education (32.9% secondary education and 23.5 primary education), and (iv) the majority lived in urban areas (64.5%) (Lasio et al., 2020).

c. Despite the high TEA rate, Ecuador also has a high exit rate (9.3%), the highest in the region (Bosma et al., 2020; Lasio et al., 2020). In 2019, the three main reasons to close the young businesses were (in order): personal problems, lack of profitability, and lack of financing (Lasio et al., 2019).

30. Regarding the specific conditions, Ecuadorean bioendeavours develop non-traditional products and services such as cricket nachos, amaranth drinks (*Amaranthus caudatus*), macambo seeds (*Theobroma bicolor*), pet frogs or birdwatching. In general, the development of these products and services is based on innovation, they do not have a developed market, and are produced by MIPYMES.

31. Bioendeavours can be considered a kind of ?innovation-driven entrepreneurship? (IDE), which is a type of entrepreneurship guided by innovation to keep the company in positions of sustainable

leadership over time. Bioendeavours have characteristics of both small business entrepreneurship and IDEs -- see page 6 of Aulet & Murray (2013) and Budden et al., (2021). In particular, Ecuadorean bioendeavours need to focus on global markets because the national market is minute.

32. According to Budden et al., (2019), IDEs flourish in entrepreneurial ecosystems (enabling environments). In such ecosystems, there are four key elements:

33. Foundational institutions are those institutions, rules, practices, and norms that ensure that investments in a wide variety of capacities and assets can be effectively protected and leveraged to the benefit of the economy. These include rule of law (and conversely lack of corruption), protection of property rights, financial institutions, and general ease of doing business.

34. Innovation Capacity (I-CAP) is the capacity of a place ? a city, a region, or a nation ? to develop ?new-to-the-world? ideas and to take them from ?inception to impact? (whether this be to economic, social and/or environmental impact). In other words, innovation capacity covers not only the development of basic science and research but also the translation of their ?solutions? into useful products, technologies and/or services that truly solve problems.

35. Entrepreneurship Capacity (E-CAP) emphasizes a subset of the more general entrepreneurial capability and conditions for forming enterprises. The aspects of ?E-Cap? most interest to innovation are the ones supporting this 'innovation-driven' side of entrepreneurship capacity, tailored to support the growth of IDEs in a specific place ? such as a city, region, or nation.

36. Comparative Advantage of any region's economy is based on specific areas of strength that differentiate it from others around it.

The resulting ?impact? comes from the combination of innovation- and entrepreneurial capacities, when combined with core comparative advantage and often taking specific actions through ?program and policy interventions.



System for innovation driven entrepreneurship (Budden et al., 2019).

37. Budden et al., (2019) explain that both the Innovation Capacity and Entrepreneurship Capacity require five inputs:

38. Human capital. This is the appropriate human talent with relevant education, training, and experience for either innovation or entrepreneurship (or both). On the I-CAP side, these are persons with appropriate skills for innovation (e.g., develop new products), usually linked to high-quality human talent. On the E-CAP side it refers to people relevant skills and knowledge to build an enterprise from start-up through to growth and scale. In both cases it derives from relevant education, training, and experience.

39. Funding. The variety of types of capital (from the public and private sectors) that support innovation and entrepreneurship both at their origins but also throughout the journey from idea to impact or from start-up to scale-up. On the I-CAP side this refers to the availability of funds (public or private) for research and development. On the E-CAP side this refers to funds to initiate and develop the business. New businesses require risk capital for start-up, afterwards they require resources for expansion and growth.

40. Infrastructure. The physical infrastructure that is necessary to support innovation and entrepreneurship at their different stages. On the I-CAP side this refers to specialised needs like equipment for chemical analyses. On the E-CAP side this refers to more basic facilities like telecommunications and logistics (e.g., internet access, roads, ports).

41. Demand. The level and nature of specialized demand for the outputs of innovation and entrepreneurial capacities. This refers to domestic demand (for initial production) and end-buyer sophistication and particularly their willingness to adopt new innovations and products.

42. Culture and incentives. The nature of role models and individuals who are celebrated, the social norms (?culture?) that shape acceptable career choices and the incentives that shape individual and team behaviours. On the I-CAP side this refers to cultural support for the pursuit of science and innovation. On the E-CAP side this refers to the willingness to take risks to start a business (entrepreneurial intention) and the ease of starting, operating and closing a business.

43. Many of the previously mentioned factors are not sufficiently developed in Ecuador. For instance, access to credit is difficult and venture capital funds for MIPYMES are not developed. Another example is funding for research and development. In 2019, Ecuador ranked 99 among 129 countries in the Global Innovation Index (score 26.56/100) (Cornell University, INSEAD & WIPO, 2019). In 2016, the Organic Code of the Social Economy of Knowledge, Creativity, and innovation (COCI for its abbreviation in Spanish) was adopted. It established a pre-allocation system to secure public funding. However, investment in research and development is meagre. The world average investment on research and development is 2% of the GDP. In 2020, Ecuador invested 0.47%, which is below of the minimum required investment (0.55%) established in the COCI. The main funding source

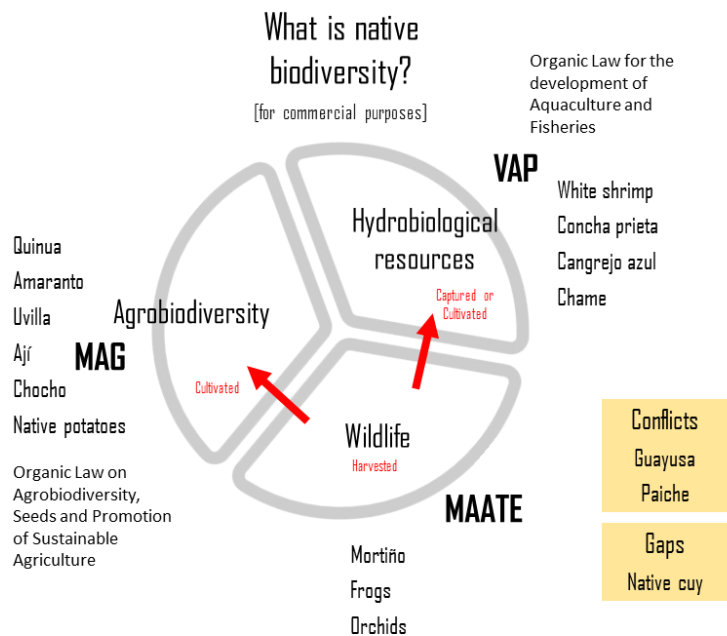
is business own resources. This accounted for 66.9% and 74.5% between 2009-2011 and 2012-2014, respectively (INEC, 2016). For 2012-2014, funding from loans, foreign funds (e.g., technical assistance, projects), government funds and other sources (e.g., clients, NGOs) accounted for 12.8%, 5.6%, 4.9%, and 2.1%, respectively.

Root causes

44. The inadequate enabling environment for the development of sustainable native biodiversity-based businesses is caused mainly by:

i. Regulation gaps that limit sustainable commercial use of native biodiversity.

a. It is unclear the scope of 'native biodiversity' for commercial purposes. MAATE's conception of bioendeavours is focused on harvesting wildlife that is regulated by COA. However, there are other types of native biodiversity. Farmed native biodiversity (agrobiodiversity) (e.g., amaranth, Andean tubers, chocho) and Hydrobiological resources, like white shrimp (*Litopenaeus vannamei*), paiche (*Arapaima gigas*) and chame (*Dormitator latifrons*) are managed by MAG and VAP under different laws. It is uncertain if activities like production of organic native landraces of quinoa (*Chenopodium quinoa*) or farmed chame can be considered bioendeavours. Also, it is not clear who is pertinent to issue authorization of novel activities like native insect farming. There are conflicts of authority because of legal gaps. For example, the commercial production of guayusa (*Ilex guayusa*) which has been used for at least 1,500 years and is grown by Amazonian Kichwas in chakras (Dueñas et al., 2016; Jarret, 2019; Erazo-Garcia et al., 2021). MAATE consider that the businesses that use guayusa must get permits for the use of wildlife, while entrepreneurs disagree arguing that it is a cultivar. Finally, some native biodiversity is not covered by existing laws. For example, native cuy (*Cavia porcellus*). It was domesticated in pre-Inca times and nowadays is used as a food source and for medicinal and ritual purposes (Aviles et al., 2014; Lord et al., 2020; Archetti, 2020). The conservation of the Ecuadorean native varieties is not covered by existing regulations. There are feral cays and a wild relative (*Cavia patzelti*) that is endemic of Ecuador (Brito, 2018).



Types of native biodiversity and pertinent authorities.

b. There are legal loopholes in the processes to issue: (i) permits to use wildlife for commercial use (i.e., wildlife use and management permits) and (ii) environmental licenses to this type of businesses. Existing bioendeavours experience lengthy and cumbersome permit processes; this induces to illegal practices.

c. The existing environmental regulations are primarily focused on protecting nature and biodiversity. Therefore, requesting permission to use non-traditional biodiversity resources generally is a complex matter in which often there are no clear procedures to follow. The most common answer is to deny authorisations, this in turn contributes to the development of illegal practices.

ii. Limited knowledge of the situation of wildlife. There is limited information about the ecology and population status of most biodiversity resources. Therefore, MAATE cannot easily approve requests to use native biodiversity for commercial purposes and, based on uncertainty, mostly postpone approval until sufficient information is available.

iii. The public sector is not focused on the promotion of sustainable ventures based on native biodiversity. The present support to develop sustainable businesses is centred on mainstreaming good practices into existing enterprises, for example certification of seafood, aquaculture, and coffee production or to foster production of organic chocolate. New biodiversity-based business ideas have difficulties to obtain support in the present institutional government structure. MAATE is advocating the development of this kind of enterprises but does not have a specialized unit or group to address biodiversity business issues.

iv. Limited access to financing for biodiversity-based businesses. Financial institutions consider this type of new enterprises as high-risk and therefore new biodiversity-based businesses have serious difficulty to access credit. Some Ecuadorean banks have established 'green credit lines' but these are focused on more conventional needs like energy efficient home appliances and machinery.

v. Preconception that biodiversity-based businesses should be small-scale artisanal enterprises based on associative or community business models. Development assistance, non-governmental organizations and public institutions have long stimulated sustainable enterprises, but their main focus for conservation-related businesses has been small family or associative activities in rural areas to fight poverty. Typical enterprises have been the production of honey, marmalade,

handicrafts, or native fruits. However, there is large evidence that these conservation-oriented businesses mostly fail after external assistance ceases, because fundamental barriers are not sufficiently addressed (e.g., market access) (Burgaleta & Flor, 2018; Jaramillo-Moreno, 2020). Business oriented endeavours (which might be one entrepreneur or a small company) are usually out of the scope of technical assistance and support from development and conservation support.

vi. Applied research is expensive and inaccessible to MIPYMES. New biodiversity-based enterprises need to develop knowledge and production methods, like domestication of wild animals and plants, development of specialised machinery or improving production processes. Government funded research agencies and universities do not invest in this kind of business-oriented research and there are no credit lines to finance research and development activities in non-traditional fields. Consequently, entrepreneurs must depend mostly on empirical evidence and trial and error. This in turn, limit business innovation and development.

vii. Insufficient business-oriented organization of producers. Entrepreneurs usually are reluctant to share their ideas and knowledge and to collaborate with other businesses (there are several cultural and organizational barriers). Also, community organisations of producers generally lack business skills. These factor limit clustering, development of collaborative supply chains and scaling-up.

viii. Limitations on supply and demand. In some cases, new products have no demand and face the challenge of developing the market, which is a difficult task for small start-ups. In other cases, there is high demand (e.g., exotic pets, shark fins) which incentive overexploitation and bad practices.

45. The current baseline scenario is complex. There are major general and specific limitations in the Ecuadorean business environment. Therefore, it is impossible to address at once all the causes that limit the development of sustainable native biodiversity-based businesses in Ecuador. The long-term goal of the Ecuadorean government is that the national economy transition to be based, as much as possible, on the sustainable use of native biodiversity. Hence, the most strategic approach is to focus on key actions (i) to operationalise BioTrade development as stated in the Organic Code on the Environment, and (ii) to develop intersectoral collaboration mechanisms to articulate common action to incentive and manage bioendeavours. The long-term solution is to build an entrepreneurial ecosystem that allow bioendeavours to initiate, grow and expand.

46. Without an intervention to contribute to ease conditions for bioendeavour development it seems unlikely that the transition towards a nature-positive scenario will advance in the near future. Key drivers like (i) pollution from conventional agriculture, (ii) land use change, (iii) lack of appreciation and market demand for native landraces and agrobiodiversity, among others, will continue deteriorating the biodiversity base of Ecuador.

Barriers

47. The main barriers that limit the development of sustainable biodiversity-based businesses in Ecuador are:

Barrier 1. Biodiversity is not yet fully considered a strategic resource.

48. There are several documents that propose opportunities to take advantage of native biodiversity (Onore, 1997; R?os et al., 2007; R?os et al., 2008; Vasco et al., 2008; Alvarez, 2012; Costa-Neto, 2015; Guti?rrez et al., 2015; Jad?n et al., 2015). Even the national research agenda on biodiversity (INABIO,

2017) includes as an objective to study the potential use of flora and fauna for different purposes like cosmetics, food, and nutraceuticals (objective 3.2). However, when commercial enterprises are proposed, there is apprehension and even opposition to new forms of direct use of native biodiversity.

Barrier 2. Environmental regulations have a restrictive approach focused mainly on protection of biodiversity.

49. The present environmental regulations do not consider non-traditional or new uses of biodiversity. For example, there are several groups that harvest mortiño^[1] (*Vaccinium floribundum*) from protected areas. But, formalising this activity has turned complicated, because of legal gaps and ambiguities that prevent issuing proper permits.

Barrier 3. Existing policies and regulations do not facilitate the development of biodiversity-based businesses.

50. Ecuador has complex regulations (e.g., labour and taxes) that, in general, limit the development of start-ups. It was estimated that in 2017 Ecuadorean businesses had to dedicate 17 weeks per year to process and pay taxes. In addition, Lasio et al., (2018) found that ninety percent of new businesses close within two years.

51. Because biodiversity-based businesses are small and make a small contribution to the national economy, government entities and the finance sector do not give them sufficient relevance (prefer to give attention to well-developed industries like shrimp farming and cocoa production) and do not comprehend (i) how this new type of businesses function, (ii) the linkages of their supply chains which can be cumbersome, and (iii) their potential economic and social value. Current public policies and regulations are not adjusted and coordinated to incentive the development of biodiversity-based businesses.

Barrier 4. Lack of information about existing production incentives.

52. In the past years new laws were developed to incentive production and investments^[2]. Specialised entities like PROECUADOR and the Corporation for the Promotion of Exports and Investments (CORPEI) consider that, in general, start-ups do not realise and take advantage of the range of tax benefits and incentives that are available.

Barrier 5. There are no suitable financial instruments for entrepreneurship or start-ups with high uncertainty.

53. As mentioned before, bioendeavours are considered high-risk and have very limited access to credit. In general, this is a main limitation for start-ups. Entrepreneurs indicate that the main reason of business failure is access to credit (Lasio et al., 2018). In addition, existing green credit lines are focused on energy efficiency and clean energy production. The Andean BioTrade Project channelled some financial resources to mobilise support to production ventures^[3], but it had little long-term impact in the availability of credit for this kind of businesses.

Barrier 6. Emerging supply chains have difficulties to develop and mature.

54. Biodiversity-based businesses tend to have fragmented supply chains, facing difficulties to find adequate suppliers, intermediaries, and distributors. Communication, cooperation, and coordination among supply chain partners is weak, which contributes to development and integration problems in the supply chains.

Barrier 7. Lack of advice and support.

55. In general, entrepreneurs have limited access to advice and support to initiate and develop their businesses.

Alternative scenario

56. Solving the range of issues related to the business enabling environment is beyond the means of the present project considering the scope of interventions which will be needed. However, the present GEF project can assist to operationalise the legal basis to incentive bioendeavours, to set the stage for intersectoral collaboration and to implement specific actions to confront the main barriers.

57. The present GEF project is based on the premise that native biodiversity-based sustainable businesses (bioendeavours) contribute to biodiversity conservation by confronting the main causes of biodiversity loss. In addition, this kind of business can contribute (i) to nurture the livelihoods of rural communities and (ii) to undergo a long-term transition towards nature-positive conditions.

58. The current Ecuadorean business environment is inadequate for the development of bioendeavours. However, the adoption of COA opened opportunities by stating that BioTrade must be promoted. Therefore, the basis of the project will be threefold:

59. To contribute to operationalise the BioTrade aspects of COA.

60. To support MAATE to develop a robust conceptual framework and from there build intersectoral dialogue and collaboration to incentive bioendeavours.

61. To implement actions to confront some key barriers like (i) basic legal loopholes, (ii) access to business development training, and (iii) access to credit.

62. A key milestone will be the adoption of a basic incentive package. Project actions will contribute to its initial implementation.

63. A core element of the project strategy is to closely collaborate with four businesses. Their experience and insights will be valuable to develop appropriate incentives and tools.

64. The project assumes that bioendeavours will initiate, expand, and endure if:

65. Essential sectoral entities collaborate and coordinate their interventions.

66. Crucial loopholes about access and use of native biodiversity for commercial purposes are solved.

67. Bioendeavours have access to business development training and targeted credit lines.

Expected outcomes

68. The objective of the project is that Ecuador has basic conditions that facilitate the development of businesses that sustainably use native biodiversity. The project is organized into three components and four outcomes. In total, eleven outputs will be generated. The three components are:

- ? Component 1 will contribute to develop key enabling conditions for bioendeavours. This includes solving crucial regulatory gaps, implementing interagency collaboration and coordination mechanisms, and developing a platform for capacity building in entrepreneurial and business skills.
- ? Component 2 will develop financing lines for bioendeavours.
- ? Component 3 will generate on the ground learning collaboration with four biodiversity-based businesses and will document and share lessons and practical experience.

Component 1. Enabling conditions for the development of sustainable businesses based on native biodiversity.

69. This component will focus on building institutional arrangements and capacities to support the development of biodiversity-based businesses and supply chains. To improve the enabling environment the project will (i) improve regulations and procedures, (ii) construct mechanisms for inter-agency coordination and (iii) contribute to strengthen capacities in public entities, financial institutions, and entrepreneurs. Two outcomes are expected:

Outcome 1. Institutional arrangements that support the development of businesses based on the sustainable use of native biodiversity.

70. Three interlinked outputs will contribute to agree a conceptual framework, fill key regulation gaps and to construct collaborative arrangements among vital entities. At project start a legal advisor (LEG) will be contracted to support the implementation of this outcome.

Output 1.1. Environmental regulations that facilitate the sustainable use of native biodiversity.

71. At project start, a Bioendeavours Working Group will be established within MAATE (Annex 1). The purpose of this working group will be: (a) to facilitate internal dialogue and collaboration, (b) to mainstream collaboration with private sector, and (c) to build a common perspective and tools to incentive bioendeavours. MAATE's Bioendeavours Working Group will be formally established by the Minister through a Ministerial Agreement. The LEG will support the drafting and issuing of this agreement. It is foreseen that the working group will integrate representatives from the following MAATE directorates: (i) environmental regularization, (ii) protected areas, (iii) forests, (iv) biodiversity, and (v) climate change adaptation.

72. The working group will prepare a multiyear workplan that will be formally adopted and made public. Initially the workplan will focus on:

- 73. i. clarifying key concepts and fine-tuning the conceptual framework for bioendeavours,
- 74. ii. filling regulatory gaps, and
- 75. iii. developing instruments to operationalise gender equality into bioendeavours.

76. The planning process will be assisted by the project coordinator (CDP), the LEG and the gender and participation specialist (EGP). At the beginning of the process the EGP will train the working group members on gender equality and social inclusion.

77. The multiyear workplan will be assessed and adjusted every year. The monitoring and evaluation specialist (EME) will assist in the development of a procedure for self-assessment and to identify and document lessons.

78. Initial work will focus on defining the conceptual framework for bioendeavours and the criteria that distinguish them from other commercial ventures. The conceptual framework must clarify how to address the grey areas between wildlife, agrobiodiversity and hydrobiological resources. In addition, the overall framework is the BioTrade principles and criteria (UNCTAD, 2020), however AM034 enumerate a number of characteristics that need measurement criteria. For example, monoculture and gender equality. The working group will prepare (i) a draft conceptual framework and a (ii) proposal of criteria that afterwards will be analysed and agreed with other core entities. The final agreed conceptual framework and criteria will be the basis for the national registry to be developed afterwards.

79. The EGP and a consultant will assist MAATE's working group to prepare a draft conceptual framework about gender equality in bioendeavours. A key matter will be how to incentive rural women to build economically viable businesses or to engage into inclusive value chains. The conceptual framework will be analysed within the project's working group on use of native biodiversity. Key stakeholders of the four demonstration supply chains will be invited to participate in the debate to consider their practical experience. The purpose will be to have a conceptual framework that is practical and applicable to the wide range of circumstances (e.g., harvesting of plants, cultivation of agrobiodiversity, fish farming). The final agreed version will be adopted by MAATE and published to serve as key guidance.

80. Once the conceptual framework is finalised, existing instruments and previous experience on mainstreaming gender equality into BioTrade businesses will be examined and analysed (e.g., UN Women toolbox to strengthen the mainstreaming of the gender approach in the implementation of bioendeavour projects of PROAmazonia's competitive fund). A set of instruments will be developed in consultation with the project's technical working group on use of native biodiversity and the four demonstration supply chains. The final agreed version will be adopted by MAATE and published to serve as key guidance.

81. The LEG will diagnose environmental regulation gaps and analyse the results with MAATE's working group to set priority actions. The focus will be norms and procedures that can be issued and enforced by MAATE. During the first year, work will focus on:

82. Revising the permit process to access wildlife for commercial use.

83. Developing the instruments to apply environmental impact assessment and environmental licensing to bioendeavours.

84. Develop the conceptual framework and instruments to operationalise gender equality into bioendeavours.

85. The development of these norms and procedures will be done through a participatory process, including resource users, to ensure that lessons and practical inputs are incorporated.

86. The improved permit processes will be tested with morti?o harvesting and frogs farming in collaboration with Sumak Mikuy and Wikiri, respectively. The project will support the preparation of the morti?o harvesting plans for the Cotacachi ? Cayapas and Cayambe ? Coca National Parks according to the updated procedure. Each morti?o?s harvesting plan will include a strategy for participatory surveillance and control. The experience from the trials with morti?o harvesting and frogs farming will be used to adjust the instruments and procedures. It is foreseen that, based on the project lessons, there will be a set of updated rules to incentive bioendeavours (like an updated version of AM034).

87. The project will sponsor the preparation of an assessment of the conservation status of morti?o that will be the basis for a National Plan of Action for the Conservation and Use of morti?o.

88. The EGP will ensure that gender equality concepts and instruments are mainstreamed into the revised processes to access wildlife for commercial use and environmental licensing and other pertinent regulations and procedures that will be adjusted / developed during project implementation.

Output 1.2. Relevant norms and regulations that support the development of businesses based on the sustainable use of native biodiversity.

89. The LEG will diagnose key non-environmental regulation gaps and analyse the results with the Interagency Bioendeavours Working Group to set priority actions.

90. The interagency working group, with LEG?s support, will develop instruments to promote bioendeavours with agrobiodiversity, hydrobiological resources, indigenous domesticated animal breeds, tourism, and other native biodiversity elements. The development of these norms and procedures will be done through a participatory process, including entrepreneurs to ensure that lessons and practical inputs are incorporated. The EGP will ensure that gender equality concepts and instruments are mainstreamed into these instruments.

Output 1.3. Interagency coordination mechanism for the promotion of businesses based on the sustainable use of native biodiversity.

91. During year 1, the Minister of Environment, Water and Ecological Transition, as president of the National Committee for Natural Heritage (RCOA article 13), will issue a Ministerial Agreement establishing an interagency working group (Annex 1). The purpose of the Interagency Bioendeavours Working Group will be to provide technical advice to the committee regarding intersectoral policies and regulations to incentive BioTrade development (RCOA article 14g). This working group will contribute to mainstream biodiversity sustainable use into relevant sectoral plans and policies. The LEG will support the drafting and issuing of this agreement. It is foreseen that the working group will

integrate representatives from the following core agencies^[1]: MAATE, MAG, MIPRO, VAP, ARCSA, and AGROCALIDAD. The Human Rights Secretariat (SDH) will be included as a core member to promote the inclusion of gender perspective in the working group actions.

92. The interagency working group, with support from the LEG and the EGP, will prepare a multiyear workplan that will be formally adopted and made public. The planning process will be assisted by the CDP, the LEG and the EGP. At the beginning of the process the EGP will train the members of the interagency working group on gender equality and social inclusion.

93. The multiyear workplan will be assessed and adjusted every year. The EME will assist in the development of a procedure for self-assessment and to identify and document lessons.

94. It is foreseen that initial work will focus on:

95. Agreeing the conceptual framework and the set of measurement criteria to be applied to distinguish bioendeavours.

96. Developing and agreeing a basic incentive package of short and long term incentives that generate business opportunities, economic growth and sustainable livelihoods. The incentive package will be consistent and interconnected with the existing incentive initiatives (e.g., incentives for MIPYMES). Initial ideas about incentives include trade promotion, knowledge sharing events, training opportunities, and preferential loans.

97. The conceptual framework and the incentive package will be presented to the National Committee for Natural Heritage for approval and endorsement. This will operationalise RCOA article 14g.

Outcome 2. Improved capacities for the development of sustainable value chains based on native biodiversity.

98. This outcome will promote understanding of bioendeavours and opportunities for training on business development and management.

Output 2.1. Baseline and information integration of business initiatives based on the sustainable use of native biodiversity.

99. The project will support the development and implementation of the National Registry of Bioendeavours which was created by RCOA article 246. According to RCOA the registry will be managed and operated by MAATE and linked to the Unique Environmental Information System (SUIA). The National Registry of Bioendeavours will comply with the Escaz? Agreement. The records will be public.

100. The RCOA specifies that one of the aims of the registry is to improve the promotion and incentive mechanisms to support the sustainable use, management, and processing of biodiversity. The Interagency Bioendeavours Working Group will conceptualise its contents (e.g., RUC, RUM), use, and links to other platforms (e.g., SRI, RUM, Civil Registry) using the lessons from previous experience like MIPRO's RUM^[2].

101. It is foreseen that:

? Entrepreneurs will enter the web-based platform and complete an information request form. They will be requested to include information about women participation in the business.

? The information provided will be analysed to verify that the business complies with the criteria that distinguish a bioendeavour. The application will be denied, approved or more information will be required. Approved applications will be assigned a unique code number and included into the national registry.

? The entrepreneur will receive a unique code number which will identify the business and will serve to gain access to the incentive package. The project will support initial incentive actions like training (output 2.3), applied research competitive fund (output 2.4) and preferential credit lines (output 3.2).

? To follow the status of the business, the system will send automatic update requests and will flag warnings, for example RUC is closed (information from interconnection with SRI database).

102. The Interagency Bioendeavours Working Group will oversee the implementation of the national registry and will annually assess its performance. The assessments and lessons will be documented.

103. The communication specialist (ECM) will design and implement a 12-month campaign to motivate registration. The campaign will include gender equality and intergenerational considerations. The workgroup on communication will prepare and implement a strategy to sustain the campaign afterwards.

Output 2.2. Guidelines to promote businesses based on native biodiversity.

104. The project will support the development of guidelines to promote businesses based on native biodiversity. First, the ECM will design and implement a 27-month campaign to explain bioendeavours to key audiences. This campaign will start at least three months before the national registry is launched.

105. Key audiences for the campaign will be:

- i. Rural producers, including farmers, collectors, fishers, aquaculture farmers, and ecotourism operators.
- ii. Community-based producer organizations.
- iii. Entrepreneurs, processing companies and product manufacturers.
- iv. Financial institutions.
- v. Production-oriented public entities (e.g., MAG, MIPRO, Ministry of Economy and Finance).

106. Guidelines will be prepared for targeted audiences to incentive the development of bioendeavours. It is foreseen that they will focus on producers, processors, and financial institutions. In all cases, the guidelines will explain what are bioendeavours and their characteristics, their legal framework and the set of incentives available. The draft guidelines will be validated with the project technical working groups. The documents will use gender-neutral and inclusive language, and examples and images of women and youth involvement in bioendeavours.

107. The guidelines will be presented to the specific audiences through in-person and virtual meetings and workshops. For example, meetings with the Association of Private Ecuadorean Banks (ASOBANCA) and producer organisations like the Union of Cocoa Farmer Organizations (UNOCACE, its acronym in Spanish). The guidelines will be available through the web platforms of the core members of the Interagency Bioendeavours Working Group.

108. The EME will identify and document the lessons from the development and use of the guidelines.

Output 2.3. Mechanism for capacity building and business support based on (i) self-directed online courses and (ii) technical assistance and mentoring to harness business development.

109. During the first year a partner (or two) will be selected to undertake the capacity building work. To ensure post-project continuity this entity must have long-term ongoing practical training programmes to support entrepreneurship and business development (e.g., in-person and self-directed online courses, mentoring). Possible candidates include: (i) the Alliance for Entrepreneurship and Innovation of Ecuador^[3] (AEI for its acronym in Spanish), (ii) INSOTEC and (iii) the Private Technical University of Loja (UTPL for its acronym in Spanish).

110. This entity will provide business support to bioentrepreneurs enrolled into the national registry. It is not expected to develop brand new courses only for bioendeavours, but to incorporate concepts and language into existing courses or services for start-ups and mature bioendeavours.

111. The project will invest:

112. to mainstream BioTrade and bioendeavours aspects (key concepts and language) into the current courses or services,

113. to train key personnel (e.g, lecturers, mentors) on the subject, and

114. to fund the initial provision of courses and services.

115. When appropriate, the training will include basic concepts about human-wildlife conflict and human-wildlife coexistence.

116. The CDP, together with the service provider, will draft a strategy to secure long-term funding for the training services (e.g., cost sharing, sponsors). This strategy will be analysed with the project's Technical Working Group on Business Development and the Interagency Bioendeavours Working Group before adoption.

117. The EME will undertake an independent assessment of the beneficiaries' perception about the utility of the business development support services six months after initiation, and then yearly afterwards. The results of the assessments will be analysed with the Technical Working Group on Business Development and will serve to adjust the provision of services. The lessons will be identified and documented.

Output 2.4. Applied research in support of promissory business initiatives based on the sustainable use of native biodiversity.

118. The project team will draft instruments to implement a competitive fund for bioentrepreneurs. The fund will provide small grants (up to USD15,000 per grant) to co-finance applied research initiatives of businesses enrolled into the national registry. The funds will assist applied research and development initiatives to improve business performance, like developing a specific machine or test natural pesticides or fertilisers. The selection process will contain affirmative action for women-led proposals.

119. Before adoption, the draft instruments (e.g., application form, rules and regulations, selection criteria) will be reviewed by the project's Technical Working Group on Business Development and the Interagency Bioendeavours Working Group.

120. The EME will develop and implement a procedure to monitor and assess the performance of the competitive fund. The lessons will be identified and documented. The ECM will organise a communication campaign to disseminate progress and results.

121. The Interagency Bioendeavours Working Group will explore means and opportunities to have long term support for this kind of applied research. For example, channelling resources from existing funds -- like the Sustainable Environmental Investment Fund (FIAS for its acronym in Spanish) or the Agricultural Research Fund (FIASA for its acronym in Spanish) ? or international cooperation. Another source to be explored is contributions from ongoing businesses.

Component 2. Increase availability of financing.

122. This component will focus on developing instruments to finance biodiversity-based businesses and supply chains.

Outcome 3. Financial mechanisms and instruments in support of business ventures based on the sustainable use of native biodiversity.

Output 3.1. Analysis of market-demand for sustainable products from native biodiversity.

123. In coordination with PROECUADOR^[4], the project will finance an analysis of market-demand for Ecuadorean biodiversity-based products in European countries. The analysis will be in line and contribute to the strategy to promote non-traditional exports from MIPYMES.

124. The analysis will focus on the European market to take advantage of: (i) the existing trade agreements with the European Union (EU) and the European Free Trade Association[5]⁵, and (ii) the experience and lessons of the Export-DES programme[6]⁶. It is foreseen that the analysis will focus on The Netherlands, France, Germany, and Spain. The analysis will be publicly available through PROECUADOR's web portal (a page contains market analyses).

Output 3.2. Green financing lines for businesses based on native biodiversity.

125. A financial specialist (FIN) will be contracted for 24 months to support the implementation of this output.

Pilot credit lines

126. The project will implement pilot credit lines for bioendeavours together with the following financial institutions: Banco Pichincha, Banco Guayaquil, PRODUBANCO, Banco Pacifico and CONAFIPS. This will allow to generate practical learning to develop a full-scale initiative afterwards.

127. The partner financial institutions were selected because they have previous experience with green credit lines and focus on MIPYMES and rural producers.

128. The GEF resources will be invested in the development of the pilot credit lines and CAF will provide USD11,000,000 to fund the lines.

129. The project will invest GEF resources to:

130. Design the credit lines together with the partner financial institutions. The design of the credit lines will: (i) aim to use as much as possible the National Guarantee Fund and (ii) incorporate affirmative actions to contribute to bridge the financing gap of women entrepreneurs. It is expected that the project's Technical Working Group on Access to Business Financing will contribute ideas and recommendations.

131. Assist partner Savings and Credit Cooperatives to develop the pertinent tools and procedures to implement the project-sponsored credit lines (e.g., Environmental & Social Risk Analysis, formularies).

132. Train the personnel of partner financial institutions for the implementation of project sponsored credit lines.

133. Provide technical assistance to partner financial institutions during implementation of project sponsored credit lines.

134. The project-sponsored credit lines will be open to businesses enrolled in the national registry. It is foreseen that the loans will have preferential conditions, such as lower interest rates or extended loan repayment period.

135. The FIN, together with the EME and the EGP, will organise meetings with the partner financial institutions and the project's Technical Working Group on Access to Business Financing for self-assessment, to evaluate the performance of the credit lines and to identify and document lessons.

136. In parallel to the implementation of the credit lines, the FIN will organise meetings and short training session with key entities like SESP, Superintendency of Banks, ASOBANCA and other financial institutions to motivate them to engage into financing bioendeavours.

137. In collaboration with CAF and partner financial institutions a consultant will map international sources to fund the credit lines (e.g., social investment funds, impact investors) and will prepare a funding strategy and initial proposals. CAF will channel and negotiate the proposals.

138. A consultant will provide technical assistance and on-the-job training to MAATE staff to operationalise national biodiversity conservation budget tagging.

Savings groups

139. The project will prepare a study of pragmatic experience, lessons, and best practice from savings groups for production purposes. The FIN and the EGP will organise four regional workshops to present the results and to exchange experience among practitioners (tentative locations are Cotacachi, Riobamba, Portoviejo and Quevedo). It is foreseen that members of the Technical Working Group on Access to Business Financing will participate in the meetings.

140. Based on the results of the workshops a guidance document on the use of savings groups on bioendeavours will be prepared. The draft guidance document will be analysed by the Technical Working Group on Access to Business Financing. The guidance document will be available in two formats: (i) a brief for savings groups and (ii) a technical document. Both documents will use gender-neutral and inclusive language. The brief will be distributed by social networks and printed format.

141. The EGP will organise annual meetings of project-related women savings groups to facilitate the exchange of experience, knowledge, and lessons. The memoirs of the meetings will be widely disseminated. Towards the end of the project the EGP will document and systematise the lessons.

Component 3. Demonstration pilot interventions.

142. This component will generate practical lessons from direct support to four supply chains and will document project lessons.

Outcome 4. Optimised demonstration sustainable supply chains.

Output 4.1. Four optimised demonstration supply chains (community and private models).

143. The project will generate practical lessons from direct support to four production chains: (i) life pet frogs, (iii) organic quinoa, (iii) native snacks, and (iv) organic dehydrated fruits and vegetables (output 4.1). The project will provide technical assistance and direct financial support to address key problems that hinder their advance. Lessons and good practice will be systematically documented (output 4.2).

Life pet frogs.

144. Wikiri (the brand name of Oophaga S.A.) is a private microenterprise, established in 2011, that produce captive bred frogs for the international amphibian pet market (the national market is negligible) (www.wikiri.com.ec) (Gibbens, 2017).

145. Wikiri is the only legal commercial producer of live frogs from Ecuador. Only third-generation individuals are traded. They manage 41 frog species, but currently only 25 are traded. The frogs come from captive breeding under laboratory conditions (produced in Sangolqu?) or farmed in controlled rainforest plots. Wikiri has two ?farms?: Otokiki and La Florida. Otokiki is a 58 ha tropical forest reserve located in Alto Tambo (Esmeraldas province) (Annex 11). In Otokiki, Wikiri applies habitat enrichment techniques to manage the frogs. La Florida is a 76 ha farmland area, located in Alluriquin (Santo Domingo de los Ts?chilas province), that is being enriched with native vegetation. There, Wikiri has plots for ex situ reproduction of frogs. Juveniles from Otokiki and La Florida are transported to Sangolqu? to be raised and maintained in laboratory conditions before commercialisation. Individuals are shipped via air transportation to wholesale dealers in the destination markets.

146. A valuable species is *Oophaga sylvatica* (Family Dendrobatidae), a poisonous frog endemic from Ecuador and Colombia[7]⁷. This species is polymorphic and has 14 morphs (Roland et al., 2017). Wikiri manage and produce four of these morphs: paru, diablo, pata blanca and situwa.

147. For the five-year period September 2010 - August 2015, Sinovas & Price (2015) reported the following:

- a. Wikiri exported 2,648 live CITES and non-CITES listed frogs.
- b. The most traded species were *Ceratophrys stolzmanni* (39% of all exported individuals), *Gastrotheca riobambae* and *Oophaga sylvatica* (19% of all exported individuals)[8]⁸.
- c. Between 2005 and 2014, the main importers of CITES-listed amphibians from Ecuador were the United States of America, the Netherlands and Canada (Sinovas & Price, 2015). The main species exported to these countries were *Epipedobates anthonyi* (84% of exports), *Oophaga sylvatica* (70% of exports) and *Epipedobates tricolor* (67% of exports), respectively.
- d. Wikiri?s exports accounted for USD400,000 in total. The exports of *O. sylvatica* accounted for 58% of the total exported value.

148. In 2019 (last pre-pandemic year), Wikiri exported 817 live frogs with a total value of USD 129,000. The four main species exported were *Oophaga sylvatica* (103 individuals), *Hyalinobatrachium aureoguttatum* (101 individuals), *Atelopus* sp. (65 individuals) and *Atelopus balios* (55 individuals). In value, the main species were *O. sylvatica* (USD 33,109), *A. balios* (USD

26,435), *Atelopus* sp. (USD 13,367), and *H. aureoguttatum* (USD 12,239.00), and the three main destinations were USA, Europe and Asia.

149. The business model is based on the synergy between two sister organizations: Wikiri and the Jambatu Centre for Research and Conservation of Amphibians (here on Jambatu) (www.anfibiosecuador.ec). Jambatu is a non-governmental organisation focused on amphibian research and the implementation of the action plan to conserve Ecuadorean amphibians. Wikiri uses the knowledge generated by Jambatu to produce frogs for the pet market. In return, Wikiri contribute funds to sustain Jambatu's work (e.g., operating costs, research and conservation initiatives) (Guarderas, 2017; Coloma, 2019; Teran & Naranjo, 2019). The long-term goal is that Jambatu will be sustained by Wikiri. This has not happened yet, Jambatu largely depends on grants for research and conservation projects (e.g., WildCare Institute of Saint Louis Zoo, PARG project).
150. Wikiri and Jambatu are developing a permanent interactive public education exhibition about amphibian conservation called "Wikiri Sapoparque" (Wikiri Toadpark in English). It will present the diversity and value of Ecuador's amphibians, the extinction threats and challenges, and the science behind conservation efforts. The development of the exhibition has been funded with investment from Wikiri and grant contributions (e.g., Critical Ecosystem Partnership Fund^[9]). An initial phase of the exhibition was planned to open to the public during April 2020, but this was suspended because of the COVID-19 pandemic.
151. The COVID-19 pandemic had a severe impact on the company. Sales dropped from USD 124,181,36 total exports in 2019 to USD 64,548 total exports in 2020. The suspension of international and domestic flights impeded the shipment of individuals to the destination markets. The company was at the brink of collapse. It was able to endure by signing future goods agreements with wholesalers, taking advantage of the high demand of pet frogs.

Key barriers

152. The following barriers have limited the growth of Wikiri:
- Legal insecurity. The company need several permits to use and manage wildlife. At the moment, decisions are not consistent and depend on the interpretation of the duty officer because of the number of regulatory and operational ambiguities and loopholes. For example, it is not clear how to issue the permit for the operation of Wikiri Sapoparque. Some officers propose that the public exhibition is treated like a zoo, in which case Wikiri cannot sell animals, which is the core of the business.
 - Limited access to credit. Since its start, the company has not been able to obtain a loan from financial institutions. The only credit they have received was USD20,000 from CORPEI within the context of the Andean BioTrade project. When needed, they have funded the operation with personal loans. Key limitations are (a) the business is considered high-risk because it does not comply with standard characteristics, and (b) they have not been able to cover the collateral requested by the financial institutions. The broodstock has not been accepted as an asset to cover the collateral.

Project intervention

153. Wikiri will be a case study for the improvement of the permit process to access wildlife for commercial use (output 1.1). In addition, the development of the credit lines (output 3.2) will consider the limitations faced by this type of non-traditional business.
154. The project will provide direct support to advance two initiatives: (i) to expand the production of *O. sylvatica* and (ii) to complete the public education exhibition.

The problem

155. Poison dart frogs (family Dendrobatidae) are highly demanded and command a high price, which induces illegal collection and trade and increasing pressure on wild populations. The most demanded dendrobatid frog from Ecuador is *Oophaga sylvatica*. In ten years (2010 - 2020) Wikiri exported 1,180 individuals. However, the increasing demand surpasses the legal offer, and the unsatisfied demand is covered by illegal trade. In addition, their habitat is rapidly deteriorating by the effects of deforestation and pollution. The no-action scenario is that the supply ? demand gap will continue to broaden, therefore increasing pressure on the imperilled wild populations.
156. ?Wikiri Sapoparque? is almost completed, but the pending investment will be difficult to cover because of the pandemic impact on the business. The no-action scenario is that the public education exhibit will not open in a few years, therefore people will miss the opportunity to be motivated to conserve and value amphibian biodiversity.

Alternative scenario

157. Ease the existing supply ? demand gap for dendrobatid pet frogs by increasing the supply of legal captive-bred *O. sylvatica*. The aim will be to double the production of *O. sylvatica*, from the current capacity of 385 individuals per year to >770 individuals per year.
158. Complete and open Wikiri Sapoparque. The aim will be to complete the pending investments and to open the exhibit as soon as possible. This will start a learning channel to inform and motivate people to conserve amphibian biodiversity. Based on a very conservative scenario and the current pandemic related limitation on the number of people who can visit public exhibitions, it is estimated that at least 3,600 persons / year will visit Wikiri Sapoparque.
159. Wikiri?s expected increased revenue will allow to increase the contribution to sustain Jambatu. It is expected to increase the funding of Jambatu?s costs from 5.8% (in 2020) to >9.8% in four years.

Specific actions

160. To increase the supply of *O. sylvatica* the project will support the following actions:
- a. Five new quadrants (20 m x 15 m each) will be built in La Florida. Each quadrant will be enriched with bromeliads to facilitate reproduction, oviposition and tadpole growth. Each quadrant will have a sprinkler system and a removable roof to provide humidity and shade during the dry season. Around the quadrants native trees will be planted to provide cover and leaf litter. Complementarily, additional small holding plots (4 m² each) will be built to grow juveniles for six months. Part of these individuals will be released into the reproduction quadrants to enrich the broodstock, and others will be sent to the laboratory in Sangolqui final growth and veterinary care before shipping.
 - b. Purchase equipment to increase: (a) the capacity of production of crickets to feed the frogs, and (b) the vivarium to house the individuals in Sangolqui. This will be necessary

to secure sufficient and adequate food and living space for the increased number of individuals to be managed.

161. To complete and open Wikiri Sapoparque the project will support the following actions:
- a. Install an interactive module in the area "a world to discover". This module will allow visitors to explore the images and sounds of frogs from Quito metropolitan area.
 - b. Build the gift shop to offer souvenirs like bags, toys, clothing, and books. It is foreseen that about 14 artisans will provide high-quality amphibian-inspired merchandise and that the shop will generate as much income as ticket sales.
 - c. Develop the webpage with capabilities to book the visit (date and time of the day) and to buy tickets in advance. This will assist to enforce public safety precautions (e.g., limited visitor capacity, one-way path flow, physical distancing).

Organic quinoa.

162. The Bio Taita Chimborazo Corporation of Organic Producers and Traders (COPROBICH) is an associative business that produces organic quinoa (coprobich.com). COPROBICH is a not-for-profit corporation established in 2003^[10] that congregates 541 members (310 women) from 56 Puruh? indigenous Andean communities spread along three municipalities (Colta, Guamote and Riobamba) in the highlands (between 2,600 and 3,500 masl). They are smallholding farmers; the average plot has 0.7 ha.
163. The main products are organic quinoa grains and flour that are exported to Europe, mainly to France and The Netherlands. COPROBICH has the following certifications: Fair Trade, USDA Organic, OKO Garantie BCS, Agriculture Biologique, SPP Small Producers' Symbol, and UE EC-BIO-141 Agriculture of Ecuador. There are a few products for the national market that are sold mainly in speciality stores. The national market for organic produce is still minimal.
164. In 2019 (last pre-pandemic year), COPROBICH sales were USD 946,277.28. Export sales were USD 827,979.24. The main export markets were The Netherlands - Dutch Organic International Trade (DO-IT) (USD512,000), and France - Ethiquable (US\$314,000). In 2020, during the pandemic, total sales were USD792,684.34. Export sales were USD510,108.
165. The COVID-19 pandemic had no severe impact on production. The processing plant only ceased operations for a short period of time. Producers and plant personnel did not get infected.
166. COPROBICH has a general assembly which elects an executive board and ?cabecillas? that represent each community (a farmers group). Cabecillas are community leaders that coordinate production and technical assistance matters with local farmers. There are 51 cabecillas, 15 of them are women. COPROBICH has a women group that promotes a gender perspective into the organisation. Membership to the organisation is open. Farmers can apply to become a full member or a provider member.
167. COPROBICH advancement has benefited from support by national and international cooperation organisations like "Escuelas Radiof?nicas Populares del Ecuador" (Popular Radio Schools of Ecuador, abbreviated ERPE) (www.erpe.org.ec), the Comit? catholique contre la faim et pour le d?veloppement-Terre Solidaire (CCFD-Terre Solidaire) (ccfd-terresolidaire.org), TRIAS
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(www.trias.ngo) and the European Committee for Training and Agriculture (CEFA) (cefaecuador.org).

168. ERPE motivated and organised commercial quinoa production in 1998. At that time, quinoa was "food for the poor and animals". COPROBICH was established in 2003, they provided the raw material to the value chain that ERPE had developed to export quinoa. In 2009 they separated to pursue the idea of developing their own processing plant and to export directly. Their initial capital was a contribution of USD20 per member and voluntary labour schedules in "mingas"^[11]. They used the capital to buy a land lot and to seek support for their project. The processing plant and its development was built with contributions from a range of collaborators.
169. Quinoa is a pseudocereal (Family Amaranthaceae) that has been a traditional crop and staple food of High Andean indigenous people. It was domesticated about 5,000 BC in the central Andean highlands (Bruno, 2006; De la Torre et al., 2006; Planella et al., 2015). During colonial times quinoa was despised as "indian food" and remained neglected until its high nutritious value was "rediscovered" during the second half of the 20th century (Hernández & León, 1992; Repo-Carrasco et al., 2003; Bazile et al., 2016). Nowadays, it is considered a key resource to contribute to global food security under the present climate change scenario, it is considered one of the neglected and underutilized crop species (NUS) (Padulosi et al., 2013), and one of the Future 50 Foods recommended to improve nutrition and reduce the agriculture impact on the planet (FAO & CIRAD, 2015; Knorr & WWF, 2019).
170. The United Nations General Assembly declared 2013 as the "International Year of Quinoa" which motivated worldwide interest on this crop and a steep rise in the demand and price, which collapsed in the following years (Alandia et al., 2020). Bolivia and Peru generate about 80% of world production, Ecuador has a much smaller production share. In 2019, Peru, Bolivia and Ecuador produced 89,775 t, 67,135 t and 4,505 t, respectively (FAOSTAT). However, quinoa has been taken to several countries because its wide genetic diversity allows adaptation to different soil types and climate conditions. About 123 countries produce quinoa worldwide, including France, Germany, Spain, and the United Kingdom (Bazile et al., 2016; Alandia et al., 2020).
171. Farmers get one yearly harvest of quinoa. Cultivation is vulnerable to climate variability and climate change. The recent La Niña 2020-2021 event generated frosts that damaged many sowed quinoa plots. Soil preparation is done around August - September, followed by sowing between October - November and harvesting around July - August. Farmers select and store seeds for the following production cycle. There are six quinoa landraces in Ecuador (Gandarillas et al., 1989). COPROBICH producers use the Chimborazo landrace. Wild quinoa relatives are present in the plots and the surrounding areas, but there is very little information about them (Hinojosa et al., 2021). Producers thresh the grains and transport the sacks to the processing plant. There, quinoa is received, stored, and processed. Farmers are paid a net value after discounting the cost of the agricultural supplies they received.
172. Quinoa farming diminish soil fertility, therefore farmers apply a rotation system. Depending on the conditions of the area, farmers alternate quinoa with barley (*Hordeum vulgare*), maize (native races of *Zea mays*^[12]), fava beans (*Vicia faba*), peas (*Pisum sativum*), onions (*Allium*
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cepa), potatoes (*Solanum tuberosum*) and chocho (*Lupinus mutabilis*). These are organic produce that have limited demand and recognition because of the incipient Ecuadorean organic market.

173. COPROBICH provides technical assistance and agricultural supplies for organic production (fertilizers, natural pesticides) and cover the cost of inspections and certifications to their member farmers. Each lot is coded, and each farmer maintain a field diary to ensure accurate monitoring and compliance with organic agriculture practices. COPROBICH has a small biofactory that produces bokashi, biols and natural pesticides for their farmers. It was established in 2019 with support from Ethiquable, the main quinoa client for the French market.

174. In 2020, for COPROBICH farmers, the average cost of production of one hectare of quinoa was USD1,200 (e.g., labour force^[13]¹³, threshing, transportation), They produce about 20 hundredweight per year and receive USD1,760. Therefore, their net income is USD560 per hectare. Quinoa contribute about 60% of the household income.

Key barriers

175. The main barrier that has limited the growth of COPROBICH is limited access to credit. COPROBICH has not been able to access credit from private financial institutions because they are listed as an NGO. They fund their operations with two sources:

- ? BanEcuador, an Ecuadorean public development bank. COPROBICH has a USD300,000 credit line of which they have used USD90,000.

- ? Solidarit? Internationale pour le D?veloppement et l'Investissement (SIDI), a social investor. COPROBICH has a USD250,000 credit line of which they have used USD120,000. This credit line is backed the buyers, who pay through SIDI.

They need at least USD500,000 for working capital to pay producers upfront. Under the current situation farmers must wait one or two months for their payment. COPROBICH still depends on cooperation support to partially cover costs like technical assistance to farmers and investment projects.

176. In addition, farmers have severe limitations to access credit. They are unbanked for several reasons, like (i) they live in very remote areas far from financial institutions? branches and (ii) have no savings capacity because of their very low net income. COPROBICH farmers finance their livelihood by borrowing goods and services from various providers (e.g., local shop, threshers) to be paid when they sell their harvest. Some of them, mainly women, use savings groups.

Future challenges

177. COPROBICH face a number of challenges, but the most defiant are:

- a. Progressive reduction of quinoa yield. The average yield declined from 35 hundredweight ha⁻¹ year⁻¹ in 2005 to 22 hundredweight ha⁻¹ year⁻¹ in 2020. The soil becomes gradually impoverished during the growing cycle. Farmers apply a rotation system to restore soils, but this is insufficient. Organic fertilizers (like bokashi) have to be applied, but smallholders do not have animals and sufficient vegetable matter to nourish their plots. Currently, COPROBICH's biofactory do not have the capacity to cover the needs of all their producers.
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- b. Competition from non-Andean producers. Other countries are increasing the production of quinoa. For example, China produced 20,000 t in 2018 (Xiu-shi et al., 2019). Quinoa is also being produced in European countries like France (main European consumer market), The Netherlands, the United Kingdom and Italy. It is estimated that the increased local production of quinoa will contribute to a reduction of the price of imported quinoa. European production expanded from 2,313.8 t in 2016 to 24,510.9 t in 2020 (Mordor Intelligence, 2021)
- c. Aging population. The majority of COPROBICH producers are elder and most young people are not interested in agriculture production. The young have a higher education level and expectations and the projected income from quinoa production is very low.

Project intervention

- 178. COPROBICH will be a case study about associative business development based on native agrobiodiversity. The development of the credit lines (output 3.2) will consider the limitations faced by this type of business and the members of its production chain (e.g., smallholders, threshers). COPROBICH women group will share their experience with savings groups.
- 179. The project will provide direct support to increase their capacity to produce organic fertilizers and natural pesticides.

The problem

- 180. Quinoa yields are declining, this reduces the farmers' income and the production to be traded. The main cause is insufficient input of organic matter. Farmers cannot produce their own natural fertilisers and COPROBICH is not able to supply fertilisers to all the producers. In the short-term there is a risk that farmers shift to conventional production to increase their production. COPROBICH has a rudimentary biofactory in a small lent community building. Its current annual production capacity is not enough to serve all the producers; in 2020, this production was sufficient to serve only 380 producers.

Alternative scenario

- 181. The aim will be to ensure sufficient supply of organic fertilisers and natural insecticides to all COPROBICH producers. Organic fertilisers are beneficial to soil restoration and enhance soil biodiversity (Mäder et al., 2002). Also, organic farming practices host more species (Bengtsson et al., 2005; Pfiffner & Balmer, 2011; Underwood et al., 2011; Rundlöf et al., 2016). A recent insect inventory on organic quinoa plots in Chimborazo province found very high species richness of Hymenoptera (Hinojosa et al., 2021). This group is very important for pollination and very sensitive to synthetic pesticides.

Specific actions

- 182. The project will add to establish a new biofactory. Ethiquable funded a feasibility analysis and the design of a biofactory to produce agriculture supplies for COPROBICH farmers and to sell to other organic producers (Leiva & Bastidas, 2021). The aim will be increase production and to serve all the 541 producers.
- 183. GEF funds will serve to: (i) prepare the biofactory business plan, (ii) build two industrial sheds for the production of bokashi, liquid bio-fertilizers and natural pesticides, and (iii) purchase a set of raw materials and basic supplies. COPROBICH will cover other costs, including

purchasing a land lot and raw materials and supplies, permits, personnel training and farmers tutoring and technical assistance.

184. The following actions will be implemented:

- a. Prepare the biofactory business plan and analyse it with the ?cabecillas?.
- b. Exchange visit to learn about biofactory production in other organisations that manage biofactories[14]¹⁴ (to be funded by COPROBICH).
- c. Purchase a land lot (between 3,000 m2 and 10,000 m2) and prepare it for construction work (to be funded by COPROBICH).
- d. Prepare engineering plans and structural calculations for the biofactory.
- e. Build two industrial sheds and a warehouse.
- f. Purchase an initial set of raw materials (e.g., minerals, poultry manure) and basic supplies (to be partly funded by COPROBICH).
- g. Prepare quality analyses and obtain permits for biofactory products (to be funded by COPROBICH).
- h. Provide annual training to cabecillas (use of organic fertilizers and natural pesticides and good agricultural practices) and continuous technical assistance to producers (to be funded by COPROBICH).

185. In addition, GEF funds will provide a small post-pandemic economic recovery incentive for COPROBICH women members. Each person will receive a cuy production package to allow them to produce animals for sale and for family consumption. COPROBICH cofinancing will cover technical assistance and follow up.

Current and expected production level of agricultural supplies for organic production in COPROBICH biofactory.

| Agricultural supplies | Current production | Target production per year |
|-----------------------|--------------------|----------------------------|
| Bokashi | 200 t (in 2019) | 350 t |
| Biols | 5,500 l (in 2019) | 8,000 l |
| Natural insecticides | 500 l (in 2020) | 1,000 l |

Native plant species that are part of the demonstration supply chains

| Common name | | Scientific name | Notes |
|------------------|------------------|-------------------------------|---|
| Spanish | English | | |
| Aji rocoto | Chili | <i>Capsicum pubescens</i> | The <i>Capsicum</i> genus is native from the Andes. The oldest record of use of domesticated <i>Capsicum</i> was found in two archaeological sites in Ecuador. <i>C. pubescens</i> has lost its dispersal mechanism and only occurs in cultivation, it is one of the five native species that have been traditionally cultivated in Ecuador (Carrizo Garcia et al., 2016; Perry et al., 2007; Pickersgill, 2007; Yanez et al., 2015). |
| Uvilla | Goldenberry | <i>Physalis peruviana</i> | Native and domesticated in the Andean region, traditionally cultivated in the chakra (Pickersgill, 2007; Matute Garcia & Parra Parra, 2018; Aranguren & Moncada, 2018). |
| Mortiño | Andean blueberry | <i>Vaccinium floribundum</i> | Wild shrub endemic to the Andean region (Colombia, Ecuador, and Peru). It grows in the highlands, mainly associated with paramos. A high degree of genetic variation has been found in Ecuador; four distinct genetic clusters have been identified. It has high traditional cultural value (Vega-Polo et al., 2020; Santamaria et al., 2012). |
| Quinoa | Quinoa | <i>Chenopodium quinoa</i> | Native and domesticated in the Andean region. It shows a high degree of genetic variation, six landraces have been identified in Ecuador. It is a traditional component of the chakra (Pickersgill, 2007; Gandarillas et al., 1989; Bruno, 2006; Matute Garcia & Parra Parra, 2018; Aranguren & Moncada, 2018). |
| Chocho | Andean lupine | <i>Lupinus mutabilis</i> | Native from the Andean region. Probably domesticated in northern Peru. A basic staple food of pre-Columbian populations. It is a customary component of traditional indigenous farming (Eastwood & Hughes, 2008; Jacobsen & Mujica, 2006; Espinosa et al., 1997; Atchison, 2016). |
| Zanahoria blanca | Arracacha | <i>Arracacia xanthorrhiza</i> | An Andean tuber probably domesticated before potatoes. Cultivated by asexual propagation. Consumed by pre-Columbian populations. A main component of the chakra (Hermann, 1992; Espinosa et al., 1997; Morillo et al., 2017; Morillo & Second, 2017; Mazon et al., 1996). |
| Camote | Sweet potato | <i>Ipomoea batatas</i> | One of the oldest domesticated plants in the Americas. Probably domesticated independently in Central and South America. High genetic diversity has been found in Ecuador. It is a traditional component of the chakra and a main commercial crop (Nieto et al., 1987; Ugent & Peterson, 1988; Pickersgill, 2007; Roullier et al., 2013; Monteros-Altamirano et al., 2021). |
| Papa | Potato | <i>Solanum tuberosum</i> | Native from the Andean region. Probably domesticated from a single origin in northern Peru. Extraordinary morphological and genetic diversity of native potato landraces. Small farmers conserve native landraces. Commercial demand for improved varieties threatens the conservation of coloured pulp potatoes and other less attractive native landraces (Spooner et al., 2005; Pickersgill, 2007; Monteros-Altamirano, 2011; Monteros et al., 2014; Monteros-Altamirano, 2018). |

Native snacks.

186. Ethnisnack (the brand name of Ethniessence) is a private microenterprise established in 2009 (ethnisnack.com). The company was formed by two young female entrepreneurs to produce nutritious snacks made with native crops. Their current products are: ?chochines? (fried chochos), ?julyz? (fried mix of camote, zanahoria blanca, potatoes and plantain) and chocho flour. However, they aim to develop more products using coloured pulp potatoes and other native produce.

187. They launched ?chochines? in 2009 and ?julyz? in 2011, both for the national market. They had to close operations between 2014 and 2016 because of changes in Ecuadorean food regulations that required expensive and lengthy processes to obtain new required permits. In 2017 they resumed operations with support of a preferential loan for business entrepreneurs from Fundaci?n CRISFE (Fundaci?n CRISFE, 2017). In 2018 they started to work with COPADE a Spaniard NGO on Fair Trade and Organic certification to export to Spain the vegetable mix under the brand GAIA & COAST[1]. Currently they produce (a) organic Fair Trade ?julyz? for export and (b) conventional ?julyz?, ?chochines? and chocho flour for the national market. The processing plant is located in Quito.

188. Ethnisnack supplies come from the following sources:

189. For organic ?julyz?, camote, zanahoria blanca and potatoes are bought from small farmers from Checa, about one hour North of Quito. Ethnisnack provide technical assistance and oversight to organic farmers through a Ayllu Organics, a sister company.

190. For conventional ?julyz?, camote and zanahoria blanca come from Nanegalito, and potatoes come from the Carchi province.
191. For ?chochines?, chochos come from three sources: (a) a processor from Ibarra (Imbabura province), (b) a producer and processor from Cuicuno, and (c) a producers association from Chugchilan (Cotopaxi province). Ethnisnack buy debittered dehulled chocho grains.
192. In 2019 (last pre-pandemic year), Ethnisnack total sales were USD 47,000. Export sales were USD 9,000. In 2020, during the pandemic, there were no exports and total sales dropped to USD 30,000.
193. Ethnisnack is a women-led business that apply strong affirmative actions to empower women. For example, all labour in the processing plant are women and promote that woman take active participation in the production of their supplies.
194. The development of Ethnisnack has benefit from support by national and international cooperation organisations like Fundaci?n CRISFE and COPADE. They benefited from training on business development from Quito?s Economic Promotion Agency (ConQuito) and export market development from PROECUADOR. Ethnisnack was also included in FEDEXPOR initiative to promote exports from MIPYMES (Export-DES programme).
195. Camote (*Ipomoea batatas*), zanahoria blanca (*Arracacia xanthorrhiza*) and chocho (*Lupinus mutabilis*) have been native traditional crops and staple foods of Andean indigenous people. During colonial times, the camote was taken to Europe, Asia, and Africa (O'Brien, 1972; Cartay & Davila, 2019). In contrast, zanahoria blanca and chocho were neglected (Hern?ndez & Le?n, 1992).
196. Despite its world relevance as a food crop, at present the consumption of camote in Ecuador is low (<2 kg per capita year⁻¹) and mainly concentrated on local rural markets (Cobe?a et al., 2017). In 1996 it was estimated that urban families in Quito, Guayaquil and Cuenca bought about 5.4, 7.4 and 2.82 kg per year (Espinosa & Crissman, 1996). High genetic variability of this tuber has been found, there are 15 local varieties that are cultivated in the coast, the Amazon, and the Andean valleys (Cobe?a et al., 2017; Paredes, 2014; Hernandez et al., 2019). Three wild relatives have been identified on the coast and the Amazon; they are considered Near Threatened (Naranjo et al., 2018).
197. The zanahoria blanca is an Andean tuber whose traditional consumption is limited to the highlands (Mazon et al., 1996; Camacho, 2006)). It is sold mainly in local markets and in small amounts through supermarkets. In 1996 it was estimated that urban families in Quito, Guayaquil and Cuenca bought about 8.1, 8.9 and 2.7 kg per year (Espinosa & Crissman, 1996). However, for decades, its production has declined. There is concern that it could disappear from Ecuadorean gastronomy (Paguay, 2012; Navarrete, 2015).
198. The chocho is a legume that was neglected during colonial times because it has a bitter taste because of high alkaloid content (the plants? chemical defence against insects). It needs to be processed before consumption. Its production and use were limited to Andean indigenous communities until the 1980s when INIAP started to promote the use of neglected Andean crops (Caicedo et al., 2001; Peralta,

2016). Chocho has outstanding nutritional value. It has remarkably high protein content and the highest levels of oil and protein of all domesticated lupin species (Schoeneberger et al., 1982; Santos et al., 1997; Jacobsen & Mujica, 2006). Nowadays, national consumption of chocho is high, mostly in the highlands, and it is widely available in a range of products. At the international level, it is considered an emerging protein crop (Gulisano et al., 2019).

199. Farmers get one yearly harvest of chocho. Soil preparation and sowing is done between October and January. The fields are harvested between September and December. Farmers thresh the grains and store them dry. The normal yield is about 20 to 25 hundredweight per hectare. Chocho is not very demanding in nutrients and develops in marginal soils; it preserves the fertility of the soils by fixing nitrogen.

200. To be consumed chocho must be processed (debittered). The process has four steps: (a) hydrate the dry grains for one day, (b) cook the grains, (c) wash the grains in water for four to five days, and (d) dehull the grains. The whole process takes about seven days.

201. Ethnisnack aims to expand the supply of chochos from the 'Community Agricultural Production Cooperative Andean Grains San Miguel de Chugchilan' (COOPGRANACH). This is a woman-led production organisation established in 2015. They have a chocho processing plant inaugurated in 2013, built with support of the Spanish Agency for International Development Cooperation (AECID), the Ecuadorean Central for Agricultural Services (CESA), and Maquita Cushunchic Foundation (MCCH). Complementary, four threshers were given to local women groups. They provide threshing service to farmers and generate income for their groups.

202. The idea started in 2008, it was an initiative led by the Government of Indigenous Peasant Organizations of Chugchilan (GOCICH). After the plant was built it was recognised that GOCICH (a second level political organization) cannot run a commercial business. Therefore, COOPGRANACH was established with 265 members. The organisation has lost membership, they currently have 120 members. It is recognised that it needs organisational strengthening to better articulate farmers with their processing plant. TRIAS will work with them on this matter during their coming five-year programme.

203. COOPGRANACH sell chocho to industries that produce added value products like chili sauce with chochos (www.productosole.com), chocho drinks (www.lupwi.com) and chochines. They also have their own brand of hydrated debittered chocho for retailers.

204. At the moment, the chocho processing plant is underutilised, it can produce 12 t per month but only processed 900 hundredweight in 2019 and 300 hundredweight in 2020 (during the COVID pandemic). To expand production COOPGRANACH need to ensure provision from its member farmers and develop stronger links with buyers.

Key barriers

205. The following barriers have limited the growth of the business:

21. Limited access to credit. Since its start, the company has not been able to obtain a loan from financial institutions. The only credit they have received was US\$20,000 from Fundación CRISFE. This was a preferential loan for entrepreneurs with 2% interest rate, two years repayment period and no collateral. When needed, they have funded the operation with personal loans.

206. Limited supply and demand for native crops. As mentioned before, on the one hand, the production of camote and zanahoria blanca is limited. On the other hand, in general, national and international consumers prefer traditional snacks like potato chips or chifles (plantain fried slices) instead of new types of healthy snacks (this also applies to chocho). In addition, chocochines and chichos are more expensive than a bag of potato chips from the transnational manufacturers.

207. Limited supply of organic produce. Organic certified snacks can take advantage of certain international market niches. The organic snacks market is expanding. It was valued in USD 7.21 billion in 2019 and it is expected to reach USD 24 billion by 2025 (Grand View Research, 2020). However, the current surface of the organic certified camote, zanahoria blanca and chocho is negligible. Small farmers have difficulties to undertake organic production because (i) the process is long and expensive, and (ii) the certification cost is unaffordable for individual producers.

208. Difficulties to comply with requirements for added-value organic produce. For organic chichos they must import organic sunflower oil from Europe because there is no local supply of this ingredient. In addition, importing organic oil is complicated because of the lengthy and cumbersome procedures to be followed. Also, Ethnisnack must reduce the oil content on fried foods to comply with European regulations.

Project intervention

209. Ethnisnack will be a case study about private business development based on native agrobiodiversity. The development of the credit lines (output 3.2) will consider the limitations faced by this type of business and the members of its production chain.
210. The project will provide direct support to increase the supply of organic produce and the development of new products. Ethnisnack aims to expand the use of chocochos and coloured pulp native potatoes and to develop new organic products.

The problem

211. Ecuador's food heritage is threatened. Native crops are not valued by consumers and therefore their production is limited or declining. The production of certified organic produce is negligible.

Alternative scenario

212. Increased demand for conventional and organic native crops (camote, zanahoria blanca, chocho, coloured pulp potatoes) motivate farmers to focus on them. The implementation of organic farming will contribute to biodiversity conservation. The targets will be: (i) all Ethnisnack providers obtain BPM certification and (ii) to have at least 30 ha of organic certified plots (Annex 1).

Specific actions

213. The project will contribute to the development of COOPGRANACH's processing plant: (i) introduce machine dehulling, (ii) introduce chocho flour production, and (iii) organic certification of the processing plant. These investments will be tied to a proven improvement in the organisation's capacity and relationship with its farmers. TRIAS will inform when to commence the investments.
214. Ayllu Organics will work with all COOPGRANACH chocho farmers and the other farmers associated with Ethnisnack to obtain BPA certification. In parallel, they will work with farmers to initiate the transition to organic chocho production. It is expected to have at least 10 ha of chocho plots certified by the end of the project. To complement, Ethnisnack will invest to increase the surface of organic certified plots of other providers. It is expected to have at least 20 ha of organic certified plot by the end of the project.
215. The project will sponsor the development of new snack products. During the first year Ethnisnack will develop new product formats for 'chochines' and 'julyz'. In the following year, they will develop and launch new products using chocho, camote, zanahoria blanca and organic native vegetables.
216. Finally, the project will contribute to the implementation of a communication and marketing plan and participation in international food fairs to promote sales.

Organic dehydrated fruits and vegetables.

217. Sumak Mikuy is an agroindustrial microenterprise that incorporates added value to native crops as a strategy to conserve Andean agrobiodiversity. The company was established in 2007. It is one of the community companies of the Union of Peasant and Indigenous Organizations of Cotacachi (UNORCAC). It produces dehydrated fruits and herbs for the food industry. Sumak Mikuy has two production lines:
 - a. Organic dehydrated products: morti'o (*Vaccinium floribundum*), uvilla (*Physalis peruviana*) and ají rocoto (*Capsicum pubescens*). These products have the following certifications: USDA Organic, Oko Garantie BCS y UE EC-BIO-141.
 - b. Conventional dehydrated products like pineapple, banana, and other fruits.The processing plant is in Cotacachi.
218. The morti'o is collected in two protected areas, while the uvilla and ají come from the "chakras" of farmers who are members of UNORCAC. These organic products are sold as inputs to manufacture export foods such as premium organic PACARI chocolates and spicy organic chifles (round slices of fried plantain).
219. In 2019 (last pre-pandemic year), Sumak Mikuy sales were USD 118,747. In 2020, during the pandemic, total sales dropped to USD 59,500.
220. The COVID-19 pandemic had no severe impact on production. The processing plant only ceased operations for a short period of time. Producers and plant personnel did not get infected.
221. Sumak Mikuy development has benefited from contributions of national and international cooperation organisations like GIZ and the 'Fondo de Fomento de Tecnologías Apropriadas en

Conservaci3n y Manejo Sostenible de Recursos Naturales? (FONRENA). It also received support of the Andean BioTrade project and the Export-DES programme.

222. UNORCAC is a second level organisation that integrate 45 communities from the Cotacachi municipality (Imbabura province). Its constituency is formed by 3,250 families (about 16,000 people). Eighty percent of them are indigenous people.
223. UNORCAC's work is organized into four lines of action: (i) community organisation, (ii) natural resources, (iii) production, and (iv) cultural identity. In the natural resources axis, agroecological production and the conservation of agrobiodiversity are promoted. In the production axis, associative productive initiatives are fostered to generate financial and social profitability. They have several start-ups and companies, one of them is Sumak Mikuy.
224. Agrobiodiversity conservation is at the core of UNORCAC's action. They work to rescue and maintain native crops in the chakras. For example, there is an inventory of agrobiodiversity (Lima et al., 2010; Tapia & Carrera, 2011), annual community seed fairs to exchange seeds and knowledge, weekly agroecological fairs 'la Pachamama nos alimenta?' (Pachamama feed us) to sell family farm produce, an Ethnobotanical Garden, and processing initiatives like 'Chicha de Jora Sara Mama?' and Sumak Mikuy. UNORCAC won the Equator Initiative in 2008[2] and has collaborated with INIAP and MAG to declare the Andean chakra of the Cotacachi Kichwa communities a Globally Important Agricultural Heritage Systems (GIAHS).
225. UNORCAC Central Committee of Women (CM-UNORCAC) is a key part of the organisation. They manage the agroecological fair and produce 'Chicha de Jora Sara Mama?', among other initiatives. The agroecological fair sell around 80 produce (vegetables, grains, tubers) from family chakras. About 200 farmers sell their produce in the market. CM-UNORCAC produce pasteurised 'chicha de jora?' in a processing plant established in 2017, located in Turuco. The 'chicha de jora?' is a pre-Inca fermented maize beverage used in ritual ceremonies and festivities.
226. Sumak Mikuy buy aji and uvilla from chakra producers. They are smallholding farmers; the average plot has 0.5 ha. They cultivate a wide variety of plants, including zanahoria blanca, camote, taxo (*Passiflora tripartite*), granadilla (*Passiflora ligularis*), and jicama (*Smallanthus sonchifolius*). Wild relatives of taxo, uvilla and granadilla have been found in the chakras (Lima et al., 2010). Sumak Mikuy provides technical assistance and cover the cost of inspections and certifications to their 45 farmers. The company have a rudimentary nursery and a basic agricultural supply store that provide minimum supplies to farmers.
227. Chakra production, in general, is insufficient to sustain the family. Therefore, men undertake circular migration to work in flower plantations, construction, and commerce. Women tend the chackra. To contribute to increase income, UNORCAC foster rural tourism. Selected families build a room to accommodate visitors.
228. Morti'o is a berry from a wild shrub associated with paramos. It has been consumed since pre-Hispanic times and has high cultural value. Morti'o is used in traditional medicine and is a main ingredient of 'colada morada?', a customary beverage taken during day of the death celebration (Camacho, 2006; Santamaria et al., 2012). Traditionally, consumption was limited to family use by local communities and commercial collection once a year for the day of the death celebration. However, in the past years commercial demand has intensified. On the one hand it is been sought a functional food, because it was found that morti'o has a high concentration of antioxidants (Vasco et al., 2009; Llivisaca et al., 2018; Alarcon-Barrera et al., 2018). On the other hand, several initiatives emerged to use morti'o for added-value products. For example, the 'Asociaci3n de

Productores y Comercializadores Agropecuarios de Quinticusig? (located in Sigchos, Cotopaxi province) installed a processing plant to produce morti?o wine (vinoelultimo inca.com) (Anon, 2017; Anon, 2018). They demand about 1,000 kg of morti?o per month.

229. Morti?o is a wildlife resource found inside and outside of protected areas. Its harvest is not regulated. Little is known about the plant and its ecological role. Customary knowledge indicates that there might be several types of morti?o and that the berries are consumed by birds, the cervicabra (*Mazama rufina*) and the Andean bear (*Tremarctos ornatus*).
230. Sumak Mikuy use morti?o (*Vaccinium floribundum*) harvested once per year in two protected areas:
- a. Cotacachi ? Cayapas National Park (WDPA ID 555698082). Sumak Mikuy contracted (with support from GIZ and the Andean BioTrade project) the preparation of a sustainable harvesting plan which established collection sites and harvesting quotas (Titua?a, 2013). The plan was approved by the Ministry of Environment and the collection sites have been certified organic. At the moment the harvesting plan is outdated. The harvesters live in two remote localities (Pi?an and Guanani) situated inside the protected area; they are part of UNORCAC. These two communities practice subsistence farming (a few products are traded) and circular migration. Other communities, located inside and outside the protected area, also harvest morti?o to sell to traders from Otavalo. There have been supply difficulties because the harvesters are not well organised and the difficulty to coordinate with such remote localities.
 - b. Cayambe ? Coca National Park (WDPA ID 183). The Ministry of Environment authorized that Sumak Mikuy execute a collection pilot during the 2019 harvest season. A group of people from La Chimba (25-28 persons) was trained to harvest morti?o. Four plots were set to assess the performance of the collectors and the morti?o yield. A harvesting plan has not been prepared for this area and it is not certified organic. La Chimba is located outside of the protected area, close to a main entrance point. It is not part of UNORCAC. They are small scale farmers, for the majority the main income is milk production. They have a variety of crops like barley, potatoes, habas (*Vicia faba*), arveja (*Pisum sativum*), quinoa, chocho and melloco (*Ullucus tuberosus*).
231. Sumak Mikuy train and provide personal protection clothing to morti?o harvesters. Berries must be selected, picking only mature ones, and leaving no less than 20% of berries on the shrub.

Key barriers

232. The following barriers have limited the growth of the business:

233. Low business performance. Sumak Mikuy has struggled to maintain operations. It has not yet produced financial gain. Opening a line of conventional dry fruits has served to improve cash flow but is not in line with its corporate mandate of generating business opportunities for its constituency while conserving native agrobiodiversity.

234. Limited access to credit. The company has not been able to obtain a loan from financial institutions. Sumak Mikuy cannot pay producers upfront because of lack of working capital. This is a risk because other buyers pay lower prices for morti?o and chakra produce, but at once. In addition, farmers also have limitations to access credit because of high interest rates and collateral conditions.

235. Weak relation with suppliers. Sumak Mikuy has no strong link with UNORCAC chakra producers and morti?o collectors, who must be its core providers. Producers do not perceive that contribute to and benefit from ?their company?. UNORCAC has a large base of producers that currently market their produce in the weekly fair that is not being used by Sumak Mikuy to expand its supply base. There is no synergy between the initiatives of CM-UNORCAC and Sumak Mikuy.

236. Legal insecurity. There are several regulatory and operational legal gaps and ambiguities regarding the harvest of plants and fruits from protected areas. In addition, morti?o harvest is not regulated.

Project intervention

237. Sumak Mikuy will be a case study about associative business development based on native agrobiodiversity and for improvement of the permit process to access wildlife for commercial use (output 1.1). In addition, the development of the credit lines (output 3.2) will consider the limitations faced by this type of business.

238. The project will provide direct support to improve supplier relationship management with chakra producers and morti?o harvesters and to strengthen business performance.

The problem

239. Morti?o conservation. The increasing demand for morti?o and the lack of management directions may lead to overexploitation of this wildlife resource.

240. Chakra agrobiodiversity. Certified organic chakra produce could vanish if the demand from Sumak Mikuy disappear. Currently the company is not sufficiently stimulating the shift towards organic farming.

Alternative scenario

241. There is a management framework for morti?o. Sumak Mikuy - related morti?o collectors in the Cotacachi ? Cayapas National Park and the Cayambe ? Coca National Park are empowered to conserve morti?o areas.

242. Sumak Mikuy is a driving force to expand certified best agriculture practices and organic farming in UNORCAC chakras. Increase in organic farming improve conditions to sustain native biodiversity in chakras and the surrounding areas.

Specific actions

243. The project will contribute to strengthen Sumak Mikuy capacity to serve farmers:

244. First, an extension agent (agronomist) will be contracted to provide technical assistance to chakra producers on good agriculture practices and organic farming. The aim will be that all Sumak Mikuy suppliers are BPA certified and to expand the area of organic certified chakras.

245. Second, a proper native plant nursery will be established to produce uvilla, aji,, medicinal plants and other indigenous varieties and landraces for local farmers.

246. Third, a base stock of organic supplies will be provided to the farm store.

247. To advance morti?o conservation and management, the project will support the preparation of improved harvesting plans. This will be complemented by strengthening morti?o harvesters. An extension agent will be contracted to facilitate a self-organisation process of harvester groups. It is envisaged that each group will agree on how to function together to sustainably harvest and guard the resource. Complementarily the harvest groups will receive training and technical assistance. Finally, a strategy will be prepared and implemented to cultivate paramo conservation awareness in children of the communities of harvester groups. It will aim to encourage children to become change agents to influence the attitudes and behaviour of their parents and other community members towards biodiversity conservation.

248. Lastly, the project will contribute to advance Sumak Mikuy business arrangements. This in the understanding that a strengthened organisation will be a better driver for chakra based biodiversity conservation. The following instruments will be developed:

249. A corporate governance strategy to improve the interactions between the governing board and management to achieve the business mission and to ensure accountability and transparency.

250. A strategic business plan to take advantage of the growing demand for organic produce, strengthen supplier relationships with producers and harvesters, and build upon synergies with other UNORCAC initiatives.

251. Updated bylaws and business regulations to reflect organisational and policy changes.

252. The project will support HACCP certification of the processing plant and the implementation of machine to remove the peduncle of dried morti?o^[3]. These investments will be tied to a proven improvement in business performance and the relationship with its chakra suppliers.

Output 4.2. Learning and good practice from the project documented and disseminated.

253. This output focuses on documenting and sharing the lessons from the project. Two lines of work will be developed:

254. Facilitate communication and information flow among key project stakeholders and disseminate achievements and lessons.

255. Document and disseminate project lessons.

Project communication strategy

256. At project start, the ECM will establish a workgroup with the communication officers of the core entities like MAG and MIPRO and key project partners. Each entity will designate a delegate that will

integrate the workgroup and that will be the channel for the flow of information and communication materials. This workgroup will prepare and agree:

- ? annual work plans that will be jointly implemented and evaluated, and
- ? protocols and procedures for collaboration and joint actions.

257. The ECM will prepare press materials and news, but their dissemination will be done through the channels and social networks of the project partners (e.g., YouTube, Instagram, Twitter). These channels will be the main means to conduct the messages of the awareness raising and knowledge transfer strategies.

258. In the second quarter of project implementation, the ECM will prepare:

259. A detailed communications strategy. The purpose of this strategy will be to transmit vital information about the project throughout its implementation and the relevance of biodiversity-based businesses. It will be focused on (i) actors and interested parties and (ii) the four demonstrations supply chains (output 4.1). It will include actions for wide dissemination of the core ideas about bioendeavours, as well as the main project learning. The strategy will be analysed with the communication teams, and it will be executed through annual joint work plans. At the end of each year, the workgroup will evaluate achievements and performance of the project's communication strategy and it will make relevant adjustments.

260. Four guidelines about:

- ? Organization of sustainable events (UNEP, 2009; UNEP, 2012).
- ? Guidelines for in-person meetings under the COVID-19 scenario, based on advice from the World Health Organization or the US Centres for Disease Control and Prevention (CDC) and pertinent national guidelines.
- ? Behaviour and use of inclusive language with gender perspective.
- ? Organization of inclusive events with gender perspective.

The guidelines will be agreed with the partners and implemented in all project actions.

261. The ECM, in coordination with the workgroup of communication officers, will prepare communication materials to implement the project's communication strategy. A quarterly digital bulletin with news and information of the project will be prepared, which will be distributed to all the target audiences of the project.

Project website

262. The ECM will be responsible for developing and managing the project website that will be linked to the websites of the project partners.

263. If necessary, accounts will be created and maintained in virtual platforms and social networks (e.g., Facebook, Twitter, YouTube, Instagram) that are accessible to the target audiences of the project. However, the priority will be that information flows through the partner channels and networks.

Exchange visits

264. There will be exchange visits among members of the four demonstration supply chains to support an open exchange of ideas, knowledge, and sound practices. The meetings will include sessions for self-assessment and the identification of lessons.

265. During the first year two visits will be organised to know the experience from COPROBICH (Colta) and Sumak Mikuy (Cotacachi). In the following years there will be one visit per year.

Project lessons documented and disseminated.

266. The EMC will establish both methods and procedures for the project team to systematically document the experience of the project and finally prepare documents that present the project learning. The EMC will guide in the practice the project team so that they can adequately document experiences, good practices and the interventions performed. The EGP will ensure that these actions capture social and gender aspects.

267. Towards the end of the first year, the EGP will guide an assessment of women economic contributions to the mortiño, quinoa and chocho production chains. This assessment will document and quantify the range of contributions that women make in farming, financing, processing, trading, and housework among other. The results will be analysed with MAATE's Bioendeavours Working Group, the Interagency Bioendeavours Working Group, the three technical working groups of the Technical Advisory Committee and the project-related women savings groups. The document and the contributions received: (i) will be published as an online document and widely distributed to interested parties, and (ii) will add to the preparation of the project learning documents (see below).

268. Mid-term and final focus groups will be organised for self-assessment and reflection with key stakeholders and direct beneficiaries. The mid-term meeting will facilitate thinking about the challenges they might be facing and documenting learning. The final meeting will allow to distil and document core lessons. A key element of these sessions will be to examine women's contributions and perspectives. The reports of these focus groups will be systematized, analysed with the technical advisory committee, and presented to the project board. Key findings will be informed in the annual reports to the GEF.

269. The project's mid-term review will serve as an opportunity for learning. The key findings and lessons from the mid-term review will be analysed with the technical committee and shared with all project partners.

270. At the start of the final year, it is expected to prepare three documents that systematise the project experience. The provisional titles are:

? Incentives for sustainable biodiversity-based business development.

? Financing lines for biodiversity-based business development.

? The role of women in biodiversity-based businesses.

271. These documents will have a dissemination format to be accessible to a broad audience. Each document (i) will have an executive summary in in Spanish and English, and (ii) will be in high-quality PDF format to be downloaded from the Web.

272. For project closure, a memoir that summarise the project experience will be prepared in a simple and very graphic format. The memoir will have executive summaries in Spanish and English and will be distributed mainly in PDF format through electronic means. In addition, three short videos will be prepared. These will summarise the project achievements and lessons, including testimonies of key stakeholders and beneficiaries. The short videos will be made available through the project partners websites and YouTube.

274. The formal closure will be performed on the second quarter of the fourth year. A public event will be organized with broad participation of beneficiaries, key stakeholders and project partners.

Alignment with GEF focal area

275. The project will contribute to objective 1 of the biodiversity portfolio of GEF-7 (Mainstream biodiversity across sectors as well as landscapes and seascapes), in particular to the entry point 1: Biodiversity Mainstreaming in Priority Sectors. The project will contribute to operationalize BioTrade as established in the Organic Code on the Environment. It will foster a collaborative intersectoral framework with the Ministry of Agriculture and Livestock, the Ministry of Production, Foreign Trade, Investments and Fisheries, the Phytosanitary and Zoosanitary Regulation and Control Agency, and the National Agency for Health Regulation, Control and Surveillance. This will allow to mainstream biodiversity sustainable use on these agencies. Finally, biodiversity conservation will be mainstreamed into the financial sector. There will be direct work with financial institutions, the Superintendency of Banks, the Superintendency of Popular and Solidarity Economy, the National Corporation for Popular and Solidarity Finance, and the Association of Private Banks.

Incremental cost reasoning

Summary Baseline Analysis without GEF's intervention

276. Under the baseline scenario bioendeavours developed by MIPYMES will continue to face severe limitations to prosper and mature. MAATE and other initiatives will continue to promote community-based bioendeavour entrepreneurship that most likely will close when external support finish or will not be able to expand because of deficient business skills or difficult access to credit and

markets. Some novel endeavours will not develop because of the existing legal loopholes to use native biodiversity for commercial purposes. At the end, biodiversity value will continue to be appreciated mainly by conservationists.

The GEF Alternative

277. MAATE work in partnership with MAG, MIPRO and VAP to incentive bioendeavours. Together they work to operationalise COA's BioTrade aspects and to provide pertinent advice to the National Committee for Natural Heritage. MIPYMES can access an incentive package that articulate contributions and initiatives from a range of entities such as overseas business promotion, specialised training, and preferential loans. Financial institutions see opportunities in funding bioendeavours along their development process and channel resources from ethical and impact investors through preferential loans. The increase of bioendeavours contribute to expand sustainability-certified production, employment opportunities along the production chains and revenues from national and international sales. The products and services from bioendeavours add to market transformation at the global and national levels. At the end, conservation-conscious businesses contribute to reduce pressure on native biodiversity.

Global environmental benefits

278. In the long term, the project will contribute to establish the foundation for sustainable native biodiversity-based businesses as a key tool to confront biodiversity loss in a megadiverse country. The global benefits will be demonstrated through enhanced protection of native biodiversity, including agrobiodiversity. Specific actions on strengthening the supply chains for pet frogs and mortiño will directly contribute to safe from extinction threatened Andean frogs and to conserve the populations of a wild native fruit which has not been domesticated. The specific actions on strengthening the supply chains for quinoa, uvilla, aji, camote, zanahoria blanca, and chocho will contribute to expand organic agriculture and to sustain cultivars of native landraces in Andean chakras and smallholdings.

Innovativeness

279. The main elements of innovation are: (i) to explore new approaches to increase private sector involvement and contribution to biodiversity conservation and (ii) to develop financial instruments to support biodiversity-based enterprises. In addition, providing competitive funds for business research and development has not been tested in Ecuador before.

Sustainability

Environmental sustainability

280. The project aims to facilitate the development of businesses that have positive impacts on native biodiversity and address key issues that threaten biodiversity (e.g., overharvesting of wild populations, illegal trade of wildlife). This is in line with existing national policies and regulations.

Social sustainability

281. The project includes a participatory approach and emphasizes the involvement of key stakeholders to advance the national framework for BioTrade and bioendeavours. It is expected that the project will facilitate multi-level and intersectoral interaction, dialogue, and collaboration. A fundamental element will be that the key stakeholders will collaborate to address common problems and will develop relationships based on trust, which will contribute to strengthening social capital.

Institutional sustainability

282. The project is anchored in the national environmental authority and will work with key ministries: MAG (administer agrobiodiversity) and MIPRO (administer hydrobiological resources and promotion of business development). The Interagency Bioendeavours Working Group will contribute to mainstream BioTrade into key institutional agendas.

283. In addition, the project will contribute to operationalise elements of the Organic Code on the Environment which are vital for the promotion of BioTrade.

284. The pilot financing lines will be implemented in collaboration with established and experienced financial institutions and the lessons widely shared to motivate others to engage in funding bioendeavours.

285. The project interventions will integrate multiple private and public actors. It is expected that through this networking, the fundamental elements of the project will continue in the institutional agendas.

Financial sustainability

286. GEF resources will be invested in strategic actions to catalyse incentives for sustainable native biodiversity-based businesses. It is envisaged that this will motivate involvement of public and private sectors in their promotion and financing. The post-project sustainability of the actions is ensured by their integration into the institutional budgets and commitments of key stakeholders such as MAG, MIPRO and civil society organizations. However, it must be taken into account the economic impacts derived from the COVID-19 pandemic.

Potential for scaling up

287. There is a high probability of replication of the lessons and good practices of the project. GEF resources have been strategically assigned to activities with high potential to catalyse learning. For this purpose, both experience and lessons will be systematically documented and disseminated through the project website and the portals and channels of the project partners.

288. It is expected that the lessons learned from this project will be immediately used in the short term in the countries of the region. The lessons learned from this project will be certainly applicable to various contexts of the planet.

[1] www.gaiaandcoast.com/mezcla-de-vegetales-fritos-en-aceite-de-girasol/

[2] www.equatorinitiative.org/2017/05/30/union-de-organizaciones-campesinas-e-indigenas-de-cotacachi-unorcac-union-of-farmer-and-indigenous-organizations-of-cotacachi/

[3] At the moment this is done by hand, which is time consuming, increase production cost and reduce product quality.

[1] All members of the National Committee for Natural Heritage (RCOA article 13).

[2] The Unique Registry of MIPYMES (RUM) was created by the Organic Code of Production, Commerce, and Investments (chapter IV). It serves to have information about MIPYMES and to facilitate access to a set of targeted incentives established in the Regulation to the Investment Productive Development Structure (Executive Decree 757 of 2011).

[3] The Alliance for Entrepreneurship and Innovation (AEI) is a public-private-academia alliance that seeks to promote entrepreneurship and innovation as a basis for the productive development of Ecuador. It has 28 allied companies and institutions to boost high-impact entrepreneurship and innovation ecosystems; generate common strategies, empower entrepreneurs and innovators; and produce development and growth in an inclusive and sustainable way (www.aei.ec).

The Private Technical University of Loja (UTPL) is a private and autonomous institution, created in 1971 for social and public purposes, which provides teaching and develops research with scientific-administrative freedom, and participates in development plans of the country (www.utpl.edu.ec).

The Institute of Socio-Economic and Technological Research (INSOTEC) is a private initiative founded in 1980 to contribute to the development of microenterprises through the provision of financial services with an emphasis on rural areas (www.insotec-ec.com). It has a financial education programme to improve the financial capacity and culture of the population (insotec.tusfinanzas.ec).

[4] PROECUADOR is the brand name of the Viceministry of Export and Investment Promotion. It was an independent agency called Institute for the Promotion of Exports and Investments. In 2018

(Executive Decree 559), it was fused with other entities to become the Ministry of Production, Foreign Trade, Investments and Fisheries (MIPRO).

[5] The European Free Trade Association (EFTA) is the intergovernmental organisation of Iceland, Liechtenstein, Norway and Switzerland. The Comprehensive Economic Partnership Agreement (CEPA) with Ecuador entered into force on 1 November 2020.

[6] The Export-DES programme, which ran from 2017 until 2020, was funded by the European Union and focused on the promotion of exports from MIPYMES. It had two projects: CORPEI implemented an initiative to strengthen existing MIPYMES that export to the EU, while FEDEXPOR focused on the development of capacities of MIPYMES to initiate exports.

[7] For more information refer to: [https://bioweb.bio/faunaweb/amphibiaweb/FichaEspecie/Oophaga sylvatica](https://bioweb.bio/faunaweb/amphibiaweb/FichaEspecie/Oophaga_sylvatica)

[8] *Ceratophrys stolzmanni* (non-CITES listed, listed Vulnerable in the IUCN Red List), *Gastrotheca riobambae* (non-CITES listed, listed Endangered in the IUCN Red List) and *Oophaga sylvatica* (CITES listed, listed Near Threatened in the IUCN Red List) (Coloma et al., 2004; IUCN SSC Amphibian Specialist Group, 2018; IUCN SSC Amphibian Specialist Group. 2019).

[9] <http://andestropicales.net/wikiri-sapoparque-un-salto-mas-cerca-a-la-gente/>

[10] Ministerial Agreement 184 of 30 July 2003 issued by the Ministry of Agriculture.

[11] Minga is a pre-Hispanic practice of collaborative work in which people of all ages and gender contribute work, knowledge and effort to achieve a shared goal.

[12] Ecuador has 36 native races of maize (Timothy et al., 1963; Tapia et al., 2017).

[13] Women and elderly producers hire temporary workers.

[14] Probably Union of Cocoa Farmer Organizations (UNOCACE) or Regional Federation of Associations of Small Ecological Coffee Growers of the South (FAPECAFES).

[1] This is a wild plant endemic of Ecuador and Colombia which has a high antioxidant capacity (Vasco et al., 2008; Coba et al., 2012). It has not been domesticated and all the production is from harvesting wild populations.

[2] For example, the organic code of production, trade and investment (published in the official registrar 056 of 12 August 2013) and the organic law for the reactivation of the economy, strengthening dollarization and modernization of financial management (published in the official registrar 150 of 29 December 2017).

[3] The Andean biotrade project channelled USD685,000 to CORPEI Capital, USD 500,000 to PROCREDIT and USD 590,000 for direct investment into seven ventures.

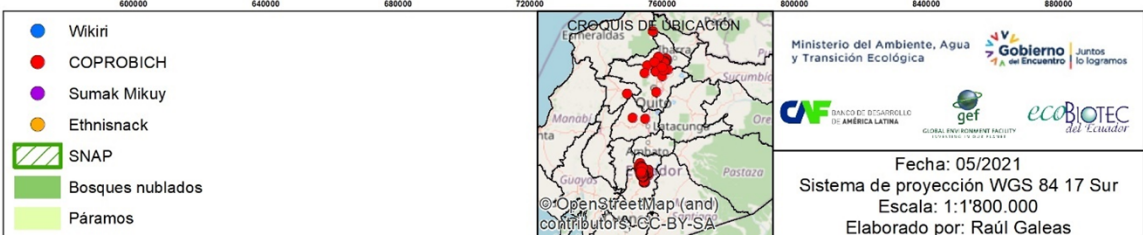
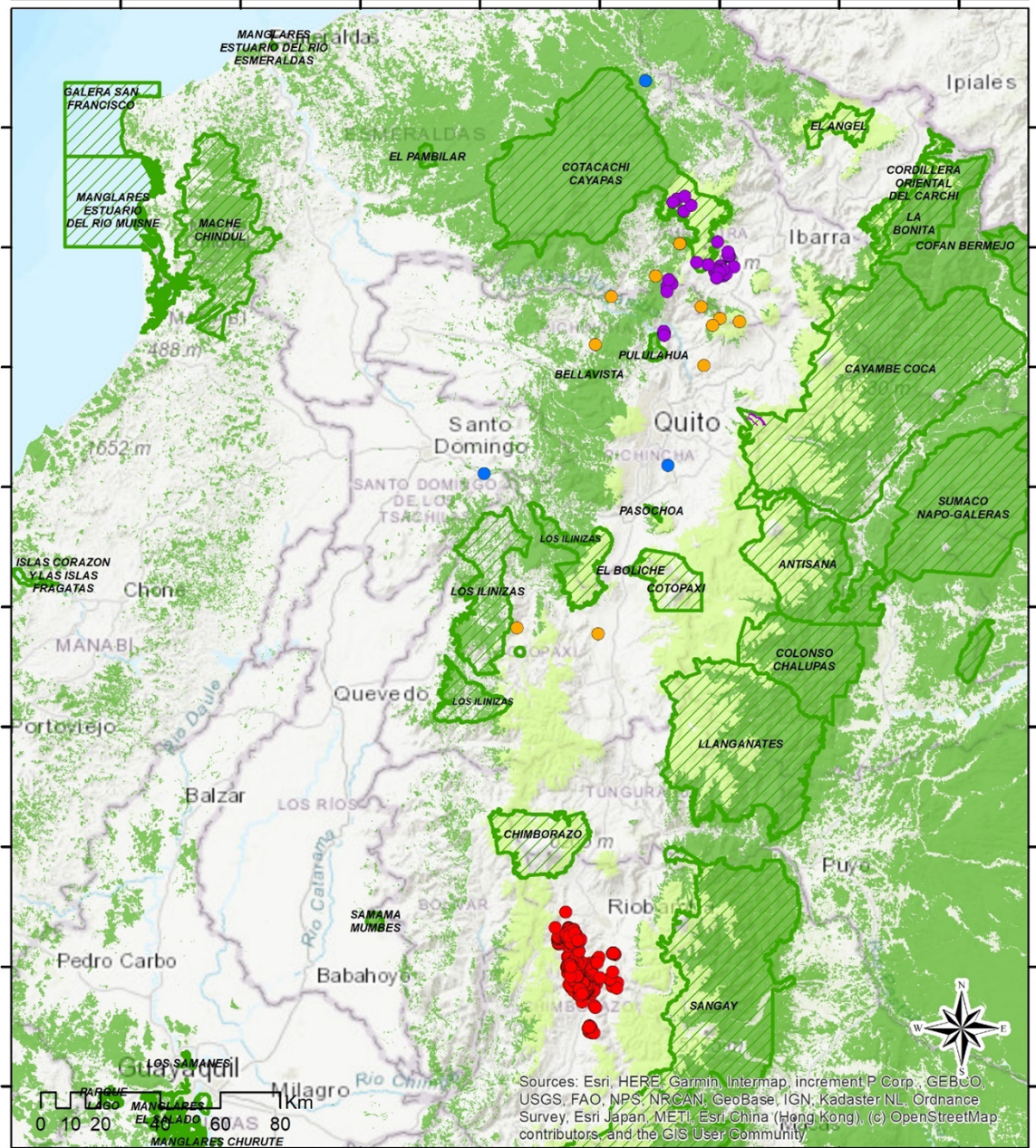
[1] <https://ec.fsc.org/es-ec/nuestro-impacto/datos-y-cifras>

[1] IUCN Red List Categories Extinct, Extinct in the wild, Critically endangered, Endangered and Vulnerable.

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

PREDIOS EN PRODUCCIÓN



1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

N/A

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities

Private Sector Entities

If none of the above, please explain why:

The stakeholder analysis and the stakeholder engagement plan are Annex 7 and Annex 8 of the PRODOC.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

289. The stakeholder's analysis in Annex 7 of the PRODOC found the following:

- a. 84 main actors were identified for the development of the project, where the most relevant are private institutions and the least represented are private initiatives and organizations linked to academia.
- b. 54 actors will influence and have high interest in the actions and execution of the project. These actors should enter into collaborative processes during project execution and should be considered the most relevant for the development of collaborative actions.
- c. 50 institutions will have particular impact on businesses based on biodiversity and they may influence or have repercussions on businesses of this type in a general way. 47 institutions have high interest and three medium interest, the majority of which are public institutions and they should be integrated into the activities of outcomes 1 and 2.
- d. 26 institutions will have high influence towards financial activities for the biodiversity-based business sector, of which seven are public institutions and 15 private institutions, of which the majority are private banks and cooperatives and two are private initiatives, and they should be potentially integrated into the activities of outcome 3.

e. 14 actors were identified to have a track record or have developed specific activities related to gender equality and businesses based on biodiversity or productive businesses. It is important to highlight that of these 14 actors, only six could provide technical assistance directly to the project.

f. There are 65 actors that will be directly involved with the four demonstration interventions. From them, 42 will have to be integrated through collaborative processes, 12 will have to develop involvement processes, seven information and six consultation. Among the actors in the demonstration production chains there are eight social organizations that must be part of the project through collaborative processes.

290. The following table summarise the indigenous peoples linked to the four demonstration production chains (output 4.1).

| Demonstration production chain | Location | Indigenous peoples name |
|--------------------------------|---|-------------------------|
| Sumak Mikuy | La Chimba (Cayambe municipality). Located in the buffer zone of Cayambe Coca National Park. Pichincha Province. | Cayambi |
| | Communities of Guanani (located in the buffer zone of the Cotacachi Cayapas National Park), Piñan (located within the Cotacachi Cayapas National Park). Various rural communities of Cotacachi (Cotacachi municipality). Imbabura province. | Otavalo (Cotacachis) |
| COPROBICH | Communities of Colta, Riobamba and Guamote municipalities. Chimborazo Province. | Purwá |
| Ethnisnack | Chugchilan Community. Chugchilán Parish (Sigchos municipality). Cotopaxi Province. | Panzaleo |

291. Indigenous peoples and peasants participate as organized agents through their cooperatives, associations or companies and not as indigenous organisations. COPROBICH is a corporation with productive purposes with high organisational levels whose partners come together from the production of quinoa. UNORCAC is a second-level organization that is organized for the purposes of cultural strengthening and the rights of its populations, which is the major shareholder of Sumak Mikuy. COOPGRANACH is organized around the production of chochos but does not have a solid social base and is one of the suppliers to Ethnisnack.

292. The Stakeholders Engagement Plan (Annex 8 of the PRODOC) delineates 11 Stakeholder Action Plan Indicators (SAPIs) to be monitored during the project implementation, which include the following:

i. The EGP will coordinate the implementation the stakeholders plan, and together with the monitoring and evaluation specialist will monitor and assess indicators of the action plan. The EGP as part of the team will have experience in the incorporation of social and intercultural aspects to follow up and integrate adequately in all the possible actions to guarantee participation and inclusion of diverse stakeholders. Giving special attention to rural communities.

ii. There will also be a communication specialist that will ensure appropriate advice for the project implementation in this respect and assure that all communication materials, project documents and publications will use appropriate and cultural inclusive languages. A communication strategy will be designed to include diverse key actors with inclusive and culturally appropriate approach that will give special attention to rural and urban, gender, intergenerational and intercultural aspects and will include the design of actions for collaboration for the 54 most relevant actors identified.

iii. There will be adequate representation of project beneficiaries in the decision-making board of the project. There are four demonstration production chains, one of them can represent the beneficiaries in the project board each year.

iv. There is a grievance mechanism designed to receive and respond efficiently to requests, complaints or claims that may arise during project implementation. The EGP receive the claims and progressively and according to the type of claim, the project coordinator will get involved by activating a project claims reparation committee, made up of members of the project board if necessary. The grievance mechanism is in Annex 8.

v. The EGP will organise various meetings to strengthen learning, such as the exchange of experiences of good practices from saving groups. Also, this person will organize exchange visits among members of participating production chains for self-assess and the identification of project lessons.

293. The work with the four demonstration production chains will be implemented through a direct involvement of local stakeholders. About 911 persons have been identified as direct beneficiaries of this work as seen in the following table:

| Demonstration production chain | Direct beneficiaries | Number |
|--------------------------------|--|--------|
| Dried fruits (Sumak Mikuy) | Harvesters, farmers, processing and management. | 103 |
| Organic quinoa (COPROBICH) | Farmers, processing, and management. | 562 |
| Native snacks (Ethnisnack) | Farmers, processing, and management. | 188 |
| Pet frogs (Wikiri) | Field workers and technical staff, Exhibition, management. | 58 |
| Total | | 911 |

Please provide the Stakeholder Engagement Plan or equivalent assessment.

The stakeholder analysis and the stakeholder engagement plan are Annex 7 and Annex 8 of the PRODOC. (See in the section ROADMAP of the GEF Portal)

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

i. The EGP will coordinate the implementation the stakeholders plan, and together with the monitoring and evaluation specialist will monitor and assess indicators of the action plan. The EGP as part of the team will have experience in the incorporation of social and intercultural aspects to follow up and integrate adequately in all the possible actions to guarantee participation and inclusion of diverse stakeholders. Giving special attention to rural communities.

ii. There will also be a communication specialist that will ensure appropriate advice for the project implementation in this respect and assure that all communication materials, project documents and publications will use appropriate and cultural inclusive languages. A communication strategy will be designed to include diverse key actors with inclusive and culturally appropriate approach that will give special attention to rural and urban, gender, intergenerational and intercultural aspects and will include the design of actions for collaboration for the 54 most relevant actors identified.

There will be adequate representation of project beneficiaries in the decision-making board of the project. There are four demonstration production chains, one of them can represent the beneficiaries in the project board each year.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier; Yes

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor;

Other (Please explain)

n/a

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

The gender analysis and the gender action plan are Annexes 5 and 6 of the PRODOC, respectively.

294. Consistent with the need to ensure gender mainstreaming throughout the project a Gender Action Plan will be implemented (Annex 6 of the PRODOC). The results framework (Annex 1 of the PRODOC) includes GEF 7 Core Indicator 11, and the monitoring plan includes 22 gender indicators (GAPIs) (Annex 9 of the PRODOC). Compliance with the required outputs and standards and the GEF policy on gender equality will be subject to independent external auditing to be explicitly referenced in the Project Operations Manual, in all Subsidiary Agreements between CAF and the Project Executing Entity, and in the terms of reference for the Mid-term review and the Terminal Evaluation of the project.

295. Ecuador is signatory and has ratified the Convention of Elimination of All Forms of Discrimination Against Women (CEDAW, 1979), at the regional level it is part of the Inter-American Convention on the Prevention, Punishment and Eradication of Violence against Women of the Organization of American States (Convention Bel?m do Par?, 1994).

296. The Constitution of the Republic (2008) fosters gender equality in articles 11.2 and 70, where it is established that all persons are equal and will enjoy the same rights; and that the State, will formulate and execute policies that guarantee equality among women and men, and that will incorporate gender approach in plans and programs.

297. Ecuador has the National Agenda for Women and LGBTI (2018-2021) of the National Council for Gender Equality (Axis 2. Sustainability of Life: 2.3 Environment) that focus on the advancement towards sustainable development, equitable distribution and management of natural resources differentiated by gender, focusing on improving the conditions of land tenure, productive activities of women and food sovereignty and security.
298. The Gender Inequality Index (GII) (UNDP, 2020) measures inequality in three aspects of Human Development[1]: reproductive health, empowerment, and economic status, among 189 countries. Ecuador is in rank 86. Despite the progress made in recent years in terms of access to basic services, parity in primary education and reduction in maternal mortality, the conditions are not so encouraging since the disparities derived from gender conditions are keep. The figures show that in Ecuador women and men have a similar level of secondary education (52.5% over 53.3% respectively). However, there is an important difference in terms of economic status in terms of participation in the labour force where women have 55.2% compared to 81.1% of men, showing a significant inequality of access to employment for women. The Gender Analysis (Annex 5 of the PRODOC) makes a further explanation of other gender conditions.
299. Other aspects that affect equal employment opportunities are related to the time dedicated to domestic activities, where in Ecuador 19.7% of the 24 hours are dedicated to unpaid activities, an approximate additional 4.2 working hours in relation to their peers (UNDP, 2020). Aspects that affect empowerment are added, such as cultural conditioning factors where, according to the GSNI[2] reveals that about 90% of the population maintains some type of bias against women and believes that men can better fulfil political and business leadership roles (UNDP, 2020). In the labour market, the remuneration of women is lower than that of men and they are less likely to hold managerial positions, less than 6% of the CEOs of companies in the Index S&P 500 (Standard & Poor's Index) are women[3]. In the case of Ecuador, the GSNI (period 2010-2014) shows an Index of 93.34% of people with at least one type of bias. Taking into account that no country in the world does not have any type of bias, the index of Ecuador can be compared with Sweden, which has the best GSNI of 30.01% in the same period. The Gender Analysis (Annex 5) makes a further explanation of other gender conditions.
300. The gender analysis found that:
- a. The barriers that women face in the business environment have to do with lack of economic empowerment, limited and stable participation in the labour force, overload of time and domestic and care tasks, and discrimination derived from social norms and beliefs.
 - b. The State and the financial system have presented various specialized credits for women entrepreneurs, but they don't have particular affirmative actions that confront the traditional barriers of women in this regard (women's banking, collateral and spouses' signatures, among others)
 - c. Regarding the pilot interventions: i) the main production workforce are women; ii) production faces constant needs for access to capital and women are limited, among others, by the lack of availability of guarantees iii) women are usually organized around the creation of community savings banks to deal primarily with lack of funds for production and health and education emergencies.
 - d. Women's leadership faces low valuation and discrimination from their community and in some cases from the women themselves, where despite having the leadership in concrete actions, they are not called to make decisions in representative instances. This condition is contradicted by groups of women support and promote important development activities for their communities and are agents of mobilization of changes in their communities and their families.
301. In general, for the implementation of the present project there are various barriers that women face to have an appropriate participation and empowerment. In this context, women face five main barriers which does not contribute to the transformation of the unequal structures of gender relations:

- Barrier 1. Lack of economic empowerment, limited participation in the labour force, time overload due to housework and discrimination derived from norms and beliefs.
- Barrera 2. Limitations of access to credits for productive development mainly due to lack of guarantees.
- Barrier 3. The role of women is not recognized as the main production workforce due to lack of information and understanding.
- Barrier 4. The leadership of women at the community level faces discrimination and low valuation.
- Barrier 5. The lack of recognition of the role of women responds to conditions of structural and symbolic machismo in indigenous and peasant societies.

306. The gender action plan (Annex 6 of the PRODOC) delineates the 22 Gender Action Plan Indicators (GAPIs) to be monitored during project implementation, which include the following general measures:

- i. The EGP will coordinate the implementation the gender plan, and together with the monitoring and evaluation specialist will monitor and assess indicators of the gender action plan. The EGP as part of the team will have experience in the incorporation of the gender approach. There will also be a person specialized in communication specialist that will ensure appropriate advice for the project implementation with a gender-sensitive approach. The inclusion of women and men will be promoted in the project implementation team, which will be formed with at least 30% of women.
- ii. At all-time promote a gender responsive approach which seeks to ensure that women and men are given equal opportunities to participate in and benefit from the project's interventions and promote targeted measures to address inequalities and promote the empowerment of women.
- iii. Communication materials, project documents, and publications will use appropriate gender-sensitive, and culturally inclusive language. The process of documenting the project's lessons will pay special attention to recording and informing the contribution and role of women in the implemented activities.
- iv. The participation in meetings, training courses and other activities will be documented using sex-disaggregated data. This will be applied in the collection of information of consultancies, studies, and reports.

307. A bioendeavors working group will be established with MAATE and will prepare a multiyear workplan that will be formally adopted and made public. The EGP at the beginning of the process will train the working group members on gender equality and social inclusion.

308. The EGP with the support of a consultant will assist MAATE's working group to prepare a draft conceptual framework about gender equality in bioendeavours and will include how to incentive rural women to build economically viable businesses or to engage into inclusive value chains. The conceptual framework will be analysed within the project's working group on use of native biodiversity and the key stakeholders of the four demonstration supply chains will be invited to participate to consider their practical experience. The final agreed version will be adopted by MAATE and published to serve as key guidance.

309. Once the conceptual framework is finalised, existing instruments and previous experience on mainstreaming gender equality into BioTrade businesses will be examined and analyzed (e.g., UN Women toolbox to strengthen the mainstreaming of the gender approach in the implementation of

bioendeavour projects of PROAmazonia's competitive fund). The final agreed version will be adopted by MAATE and published to serve as key guidance.

310. The LEG will diagnose environmental regulation gaps and analyse the results with MAATE's working group to set priority actions. The focus will be norms and procedures that can be issued and enforced by MAATE. During the first year, work will be to develop the conceptual framework and instruments to operationalize gender equality into bioendeavours.

311. The EGP will ensure that gender equality concepts and instruments are mainstreamed into the revised processes to access wildlife for commercial use and environmental licensing and other pertinent regulations and procedures that will be adjusted / developed during project implementation (Output 1.1.)

312. The LEG will diagnose key non-environmental regulation gaps and analyze the results with the Interagency Bioendeavours Working Group to set priority actions and will develop instruments to promote bioendeavours with agrobiodiversity, hydrobiological resources, indigenous domesticated animal breeds, tourism, and other native biodiversity elements and the EGP will ensure that gender equality concepts and instruments are mainstreamed into these instruments (Output 1.2.)

313. The Minister of Environment, Water and Ecological Transition will issue a Ministerial Agreement establishing an interagency working group to provide technical advice to the committee regarding intersectoral policies and regulations to incentive BioTrade development (RCOA article 14g). It is foreseen that the working group will integrate representatives from the following core agencies: MAATE, MAG, MIPRO and VAP. The Human Rights Secretariat (SDH) will be included as a core member to promote the inclusion of gender perspective in the working group actions.

314. The interagency working group, with support from the LEG and the EGP, will prepare a multiyear workplan that will be formally adopted and made public. The planning process will be assisted by the CDP, the LEG and the EGP. The EGP will train the members of the interagency working group on gender equality and social inclusion. (Output 2.2.)

315. The project team will draft instruments to implement and applied research in support of promissory business initiatives based on the sustainable use of native biodiversity. The selection process will contain affirmative action for women-led proposals.

316. The project will implement pilot credit lines for bioendeavours and the project will invest in the design the credit lines together with the partner financial institutions integrating affirmative actions to contribute to bridge the financing gap of women entrepreneurs. It is expected that the project's Technical Working Group on Access to Business Financing (page 60) will contribute ideas and recommendations (Output 3.2).

317. The project will prepare a study of pragmatic experiences, lesson and best practice from saving groups from production purposes. The EGP will organize annual meetings of project-related women savings groups to facilitate the exchange of experience, knowledge, and lessons. The memoirs of the

meetings will be widely disseminated and at the end of the project the EGP will document and systematize the lessons.

318. The demonstration supply chains (outputs 4.1 and 4.2.) will contribute to learn direct practical lessons from: COPROBICH women will share their experience with saving groups; Sumak Mikuy will advance their business arrangements to strengthen relationships with producers and harvester and build upon synergies with other UNORCAC initiatives such as the ones driven by the Central Committee of Women (CM-UNORCAC). The EGP will guide an assessment of women economic contributions to the mortiño, quinoa and chocho production chains. The results will be analysed by the MAATE Bioendeavours and the Interagency working groups, the three technical working groups of the Technical Advisory Committee and the project related women saving groups.

319. COPROBICH women's group has a post-pandemic recovery plan. It includes: (i) opening a restaurant to offer native produce and to promote quinoa consumption, and (ii) family production of cuy for personal consumption and sale. The restaurant may be a potential buyer. The project will finance the provision of a cuy production package to each COPROBICH women member. Technical assistance and follow up will be funded by COPROBICH.

[1] GII measures: Reproductive health measured by maternal mortality rates and adolescent fertility rates; Empowerment, measured by the proportion of parliamentary positions held by women and the proportion of adult women and adult men (aged 25 years and over) with at least some level of secondary education; and Economic status, expressed in the participation in the labour market of men and women over 15 years.

[2] GSNI is the Social Gender Norms Index that captures how social norms can obstruct gender equality in four dimensions: political, educational, economic and physical integrity. The index is based on the answers to seven questions: 1. Men are better political leaders than women; 2. Women have the same rights as men; 3. College is more important to a man than to a woman; 4. Men should have more right to work than women; 5. Men are better business executives than women; 6. Men are representative of intimate partner violence; 7. Women are representative of reproductive rights.

[3] The Index Standard & Poor's 500, also known as S&P 500, is one of the most important stock index in the United States. It is considered as the most representative index of the real market situation (Wikipedia).

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources; Yes

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women

Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

316. There will be direct engagement of the private sector. CORPEI will represent the private sector in the project board. In addition four businesses will be direct partners during project execution, providing their insights and recommendations to the development of regulations, design of credit lines, design of incentive package, among others. Finally, the project will directly work with four private banks and CONAFIPS (a second-tier bank providing funds to financial popular and solidarity economy organisations) on the design and implementation of the credit lines.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

| Risk | Type | Level | Mitigation measure | Responsible |
|---|-----------|-------|---|--------------------------------------|
| Change of central government in Ecuador in May 2025 | Political | High | The project unit will maintain ongoing fluid communication with key project partners and stakeholders. At any time that new authorities assume office, there will be a formal presentation of the project document, implementation progress, management arrangements and the roles and contributions of the entity. | Project coordinator with CAF support |

| Risk | Type | Level | Mitigation measure | Responsible |
|---|---------------|--------|--|---|
| Impacts derived from COVID-19 pandemic | Social | High | Monitor status reports about post-pandemic situation. Apply mitigation actions outlines in Annex 12. Maintain fluid communication with key project partners to identify difficulties in materialising co-financing. Encourage project partners to maintain as much as possible their contributions to the project. Seek opportunities for collaboration with other ongoing projects and initiatives to obtain contributions that can add to project co-financing. | Project coordinator with CAF support |
| Increased illegal wildlife trade | Environmental | High | Present factsheets to the National Committee for Natural Heritage and motivate intersectoral joint action. | Project coordinator |
| Traditional mortifo users might be reluctant to comply with new regulations | Social | High | Implement information campaigns based on scientific facts | Communication specialist |
| Impacts from El Niño Southern Oscillation ^[1] (ENSO) | Environmental | Medium | ENSO is a natural recurring climate pattern that have direct impact on the biodiversity and society. ENSO conditions can negatively affect farming activities. During project implementation climate conditions will be monitored, mainly through NOAA climate prediction centre. Annual workplans will be adjusted, as needed, to cope with the impacts of ENSO events | Project coordinator |
| Impacts of Climate change | Environmental | Medium | Climate change might result in stronger and more frequent climate fluctuations. The potential impacts of climate change will be always considered into planning and decision making. | Project coordinator |
| Entrepreneurs reluctant to use the pilot credit lines | Social | Medium | Ensure that the credit lines have attractive conditions (e.g., collateral, rate) and that they are adequately advertised. Guarantee adequate technical assistance to partner financial institutions. | Project coordinator and gender and participation specialist |

| Risk | Type | Level | Mitigation measure | Responsible |
|--|--------|-------|--|--|
| Entrepreneurs not interested in developing biodiversity-based businesses | Social | Low | Ensure that: the incentive package is attractive, the campaigns to motivate registration and information are clear and well-focused. | Project coordinator and communication specialist |

[1] By 7 June 2021 the La Niña 2020 - 2021 event had finished, and ENSO-neutral conditions were present.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Institutional arrangements

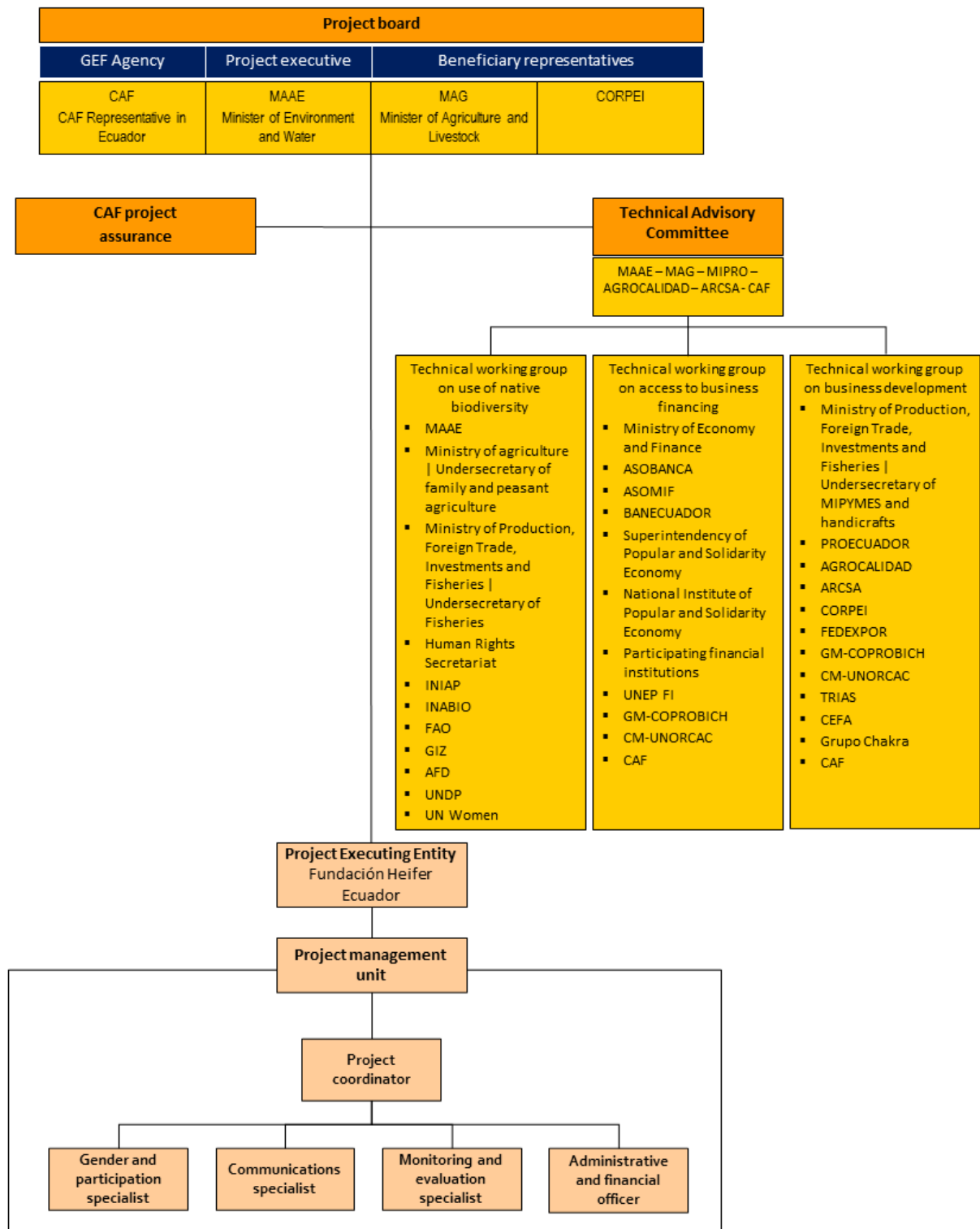
Beneficiary

317. MAATE will be the direct project beneficiary. It regulates BioTrade (COA article 80), presides the National Committee for Natural Heritage (RCOA article 13) and administer wildlife, protected areas, forests and environmental management. Indirect beneficiaries will be MAG who manage agrobiodiversity and the fisheries and aquaculture authority who manage hydrobiological resources.

GEF Agency

318. The Latin American Development Bank (CAF) will be the GEF Agency. CAF will support project implementation by maintaining oversight of all technical and financial management aspects, which includes oversight of project execution to ensure that the project is being carried out in accordance with GEF standards and requirements. CAF will monitor the project's implementation and achievement of project outputs, ensure proper use of GEF funds, review and approve procurement plans, budgets, and work plans. CAF will approve quarterly technical and financial reports and the Annual Project Implementation Reports (PIR) prior to GEF submission. Finally, CAF will make recommendations to optimize project performance, and will arbitrate and ensure resolution of any conflicts related to project execution.

Project organization chart.



Project Executing Entity

319. The project executing entity will be Fundaci?n Heifer Ecuador. This agency was selected through a competitive process that followed the conditions agreed between MAATE and CAF.

320. Fundaci?n Heifer Ecuador will be responsible for undertaking technical, administrative, and financial actions, which implies the ability to manage and administer the day-to-day activities. This will include ensuring the timely delivery of project outcomes and outputs and the appropriate use of funds, as well as procurement and contracting of project personnel, goods, and services. The project executing entity will concentrate on project administration, strategic decisions will be taken together by CAF and the project board.

321. Specific tasks of the project executing entity include:

1. Project planning, coordination, management, monitoring, evaluation, and reporting. This includes providing all required information and data necessary for timely, comprehensive, and evidence-based project reporting, including results and financial data, as necessary. The project executing entity will ensure that project-level monitoring and evaluation is undertaken.
- b. Risk management as outlined in this project document.
- c. Procurement of goods and services, including human resources.
- d. Financial management, including overseeing financial expenditures against project budgets.
- e. Approving and signing the multiyear workplan.
- f. Prepare the GEF Project Implementation Report at the end of each year.
- g. Signing the financial report or the funding authorization and certificate of expenditures, as needed.

322. The project executing entity will receive project specific GEF funding from CAF, based on the approved PRODOC and annual workplans/budgets.

323. The project executing entity will sign an agreement with CAF that will detail the binding conditions and duties to be applied.

Project board

324. The project board is the highest-level decision-making body. It will:

- a. Ensure (i) that the project is aligned with the PRODOC and national and institutional policies and strategies, (ii) timely implementation of activities, and (iii) achievement of targets, outputs and outcomes.
- b. Provide overall strategic guidance, ensuring effective coordination among all project partners.
- c. Make high-level decisions on issues that may arise during project implementation.

- d. Evaluate project performance, including analysis of the project's mid-term review and ensuring that its recommendations are implemented.
- e. Approve the Annual Operational Plan (AOP), Annual Budget, and Annual Project Implementation Report.
- f. Be aware of any issues or problems that may arise during project execution and help generate solutions.

325. The project board members will be the Minister Environment, Water and Ecological Transition (who presides the board), the Ministry of Agriculture and Livestock, a CORPEI representative, and CAF Representative in Ecuador. Each board member will have an officially designated alternate person. The alternate board member will be kept informed of the project developments and will be present at a meeting when the principal member is unable to attend.

326. The board will make decisions by consensus. In case a consensus cannot be reached, the final decision shall rest with the Ministry of Environment. The board will have in-person or virtual meetings at least twice per year. The chairperson, in close collaboration with the Institutional Coordinator and at members' request, may convene additional committee meetings. The project coordinator will be the secretary of the board, this person will request meetings, prepare documents to be discussed, and prepare and maintain meeting minutes.

327. The GEF Operational Focal Point for Ecuador and a representative of the project executing entity will be invited to attend the board meetings, without vote. The Institutional Coordinator and the CDP will participate in board meetings and will have a voice but not a vote.

Institutional Coordinator

328. The Institutional Coordinator will be a person appointed by MAATE. This person will be a MAATE staff member. The Institutional Coordinator will ensure close coordination and articulation: (i) between MAATE and the project and (ii) among MAATE, MAG and MIPRO. This person will preside the project's Technical Advisory Committee.

329. The responsibilities of the Institutional Coordinator include:

- a. Ensure project alignment with government policy and priorities.
- b. Review the Annual Operational Plan and Project Implementation Report before submission to the project board and CAF for approval.
- c. Ensure effective coordination and support to project activities within MAATE.
- d. Maintain regular communication and coordination with other government entities involved in project execution.
- e. Preside the Technical Advisory Committee.

- f. Prepare co-financing reports according to government entities' commitments made in the project document.

Technical Advisory Committee

330. The Technical Advisory Committee is an inter-institutional coordination space. Its main roles are to:

- ? Ensure fluid inter-sectoral communication and collaboration among MAATE, MAG, MIPRO, AGROCALIDAD, ARCSA and CAF.
- ? Provide technical guidance to the project coordinator and the project unit to support the achievement of the project outcomes.
- ? Oversee the work of the project's technical working groups.
- ? Review the AOP and its corresponding budget before they are submitted for consideration of the project board.
- ? Appraise and comment the draft PIR before it submitted for consideration of the project board.
- ? Appraise and comment the mid-term review report.

331. The technical committee will be composed by formally designated delegates from MAG, MIPRO and CAF, and will be chaired by the project's Institutional Coordinator. In its first meeting, the Technical Advisory Committee will agree its operating procedures.

332. There will be three technical working groups dealing with (i) use of native biodiversity, (ii) access to business financing, and (iii) business development.

333. The working groups will (i) provide technical inputs and advice for project execution and (ii) facilitate intersectoral coordination. The working groups will congregate formally designated delegates from pertinent organizations. In its first meeting, each working group will agree its operating procedures and will elect a chair. A person from the project unit will serve as secretary for each working group. This person will request meetings, prepare documents to be discussed, and prepare and maintain meeting minutes.

Project management unit

334. The project management unit (or project unit) is headed by the project coordinator (CDP) and includes five members who will be contracted by the project executing entity solely for the execution of this project. The project executing entity will apply strict measures to prevent that the project's personnel is involved in other matters or activities, in particular of the project executing entity. MAATE will provide office space to host the members of the project unit.

335. The project unit will include a gender and participation specialist (EGP), a monitoring and evaluation specialist (EME), a communications specialist (ECM) and an administrative and financial officer (ADM). At least 40% of members of the project unit will be women.

Project coordinator

336. The CDP has the authority to run the project on a day-to-day basis on behalf of the project executing entity within the constraints laid down by the project board. The project executing entity will appoint the CDP, who must be different from any project executing entity?representative in the project board.

337. The project coordinator?s primary responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. CDP will inform the project board and CAF of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

338. The CDP will work in close coordination with the Institutional Coordinator. This person will ensure fluid communication and coordination among project partners and CAF, as well as other entities that contribute to project execution (e.g., civil society organizations, other related projects).

339. The CDP will be contracted and supervised by the project executing entity. This person will remain on contract until the Terminal Evaluation report and the corresponding management response have been finalized and the required tasks for operational closure and transfer of assets are fully completed.

Coordination with other initiatives

340. The project will establish synergies with the PROAmazonia programme which is executed by MAATE and MAG. This programme focusses on forest conservation and sustainable production systems in the Amazon. PROAmazonia is financed by the Green Climate Fund (GCF) and the GEF. The programme has three related projects:

- a. Priming Financial and Land Use Planning Instruments to Reduce Emissions from Deforestations (GCF FP019).
- b. Sustainable Development of the Ecuadorean Amazon: Integrated Management of Multiple Use Landscapes and High Value Conservation Forests (GEF ID 9055).
- c. Ecuador REDD-plus RBP for results period 2014 (GCF FP110).

PROAmazonia is promoting community-based entrepreneurship and has developed a toolbox of gender tools.

341. The project will seek to build upon the lessons from two projects that have implemented competitive funds and financial support for bioendeavours that will close in 2022:

? REDD Early Movers (REM) Ecuador Results-based payments for reduced deforestation in Ecuador. Funded by Germany's Federal Ministry of Economic Cooperation and Development (BMZ) and Norway's Ministry of Climate and Environment (KLD).

? Forest and Farm Facility Initiative for Climate-Resilient Landscapes and Improved Livelihoods (FFF) which is implemented by FAO.

342. The project will seek to coordinate and use the lessons from a number of projects that support the development of production systems:

- a. Productive development through agricultural innovation and differentiated commercialization in the Amazon Provinces. Funded by Ecuador's Secretaria Técnica de la Circunscripción Territorial Especial Amazónica (STCEA) and implemented by the Inter-american Institute for Cooperation on Agriculture (IICA).
- b. Andean landscapes: promoting integrated landscape management for sustainable livelihoods in the Ecuadorean Andes. Funded by the European Union and implemented by FAO.
- c. Inclusive and sustainable value chains programme. Funded by the European Union and implemented by CEFA.
- d. Support the development of a sustainable cocoa sector in Colombia, Peru, and Ecuador (Cacao BioAndino). Funded by the Agence Française de Développement (AFD) and implemented by Agronome et Vétérinaires Sans Frontières (AVSF), Central Ecuatoriana de Seguros Agrícolas (CESA), and Conservation International (CI- Ecuador). This project support organic cocoa production.
- e. Conservation of aquatic biodiversity with local communities on the Napo River basin. Implemented by The Nature Conservancy (TNC). It supports the development of sustainable value chains based on native fish like paiche, cachama, and sabalo.
- f. Our Future Forests/Amazonia Verde. A regional project funded by the French Government and implemented by Conservation International. In Ecuador, it operates in Pastaza and Morona Santiago provinces working with Achuar and Kichwa communities.

4. Regarding wildlife management, the project will seek collaboration with two projects:

? Increasing the capacity for implementation and cooperation to combat wildlife and wood trafficking in the Andes- Amazon region. Funded by the European Union and implemented by Wildlife Conservation Society (WCS). It will seek to update the procedures wildlife traffic control and strengthen capacities of the enforcement authorities.

? Regional Project for the Management, Monitoring and Control of Species of Wild Fauna and Flora Threatened by Trade (Bioamazon project). A regional project funded by the Kreditanstalt für Wiederaufbau (KfW) and implemented by the Amazon Cooperation Treaty Organization (ACTO). It aims to increase the efficiency and effectiveness of management, monitoring and control of wild fauna and flora species threatened by trade in ACTO member countries.

343. There will be a close collaboration with TRIAS 2022-2026 programme. TRIAS is a Belgian NGO working in Ecuador since 2013. Its programme focus on strengthen producers' capacities based on a socio-organizational and business management model with gender and multigenerational approaches. The project will seek to have alliances with TRIAS at different moments:

? As a potential partner to undertake capacity development work to provide technical assistance and mentoring to support entrepreneurship and business development (output 2.3).

? To support the demonstration production chains in strengthening the organisational capacities of COOPGRANACH, and potentially of Sumak Mikuy, and relate them to the experience that they have developed since 2014 with COPROBICH.

? To support the exchange of experiences of community savings groups and particularly with women's groups (output 3.2).

343. TRIAS could be an ally for the integration of gender and multigenerational equality in socio-organizational processes. In addition, their experience and ongoing community work with local networks and rural community organizations could be valuable for the present project.

344. The project will seek to collaborate with four new initiatives:

345. FAO's GEF project "conservation and sustainable use of biodiversity within the sustainable use areas of the State Subsystem of Protected Areas (SEAP) of Ecuador and its buffer zones" (GEF ID 10396). This project will probably initiate implementation in parallel with the present project. It will be necessary to have close coordination on the development of instruments and tools for the use of biodiversity in the sustainable use areas within protected areas and the buffer zones.

346. FAO has prepared a PIF proposal for a project to work with crop wild relatives and wild food plants. The project will seek to have a synergic relationship with this initiative. It will be necessary that the bioendeavours contribute to the conservation of these two elements of agrobiodiversity.

347. It is known that the Agence Française de Développement is preparing an initiative to support bioeconomy public policy and that the Inter-American Development Bank (IDB) is preparing a regional project to be presented to the Green Climate Fund that will include BioTrade initiatives in the Amazon.

348. Finally, the project will aim to use the lessons from the GIZ's project "impact investments for the sustainable use of biodiversity in Peru" (BioInvest) that is funded by Germany's International Climate Initiative (IKI). This project runs until 2025 and will aim to improve public incentives to mobilise private investment into biodiversity-friendly businesses.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

349. The project will contribute to several higher level national and international objectives and commitments of the Government of Ecuador:

a. Convention on Biological Diversity. Aichi Biodiversity Targets 4 and 7.

Aichi Target 4. By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Aichi Target 7. By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

b. United Nations Sustainable Development Goals (SDGs).

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture,

Target 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

Target 2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Target 9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Target 15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.

c. Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escaz? Agreement). This agreement entry into force on 22 April 2021. Its objective is to guarantee the rights of access

to environmental information, public participation in the environmental decision-making process and access to justice in environmental matters of every person of present and future generations.

350. The project is consistent with the following international instruments regarding gender equality and key stakeholders' participation:

? Convention on the elimination of all forms of discrimination against women (CEDAW), a Convention of the United Nations which is legally binding and states the internationally accepted principles on women's rights. Ecuador, in compliance with its obligations and provisions must submit every four years a report on progress made in complying with the provisions of this Convention.

? The Inter-American Convention to Prevent, Punish and Eradicate Violence against Women, Convention of Bel?m do Par?, is the first binding treaty that recognizes that violence against women constitutes a violation of human rights. This legal instrument also establishes the responsibility of the States Parties to adopt concrete measures to prevent and eradicate the different types of violence against women. This Convention was ratified by Ecuador on September 15, 1995.

? Convention 169 of the International Labour Organization (ILO) "on indigenous and tribal peoples in independent countries", which establishes the rights for indigenous peoples to live in accordance with their culture and traditions, not to be discriminated against, and to participate in consultation processes. The states are committed to generating national regulations to make it operational. The realization of the rights of indigenous peoples lies in the creation of adequate channels of participation, both in the definition of priorities and development strategies and in the implementation of plans, programs and projects.

? The United Nations Declaration on the Rights of Indigenous Peoples consists of 46 articles that establish standards of respect for the rights of indigenous peoples in all possible spheres, providing a space for states, United Nations agencies, funds, programs and indigenous peoples and the article 19, mentions the importance of holding consultations and the due cooperation in good faith with the indigenous peoples, through their representative institutions, before adopting and applying legislative and administrative measures that affect them, to obtain their free consent. Annually, a report and recommendations of the Special Rapporteur on the Rights of Indigenous Peoples are presented to the Human Rights Council of United Nations on this issue.

351. The project will specifically contribute to implement the following national regulations:

- i. Organic Code on the Environment (COA). Title III, Chapter I about ex situ conservation (articles 64 to 71). Title IV, Chapter III about BioTrade (articles 80 and 81).
- ii. Regulation to the Organic Code on the Environment (RCOA). Title I about wildlife (articles 82 to 121). Title IV, Chapter III about promotion of BioTrade (articles 243 - 247). National Committee for Natural Heritage (articles 13 and 14g).

- iii. Organic Law on Agrobiodiversity, Seeds and Promotion of Sustainable Agriculture. Article 7 about benefits and incentives. Article 17 about agrobiodiversity zones. Article 18 about conservation and sustainable use of plant genetic resources. Title IV about sustainable agriculture (articles 48 to 52).
- iv. Regulation to the Organic Law on Agrobiodiversity, Seeds and Promotion of Sustainable Agriculture. Articles 5 to 12 about agrobiodiversity zones. Title IV about sustainable agricultures, articles 98 to 120.
- v. Ministerial Agreement 034 guidelines for the promotion of bioendeavours (Official Register 913 special edition 15 May 2019).

352. The project is also consistent with the national policies and regulations regarding gender equality and local stakeholders? participation:

? The Ecuadorean constitution (article 70) establishes that the State is the executor of policies that guarantee equality between men and women and will formulate and implement policies that incorporate gender approach into plans and programs as well as provide appropriate technical assistance for its mandatory application in the public sector.

? The Ecuadorean constitution (article 57) recognizes and guarantees the collective rights of local communities and indigenous peoples and their right to conserve, use and administrate their ancestral lands and resources, as well as to have prior consultation that respects the community decision. Article 395, determines that the state guarantees the active and permanent participation of individuals, communities and indigenous peoples in planning, implementing, and decision making regarding activities with potential environmental impacts.

? The National Agenda for Women and LGBTI (2018-2021) of the National Council for Gender Equality (CNIG, 2018), in its thematic axe 2 Sustainability of Life (2.3 environment) in what is related to advance towards sustainable development, support an equitable distribution and management of natural resources differentiated by gender, and focus on improving the conditions of land tenure, productive activities of women and food sovereignty and security.

353. The project will contribute to advance the following national conservation instruments:

354. National Biodiversity Strategy 2015 - 2030. In particular the following expected results:

Result 3. Ecuador has consolidated a portfolio of incentives for the protection, sustainable use and restoration of biodiversity; and policies have been put in place to eliminate the perverse incentives that limit their conservation.

Result 9. Ecuador ensures the sustainable management of agricultural, agroforestry and silvicultural production systems, using clean energy and technologies, guaranteeing the conservation of biodiversity.

Result 13. Ecuador conserves its natural heritage through the integral and participatory management of the SNAP and other mechanisms and tools for the conservation of terrestrial, aquatic, and marine landscapes.

Result 14. Ecuador implements comprehensive measures to prevent the extinction of prioritized wildlife and cultivated species.

355. Ecuador National Climate Change Strategy 2012- 2025. In particular:

Strategic line 1. Specific objective 5. To conserve and sustainably manage the natural heritage and its terrestrial and marine ecosystems, to contribute to its capacity to respond to the impacts of climate change.

Strategic line 2. Specific objective 1. Identify and incorporate appropriate practices to mitigate climate change in the agricultural sector, which can also strengthen and improve its productive efficiency and competitiveness.

356. Ecuador REDD+ Action Plan 2016-2025. In particular the following objectives:

Objective 2. To support the transition towards sustainable production systems free from deforestation.

Objective 3. To increase the sustainability of the areas under forest management and increase the initiatives for the use of non-timber forest products. In particular to the following actions: (i) To structure a set (portfolio) of projects (current and potential) to co-finance, considering current Socio Bosque Programme partners and initiatives from Protected Areas and Indigenous Territories, in those areas prioritized by REDD+, based on market and availability studies of non-timber forest products with potential for bioendeavours or bioindustries.

(ii) Design the necessary financial mechanisms to promote the different initiatives related to the use of forest products and the incorporation of value (for example, seed capital, in an initial stage, or credits for the growth and consolidation stages).

357. National Policy for Wildlife Management (Ministerial Agreement 029 published on 7 August 2017). In particular the following policies:

Policy 1. Promote the conservation, management and in situ and ex situ wildlife protection at the national, regional, and local levels.

Policy 3. Promote the management and sustainable use of wildlife and its derived products at the national, regional, and local levels through technical and legal mechanisms, within the framework of the rights of nature.

Policy 4: Strengthen national and local coordination activities and mechanisms to control and monitor the sustainable use, trafficking, and illegal commercialization of wildlife.

358. Action plan for the conservation of amphibians of Ecuador (MAAE, 2020). In particular the following targets

2.1. By 2030, Ecuador executes an action protocol to ensure the conservation of re-encountered species that have not been seen for more than 10 years or that have been considered as possibly extinct.

6.2. By 2030, there are successful protocols developed for the assisted reproduction of other prioritized species (commercial, cultural, or biological importance).

12.3. By 2021, there are standardized and accessible protocols for threatened species ex situ management.

13.2. By 2030, Ecuador has at least four (4) ventures and businesses related to the sustainable use and management of Ecuadorean amphibians.

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

361. Output 4.2 of the proposed project focus on knowledge management (see above). It has the following core elements:

- a. A project communication strategy to channel information through the channels and social networks of the project partners.
- b. A project website to ease access to documents and information. This Will be complemented with social media platforms used by target audiences.
- c. Exchange visits among members of the four demonstration production chains to support an open exchange of ideas, knowledge, and sound practices. The meetings will include sessions for self-assessment and the identification of lessons.

362. Document and share project lessons. It is foreseen that three documents will systematise the project experience. The provisional titles are:

- ? Incentives for sustainable biodiversity-based business development.
- ? Financing lines for biodiversity-based business development.
- ? The role of women in biodiversity-based businesses.

363. The time line for output 4.2 is in the multiyear workplan (Annex 3 of the PRODOC). The budget allocation for component 3 is USD339,000.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

364. The project results, corresponding indicators and end-of-project targets in the project's results framework will be monitored annually and evaluated periodically during project implementation. The Monitoring Plan included in Annex 9 of the PRODOC details the roles, responsibilities, and frequency of monitoring project results.

365. Project-level monitoring and evaluation will be undertaken in compliance with CAF requirements. Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the [GEF Monitoring Policy](#) and the [GEF Evaluation Policy](#) and other [relevant GEF policies](#). Annex 2 of the PRODOC has details on this matter. The Monitoring plan will guide the GEF-specific M&E activities to be undertaken by this project.

366. In addition to these mandatory CAF and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

367. The GEF Core Indicators listed in Section II.C. of the PRODOC will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to the project's terminal evaluation. The project team will be responsible for updating the indicator status. The updated monitoring data should be shared with evaluation consultants prior to required evaluation missions, so these can be used for subsequent ground-truthing. The methodologies to be used in data collection have been defined by the GEF and are available on the GEF website.[\[1\]](#)

368. The project will have two independent assessments: (a) mid-term review (MTR) and (b) a terminal evaluation (TE).

| M & E Activity | Responsibility | Estimated Budget (US\$) (Excluding Staff Time) | Time Frame |
|---|---|---|---|
| Inception Workshop | Project Executing Entity Project coordinator | 7,950 | Within 60 days of CEO endorsement of this project. |
| Inception Report | Project Coordinator | None | Within 90 days of CEO endorsement of this project. |
| Monitoring of GEF core indicators and project results framework | Monitoring and evaluation specialist | 10,000 [2] | Annually prior to GEF PIR. This will include GEF core indicators. |
| GEF Project Implementation Report (PIR) | Project Coordinator CAF | None | Annually typically between June-August. |
| Monitoring of stakeholder engagement plan | Gender and participation specialist | None | On-going. |
| Monitoring of gender action plan | Gender and participation specialist | None | On-going. |
| Project Board Meetings | Project Executing Entity Project coordinator | 17,120 | Annual in-person board meeting and final meeting for project closure. |
| Reports of project board meetings | Project Coordinator | None | Annually. |

| | | | |
|---|--|---------------------|---|
| Independent Mid-term Review and management response | Independent evaluation consultants and project coordinator | 49,000 | After second PIR |
| Independent Terminal Evaluation and management response | Independent evaluation consultants and project coordinator | 49,000 | After third PIR |
| Supervision missions | CAF office in Ecuador | None | Annually. Charged to the GEF Agency Fee. |
| Oversight missions | CAF office in Ecuador | None | Troubleshooting as needed. Charged to the GEF Agency Fee. |
| TOTAL INDICATIVE COST EXCLUDING CAF STAFF TRAVEL | | US\$ 133,070 | |

[1] www.thegef.org/sites/default/files/documents/Results_Guidelines.pdf

[2] A consultant will be hired to compile and process information about project indicators before the Mid-term Review and the Terminal Evaluation.

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCE/SCCF)?

369. By generating basic conditions to facilitate the development of business in the country, the project will be contributing to solve crucial regulatory gaps and to create coordination and collaboration mechanisms (Component 1) that will solve several of the limitations that bioendeavours currently face, being these of great importance for the generation of economic alternatives and employment.

370. Component 2 will contribute to the development of entrepreneurial capacity, both in ongoing businesses and in entrepreneurs that are in the initial stages, providing opportunities to advance and develop their endeavours. This component will provide support to harness business development, technical assistance, and mentoring, facing up the existing barriers and challenges derived from the lack of access to technical training and information. Additionally, applied research support for promissory business initiatives contributes to the generation of solutions to bottlenecks in sustainable use of native biodiversity. This support will face the lack of information and funds for applied business research and development which is hardly financed and constitutes a very important challenge for bioendeavours.

371. The green financing lines will contribute directly to bioendeavours expediting access to credit that is a vital need to many of them (Component 3).

372. The benefits derived from the supply chain learnings and good practices (Component 4) will provide lessons for businesses with similar conditions. Additionally, each supply chain will make an investment plan to optimize the bioendeavour and have particular results that will benefit the recipients of the entire supply chain.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

| PIF | CEO Endorsement/Approval | MTR | TE |
|-----------------|-----------------------------|-----|----|
| Medium/Moderate | | | |

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

The implementation of project activities will be in accordance with the Processes of CAF/GEF Project Cycle of September 2019, inclusive of Environmental and Social Safeguards which meet and exceed the minimum standards of the GEF Updated Policy on Environmental and Social Safeguards of November 2019. Project interventions are not expected to cause adverse environmental impacts, and instead, in many cases will improve the environmental and social conditions prevailing in the areas of intervention, including greater resilience capabilities to deal with extreme events, impacts of climate variability and climate change.

Supporting Documents

Upload available ESS supporting documents.

| Title | Module | Submitted |
|--|---------------------|-----------|
| GEF 10219 CAF Safeguard Screening 16JUN2021 | CEO Endorsement ESS | |

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

| | Objective and Outcome Indicators | Baseline | Mid-term Target | End of Project Target |
|---|--|-----------|-------------------|-----------------------|
| Project Objective: Ecuador has basic conditions that facilitate the development of businesses that sustainably use native biodiversity. | Indicator 1. Number of bioendeavours recorded into the national registry. | 0 | ≥500 | ≥1000 |
| | Indicator 2. Area of bioendeavours under sustainable management in production systems (hectares). | 14,040.56 | ≥15,000 | ≥16,000 |
| | Indicator 3. Number of persons who get a loan from the project sponsored credit lines (disaggregated by sex). | 0 | ≥300 (≥50% women) | ≥700 (≥50% women) |
| | Indicator 4. Direct project beneficiaries disaggregated by sex (individual people). | 0 | >1,000 | ≥19,000 |
| Project component 1 | <i>Enabling conditions for the development of sustainable businesses based on native biodiversity</i> | | | |
| Outcome 1. Institutional arrangements that support the development | Indicator 5. Number of regulations to incentive bioendeavours. | 1 | ≥2 | ≥3 |

| | Objective and Outcome Indicators | Baseline | Mid-term Target | End of Project Target |
|--|---|----------|-----------------|-----------------------|
| of businesses based on the sustainable use of native biodiversity. | <p>Indicator 6. Level of MAATE bioendeavours working group development and implementation.</p> <p>1. Working group not established.</p> <p>2. Working group established, including clear mandate and delegations.</p> <p>3. Working group functioning with an agreed multiyear workplan.</p> <p>4. Working group meets regularly, follows an agreed multiyear workplan, and produce internal agreements and recommendations to incentive bioendeavours.</p> | 1 | 4 | 4 |

| | Objective and Outcome Indicators | Baseline | Mid-term Target | End of Project Target |
|--|--|----------|-----------------|-----------------------|
| | <p>Indicator 7.</p> <p>Level of interagency working group development and implementation.</p> <p>1. Interagency working group not established.</p> <p>2. Interagency working group established, including clear mandate and delegations.</p> <p>3. Interagency working group functioning with an agreed multiyear workplan.</p> <p>4. Interagency working group meets regularly, follows an agreed multiyear workplan, and produce signed agreements to incentive bioendeavours.</p> | 1 | 3 | 4 |
| | <p>Indicator 8. Level of integration of gender equality in the work of the MAATE bioendeavours working group and the interagency working group.</p> <p>1. Working groups do not integrate gender equality in their workplans.</p> <p>2. Working groups integrate gender equality activities and targets in their agreed multiyear workplans.</p> <p>3. Working groups assess and report on their gender equality targets.</p> | 1 | 2 | 3 |

| | Objective and Outcome Indicators | Baseline | Mid-term Target | End of Project Target |
|---|---|----------|-----------------------------------|----------------------------------|
| | <p>Indicator 9. Level of development of instruments to operationalise gender equality into bioendeavours.</p> <p>1. There are no instruments to operationalise gender equality into bioendeavours.</p> <p>2. The instruments are developed.</p> <p>3. The instruments are formally adopted by MAATE.</p> <p>4. The instruments are integrated and gender considerations included into the regulations to incentive bioendeavours.</p> | 1 | ≥ 3 | 4 |
| Outputs to achieve Outcome 1 | <p>1.1. Environmental regulations that facilitate the sustainable use of native biodiversity.</p> <p>1.2. Relevant norms and regulations that support the development of businesses based on the sustainable use of native biodiversity.</p> <p>1.3. Interagency coordination mechanism for the promotion of businesses based on the sustainable use of native biodiversity.</p> | | | |
| Outcome 2. Improved capacities for the development of sustainable value chains based on native biodiversity | <p>Indicator 10. Level of development of the national registry of bioendeavours.</p> <p>1. Registry established but not operational.</p> <p>2. Registry designed but not operational.</p> <p>3. Registry under trial operation.</p> <p>4. Registry fully operational</p> | 1 | 4 | 4 |
| | <p>Indicator 11. Number of persons trained in bioendeavour development ($\geq 50\%$ women).</p> | 0 | $\geq 1,000$ ($\geq 50\%$ women) | ≥ 9000 ($\geq 50\%$ women) |

| | Objective and Outcome Indicators | Baseline | Mid-term Target | End of Project Target |
|--|---|---|---|---|
| Outputs to achieve Outcome 2 | 2.1. Baseline and information integration of business initiatives based on the sustainable use of native biodiversity. 2.2. Guidelines to promote businesses based on native biodiversity. 2.3. Mechanism for capacity building and business support based on (i) self-directed online courses and (ii) technical assistance and mentoring to harness business development. 2.4. Applied research in support of promissory business initiatives based on the sustainable use of native biodiversity. | | | |
| Project component 2 | <i>Increase availability of financing</i> | | | |
| Outcome 3. Financial mechanisms and instruments in support of business ventures based on the sustainable use of native biodiversity. | Indicator 12. Amount of project sponsored credit lines issued in loans. | 0 | ≥USD 4,000,000 | ≥USD 11,000,000 |
| | Indicator 13. Number of persons from financial institutions trained. | 0 | ≥50 | ≥250 |
| Outputs to achieve Outcome 3 | 3.1. Analysis of market-demand for sustainable products from native biodiversity 3.2. Green financing lines for businesses based on native biodiversity. | | | |
| Project component 3 | <i>Demonstration pilot interventions</i> | | | |
| Outcome 4. Optimised demonstration sustainable supply chains | Indicator 14. Level of development of mortío harvesting plans for the Cotacachi ? Cayapas and Cayambe ? Coca National Parks 1. Plan not developed or outdated. 2. Plan developed, but not approved by MAATE. 3. Plan approved by MAATE. 4. Plan under implementation. 5. Implementation assessed, and plan updated based on lessons. | Cotacachi ? Cayapas: 1 Cayambe ? Coca: 1 | Cotacachi ? Cayapas: 4 Cayambe ? Coca: 4 | Cotacachi ? Cayapas: 5 Cayambe ? Coca: 5 |

| | Objective and Outcome Indicators | Baseline | Mid-term Target | End of Project Target |
|--|--|---|---|---|
| | Indicator 15. Area of agriculture plots certified organic (ha). | Sumak Mikuy = 14.07 ha [year 2020] | Sumak Mikuy ≥ 18 ha | Sumak Mikuy ≥ 21 ha |
| | | COPROBICH = 905.66 ha [year 2020] | COPROBICH ≥ 905.66 ha | COPROBICH > 907 ha |
| | | Ethnisnack COOPGRANACH = 0 ha Other producers = 15.65 ha [year 2020] | Ethnisnack COOPGRANACH ≥ 10 ha in transition to organic COOPGRANACH = 0 ha certified Other producers ≥ 15.65 ha certified | Ethnisnack COOPGRANACH ≥ 7 ha in transition to organic COOPGRANACH ≥ 10 ha certified Other producers ≥ 20 ha certified |
| | Indicator 16. Areas of agriculture plots with ?Good Agricultural Practices? certification. | Sumak Mikuy = 0 ha [year 2020] | Sumak Mikuy ≥ 18 ha | Sumak Mikuy ≥ 21 ha |
| | | COPROBICH = 0 ha | COPROBICH ≥ 500 ha | COPROBICH ≥ 945 ha |
| | | Ethnisnack COOPGRANACH = 0 ha Other producers = 0 ha | Ethnisnack COOPGRANACH = 85 ha (100% producers) Other producers ≥ 8 ha ($\geq 40\%$ producers) | Ethnisnack COOPGRANACH = 85 ha (100% producers) Other producers ≥ 20 ha (100% producers) |
| | Indicator 17. Number of Oophaga frogs produced per year by Wikiri. | 385 | ≥ 577 | ≥ 770 |
| | Indicator 18. Number of visitors per year to Wikiri Sapoparque. | 0 | $\geq 1,200$ | $\geq 3,600$ |
| | Indicator 19. Percentage of Jambatu?s costs covered by Wikiri. | 5.8% (2020) | $\geq 7.8\%$ | $\geq 9.8\%$ |
| | Indicator 20. Number of people who have participated in events for dissemination of project lessons. | 0 | ≥ 500 ($\geq 40\%$ women) | $\geq 1,000$ ($\geq 40\%$ women) |

| | Objective and Outcome Indicators | Baseline | Mid-term Target | End of Project Target |
|-------------------------------------|---|----------|---|---|
| | Indicator 21. Number of visitors per month (annual average) recorded in the network of electronic platforms used to disseminate project's information and lessons. | 0 | Visits $\geq 2,000$ Unique visits $\geq 1,500$ | Visits $\geq 4,000$ Unique visits $\geq 3,000$ |
| Outputs to achieve Outcome 4 | 4.1. Four optimised demonstration supply chains (community and private models) 4.2. Learning and good practice from the project documented and disseminated | | | |

[1] Baseline proxy: area of organic agriculture with native species (certified organic and undergoing transition to organic agriculture) for April 2021 from the AGROCALIDAD records.

[2] Ministerial Agreement 034 of 2019.

[3] Key regulations to be developed are:

1. Updated permit process for the collection, use and management of wildlife for commercial purposes.
2. Operational resolution clarifying the procedures for environmental impact assessment and licencing process of bioendeavours.
3. Updated rules to incentive bioendeavours based on project lessons. Includes operationalizing the gender perspective into bioendeavours.

[4] Interagency working group to incentive the development of bioendeavours. Core members: MAATE, MAG, MIPRO, VAP, ARCSA, AGROCALIDAD and SDH. This working group will contribute recommendations on sustainable use of biodiversity (article 14 g of RCOA) to the National Committee for Natural Heritage.

[5] Outdated.

[6] Not developed.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

GEFSEC COMMENTS

Is the baseline scenario or any associated baseline projects appropriately described? Please elaborate more on the baseline for each of three pilot interventions. Please elaborate this more comprehensively by the time of CEO endorsement.

Answer. Done. The information is in section III. Project description | C. Project components | Output 4.1.

Does the proposed alternative scenario describe the expected outcomes and components of the project/program? Please also elaborate on the alternative scenario for the three pilot interventions and what will be generated in each in terms of global environmental benefits in the pilot area geographies and link this to the appropriate GEF core indicators. Please elaborate more comprehensively by the time of CEO endorsement.

Answer. Done. The information is in section III. Project description | C. Project components | Output 4.1.

Is the incremental / additional cost reasoning properly described as per the Guidelines provided in GEF/C.31/12? Yes, at a general level this is addressed and particularly at the national level. Given that the project has pre-identified three pilot businesses for investment, please describe the incremental cost reasoning for these ongoing businesses. Please elaborate more comprehensively by the time of CEO endorsement.

Answer. Done. The information is in section III. Project description | C. Project components | Output 4.1.

Are the project's/program's indicative targeted contributions to global environmental benefits (measured through core indicators) reasonable and achievable? Or for adaptation benefits? Please clarify how the project targets for the core indicators was derived from the actions of the three pilot interventions that will be funded and how the core indicators will be measured vis a vis the product lines of the three businesses. In short, draw the causal link between each of three businesses--assuming success--to the core indicator outcome associated with the product line of that business. In addition, please discuss how other businesses funded through the innovation fund/green financing lines will contribute to global environmental benefits and how these will be measured going forward. Adequate elaboration at PIF stage. Cleared. Please provide more comprehensive explanations by the time of CEO endorsement.

Answer. Done. The information is in section III. Project description | A. Project rationale and C. Project components | Output 3.2, Output 4.1.

Is the articulation of gender context and indicative information on the importance and need to promote gender equality and the empowerment of women, adequate? Yes, at a general level. For the three pilot interventions, please elaborate on the gender context within these biodiversity-based production systems and businesses. Please elaborate more fully by the time of CEO endorsement.

Answer. During the PPG a gender equality diagnosis was prepared to identify the context and barriers of women in biodiversity-based production systems (see Annex 5 of the PRODOC). The information was obtained from field visits to the four demonstration supply chains. Additionally, a Gender Action

Plan has been developed where 22 GAPIs (gender action plan indicators) have been established to implement and monitor the integration of gender equality in the project (See Annex 6 of the PRODOC).

Is the proposed knowledge management (KM) approach in line with GEF requirements to foster learning and sharing from relevant projects/programs, initiatives and evaluations; and contribute to the project's/program's overall impact and sustainability? This project may identify some novel approaches to businesses based on sustainable use on biodiversity, therefore, please strengthen the KM plan by the time of CEO endorsement to ensure wide dissemination of good practice and lessons learned.

Answer. Done. Information is in the description of output 4.2.

Secretariat Comment at PIF/Work Program Inclusion. November 9, 2019. By the time of CEO Endorsement, the GEF Implementing Agency (CAF) needs to present:

- i. a detailed explanation of the mechanism through which the Executing Entities will select the grant proposals and disburse the funds; and
- ii. how GEF Implementing Agency (CAF) will ensure that the Minimum Fiduciary Standards Requirements are met at all levels of the project implementation; and
- iii. a legal establishment/mechanism on how the GEF fund is transferred to set up revolving funds, and how the new fund is to be operated with outflows/inflows of loans and credits.

Answer: This question was related to the NGI PIF [Green financing lines for businesses based on native biodiversity](#) that was submitted to the GEFSEC in 8/15/2019 and that was rejected. Therefore, the question is currently not applicable.

STAP COMMENTS

1. Is the objective clearly defined, and consistently related to the problem diagnosis?

Project objective is "Ecuador has basic conditions that facilitate the development of businesses that sustainably use native biodiversity". It would be preferable to formulate this objective so that it is clear that GEBs will be gained e.g. that more use of biodiversity will become sustainable, or that biodiversity will be conserved due to sustainable-use businesses building incentives for conservation. Just expanding use (at sustainable levels) of biodiversity isn't a gain for biodiversity. It seems clear from para 4, p 14 that the inherent logic here is that where people gain benefits from biodiversity they will be more motivated to conserve it - but this logic should be reflected in the project objectives and outcomes. This is important, because ensuring that the project actually builds conservation incentives

(not just use at sustainable levels) may have significant implications for how activities are structured, implemented and monitored.

Answer. The project will operationalize BioTrade as established in the Organic Code on the Environment which entry into force in 2018. The enabling environment is for businesses that fulfill UNTAD's BioTrade principles and criteria.

2. Do the planned outcomes encompass important global environmental benefits/adaptation benefits?

No, this is not clear - as above, just expanding the use of biodiversity (at sustainable levels) doesn't provide GEBs.

Answer. Acknowledged. More details were included. The core premise is that these businesses will contribute to reduce the existing pressures on biodiversity. For example, organic production of native agrobiodiversity will eliminate the use of chemical pesticides and fertilisers.

3. Is the problem statement well-defined?

No. The project highlights the problem of biodiversity loss due to habitat loss/overexploitation etc., and goes on to explain the problem facing biodiversity based businesses as lack of an enabling environment. But it nowhere articulates the logical link between supporting biodiversity-based businesses and addressing habitat loss/overexploitation etc. These certainly can be linked, but the proposal focuses primarily on domesticating wild species and producing them in an ex situ context, where there is no necessary link to positive conservation outcomes. Indeed, if poorly managed this can raise a number of threats for biodiversity. Commercial use of biodiversity can be negative, neutral or positive for biodiversity under different management regimes/incentive structures, so the project description needs to clearly articulate the theory of change. This TOC needs to clearly set out how and why supporting biodiversity-based businesses will lead to addressing the identified problems for biodiversity i.e. habitat loss/overexploitation etc. The barriers should be articulated as barriers in the way of improved biodiversity outcomes, not barriers to biodiversity-based businesses, unless there has been very clear articulation of how the latter will contribute to biodiversity. From the text on p18, it seems clear how improving mortality management would benefit biodiversity, as it could reduce unmanaged harvest/trade, but how does the trade in captive-bred frogs support wild populations? How does the caecilian trade support biodiversity?

Answer. Acknowledged. The theory of change is explained in the PRODOC on section C. Project's baseline scenario.

4. Is the baseline identified clearly?

The baseline given primarily focuses on green credit initiatives and baseline projects. The proposal needs to articulate the baseline in terms of the biodiversity problems to be addressed.

Answer. Acknowledged. The baseline scenario is explained in the PRODOC on section C. Project's baseline scenario.

5. Are the lessons learned from similar or related past GEF and non-GEF interventions described?

No - the Andean BioTrade project in particular seems highly analogous - the PIF states that it generated important lessons (p18), but doesn't state what they are. How will this project avoid any mistakes or weaknesses of that initiative? Or what worked well in that initiative that is being built on here?

Answer. Acknowledged. See section E. Lessons learned and reflected in project design in the PRODOC.

6. What is the theory of change?

This is not clear. It is clear how the interventions will build an enabling environment for biodiversity-based businesses, but now how the latter will help reduce threats to biodiversity and conserve habitats/species. For example, p19 para 27: states that business will "sustain and enforce actions that alleviate main threats (e.g., land use change, pollution, overexploitation" - but how? Just because a business is using a new species as a resource does not mean it helps conserve biodiversity (every agricultural monoculture was once a newly domesticated species).

Answer. Acknowledged. The theory of change is explained in the PRODOC on section C. Project's baseline scenario.

7. What is the sequence of events (required or expected) that will lead to the desired outcomes?

As above - not clear. For example, in the descriptions of the three pilot supply chains on p 21, it is not clearly articulated in any of these cases how supporting this trade will assist biodiversity (as distinct from supporting sustainable livelihoods). For example, for no. 1 (mortality) will supporting sustainable use here reduce unsustainable use? Will it divert livelihoods from more damaging activities? Will it increase local support for the protected area and cooperation with protected area staff and programs? For no 2 (frogs), will this reduce demand for wild-harvested frogs? (If so, how do you know? What is known about demand characteristics? Will this displacement of illegal trade be monitored? Can we use this same logic with bear bile, elephant ivory or rhino horn? If not why not? This is not a simple argument to make.) Or will it provide local income and thereby reduce incentives for illegal unsustainable wild harvest? Are some captive-bred frogs released to the wild (as in many river turtle captive breeding projects for the pet trade)? Will it divert livelihoods from more damaging activities?

Re the captive breeding techniques, how does breeding these species help the ones threatened in the wild? And how does the raising of crickets support biodiversity? For no. 3 (bamboo), how does this help address biodiversity threats? Is the biodiversity impact through impacts of harvesting and sustainable use in Ecuador, or through corresponding reduction in use of plastics or other construction materials? See also p22, where the proposal states "At the end, these businesses will contribute to conserve valuable resources (e.g., threatened Andean frogs and agrobiodiversity)..? but how?

Answer. See output 4.1 in the PRODOC.

8. Are the benefits truly global environmental benefits, and are they measurable?

The proposal states that it is in line with biodiversity focal area objective 1 "mainstream biodiversity across sectors", but it has not articulated in what ways these businesses are biodiversity-positive. Simply using currently undomesticated species as a resource for business does not constitute biodiversity mainstreaming, unless there are mechanisms built in to ensure this actually improves the status of biodiversity through e.g. reducing threats. The project states that in terms of GEF core indicators, "this project will contribute to sustain production of commercial biodiversity products in 7,000 ha. This surface corresponds to the areas where morti?o is collected and ca?a guadua is cultivated." But sustaining commercial biodiversity products is not indicative of conservation-friendly management. Morti?o is being collected from wild landscapes, so it seems plausible that reinforcing sustainable practices here is good for conservation, through e.g. reducing the likelihood of unsustainable harvest (although this is not spelt out anywhere), but why is land cultivated ca?a guadua considered "under improved management to benefit biodiversity" ? The links to Aichi Target 4 and 7 are not adequately justified.

Answer. The project does not concentrate on the use of undomesticated species. The demonstration production chains are examples of businesses that use wildlife (morti?o and frogs) and agrobiodiversity. Please see output 4.1 in the PRODOC. The project will contribute to operationalise BioTrade.

9. Have gender differentiated risks and opportunities been identified, and were preliminary response measures described that would address these differences?

Yes, to some extent, although this section is rather confusingly written and it is difficult to work out exactly what the risks to full participation and benefit for women are, and exactly how these will be addressed.

Answer. Within the gender analysis, some barriers were identified in the bioendeavors scenario that served as input for building affirmative actions now integrated into the project design. For facilitating the implementation and monitoring, 22 gender action plan indicators (GAPIs) were designed (see Annex 6 of the PRODOC). They have budget and are integrated in the monitoring plan. Additionally,

in order to effectively address gender equality through the implementation of the project, a specialist in gender and participation (EGP) has been included in the project unit during the complete duration of the project (see terms of reference of EGP in Annex 2 of the PRODOC).

10. Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project's control?

Many businesses fail for a wide variety of reasons - aren't there risks that many biodiversity businesses (including in the three pilot value chains) will be unsuccessful? With respect to climate change, it is unclear why the proposal says "natural", and it would be good to see more explicit consideration of what the specific impacts of climate change are likely to be (if there are predictions for the country), how these could affect the project, and what will be done more specifically to mitigate these potential impacts.

Answer. The risk analysis was updated, please see section V. Key risks and mitigation measures in the PRODOC.

11. Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?

Who will be on the technical committee (p35, para 83). Component 3 of this project establishes three pilot supply chains to generate lessons learned - but are there not already lessons learned from previous efforts, including Andean BioTrade? The PIF indicates (p17) that some businesses supported under the Andean BioTrade project have not endured - why? Do we really need more pilot programs?

Answer. The implementation arrangements were developed, please see Annex 2 of the PRODOC. Lessons are listed in section E. Lessons learned and reflected in project design of the PRODOC. During project preparation the businesses that were supported by the Andean BioTrade Project were interviewed. Their consolidation and growth has been hampered by (i) severe limitation to access credit (e.g., working capital) and (ii) lack of robust business skills. Associative businesses need assistance to develop organizational arrangements to support business development.

COUNCIL COMMENTS

Germany. Suggestions for improvements to be made during the drafting of the final project proposal:

1. Germany welcomes this project proposal, which targets an important stakeholder group with regards to the conservation of biodiversity and has an overall promising approach.

2. However, Germany recommends providing more detailed information on the specific financial instruments used in the proposal. It would be specifically helpful to assess their adequacy in addressing the identified barriers.
3. Furthermore, Germany would appreciate additional information on follow-on financing and a strategy to ensure the durability of financial flows beyond the project timeframe.

Answer. The project will develop pilot credit lines that will operate through private financial institutions (banks and credit unions). CAF will fund the credit lines. The project includes:

- (i) Working with other financial institutions to motivate interest in opening targeted credit lines.
- (ii) The identification of sources to feed the credit lines like impact investors.

Norway / Denmark

We support the overall ambition of the project, strengthening the necessary enabling conditions to facilitate the development of businesses and the growth of a sector that is based on the sustainable use of biodiversity.

Component 1

1. The difference between the environmental regulations to be assessed within outcome 1.1 and the ones under outcome 1.2 is not clear. It seems that both outcomes could be merged into a single outcome (paragraph 32, PIF).

Answer. Outcome 1.1. focus on regulations on access and use of native wildlife for commercial purposes. The ministry of environment is the competent authority for these regulations. Outcome 1.2 focus on the use of native biodiversity that is under the control of other authorities: agrobiodiversity is managed by the ministry of agriculture and hydrobiological resources are managed by the fisheries and aquaculture authority. The project will implement a mechanism for intersectoral collaboration.

2. It is not clear who the users of the guidelines to promote businesses based on native biodiversity will be (output 2.2, paragraph 35, PIF). Is it the Ministry of Environment, enterprises, or financial institutions? More information should also be provided on the issues to be covered by these guidelines. We would also like to understand the criteria for choosing the topics to be developed through guidelines and the ones to be advanced through environmental regulations (outcome 1).

Answer. Acknowledged. Details were included in output 2.2 of the PRODOC. Intercultural and gender equality approach has been mainstreamed in the development of the guidelines (curriculum, users, campaigns for promotions).

Component 3

3. Although an analysis of lessons learned from other projects is not a requirement in the PIF, we believe that such study will enrich the design and implementation of 'component 3'. The PIF states that there is valuable national and regional experience on biodiversity-based business to build upon, such as the Andean biotrade project (GEF ID 2391) and ProCamB'o. What are the lessons learned from those projects? And what are the lessons learned from the existing sectoral roundtables and public-private information platforms?

Answer. See section E. Lessons learned and reflected in project design in the PRODOC.

4. The project aims to support existing experiences of small and medium-sized companies to extract lessons that will contribute to a further understanding of biodiversity-based business. What is the definition of small and medium-sized companies used in the project? And what is the definition in Ecuadorian laws?

Answer. The project will focus on micro, small and medium enterprises (MIPYMES). The Ecuadorean definitions are as follows:

| Size | Annual sales (USD) | Number of employees |
|-------------------|-----------------------------|---------------------|
| Micro | ≤ 100,000 | 1 to 9 |
| Small | from 100,001 to 1,000,000 | 10 to 49 |
| Medium category A | from 1,000,001 to 2,000,000 | 50 to 99 |
| Medium category B | from 2,000,000 to 5,000,000 | 100 to 199 |
| Large | ≥5,000,000 | ≥200 |

5. Baseline project: More information should be provided on how CAF will ensure efficient coordination with the projects listed as relevant to the proposal (paragraph 24 and 86, PIF). Identification of overlapping activities and how CAF will address them should be carried out during the project preparation process.

Answer. Project executing entities will be invited to be part of the project's working groups. The institutional arrangements are explained in Annex 2 of the PRODOC.

6. Stakeholders participation: CAF answered no to the question of whether Indigenous Peoples and Local Communities (IPLC) participated in consultations during the project identification phase¹. Since the project aims at inclusive conservation by working with the rural and indigenous people living in the intervention zones, we recommend carrying out consultations with IPLC at the very beginning of the project preparation process.

Answer. During PIF, several visits to the supply chains were held. There is a record of the visits made particularly to Sumak Mikuy where some indigenous representants were contacted.

During PPG phase, an information gathering phase was carried out in the field and several communities linked to supply chains were visited and consulted. The visits were aimed at integrating their interests and needs into the PRODOC design, in addition to identifying potential contributions to the investment plans of each chain.

The participation of indigenous peoples and local communities was identified in three of the four supply chains (See details in stakeholders participation in PRODOC).

Their participation in the project will be as organized agents through their cooperatives, associations or companies and not as indigenous organisations. (see Annex of the PRODOC).

7. Gender Equality and Women's Empowerment: More information should be provided on the mechanisms to be implemented to enhance equitable distribution between men and women of the benefits derived from morti'o harvesting (paragraph 74, PIF). More information should be provided on the mechanisms to be implemented to make visible women's contribution to the ca?a guadua value chains (paragraph 75, PIF).

Answer. During the PPG a gender equality diagnosis was made to identify the context and barriers of women in biodiversity-based production systems (see Annex 5 of the PRODOC). The information was obtained from field visits to the four demonstration supply chains. Additionally, a Gender Action Plan has been developed where 22 GAPIs (gender action plan indicators) have been established to implement and monitor the integration of gender equality in the project (See Annex 6 of the PRODOC).

8. Coordination with other relevant GEF-financed projects and other initiatives: There is another project in Ecuador in this work program: "Conservation and Sustainable Use of Biodiversity within the Sustainable Use Areas of the State Subsystem of Protected Areas (SEAP) of Ecuador and its Buffer Zones". Coordination and exchange of experiences should be carried out on the challenges and opportunities in bringing to the market new products and services based on native biodiversity.

Answer. During project preparation there were meetings with FAO to identify synergies.

9. Under "Expected outcomes and components of the project", it is stated that the project is organized into three components, four outcomes and 12 outputs (paragraph 29, PIF); nevertheless, we only find 11 outputs (page 5, PIF).

Answer. The project was adjusted during the PPG. Now it has three components, four outcomes and eleven outputs.

Canad?

The focus of this project is on biodiversity-based businesses - but it is not clear about how the commercial use of biodiversity by these businesses would contribute to the overall conservation of biodiversity or reduce threats to biodiversity.

Answer. Please see sections C. Project's baseline scenario and A. Project rationale in the PRODOC.

USA

Are indigenous communities beyond those represented by UNORCAC likely to be involved over the course of the project life? If additional indigenous communities and organizations will be funded by the project, we would request consultation with the U.S. Embassy in Quito prior to their confirmation as project partners.

Answer. During PPG phase, visits to supply chains were organized to gather information information. Several communities related to supply chains were visited and consulted. The visits were aimed at integrating their interests and needs into the PRODOC design, in addition to identifying potential contributions to the future investment plans that will be funded by GEF.

In this way, indigenous peoples that will be part of three value chains were identified (See Stakeholders participation in PRODOC text) and their participation in the project will be as organized agents through their cooperatives, associations or companies (See Annex 7 Stakeholders Analysis: Characterization of indigenous peoples participating in the project).

The activities of the US Embassy, Peace Corps and USAID were reviewed, and no projects or initiatives were identified for the establishment of alliances in these intervention sites.

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

Currently, the use of the PPG is the following:

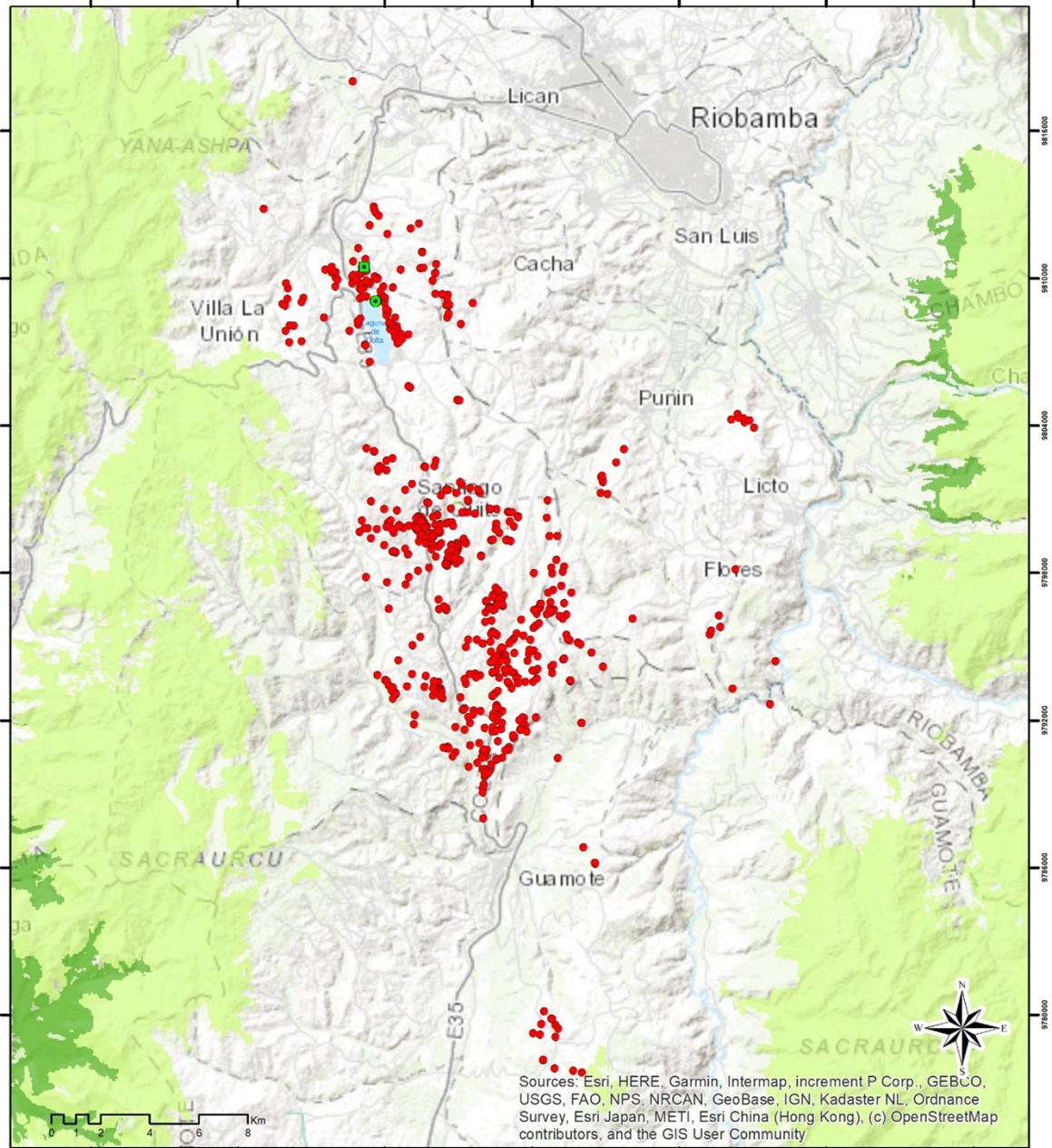
| | USD | | USD |
|-------------------------|------------|---------------------------|------------|
| Amount Approved: | 100,000.00 | Managed Amount: | 100,000.00 |
| Solicited amount: | 100,000.00 | Compromised: | 94,500.00 |
| Compromised amount: | 19,875.00 | Disbursed: | 74,625.00 |
| Resources available: | 5,500.00 | Remaining to disburse: | 25,375.00 |

A more detailed report will be send to the GEF on July 2021.

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

PREDIOS EN PRODUCCIÓN - COPROBICH



- Biofábrica COPROBICH
- Planta COPROBICH
- Producción de Quinoa
- SNAP
- Bosques nublados
- Páramos

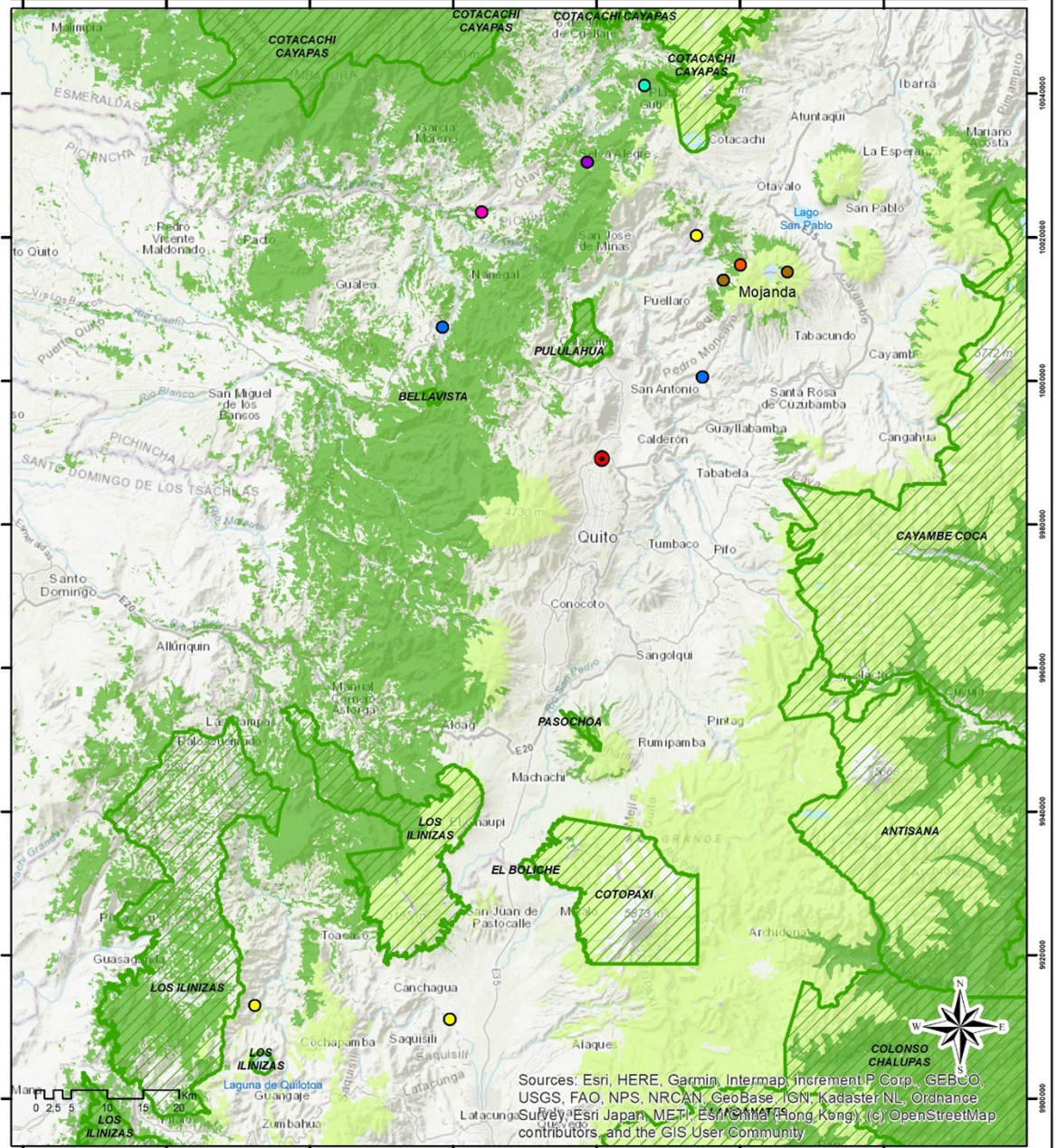


Ministerio del Ambiente, Agua y Transición Ecológica



Fecha: 05/2021
Sistema de proyección WGS 84 17 Sur
Escala: 1:220.000
Elaborado por: Raúl Galeas

PREDIOS EN PRODUCCIÓN - ETHNISNACK



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

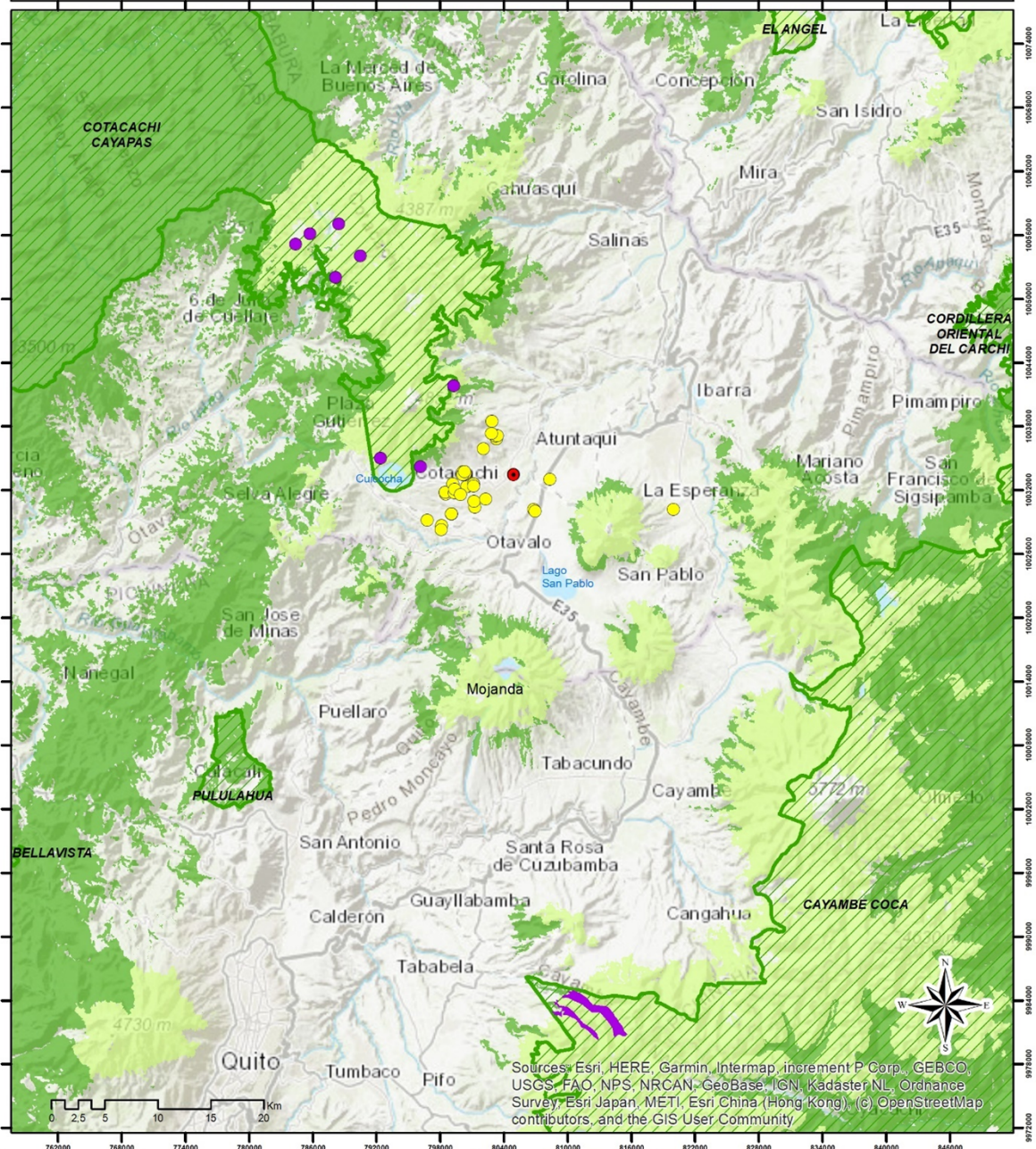
- Planta Ethnisnack
- Papa y Zanahoria blanca
- Papa y camote
- Camote
- Zanahoria blanca
- Chocho
- Zanahoria blanca y camote
- Papa
- SNAP
- Bosques nublados
- Páramos



Ministerio del Ambiente, Agua y Transición Ecológica
Gobierno de la Provincia de Cotacachi-Cayapas
ecoBIOTEC del Ecuador

Fecha: 05/2021
 Sistema de proyección WGS 84 17 Sur
 Escala: 1:750.000
 Elaborado por: Raúl Galeas

PREDIOS EN PRODUCCIÓN - SUMAK MIKUY



- Planta Sumak Mikuy
- Recolección de mortiño
- Chakras de uvilla y ají
- ▨ SNAP
- Ecosistemas frágiles**
- Bosques nublados
- Páramos



Ministerio del Ambiente, Agua y Transición Ecológica

Gobierno de Ecuador

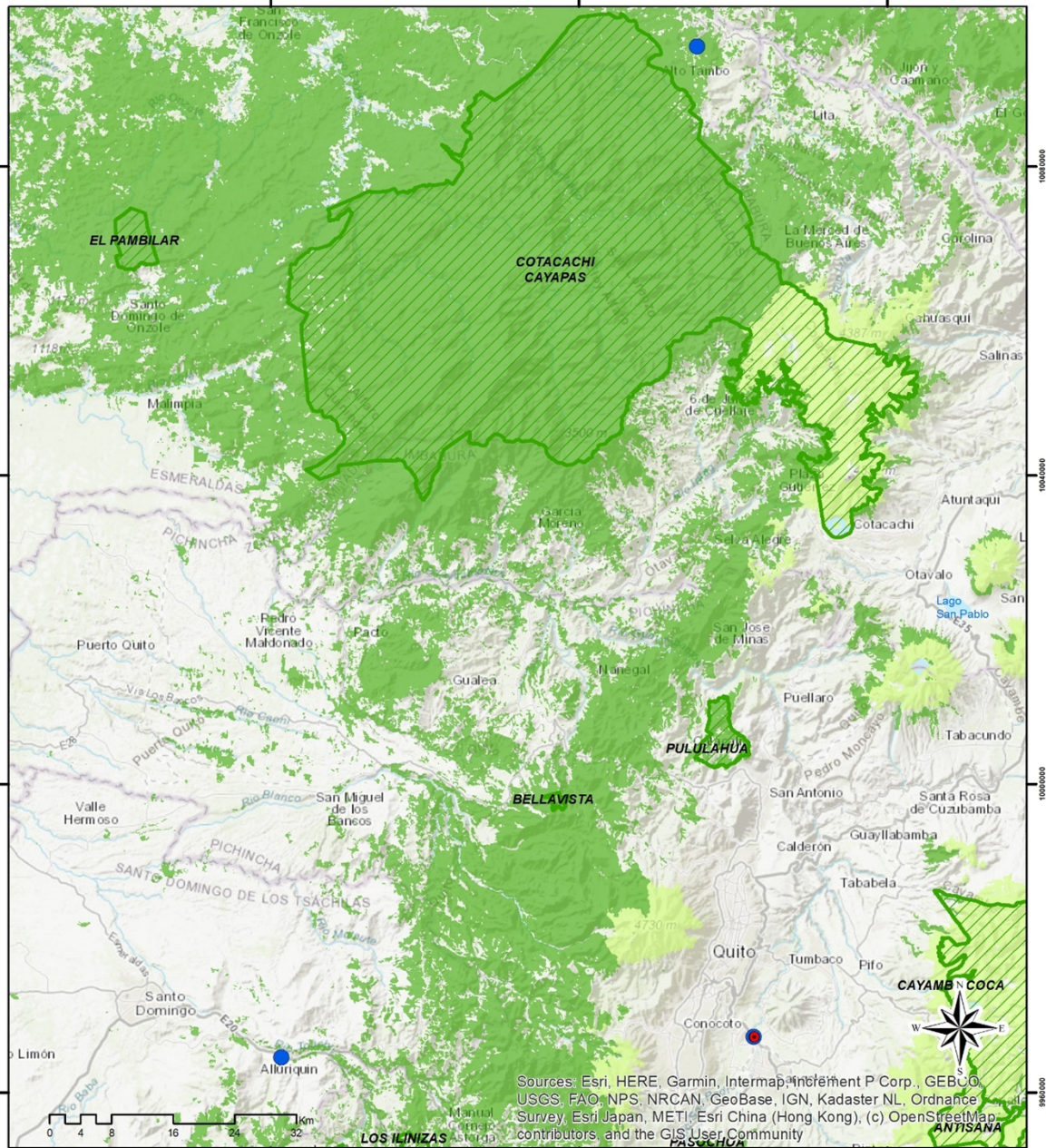
Fecha: 05/2021

Sistema de proyección WGS 84 17 Sur

Escala: 1:500.000

Elaborado por: Raúl Galeas

PREDIOS EN PRODUCCIÓN - WIKIRI



● Planta Wikiri

● Wikiri

▨ SNAP

■ Bosques nublados

■ Páramos

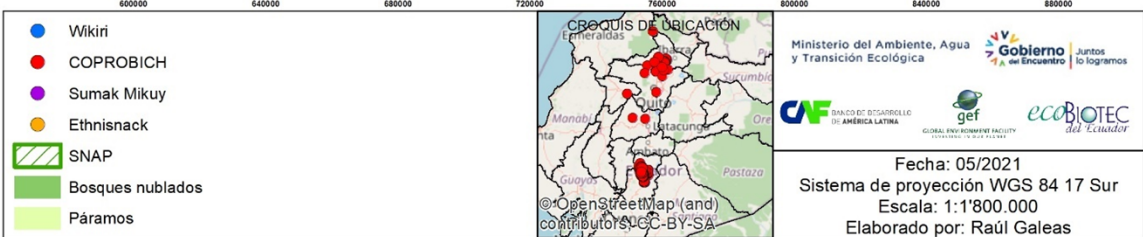
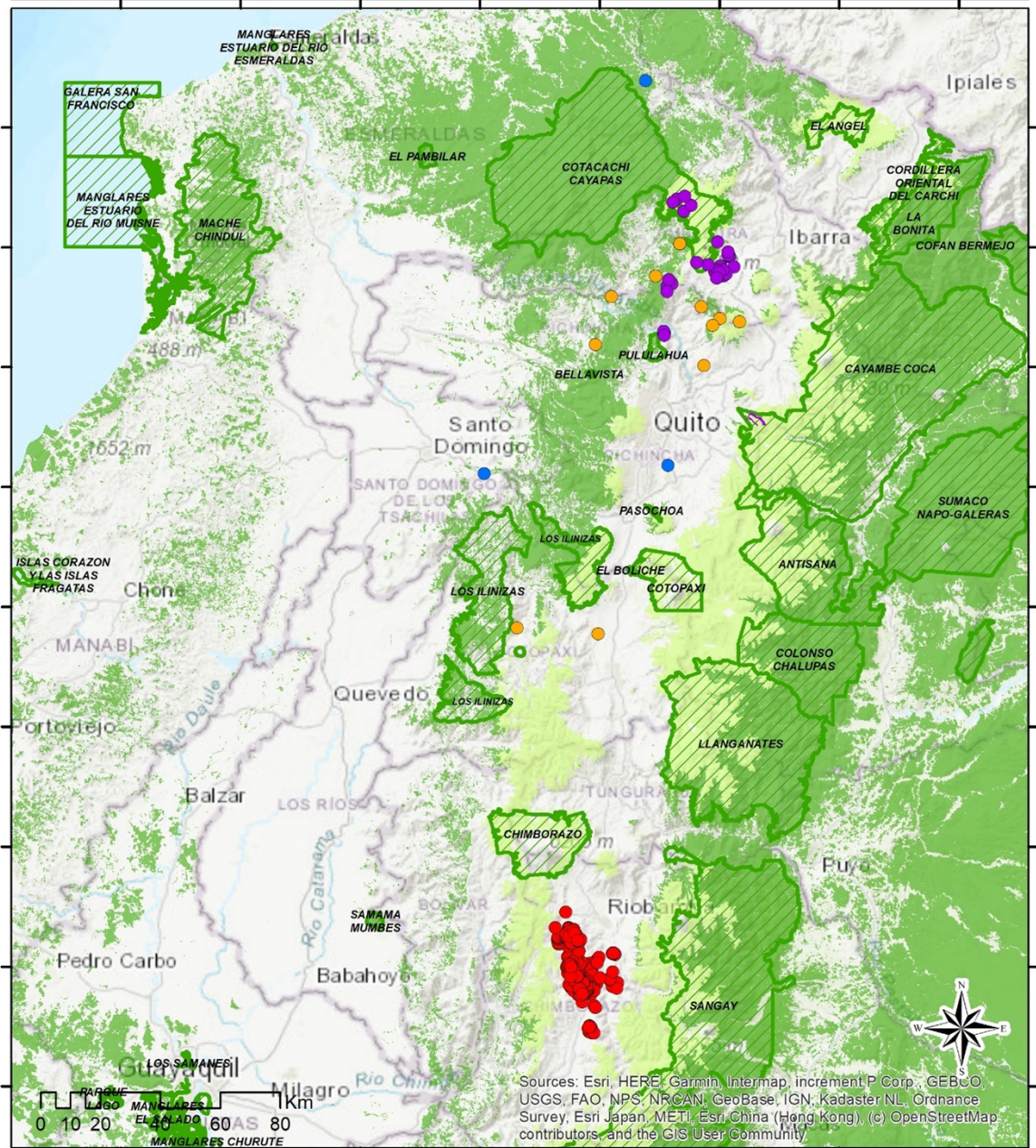


Ministerio del Ambiente, Agua y Transición Ecológica

Gobierno de la Provincia de Cotacachi

Fecha: 05/2021
Sistema de proyección WGS 84 17 Sur
Escala: 1:700.000
Elaborado por: Raúl Galeas

PREDIOS EN PRODUCCIÓN



ANNEX E: Project Budget Table

Please attach a project budget table.

| Expenditure category | Detailed description | Component 1 | | Component 2 | Component 3 | Subtotal | M&E | PMC | Total | Responsible Entity |
|-----------------------------------|----------------------|-------------|-----------|-------------|-------------|----------|--------|---------|---------|--------------------|
| | | Outcome 1 | Outcome 2 | Outcome 3 | Outcome 4 | | | | | |
| Works | Budget note 1 | | | | 73,235 | 73,235 | | | 73,235 | Heifer |
| Goods | Budget note 2 | | 10,000 | | 140,525 | 150,525 | | | 150,525 | Heifer |
| Vehicles | Budget note 3 | | | | 9,000 | 9,000 | | | 9,000 | Heifer |
| Grants / subgrants | Budget note 4 | | 360,000 | | | 360,000 | | | 360,000 | Heifer |
| Subcontract to executing entity | Budget note 5 | | | | | - | | 148,536 | 148,536 | CAF |
| Contractual services - individual | Budget note 6 | 70,000 | | 58,000 | 53,200 | 181,200 | 20,000 | | 201,200 | Heifer |
| Contractual services - company | Budget note 7 | 48,000 | 285,000 | 330,000 | 223,200 | 886,200 | | | 886,200 | Heifer |
| International consultants | Budget note 8 | | | 18,000 | | 18,000 | 40,000 | | 58,000 | Heifer |
| Local consultants | Budget note 9 | 57,000 | 6,000 | 77,000 | 28,800 | 168,800 | 24,000 | | 192,800 | Heifer |
| Salary and benefits / staff costs | Budget note 10 | 159,600 | 129,600 | 143,400 | 143,400 | 576,000 | | | 576,000 | Heifer |
| Training, workshops, meetings | Budget note 11 | 16,000 | 8,000 | 147,000 | 64,100 | 235,100 | 25,070 | | 260,170 | Heifer |
| Travel | Budget note 12 | 16,400 | 16,400 | 16,400 | 38,000 | 87,200 | 24,000 | | 111,200 | Heifer |
| Office supplies | Budget note 13 | 800 | 800 | 800 | 800 | 3,200 | | | 3,200 | Heifer |

| | | | | | | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|------------------|----------------|----------------|------------------|--------|
| Other operating costs | Budget note 14 | | | | 11,200 | 11,200 | | | 11,200 | Heifer |
| Audio visual, printing and publications | Budget note 15 | | 64,000 | 8,000 | 6,000 | 78,000 | | | 78,000 | Heifer |
| Grand Total | | 367,800 | 879,800 | 798,600 | 791,460 | 2,837,660 | 133,070 | 148,536 | 3,119,266 | |

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

N/A

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencies is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

N/A

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

N/A