



## Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the “Writing a Darwin Report” guidance: (<http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms>). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

**Submission Deadline: 30<sup>th</sup> April 2019**

### Darwin Project Information

Project reference	24-011
Project title	Wildlife-friendly agroforestry and sustainable forest management in Bolivian indigenous territories
Host country/ies	Bolivia
Lead organisation	Wildlife Conservation Society (Bolivia)
Partner institution(s)	Fundación Teko Kavi
Darwin grant value	£ 398,872
Start/end dates of project	July 1, 2017 – March 31, 2021
Reporting period (e.g., Apr 2018 – Mar 2019) and number (e.g., Annual Report 1, 2, 3)	April 2018 – March 2019 Annual Report 2
Project Leader name	Oscar Loayza Cossio
Project website/blog/Twitter	<a href="https://bolivia.wcs.org/">https://bolivia.wcs.org/</a>
Report author(s) and date	Lilian Painter, Oscar Loayza, Ximena Sandy, Nuria Bernal Hoverud

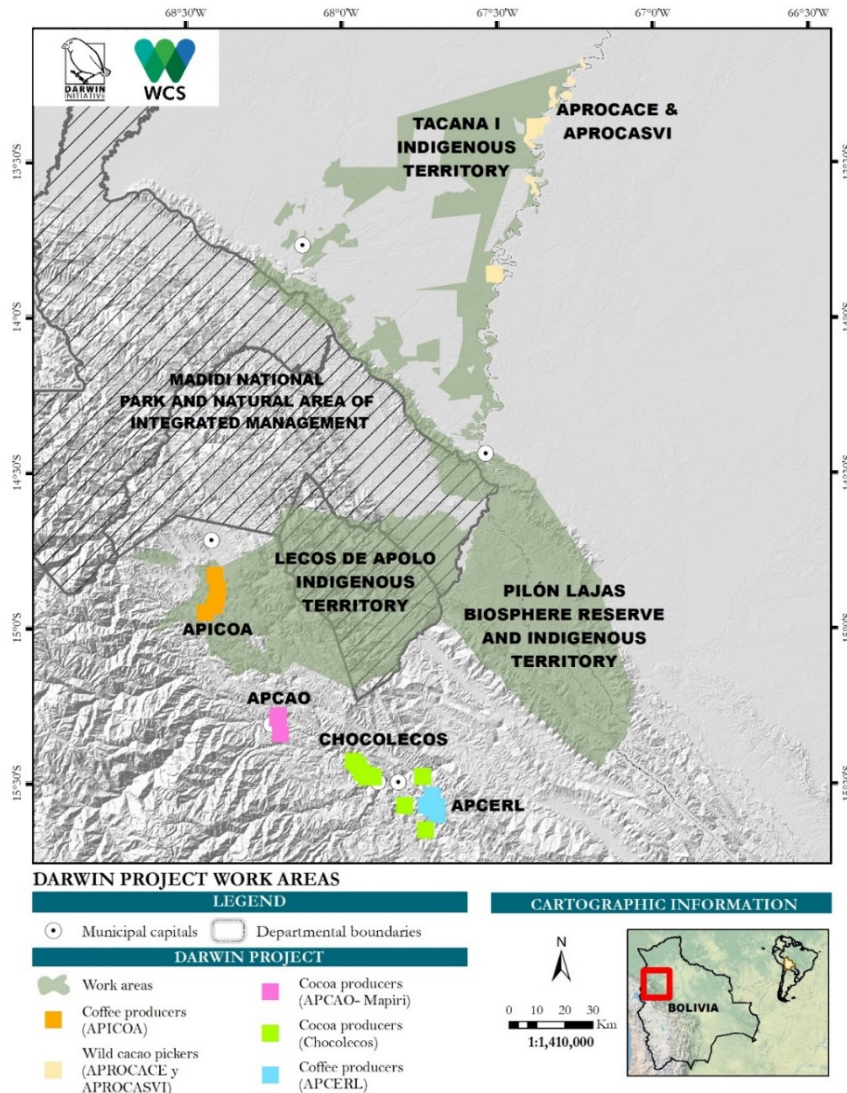
### 1. Project rationale

The T’simane Mosekene, Leco, and Tacana indigenous people’s territories in Bolivia cover over one million hectares bordering and overlapping the Madidi and Pilon Lajas protected areas (see Map 1 below). This region is globally important because of its high avian diversity and stronghold populations of vulnerable wide-ranging species, such as jaguar and spectacled bear. However, this region’s rich conservation value faces serious threats, such as forest loss due to illegal agricultural clearing and settlements, timber extraction, and gold mining. This degradation perpetuates a cycle of poverty and negatively impacts community livelihoods, which depend on forest resources and are therefore particularly vulnerable to climate change.

Indigenous communities in Northern La Paz benefit from access to collective lands. Our project supports their efforts to maintain control over these areas, ultimately benefiting both biodiversity, by helping to address the abovementioned threats, and local

livelihoods. We do so by coupling improvements in control and vigilance of illegal encroachments with investments to support sustainable agroforestry.

We are supporting a decentralized and cost-effective system for control and vigilance of indigenous lands, through improved communication protocols, event/threats mapping, and capacity for rapid collective response against encroachments. Control and vigilance come with high transport costs because communities are widely dispersed. Cacao and coffee-based agroforestry, identified as strategic within indigenous land use plans, are important livelihood alternatives for indigenous communities. Given that the plantations and natural groves are widely distributed across indigenous lands, active involvement of small-scale local producer organizations in control and surveillance activities can greatly reduce the high transportation costs of control and vigilance. Furthermore, by building technical capacity in sustainable agroforestry, we are able to improve productivity and access to niche markets, generating much needed income, while strengthening their capacity to exert territorial control to protect forests and biodiversity. Finally, marketing strategies, commercial alliances, and awareness building among urban cacao and coffee consumers will allow producers to visualize their role as conservation allies.



Map 1: Darwin project work areas.

## **2. Project partnerships**

Teko Kavi, our project partner in Bolivia, is a local NGO that implements environmental education projects and conducts outreach and capacity building to increase local participation and reduce the social and environmental impacts of road improvement in Northern La Paz. It has also assisted WCS's efforts to strengthen protected area monitoring programs in recent years. Since 2017, with support from WCS, Teko Kavi has participated in a consortium led by Danish NGO Nordeco to support climate change mitigation through improved agroforestry practices with local partners in Northern La Paz. This grant provides matching funds to this Darwin Initiative project, under which Teko Kavi is responsible for implementing a communications campaign to develop an urban consumer constituency in support for indigenous territorial management and sustainable natural resource use.

Local producer organizations approve the specific work plans to implement this project. They include the Association of Ecological Coffee Producers of Larecaja (APCERL), Association of Organic Cacao Producers of Mapiri (APCAO MAPIRI), and Association of Producers of Indigenous Leco Cacao (CHOCOLECOS); the local coffee producers of Apolo in the Lecos Apolo indigenous land (APICOA); and the wild cacao producers of Carmen del Emero, in the Tacana indigenous land (APROCACE). Additionally, WCS implements this project through agreements with three territorial indigenous organizations, namely the Lecos Apolo Indigenous Organization (CIPLA), Tacana Indigenous Council (CIPTA) and T'simane Mosekene Regional Council (CRTM).

## **3. Project progress**

During the second year of the project, WCS and Teko Kavi continued working with partners to carry out coordinated activities specified in their annual work plans, holding regular meetings with producers and their territorial organizations, CIPTA, CIPLA and CRTM.

### **3.1 Progress in carrying out project activities**

During the second year of the project, we carried out the following activities:

Output 1: Producer organizations and their representative territorial organizations have developed and implemented systems for control and vigilance of their territorial lands (Activities 1.2 and 1.3)

Based on the information generated in Year 1 on areas vulnerable to illegal encroachment within the three indigenous territories, Tacana, Lecos Apolo and T'simane Mosekene, we produced vulnerability maps for each indigenous land and socialized them with the communities, including representatives from the producer organizations. The three baseline maps are complemented by an Android app designed for reporting and documenting illegal encroachments. Assigned community leaders from CIPTA and CIPLA have started reporting on illegal activities, and reports are stored on a dedicated server located in La Paz. CIPLA and CIPTA leadership receive notifications on their cell phones when reports are uploaded, allowing them to follow up on and monitor the complaints received.

After an initial year of testing in the Tacana territory and six months in the Lecos Apolo territory, we adjusted and corrected the app, and presented it to potential additional users, including the Marka Cololo Copacabana Antaquilla (MCCA) and CRTM (*Annex 4: Report on training session in November 2018*).

We conducted training sessions with the monitoring technicians from the indigenous organizations on the response process that needs to be followed when an encroachment is reported, taking advantage of opportunities such as community meetings.

During the third year of the project, we will consolidate appropriate coordination channels for effective actions against encroachments, with the participation of members of the producer organizations, as well as park guards from protected areas with which the territories overlap, such as Madidi, Apolobamba and Pilón Lajas.

Output 2. Pre-harvest management of agroforestry plots and native cacao forest groves is improved and local capacity built for sustainable agroforestry that is wildlife friendly (Activities 2.1, 2.2, 2.3 and 2.4)

Cacao and coffee producers (N= 142) continue to receive regular training (18 events this year, 4 field schools with cacao producers and 8 events with coffee producers) on the application of best practices during pre- and post-harvest stages, providing them with new knowledge and improved capacity to keep meeting organic standards. For coffee producers, we have reinforced training on requirements for the Smithsonian Bird Friendly certification and monitored compliance with certified producers, and offer training to potential new producers interested in getting certified. Certification is provided by The Smithsonian's National Zoo and Conservation Biology Institute's Migratory Bird Center to coffee initiatives that conserve bird species through the world's first and only scientifically backed shade-grown coffee certification. In Bolivia, the Smithsonian has authorized certification by Bio Latina (<http://biolatina.com.pe/>). Coffee producers undergo the organic certification process annually, while the bird-friendly certification is renewed as a group certification every three years, provided that producers keep the annual organic certification valid and up to date. Traceability of Bird Friendly certified coffee is controlled annually during the organic inspection routine (*Annex 11: APCERL's internal control system for coffee production*).

WCS field technicians provide training to cacao and coffee producers through field schools, in which producers themselves, under technical guidance, share common problems and identify alternative solutions through a peer-to-peer learning and dynamic knowledge sharing strategy of "learning by doing" in their own plots and already established study plots. During this second year of the project, we held both pre-harvest and post-harvest field schools with APCERL coffee producers from Teoponte, APICOA coffee producers from Apolo, and cacao producers from Chocolecos in Guanay. We also supported APROCACE's efforts to monitor wild cacao plantations that are still recovering from the 2014 flooding.

Pre-harvest field schools with the coffee producers in Apolo focused on the construction of seed beds and nurseries for seedling production of new varieties of shade coffee and timber species, as well as techniques to establish new coffee plots considering slope and soil qualities. Similarly, in Teoponte, field schools focused on aspects related to seedling production, including construction of composting bins and management, seed scarification and construction of germination beds, and implementation of individual nurseries and soil preparation to establish seedling nurseries that cover new coffee varieties (*Annex 6: Field school pre-harvest reports coffee*). Well-managed agroforestry plots with increased tree species diversity is an important target for bird friendly certification, as adding a diverse shade tree canopy provides habitat for migratory songbirds and other wildlife, and serves as carbon storage.

The pre-harvest field schools with the cacao producers are conducted in all communities in rotation, and in this reporting period training with cacao producers from Mapiri and

Guanay dealt with topics such as fertilization of soils, pruning, and set-up of nurseries for production of cacao saplings (*Annex 7: Participant lists in cacao field schools 2018*).

To date, we have produced and distributed three booklets on coffee production: on establishing nurseries, soil management, and establishing new coffee plantations. Additional materials are being developed with inputs from the field school topics mentioned above. Each field school report also represents a brief field guide on how to tackle day-to-day challenges (*Annex 8: Field school reports and booklets*).

Building on our experience and long-term relationship with the T'simane Mosekene people in Pilón Lajas Indigenous Territory, we used additional funds from the Nordic Climate Facility to support an initiative with indigenous women to process essential oils and other plant by-products, such as organic soaps. We acquired space and equipment in 2018, and conducted training on techniques for soap production and extracting aromatic oils using local plants (*Annex 9: Participant list in 5 training events in communities inside Pilón Lajas*).

Finally, we used matching funds to work with the T'simane Mosekene communities to manage jatata palms, used locally for high quality thatch. The T'simane Mosekene people are the most traditional of the three target indigenous groups and have had the greatest difficulty in incorporating new management and processing practices for cacao, especially since they move periodically to different settlements inside their territory, making management of agroforestry systems less of a priority. Support to the jatata producers includes the production of high quality jatata thatches by seven communities located along the Quiquibey river. Jatata is harvested under an existing management plan inside their territory. Through a rotating fund, their producer association, APAI-RQ (Artisanal Producers of the Quiquibey River), is able to stock their product in the main port of entry to the region, Rurrenabaque, selling products to local buyers and private tourist initiatives and opening markets in different municipalities in the La Paz department.

### Output 3. Post-harvest management of cacao and coffee is improved, and local capacity built for diversification of products (Activities 3.2, 3.3, 3.4 and 3.5)

During the second year of the project, coinciding with the end of the harvesting season of both coffee and cacao beans, WCS field technicians assisted producers in improving post-harvesting processing techniques, focusing on quality control required for the target niche markets. Field schools for coffee producers addressed control of acidity during the fermentation process and standardizing fermentation time for best results, elements which are key to determining the final quality (aroma and flavor) of the coffee beans. The same fermentation controls apply for cacao, and have had good results (*Annexes 6A & 6B: Coffee field school reports*).

During Year 2, coffee and cacao producers have stockpiled dry parchment coffee beans through a collective rotating fund initially established with funds from the Danish Cooperation with a starting capital of 14,000 USD; an additional rotating fund was subsequently established using 7,000 USD from the Bolivian Bank for the Promotion of Economic Initiatives (Banco FIE S.A.). The rotating fund is managed by WCS and has been running for four consecutive years (2015-2018). This supports a variety of community based natural resource management organizations, including cacao and coffee producers. WCS has used this rotating fund to assist community organizations in identifying markets that offer better sale prices for their products, allowing organizations to improve their earnings significantly and replenish the rotating fund in the same year. The rotating fund also contributes to larger volumes of raw produce with which to process

by-products with added value, such as roasted coffee and chocolate paste, and soon chocolate bars and bonbons.

In 2018, cacao and coffee production increased significantly. Chocolecos and APCAO Mapiri produced a total of 2.64 tons of dry cacao, a 7% increase from the previous year's 2.57 tons. APCERL reported coffee production of 28.5 tons of dry parchment coffee, while APICOA reported 7.6 tons, for a total volume of 36.1 tons, up 12% from the previous year. As a result of the improvement in coffee quality, local coffee association Asociación de productores de Café Apolo (APCA) has bought part of the 2018 coffee production to sell in their coffee shops in Apolo and La Paz. The rest has been sold locally to local buyers in smaller volumes.

Finally, during the second year of the project, Darwin funds leveraged additional NCF and FAO (Food and Agriculture Organization) funds to build an extension of the processing (fermenting and drying) infrastructure for the Chocolecos in San José de Pelera community, Guanay. This improvement will ensure a more efficient and high quality processing of cacao beans (*Annex 10: Reports on raw cacao quality 2018*).

Output 4. Marketing strategies for cacao and coffee are improved and diversified, including wildlife-friendly certification (Activities 4.1, 4.2, 4.3, 4.4 and 4.5)

In the second year of the project, 35 coffee producers renewed their organic certification, and the thirteen bird friendly coffee producers will renew their triennial certification in 2020. New producers are being trained and assisted in getting ready for the 2020 bird-friendly certification, and in 2019 the new plots will go through the rigorous internal control system to apply for certification. The internal control system for APCERL producers is working well and is showing progress in monitoring coffee plots and production (*Annex 11: APCERL's Internal control system*).

Our field technician Javier Condori has been actively and regularly monitoring birds in the coffee plots of the seven communities that participate in the coffee association. All seven communities lie within an Important Bird and Biodiversity Area (IBA), Bella Vista BO047. To date, bird richness has risen to 213 species, representing 14% of all Bolivian bird diversity and adding 34 new species to the baseline list. Of the 213 species of birds, 80 have a photographic record, 20 are migratory species (4 boreal and 16 austral species) and 94 are local migrants (*Annex 12: Database of bird species*). Bird diversity in simple system agroforestry plots is 69% lower, with only 67 species registered.

In terms of marketing, we created a private enterprise under the name Chomateo SRL (Limited Liability Partnership), aiming to strengthen marketing and generate added value to the community productive organizations' products, including roasted coffee, chocolate paste, incense resin, essential oils and natural soaps, jatata palm thatches. Each has their own brand and specific logos, as shown below:



Orygen began operating in April 2018, and a board of directors was established by APCERL (80%) and Chocolecos member producers (20%); other community productive initiatives also have the opportunity to sell their products through the Orygen platform under specific agreements with Chomateo. Chomateo is in charge of the cacao and coffee roasting laboratory, quality control of products, and creation of new ones, and has fulfilled all formal legal and technical requirements for production and export (eg. sanitation, tax and exporter registrations).

An important part of the commercial strategy is the promotion of the brands and product offering through the [website](#) and [Facebook](#), opening up important international markets for their organic, community produced, and environmentally friendly products. In addition to the promotional materials already available (cacao and coffee leaflets), APCERL and Chocolecos producers have actively participated in two national fairs, in La Paz ([La Paz Expone](#)) and Santa Cruz de la Sierra ([Expocruz](#)). They also participated in local fairs and larger events such as the Latin American Mammalogy Congress, where they offered samples of their organically produced coffee and cacao paste, hot coffee, and chocolate drinks for consumers to learn about these high-quality products. At the fairs, producers were able to participate in business networking events with interested customers from Bolivia, as well as international markets, resulting in several initial business agreements to supply roasted coffee and cacao to coffee shops in La Paz. These include [Bronze Café Bar](#), [Alipacha vegan gourmet restaurant](#), [Master Blends](#) (a Bolivian company dedicated to exploring flavors and aromas of fruits and herbs to produce high quality liqueurs, in Santa Cruz, Tarija and Sucre), Robert's Place, [Nomad roaster](#) in Barcelona, [Celler de Can Roca in Gerona](#), Anticafé, Meraki Coffee SRL and the Orygen coffee shop, as well as [Gustu](#), a renowned restaurant and bar in La Paz. The products can also be bought locally in La Paz in eco-friendly stores such as Tierra Ecológica and Minka. Finally, samples were sent to potential buyers (restaurants and coffee shops) in Argentina, the U.S., and Europe. (*Annexes 14 & 15: Promotional cacao video, Sale invoices for coffee and cacao export*).

In terms of training in coffee roasting and cupping, during the second year of the project, the three young barista women from APCERL that were trained in roasting, coffee tasting and barista techniques in Colombia in 2017 have been using their new skills in the processing laboratory in La Paz, testing different varieties of coffees and roasting times from individual harvests of selected APCERL producers. The competition among the roasted coffee varieties resulted in the selection of four special coffees from 4 producers: Cristina Macedo, Benito Kea, Santos Alanoca, and Benito Huaylla. These special coffees were packed separately and included a general description of their aroma and flavors that characterize, conducted by the three baristas (*Annex 16: Special coffee packing for sale*). The coffees were sold locally in the city of La Paz in special packaging for Christmas in December 2018, and for Bolivian Father's Day last March 2019, as part of customer diversification marketing strategy. In general, the baristas are gaining a reputation and interacting with other baristas in major Bolivian cities. In the coming year, they will start to develop their own training materials to share their experience and motivate other young producers (*Annex 17: Coffee roasting and tasting protocols and forms applied by the baristas*).

### **3.2 Progress towards project outputs**

Output 1. Producer organizations and their representative territorial organizations have developed and implemented systems for control and vigilance of their territorial lands.

With the participation of WCS's indigenous local partners (Tacana I, Lecos Apolo, and CRTM) and coffee and cacao productive associations, we produced vulnerability maps during the first year of the project, identifying the most vulnerable areas within each indigenous territory. We designed an Android app to report illegal encroachments into their territories, back up all required supporting documentation on regulations and legislation, and digitalize maps of their territories and boundaries. Our partners have tested the app and provided feedback, which we used to adjust and adapt the interface. Tacana communities received 19 mobile phones, purchased with matching funds, with the app installed, and all are currently in use in the communities. All information reported by the app is being centralized in a control panel stored in a server.

In November 2018, we held a training session on use of the app and applicability of its capacities to respond to encroachment events when reported. Participants included monitoring technicians from CIPLA, CRTM, and the Marka Cololo Copacabana Antaquilla Indigenous Territory (MCCA) in Apolobamba. The app was also tested in the Lecos Apolo Indigenous Territory beginning in October 2018. Reports are being uploaded to the server by CIPLA's technician, and we expect to roll out the app to communities by mid-2019.

In 2019, the T'simane Mosekene Regional Council will follow a similar process for the use of the digital application for monitoring encroachment events in their own territory, Pilón Lajas.

Output 2. Pre-harvest management of agroforestry plots and native cacao forest groves is improved and local capacity building for sustainable agroforestry that is wildlife friendly.

By the end of the second year of the project, the total area planted with coffee and cacao under agroforestry systems has increased to 241 hectares, made up of individual and family plots. Of this area, 139 hectares are in production and 102 are in growth.

For coffee, bird friendly coffee plots represent 9 hectares and 13 producers, while 122 additional hectares are grown under agroforestry systems (29 producers certified organic, and 6 producers in transition to become organic). These areas are being restored via the implementation of an integrated technological package, which includes the production of seedlings, composting, remediation of soil acidity, organic and live fertilization, and monitoring of and disease control. The package is applied on a case by case basis given that individual producers are at different stages of establishing their agroforestry plots, and to allow all producers to achieve the same high-quality standards.

For cacao, 66.95 hectares of plots have been established, of which 32% is under production and 68% is still in growth stages.

By Year 2, out of the 241 total hectares of coffee and cacao plots, 42% (102 hectares) are in the growing stage, while the remaining 58% are in production. In 2018, both cacao and coffee producers installed local nurseries and produced seedlings for expansion and renewal of their plots. APCERL and APICOA produced 89,000 coffee seedlings and 7,200 cacao seedlings for transplanting in the Chocolecos cacao plots. APCERL received certified Castillo variety coffee seeds, which are more resistant to rust and *ojo de gallo* fungus attacks, and these will be planted in the coffee plots by Years 4 and 5.

We carried out eight additional pre-harvest field schools on coffee production in Year 2 (4 in Teoponte with APCERL and 4 in Apolo with APICOA producers), such as seedling production: construction and management of composting bins, seed scarification, construction of germination beds, implementation of individual nurseries, soil preparation for nurseries to produce new coffee varieties, and additional training on control of the *ojo*



*de gallo* fungus. Of the 272 participants, 71 were women and 201 were men, a ratio of 1:3 (*Annexes 6A & 6B: Field school reports for APICOA & APCERL*). Cumulative number of producers trained during the first two years of the project include 97 women and 256 men (a total of 353), with a ratio of 1:3.

Similarly, 4 pre-harvesting schools were conducted with cacao producers of Guanay (Chocolecos) in 3 different communities, and a total number of 43 producers (22 women and 21 men), almost a 1:1 ratio).

In addition to these producers and considering the interest of T´simane Mosekene women in exploring the potential of developing an initiative to process essential oils and make organic, artisanal soaps, we used matching funds to support this as a complementary initiative. Support to this initiative includes training of indigenous women in aromatic oil extraction techniques *in situ*, providing them with proper space and equipment, as well as developing products for market testing.

Finally, we used matching funds to work with the T´simane Mosekene communities to manage jatata palms used locally for high quality thatch. Support to the jatata producers includes improving quality control of jatata palm thatch production, stocking, and marketing.

### Output 3. Post-harvest management of cacao and coffee is improved, and local capacity built for diversification of products

The modules acquired in Year 1 for post-harvest cacao processing, one for the Chocolecos association and the other for the APCAIO-Mapiri association, have halved the time required for processing to only four days. This infrastructure is benefitting an average of 58 direct producers currently affiliated with Chocolecos and APCAIO (40 from Chocolecos and 18 from APCAIO Mapiri). Each module was built based on a previously tested prototype, and have allowed significant improvements in the quality of the fermentation, since temperature can be kept stable, humidity is kept at a standard 8%, and anaerobic and aerobic fermentation can take place in a controlled space. The drying module improved cacao quality and allowed larger amounts of cacao to be processed simultaneously.

Four family modules for wet coffee processing were built in Year 1 in the TCO Lecos de Apolo with APICOA. During Year 2, additional funds from NCF permitted the establishment of 12 additional family and bi-family modules in the six Lecos communities, used for de-pulping, washing, and fermenting. An additional drying module was also built and has already made significant improvements in the coffee quality of Apolo, benefitting 37 APICOA coffee affiliates (*Annex 18: Report on installation of coffee processing modules in Apolo*).

For cacao processing, we continued placing strong emphasis on the control of the fermentation process and held field schools with all 40 Chocolecos producers (23 men and 17 women). Training focused on cacao processing, both during fermentation and drying. The cacao processing center for the Chocolecos is centralized in San José de Pelera, the Chocolecos headquarters.

An important task during 2018 was experimenting with the preparation of chocolate paste. All coffee and cacao by-products such as roasted coffee and chocolate pastes have now completed sanitary registration and can be sold in regular stores and markets. Women producers will be in charge of chocolate bars, mixing flavors, and bonbon production; they have already presented the chocolate at local fairs. The sales price for the 100g chocolate bar in fairs was USD 2 a year ago, and today, this price has risen to

USD 3, indicative of a high demand. One kilogram of cacao beans now generates USD 17 in revenue, representing a four-fold increase in revenue compared to the previous sale price (*Annex 19: Training in chocolate processing images*).

#### Output 4. Marketing strategies for cacao and coffee are improved and diversified, including wildlife-friendly certification

In Year 1, we conducted a four-day workshop on bird monitoring with the participation of 25 APCERL coffee producers; of these, half are certified as bird-friendly. Based on the list of birds identified, ten species were selected to be monitored monthly by a field technician. These reports have been feeding back into a database on bird diversity to be shared with potential buyers, the Smithsonian National Zoo and Conservation Biology Institute (<https://nationalzoo.si.edu/migratory-birds/bird-friendly-coffee>), APCERL's Facebook and website, and the ARMONIA Association, the main bird research institution responsible for monitoring bird diversity in Bolivia.

By the end of Year 2, APCERL producers reported 213 species of birds. The field technician provided regular training to each individual coffee producer on how to use binoculars and bird guides. A monitoring protocol has been agreed on with the coffee producers, and the field technician is inputting data into the bird monitoring database.

The first three APCERL baristas trained in Y1 have continued gaining experience in coffee roasting and cupping and have selected the four best specialty coffees (*Annex 20: Coffee quality testing conducted by APCERL's baristas*). During Year 3 of the project, we expect to develop new opportunities to train more young Bolivian coffee experts and will use the new marketing strategy to improve the returns of coffee producers.

In Year 2, with a "bean to bar" marketing strategy in place and through participation in fairs, coffee and cacao producers have been able to present their products through a communications campaign for these green products, including leaflets and audiovisual materials. We have also launched digital campaigns through Facebook and Orygen's webpage.

Finally, we opened new marketing channels and established links with specialized market niches for both coffee and cacao. We conducted commercialization tests with national and international private companies, successfully selling a micro lot of 300 kg of cacao to the world renowned Celler de Can Roca restaurant for their recently opened Casa del Chocolate in Gerona, Spain.

### **3.3 Progress towards the project outcome**

#### Outcome 1. Sustainable cacao and shade coffee production by indigenous communities in Bolivia results in increased protection of collective lands, strengthened livelihoods, reduced forest loss and increased avian biodiversity in agroforestry areas.

During the first two years of the project, we made important progress in developing tools, protocols, and an Android app to report encroachments over more than 600,000 hectares of indigenous lands (Tacana and Lecos Apolo TCOs). We also identified vulnerable areas in the three indigenous territories, which serve as the geographic reference for monitoring illegal activities and establishing control points in accordance with each community's Life Plans.

The Chocolecos and APCAIO-Mapiri cacao organizations managing native cocoa under agroforestry systems represent 58 producers from 14 communities, including 18 APCAIO producers and 40 Chocolecos producers. In the 2018 cacao harvest season, these producers reported a mean yield of 333 kg/ha, surpassing baseline numbers by 85%.

Average annual household income from cacao production in 2017 was USD 247, a 50% increase from baseline as a result of good market prices. In 2018, annual household income from cacao continued to improve to USD 410, an increase of 67% from Year 1.

Unfortunately, APROCACE producers in Carmen del Emero are still suffering the effects of heavy flooding in 2014, impacting cacao stands and their natural pollinators. However, we have continued to support six producers in their efforts to monitor these stands to evaluate appropriate interventions when conditions improve. The floods' impact has resulted in broader changes in the course of the Beni river, which have clearly damaged and even caused partial disappearance of some cacao groves that had been previously identified in the management plan in 2013. Monitoring results from 2018 show an important loss in the area covered by the wild stands (18 %) with respect to the baseline, with some stands losing 75% of their extension. Productivity also remains low; however, monitoring in 2019 and 2020 will help us estimate the recovery time and periodicity and fluctuation in fruit production. Variables being monitored include light availability (forest openings), temperature, and humidity stability, which are key for the continuous development and survival of fruit (*Annex 21: Field report visit to wild cacao stands June 2018*).

In the 2018 harvest season, 84 coffee producers received technical assistance from the project; these consisted of 67 men and 17 women, 47 producers from APCERL in Teoponte and 37 from APICOA in Apolo, representing 13 total communities. The 2018 reported average coffee harvest yield was 575 kg/ ha, surpassing baseline numbers by 2.7 times and representing a 10% increase from the previous year. However, household income decreased due to fluctuations in market prices, highlighting the importance of diversifying the market strategy of selling roasted coffee in addition to green grains (USD 2,159/family in 2017 and USD 1,974.90/family in 2018). Fluctuations have affected producers, despite the project securing preferential prices for green grains, with important premiums above the average sale price of in the stock exchange (USD 2.65 /lb in comparison to USD 1.7/lb).

In 2018, the total number of indigenous producers working as partners or beneficiaries in the project was 148, slightly down due to reduced participation from cacao producers from Carmen del Emero, who have been affected by flooding and APCA O Mapiri, who have been affected by gold mining. By Year 4, we still aim to reach 280 producers by including more cacao and coffee producers and supporting additional productive activities with the T'simane Mosekene communities, such as aromatic oil extraction, artisanal organic soaps, and stocking and marketing of jatata palm thatches.

To date, 13 producers (12 men and one woman) have been certified as bird friendly for the next three years (2017-2019). Five additional new producers are receiving technical assistance and preparing their plots for bird friendly certification in 2020.

To evaluate the project's impact on avian diversity in shade coffee plantations during the four years of the project, we developed a standard protocol and form as well as producer capacities to monitor bird diversity in their own plots, using a baseline of 179 species. To date, the number of bird species has reached 213, and we expect an additional 27+ additional species as the structural complexity of the plots matures and greater landscape connectivity is established. We compared the diversity in the complex agroforestry plots with that of the monoculture plots and found a difference in species diversity of 69% (213 species vs. 67 species).

In 2018, we collaborated with a graduate student from the Technological University of Dresden, Germany, who analysed ecosystem services within three types of coffee plots in Teoponte, monoculture simple coffee plots, complex agroforestry systems, and bird-

friendly certified plots grown under forest canopy. He documented the relationship between increased bird diversity and lower coffee pest incidence, as well as the important role of the different coffee plantation systems for maintenance of water sources (*Annex 22: Summary of study results by Carlos Landivar*).

The project's producers, partners, and beneficiaries continue to receive national and international recognition for the quality of their products (coffee and cacao). In 2017, the Chocolecos received an award in Paris (France) at the International Cocoa Award competition for being among the 18 best cacaos in the world, and in February 2019, the Chocolecos competed in the Bolivian version of the [Salon del Chocolate 2019](#) (*Annex 23: Salon del Chocolate, images on social media*), under the leadership of Bolivia's Ministry of Foreign Affairs in Bolivia, Ministry of Rural Development and Land, and the Bolivian Coordination Committee of Cacao (COPRACAO), on which WCS is a member. Renowned Ecuadorian chocolatier Jaime Freire ([Papá Cacao](#)) (*Annex 24: Papá Cacao jury in cacao competition 2019*) was part of a first-class jury to evaluate the different Bolivian cacaos competing.

Finally, by Year 4 of the project, and based on monitoring of deforestation rates, we will monitor the estimated carbon absorbed in the new agroforestry plots and avoided carbon emissions by avoided forest loss through the analysis of satellite imagery and field verification.

### **3.4 Monitoring of assumptions**

Both *outcome level assumptions* still hold:

Assumption 1: Institutional stability in the producer organizations and indigenous territorial organizations.

Assumption 2: Extreme flooding does not occur in more than 1 year.

The 2014 flooding in northern La Paz has continued to impact the wild cacao groves of Carmen del Emero (Tacana I Indigenous Territory). During Year 2 monitoring, we established that the wild cacao stands are only now starting to recover productivity.

*Output level assumptions:*

Assumption 1: The producer organizations and indigenous organizations are not affected by social conflicts related to increased pressure from extractive and infrastructure projects.

This assumption holds true, since the pressure from large infrastructure projects as well as economically important extractive activities such as mining, illegal timber logging, and wildlife trafficking have not resulted in internal social conflicts. However, gold mining in the Mapiri and Teoponte region has resulted in a reduction in the number of producers interested in cacao production due to the high prices of gold. A strong base of producers has still been maintained, despite lower participation rates.

### **3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation**

WCS plans to achieve significant outcomes for biodiversity, measured as number of hectares under improved indigenous control, number of agroforestry plots with increased avian biodiversity, and a reduction of carbon emissions due to forest conservation. This level of impact will not be met until the end of the project (Year 4).

Assistance and training provided to producers is increasing the yields of coffee and cacao production, which translates into economic benefits. Poverty alleviation is measured as the number of cacao and coffee family producers with annual improved income. The improvement in production and prices of the two main commodities, cacao and coffee, will have a direct impact in poverty alleviation and encourage producers to continue valuing organic production over traditional monoculture crops, and be able to convince other producers to follow the same path.

During this second period, annual income per household in 2018 was USD 2,159 from coffee production and USD 247 from cacao production. We worked with 148 indigenous producers with 241 hectares under agroforestry management and 19 hectares still in the growth stage; and 13 bird friendly producers. Additionally, we have improved indigenous control over 636,466 hectares, resulting in 6,932 indigenous people with improved control over their collective ancestral lands.

#### **4. Contribution to the Global Goals for Sustainable Development (SDGs)**

Our activities address Goal 1 (No poverty: End poverty in all its forms everywhere) by increasing vulnerable indigenous communities' control over their territories and natural resources and developing their resilience to climate-related extreme events and other economic, social, and environmental impacts and disasters through territorial management and sustainable livelihoods. We also contribute to Goal 12 (Responsible production and consumption: Ensure sustainable consumption and production patterns) by supporting the sustainable management of natural resources. Finally, the project addresses Goal 15 (Life on land: Sustainably manage forests, halt and reverse land degradation, halt biodiversity loss) by promoting the implementation of sustainable forest management and agroforestry as alternatives for gold mining and short-term aggressive extractive activities such as timber extraction, or intense commercial agricultures.

During this reporting period, income increased for 148 indigenous producers, 241 hectares are under agroforestry management, 636,466 hectares are under improved indigenous control, and 6,932 indigenous people have improved control over their collective ancestral lands. Additionally, bird species diversity reported in the organic bird-friendly certified coffee plots increased by 19% from the previous year (179 to 213) and by 69% when compared to baseline bird species reported in simple monoculture coffee plots (67 to 213).

#### **5. Project support to the Conventions, Treaties or Agreements**

The project is designed to support the objectives of the Convention on Biological Diversity (CBD) and Aichi Strategic Goals by reducing the direct pressures on biodiversity and promoting sustainable use, as well as enhancing benefit sharing and capacity building of indigenous organizations.

These actions address Strategic Goal B by reducing the direct pressures on forests, promoting the sustainable use of native forest groves, and supporting forest restoration through agroforestry. They also contribute to Strategic Goal E by respecting and supporting the customary use of indigenous lands by the T'simane Mosekene, Tacana and Lecos indigenous communities, since all activities are conducted in agreement with the local stakeholders as direct beneficiaries.

The forest types managed and conserved inside the intervention area of the project all foster highly diverse sets of flora and fauna. Through sustainable management, we are guaranteeing their long-term conservation. The mid elevation mountain forests of the

eastern slopes of the Andes, where the mountain shade coffee is grown by our partners from APCERL in the municipality of Teoponte, are part of the Andean hotspots and also identified as an Important Bird and Biodiversity Area (IBA) by Birdlife International, including 14 Andean endemics such as the Yungas Manakin (*Chiroxiphia boliviana*), Yungas Antwren (*Myrmotherula grisea*) and Yungas Tyrannulet (*Phyllomyias weedeni*). They are also home to a diverse community of other birds and mammals, including toucans, hummingbirds, woodpeckers, turkeys, parrots, owls, tanagers, squirrels, monkeys, coatis, tapirs, deer and more (See [APCERL's Facebook](#) for pictures and videos).

The project contributes to the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) by promoting and supporting the efforts of indigenous and local communities for *in situ* conservation of wild cacao relatives located inside their indigenous lands for food production, including in protected areas.

## **6. Project support to poverty alleviation**

The direct beneficiaries of the activities in the project are the communities and producers of the indigenous territories of T'simane Mosekene, Tacana, and Lecos.

The project made important progress in providing ways to report on illegal activities in the indigenous territories, which will result in improving indigenous control over the Tacana indigenous land. Important results have been achieved regarding the income of cacao producers (see section 3.3). We have also supported specific projects for T'simane Mosekene women, leading to an initial annual income of USD 1,600 as a pilot year; and T'simane Mosekene managers of jatata palm, leading to a total annual income of USD 11,000. Additional poverty alleviation impact with coffee producers will be achieved through an adaptation of the marketing strategy and should become evident in Year 3.

## **7. Project support to gender equality issues**

According to our participant lists for community training workshops and meetings, during women's participation represented 39% of participants in the last year.

Our impact on promoting women's participation is evident in the three female coffee baristas, who represent a new generation of coffee producers, have shown great potential, and have stood out during different training and selection events. They have continued their training and shown their leadership by leading coffee processing and roasting in the laboratory in La Paz and continue their participation in coffee and cacao tastings, fairs, and other marketing events.

With additional external funds, we are now supporting a new initiative with T'simane Mosekene women producers of essential oils and soaps; this represents these women's only opportunity to access funds.

## **8. Monitoring and evaluation**

No changes in the monitoring and evaluation plan are required to date; indicators are reported in Annex I. The main indicators used to evaluate if the outputs and activities are leading to the project outcome are:

1. Qualitative changes in capacity for reporting and responding to illegal encroachments over 1 million hectares of indigenous land. Results for this indicator will come from the digital reporting system, still being tested.
2. Number of cacao and coffee producers with improved productivity/hectare. This indicator has been used to evaluate productivity during the last two harvest seasons (2017-2018) and is still valid.
3. Increase in household income is measured through recording sales and annual benefits per producer family and has been evaluated for the project's two production years.
4. The number of new certified producers is documented by the existence of actual certificates as well as the regular internal control system that prepares them for certification, segregated by gender, and participant lists in field schools.
5. We registered a bird biodiversity baseline at the start of the project, and a bird monitoring protocol is being implemented by the field technician and individual producers.
6. Forest loss and avoided carbon emissions will be monitored in the future based on the initial area covered by the coffee and cacao plots and stands, as well as deforestation indices reported for the three partner indigenous territories (Tacana I, Lecos Apolo and Pilón Lajas).

Finally, we evaluated the ecosystem functions of coffee agroforestry plots of APCERL in 2018. This research provided evidence on the importance of coffee production across a matrix of management systems on the provisioning of environmental services in the region, such as forests for water quality and soil maintenance and bird diversity for control of coffee diseases (*Refer to Annex 22: Summary of study results by Carlos Landivar*).

## **9. Lessons learnt**

The socioeconomic impacts arising from gold mining in the Mapiri and Teoponte region are an obstacle for promoting sustainable agroforestry. However, a core group has continued supporting the production of high-quality cacao. Recognition of this quality by better prices and by international experts and events is an opportunity to continue to gradually increase this number.

Climate is always a challenge for all farmers, especially smaller-scale ones, since production is limited and consequences of a bad year can have serious impacts on their narrow economies. Nevertheless, producers are adapting to changes in climate by diversifying their crops and varieties to plant; for instance, coffee producers are renewing and establishing plots with varieties resistant to pests, soil conditions, and dramatic changes in weather conditions, such as extreme rain and drought. However, in the case of the natural cacao stands in the Tacana Indigenous Territory, the natural dynamics of the river and extreme changing seasons represent a greater challenge. Regular monitoring of the cacao plants will enable us to predict productivity, while also taking actions and transplant wild cacao relatives to agroforestry plots in order to produce improved varieties of fruits with better qualities for the market.

T'simane Mosekene culture is better suited to activities that do not require as much of a time commitment, such as management of agroforestry plots. For them, other forest products represent important opportunities for sustainable forest management and for increasing the participation of women in productive activities.

## **10. Actions taken in response to previous reviews (if applicable)**

The increase in the price of gold has led to an important increase in the interest of local people in the Mapiiri region to participate in this activity, as opposed to agroforestry. As a result, we have refocused our strategy on strengthening APCAO's capacity to attract additional native cacao producers by offering better and more stable prices.

We have faced the challenge of reducing the amount of coffee sold to private buyers by APCERL members through the establishment of a rotating fund. We have also adapted the marketing strategy to access niche markets for roasted coffee to obtain better and more stable prices.

## **11. Other comments on progress not covered elsewhere**

NA

## **12. Sustainability and legacy**

Our activities have a strong focus on securing social sustainability by working with established producer organizations operating under approved and legitimate indigenous management plans and natural resource use regulations. Sustainability and legacy are also supported by committed efforts towards the transference of technical knowledge to producer organizations.

Economic sustainability was addressed in this period through our work developing a cost-effective control and vigilance strategy; increased household incomes through improved production, and market linkages with niche markets. Environmental sustainability is secured by improving pre-harvest management, including bird friendly certification, and via supporting indigenous territorial governance and control.

## **13. Darwin identity**

We included the Darwin logo on forms used in the meetings and workshops; the Darwin Initiative was also recognized as a co-funding donor in Orygen's new webpage and included in the new promotional video produced on Chocolecos cacao (*Annex 14: Promotional video of cacao*).



## 14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2018 – 31 March 2019)

<b>Project spend (indicative) since last annual report</b>	<b>2018/19 Grant (£)</b>	<b>2018/19 Total Darwin Costs (£)</b>	<b>Variance %</b>	<b>Comments (please explain significant variances)</b>
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
<b>TOTAL</b>				
Partner Organisation				
<b>TOTAL</b>				

## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2018-2019

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
<p><b>Impact:</b> Improved territorial control and monitoring of indigenous lands coupled with sustainable agroforestry leads to biodiversity protection, strengthened livelihoods and climate resilience in an approach that can be replicated across Bolivia.</p>		<p>We made progress in improving indigenous capacity for control and monitoring of the Tacana and Lecos indigenous lands over 636,466 total hectares. We also supported management of 241 hectares of sustainable agroforestry plots (coffee and cacao). This management increased income and benefitted the livelihoods of 7,096 people. Impacts on biodiversity and ecosystem services include increasing number of birds and wildlife in APCERL's coffee plots (213 bird species to date), and documentation of their role in coffee pest control and improved coffee production and resilience to climate change.</p>	
<p><b>Outcome 1:</b> Sustainable cacao and shade coffee production by indigenous communities in Bolivia result in increased protection of collective lands, strengthened livelihoods, reduced forest loss and increased avian biodiversity in agroforestry areas.</p>	<p><b>0.1</b> By the end of Year 4, within the 1M ha of indigenous lands, a well-established participatory system for documenting and reporting illegal encroachments into areas managed by producer organizations is in place (Baseline = no such system currently exists)</p> <p><b>0.2</b> By the end of Year 4, illegal encroachments within the 1M ha of indigenous lands are reported and responded to in joint actions by the indigenous territorial organizations and producer organizations (Baseline = no joint actions).</p> <p><b>0.3</b> By the end of Year 4, 280 indigenous Tacana, Lecos and T'simane Mosekene producers (60</p>	<p><b>0.1 and 0.2</b> We made important progress during Years 1 and 2 in developing tools and protocols to report encroachments in 636,466 ha of indigenous lands, in the Tacana and Lecos Apolo Territory. We also identified the main vulnerable areas in the three indigenous territories that serve as the geographic reference for monitoring illegal activities as well as establishing control points, in accordance with their own Life Plans (Lecos Apolo, Tacana and Pilon Lajas).</p> <p><b>0.3</b> Among two cacao productive associations, Chocolecos and APCAO-Mapiri, both managing native cocoa under agroforestry systems, and 6 women wild</p>	<p><b>0.1 and 0.2</b> Replicate and adapt reporting system of illegal activities in the Pilon Lajas indigenous Territory (346,042 ha) and identify opportunities in additional territories.</p> <p><b>0.3</b> During the first two years of the project, both cacao and coffee producers reached the projected target productivity (kg/ha). The</p>

	<p>women) have increased productivity by 20% (Baseline = 180 kg/ha cacao and 211 kg/ha coffee).</p> <p><b>0.4</b> By the end of Year 4, 280 indigenous Tacana, Lecos and T'simane Mosetene producers (60 women) have increased household income from agroforestry by 20% (Baseline = average annual household income from agroforestry is 131 USD for cacao and 2,852 USD for coffee).</p> <p><b>0.5</b> By the end of Year 4, 15 coffee producers (8 new, of which 5 women, and 7 recertified) are certified under the Smithsonian standards as "bird friendly" for their contribution to conservation of 162 bird species, including 14 Andean endemics, such as (<i>Simoxenops</i></p>	<p>cacao producers of Carmen del Emero (APROCACE), there are a total of 64 producers from 15 communities. In the 2018 cacao harvest season, yield was on average 333 kg/ha, surpassing the baseline numbers (180 kg/ha) by 85%, which is a result of improved management techniques at the different production stages.</p> <p>During the 2018 harvest season, 84 coffee producers received technical support (67 men and 17 women, 47 from APCERL in Teoponte and 37 producers from APICOA in Apolo). This represents a 7% reduction from numbers reported last year (90 producers). The 2018 coffee harvest yielded an average of 575 kg/ha, surpassing the baseline numbers of 211 kg/ha by 2.7 times, a 10% (522 kg/ha) increase from previous year.</p> <p><b>0.4</b> The total number of indigenous producers working as partners/beneficiaries in the project in 2018 is 148. By Year 4, we still aim to reach double the number of producers.</p> <p>Average annual household income from cacao production in 2017 was USD 247, as a result of access to preferential markets. In 2018, annual household income from cacao was USD 410.</p> <p>Average annual household income from coffee in 2017 was USD 2,159 and USD 1,975 in 2018. This trend highlights the need to adapt the marketing strategy.</p> <p><b>0.5</b> To date, 13 producers (12 men and one woman) have been certified for the next three years (2017-2019). Five additional new producers, two of them women, are receiving technical assistance and preparing their plots for bird friendly certification. The number of registered bird species has risen to 213, and bird monitoring is becoming a standard event under an established protocol and a standard form.</p>	<p>challenge is to stabilize production and quality and engaging more producers.</p> <p><b>0.4</b> We expect demand to rise as a result of the marketing strategy, diversification of products and increased interest of producers in certification.</p> <p>In Y2 (2018) we have started a new phase in the marketing strategy for coffee, which is now being sold roasted to previously identified green markets, both nationally and internationally, focusing in quality more than quantity.</p> <p><b>0.5</b> We will prepare at least 3 more producers to achieve bird-friendly certification, for a total of 15 producers, since certification will take place in 2020.</p>
--	---	--	---

	<p><i>striatus</i>), (<i>Myrmotherula grisea</i>), (<i>Phyllomyias weedeni</i>) (Baseline = 7 producers are currently certified, but will need recertification).</p> <p><b>0.6</b> By the end of Year 4, project-supported agroforestry plots show a 15% increase in avian diversity, compared to baseline (to be established in year 1) and a 30% increase in avian diversity compared to areas following traditional single crop agriculture (Baseline to be established in year 1).</p> <p><b>0.7</b> By the end of Year 4, an estimated 152,672 tCO<sub>2</sub>e is absorbed in new agroforestry plots (Baseline = 0).</p> <p><b>0.8</b> By the end of Year 4, 80 hectares of avoided forest loss and the associated 46,374 tCO<sub>2</sub>e equivalent avoided emissions (Baseline = 0.3% annual forest loss in the region).</p>	<p><b>0.6.</b> The baseline of bird species in monoculture coffee plantations of APCERL is 67. In 2017, a new bird survey was conducted establishing the number of bird species in shade coffee plantations in 179, and in 2018, the new record of bird species increased to 213 (<i>Annex 12</i>), with an increase of 19% species from baseline, while comparing the 213 species under forest canopy with the baseline number of birds reported in monoculture crops, the difference is 69% to date.</p> <p><b>0.7</b> N/A for the reporting period.</p> <p><b>0.8</b> N/A for the reporting period.</p>	
<p><b>Output 1:</b> Producer organizations and their representative territorial organizations have developed and implemented systems for control and vigilance of their territorial lands.</p>	<p><b>1.1</b> By the end of Year 1, areas vulnerable to illegal encroachment in three indigenous territories are identified and mapped in a participatory process (Baseline = no such participatory mapping has yet been done in these areas).</p> <p><b>1.2</b> By the end of Year 1, three training workshops are held between producer organizations and their territorial organizations on</p>	<p><b>1.1</b> Activity completed in Yr. 1 as scheduled-.</p> <p><b>1.2</b> Additional training and assistance in using an Android app for reporting illegal activities in their territories was conducted with CIPLA, CRTM, and MCCA (<i>Annex 4</i>).</p>	

	<p>formal documentation of infractions, with 45 participants overall. (Baseline: no such trainings are currently held with these groups)</p> <p><b>1.3</b> By the end of Year 2, a digital platform (eg. SMART) and clear protocols for coordination of actions against encroachments in three indigenous lands are under implementation (Baseline = such a platform and protocols do not currently exist).</p>	<p><b>1.3</b> During Year 2 of the project, a server has been established for receiving the reports from illegal activities in the Tacana I and Lecos Apolo territories (<i>Annexes 5A, B &amp; C: Manual administration for server use by CIPLA, Manual administration for server use by CIPTA, and Screen shots of CIPLA and CIPTA accounts of server where reports are uploaded</i>).</p>	
<p><b>Activity 1.1:</b> Facilitate participatory mapping of areas under management by producer organizations vulnerable to illegal encroachment.</p>		Completed.	N/A
<p><b>Activity 1.2:</b> Hold a training workshop with each of the producer organizations on legal requirements for processing illegal incursions into their management areas.</p>		On schedule. The training workshops with producer organizations and local leader organizations have taken place as part of regular coordination meetings held in their headquarters where more convenient, while also take advantage of technical field staff meetings in La Paz with project coordinators. Training materials and legal information are made available as “Supporting documentation” in the app.	Continue training and support implementation.
<p><b>Activity 1.3:</b> Test digital platforms and develop protocols for producer organizations and their territorial organizations to take coordinated actions against encroachments</p>		On Schedule. Activity planned for Year 3.	Test digital platforms and protocols for coordinated actions against encroachments
<p><b>Output 2:</b> Pre-harvest management of agroforestry plots and native cacao forest groves is improved, and local capacity built for sustainable agroforestry that is wildlife friendly</p>	<p><b>2.1</b> By the end of Year 2, 283 hectares of existing agroforestry plots and native groves are restored via the implementation of agroforestry systems (pruning, soil management, diversifying canopy shade trees) (Baseline = no restoration work has been done so far).</p>	<p><b>2.1</b> By Year 2, 241 hectares are being managed (174 ha of coffee + 67 ha of cacao). Although we are below target, we expect to exceed the target number of hectares under management by the end of Year 3.</p>	

	<p><b>2.2</b> By end of Year 3, 200 new hectares of agroforestry systems are established (100 by Year 2) (Baseline = 0).</p> <p><b>2.3</b> By end of Year 4, 12 training workshops are implemented (2 in Year 1, 4 in Year 2, 4 in year 3, and 2 in Year 4) and 280 indigenous producers (including 60 women) are trained in seedling nursery management, shade trees and canopy for bird diversity, soil fertility, pruning, and implementation of the management plan for wild cacao groves (Baseline = 0).</p>	<p><b>2.2</b> By Year 3 we estimate that an additional 40 ha of coffee will be established as new plots in fallow lands and plots entering production mainly from APICOA (Apolo), reaching a total of 54 ha, while the remaining hectares are projected to be established in Year 4.</p> <p><b>2.3</b> Adding to the five initial pre-harvest field schools conducted with the coffee producers in Year 1, in Year 2 we conducted four additional training workshops on coffee bean processing and implementation of nurseries and plague management. Of the 272 coffee producers (including APCERL and APICOA) that participated in Y2, 71 were women and 201 were men, an average ratio of 1:3. Cumulative number of producers trained during the 2 years of the project, add up to 97 women and 256 men (total of 353 participants), with a ratio of 1:3.</p> <p>Similarly, 4 pre-harvesting schools were conducted with cacao producers of Guanay (Chocoleco), in 3 different communities, and a total number of 43 producers (22 women and 21 men), almost a 1:1 ratio).</p>
<b>Activity 2.1:</b> Provide technical assistance for producers to restore their agroforestry plots through soil management, pruning and diversification of shade trees.	Activity has been completed as planned for both Year 1 and Year 2. Technical assistance is provided regularly to local coffee and cacao producers by the local technician, as part of the field schools and via individual assistance ( <i>Annexes 6 &amp; 7: Field school reports</i> ).	N/A.
<b>Activity 2.2:</b> Develop a training curriculum and associated training materials for pre-harvest management of agroforestry plots and native cacao forest groves.	Three manuals on topics covered during field schools were developed.	Two additional manuals will be developed, one on coffee and cacao roasting and cupping, and the second on barista techniques.
<b>Activity 2.3:</b> Implement field schools.	During Year 2, 4 pre-harvest schools were conducted successfully (See Indicator 2.1 above).	At least 3 harvest schools per year.
<b>Activity 2.4:</b> Install communal seedling nurseries.	Communal seedling nurseries for coffee and cacao, as well as for tree species are in place, with a total of 89,000 coffee seedlings planted and soon to be transplanted to the coffee plots and 7,200 cacao seedlings for the cacao plots (See Indicators 2.2 and 2.3 above).	Continue implementation
<b>Output 3:</b> Post-harvest management	<b>3.1</b> 5 community processing infrastructure “modules” for cacao	<b>3.1</b> With the two cacao processing modules already acquired in Year 1 for post-harvest cacao processing, one for the Chocolecos association and the other for the APCAO-Mapiri association,

<p>of cacao and coffee is improved, and local capacity built for diversification of products.</p>	<p>fermentation and drying and 5 community processing infrastructure “modules” for coffee fruit pulping and fermentation are in place (3 by Year 2, and 2 in Year 3), training 280 producers (Baseline = 0).</p> <p><b>3.2</b> 12 training workshops are implemented for 280 indigenous producers (including 60 women) in quality control protocols for post-harvest processing (2 workshops in Year 1, 4 workshops in Year 2, 4 workshops in Year 3, 2 workshops in Year 4) (Baseline = 0).</p> <p><b>3.3</b> By end of Year 2, women producers develop an artisanal chocolate bar that allows access to local markets fetching prices of 90Bs/Kg. (Baseline = 35 Bs/Kg for raw cacao).</p>	<p>processing has been halved to four days. This infrastructure is benefitting an average of 58 direct producers currently affiliated with Chocolecos and APCA0 (40 from Chocolecos and 18 from APCA0 Mapiri).</p> <p>Four family modules were built in Year 1 of the project for wet coffee processing in the TCO Lecos de Apolo. During Year 2, using matching funds, 12 additional family and bi-family modules were established, benefitting 37 coffee affiliates from APICOA. (<i>Annex 24</i>).</p> <p><b>3.2</b> In Y2, we continued placing strong emphasis on the control of the fermentation process with all 40 Chocolecos producers (23 men and 17 women).</p> <p><b>3.3</b> The preparation of the chocolate paste has been an important task during 2018. All coffee and cacao by-products such as roasted coffee and chocolate pastes have now completed sanitary registration and can be sold in regular stores and markets. Women producers are leading production of chocolate bars, mixing flavors and bonbon production. The sales price for the 100g chocolate bar in fairs was USD 2 a year ago, and today the price has risen to USD 3, which indicates a high demand. One kg of cacao beans now generates USD 17, almost three and a half times the baseline estimation.</p>
<p><b>Activity 3.1</b> Develop training curriculum and associated training materials for post-harvest processing of cacao and coffee.</p>	<p>On time. Activity is in progress.</p>	<p>Continue implementation</p>
<p><b>Activity 3.2:</b> Implement field schools.</p>	<p>During Year 2, post-harvest field schools were conducted focusing on the fermentation and drying stages (See Indicator 3.2 above).</p>	<p>Continue implementation</p>
<p><b>Activity 3.3:</b> Install community processing infrastructure for cacao fermentation and drying.</p>	<p>Activity completed. Two processing modules for cacao were constructed in Year 1, and in Year 2, Chocolecos infrastructure was expanded with additional funding from FAO.</p>	<p>N/A</p>
<p><b>Activity 3.4:</b> Provide technical assistance to women producers to produce an artisanal chocolate bar.</p>	<p>On time. Different protocols for preparing chocolates are being tested.</p>	<p>Continue implementation</p>
<p><b>Activity 3.5:</b> Install community processing infrastructure for coffee pulping and fermentation.</p>	<p>Activity completed. Four processing modules for coffee were constructed in Year 1. During Year 2,</p>	<p>N/A.</p>

		12 additional family modules were implemented in Apolo for the coffee producers of APICOA.	
<b>Output 4:</b> Marketing strategies for cacao and coffee are improved and diversified, including wildlife friendly certification.	<p><b>4.1</b> By end of Year 2, 20 producers are trained on requirements of bird friendly certification and monitoring bird diversity (Baseline = such training is not currently held).</p> <p><b>4.2</b> By end of Year 2, 8 APCERL producers receive barista training to enable them to present their bird friendly coffee in local and international fairs (Baseline = no such training is currently held).</p> <p><b>4.3</b> By the end of Year 2 a communication campaign targeting urban dwellers as responsible consumers is developed and conducted in La Paz and El Alto (Baseline = no such similar campaign has been conducted in support of indigenous communities engaging in sustainable agroforestry and biodiversity protection)</p> <p><b>4.4</b> By end of Year 2, at least one new commercial alliance for coffee and at least one new commercial alliance for cacao increases prices for their products by 10% in comparison to average market prices that year (Baseline to be established in 2019 from commodity markets).</p>	<p><b>4.1</b> In Year 1, a workshop on bird monitoring was conducted with the participation of 25 APCERL coffee producers. A set of 10 species were selected to be monitored monthly (<i>Annex 12, Bird Database</i>). In Y2, regular training was provided by the field technician to each individual coffee producer in their own plots on how to use binoculars and bird guides. These reports will feed into a database on bird diversity.</p> <p><b>4.2</b> Three young women from APCERL were trained as baristas in Year 1. These three baristas have participated in three fairs during 2018, promoting Bolivian coffee to Bolivian and international customers. As a result, during Year 3 of the project, we expect to provide opportunities for producers to receive training. Additionally, a cacao technician has been trained by a renowned chocolatier in chocolate processing (<i>Annex 25: Photos from chocolate training</i>)</p> <p><b>4.3</b> With the marketing strategy already in place and through participation in fairs, coffee and cacao producers have been able to present their products through leaflets and audiovisual materials, as well as digital campaigns through Orygen's web page <a href="http://www.origentienda.com">www.origentienda.com</a> and <a href="https://www.facebook.com/origentienda">Facebook</a>.</p> <p><b>4.4</b> A variety of new marketing channels have been opened and links have been established with specialized market niches for both coffee and cacao. For example, the sale of a micro lot of 300 kg of cacao to the world renowned Celler de Can Roca restaurant, for their recently opened Casa del Chocolate in Gerona, Spain.</p>	
<b>Activity 4.1:</b> Identify coffee producers managing agroforestry plots closest to the required standard for bird-		Activity completed. The new potential bird-friendly certification producers are already identified,	N/A.



friendly certification and develop a work plan to support them through the certification process.	including 13 already certified producers and 5 potential new ones.	
<b>Activity 4.2:</b> Carry out a training program on bird diversity monitoring with these producers.	Activity in progress. We held a first training event at the beginning of the project in Year 1, and by Year 2, field technician Javier Condori has been training individual producers at their own coffee plots on using binoculars and bird guides.	Continue implementation
<b>Activity 4.3:</b> Implement a marketing strategy for roasted coffee and processed chocolate for the local market.	Activity completed and marketing strategy being implemented progressively ( <i>Annex 14: Promotional video on cacao</i> ).	N/A
<b>Activity 4.4:</b> Train between 5 and 10 coffee producers in roasting and as baristas to assist with marketing in local and national fairs.	Activity in progress. To date, three young women baristas have been trained in roasting and barista techniques, while also the cacao technician Juan Carlos Espinoza has been trained by a renowned chocolatier, Joan Carbó (See Indicator 4.2 above).	Continue implementation
<b>Activity 4.5:</b> Develop and broadcast audiovisual materials to develop an urban constituency supporting cacao and coffee produced by indigenous groups.	Activity in progress. Two leaflets on coffee and cacao have been used as promotional materials since Year 1, and are distributed in fairs, and there are two coffee and cacao promotional videos that are shared through social media (Orygen webpage) The cacao promotional video was released at the beginning of 2019 (See Indicator 4.3 above).	Continue implementation

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

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p><b>Impact:</b> Improved territorial control and monitoring of indigenous lands coupled with sustainable agroforestry leads to biodiversity protection, strengthened livelihoods and climate resilience in an approach that can be replicated across Bolivia.</p>			
<p><b>Outcome 1:</b> Sustainable cacao and shade coffee production by indigenous communities in Bolivia results in increased protection of collective lands, strengthened livelihoods, reduced forest loss and increased avian biodiversity in agroforestry areas.</p>	<p><b>0.1</b> By the end of Year 4, within the 1M ha of indigenous lands, a well-established participatory system for documenting and reporting illegal encroachments into areas managed by producer organizations is in place (Baseline = no such system currently exists)</p> <p><b>0.2</b> By the end of Year 4, illegal encroachments within the 1M ha of indigenous lands are reported and responded to in joint actions by the indigenous territorial organizations and producer organizations (Baseline = no joint actions).</p> <p><b>0.3</b> By the end of Year 4, 280 indigenous Tacana, Lecos and T'simane Mosekene producers (60 women) have increased productivity by 20% (Baseline = 211 kg/ha coffee and 180 kg/ha cacao).</p> <p><b>0.4</b> By the end of Year 4, 280 indigenous Tacana, Lecos and T'simane Mosekene producers (60 women) have increased household income from agroforestry by 20% (Baseline = average annual household income from agroforestry is 131 USD for cacao and 2852 USD for coffee).</p>	<p><b>0.1</b> Digital maps and infraction reports by producer organizations of the Tacana, Lecos and T'simane Mosekene indigenous lands.</p> <p><b>0.2</b> Number of joint actions between producer organizations and their territorial organizations as documented in technical reports.</p> <p><b>0.3</b> Benefit distribution report of producer organizations and technical monitoring reports.</p> <p><b>0.4</b> Benefit distribution report of producer organizations and technical monitoring reports.</p> <p><b>0.5</b> Certification documents.</p>	<p>Institutional stability in the producer organizations and indigenous territorial organizations.</p> <p>Extreme flooding does not occur in more than 1 year.</p>

	<p><b>0.5</b> By the end of Year 4, 15 coffee producers (8 new, of which 5 women, and 7 recertified) are certified under the Smithsonian standards as “bird friendly” for their contribution to conservation of 162 bird species, including 14 Andean endemics, such as (<i>Simoxenops striatus</i>), (<i>Myrmotherula grisea</i>), (<i>Phyllomyias weedeni</i>) (Baseline = 7 producers are currently certified, but will need recertification).</p> <p><b>0.6</b> By the end of Year 4, project-supported agroforestry plots show a 15% increase in avian diversity, compared to baseline (to be established in year 1) and a 30% increase in avian diversity compared to areas following traditional single crop agriculture (Baseline to be established in year 1).</p> <p><b>0.7</b> By the end of Year 4, an estimated 152,672 tCO<sub>2</sub>e is absorbed in new agroforestry plots (Baseline = 0).</p> <p><b>0.8</b> By the end of Year 4, 80 hectares of avoided forest loss and the associated 46,374 tCO<sub>2</sub>e equivalent avoided emissions (Baseline 0.3% annual forest loss in the region).</p>	<p><b>0.6</b> Bird diversity monitoring results as documented in technical reports.</p> <p><b>0.7</b> Technical monitoring reports developed by project staff.</p> <p><b>0.8</b> Landsat satellite imagery analysis and field verification.</p>	
<p><b>Output 1:</b> Producer organizations and their representative territorial organizations have developed and implemented systems for control and vigilance of their territorial lands.</p>	<p><b>1.1</b> By the end of Year 1, areas vulnerable to illegal encroachment in three indigenous territories are identified and mapped in a participatory process (Baseline = no such participatory mapping has yet been done in these areas).</p> <p><b>1.2</b> By the end of Year 1, three training workshops are held between producer</p>	<p><b>1.1</b> Maps identifying vulnerable perimeters and areas under control by producer organizations.</p> <p><b>1.2</b> Training materials and participant lists.</p>	<p>The producer organizations and indigenous organizations are not affected by social conflicts related to increased pressure from extractive and infrastructure projects.</p>

	<p>organizations and their territorial organizations on formal documentation of infractions, with 45 participants overall. (Baseline: no such trainings are currently held with these groups)</p> <p><b>1.3</b> By the end of Year 2, a digital platform (eg. SMART) and clear protocols for coordination of actions against encroachments in three indigenous lands are under implementation (Baseline = such a platform and protocols do not currently exist).</p>	<p><b>1.3</b> Signed agreements between producer organizations and indigenous territorial organizations approving territorial control plans.</p>	
<p><b>Output 2:</b> Pre-harvest management of agroforestry plots and native cacao forest groves is improved and local capacity built for sustainable agroforestry that is wildlife friendly.</p>	<p><b>2.1</b> By the end of Year 2, 283 hectares of existing agroforestry plots and native groves are restored via the implementation of agroforestry systems (pruning, soil management, diversifying canopy shade trees) (Baseline = no restoration work has been done so far).</p> <p><b>2.2</b> By end of Year 3, 200 new hectares of agroforestry systems are established (100 by Year 2) (Baseline = 0).</p> <p><b>2.3</b> By end of Year 4, 12 training workshops are implemented (2 in Year 1, 4 in Year 2, 4 in year 3, and 2 in Year 4) and 280 indigenous producers (including 60 women) are trained in seedling nursery management, shade trees and canopy for bird diversity, soil fertility, pruning, and implementation of the management plan for wild cacao groves (Baseline = 0).</p>	<p><b>2.1</b> Technical and monitoring reports, maps of interventions.</p> <p><b>2.2</b> Technical and monitoring reports, maps of interventions.</p> <p><b>2.3</b> Training materials, participant lists, course evaluations.</p>	
<p><b>Output 3:</b> Post-harvest management of cacao and coffee is improved, and local capacity built for diversification of products.</p>	<p><b>3.1</b> 5 community processing infrastructure “modules” for cacao fermentation and drying and 5 community processing infrastructure</p>	<p><b>3.1</b> Technical monitoring reports, photographs of infrastructure.</p>	

	<p>“modules” for coffee fruit pulping and fermentation are in place (3 by Year 2, and 2 in Year 3), training 280 producers (Baseline = 0).</p> <p><b>3.2</b> 12 training workshops are implemented for 280 indigenous producers (including 60 women) in quality control protocols for post-harvest processing (2 workshops in Year 1, 4 workshops in Year 2, 4 workshops in Year 3, 2 workshops in Year 4) (Baseline = 0).</p> <p><b>3.3</b> By end of Year 2, women producers develop an artisanal chocolate bar that allows access to local markets fetching prices of 14USD/Kg. (Baseline = 5 USD/Kg for raw cacao).</p>	<p><b>3.2</b> Training materials, participant lists, course evaluations.</p> <p><b>3.3</b> Benefit distribution report and project technical reports.</p>	
<p><b>Output 4:</b> Marketing strategies for cacao and coffee are improved and diversified, including wildlife friendly certification.</p>	<p><b>4.1</b> By end of Year 2, 20 producers are trained on requirements of bird friendly certification and monitoring bird diversity (Baseline = such training is not currently held).</p> <p><b>4.2</b> By end of Year 2, 8 APCERL producers receive barista training to enable them to present their bird friendly coffee in local and international fairs (Baseline = no such training is currently held).</p> <p><b>4.3</b> By the end of Year 2 a communication campaign targeting urban dwellers as responsible consumers is developed and conducted in La Paz and El Alto (Baseline = no such similar campaign has been conducted in support of indigenous</p>	<p><b>4.1</b> Certifications, bird diversity monitoring reports.</p> <p><b>4.2</b> Training evaluation reports, participant lists.</p> <p><b>4.3</b> Audiovisual materials.</p>	

	<p>communities engaging in sustainable agroforestry and biodiversity protection)</p> <p><b>4.4</b> By end of Year 2, at least one new commercial alliance for coffee and at least one new commercial alliance for cacao increases prices for their products by 10% in comparison to average market prices that year (Baseline to be established in 2019 from commodity markets).</p>	<p><b>4.4</b> Commercial contracts.</p>	
<p><b>Activities per Output</b></p>			
<p><b>Output 1. Producer organizations and their representative territorial organizations have developed and implemented systems for control and vigilance of their territorial lands.</b></p> <p><b>1.1</b> Facilitate participatory mapping of areas under management by producer organizations vulnerable to illegal encroachment. WCS staff will facilitate participatory mapping with producer organizations using supporting satellite imagery. Producers will first map the circuits and areas under their use for both their commercial (cacao and coffee) production and their subsistence (fishing and hunting) activities. Producers will then map existing threats from encroachment and also future threats from planned roads in the region. Overlaying both threats and areas under potential control by different producer organizations and communities will permit an initial distribution of control and vigilance responsibilities according to location.</p> <p><b>1.2</b> Hold a training workshop with each of the producer organizations on legal requirements for processing illegal incursions into their management areas. WCS staff will coordinate with protected areas and indigenous territorial organizations to hold training workshops on the legal framework and processes for processing illegal incursions into natural resource management areas within indigenous lands.</p> <p><b>1.3</b> Test digital platforms and develop protocols for producer organizations and their territorial organizations to take coordinated actions against encroachments. We will work with producer organizations and their territorial organizations exploring the use of SMART and other digital platforms to allow for immediate visualization of incursions and consolidation of reports from different producers. We will also facilitate meetings to develop the necessary protocols for communication, registration of illegal events, and collective response against illegal encroachments.</p> <p><b>Output 2: Pre-harvest management of agroforestry plots and native cacao forest groves is improved, and local capacity built for sustainable agroforestry that is wildlife friendly.</b></p> <p><b>2.1</b> Provide technical assistance for producers to restore their agroforestry plots through soil management, pruning and diversification of shade trees. Based on an initial diagnostic of the individual coffee and cacao producer agroforestry plots we will establish the needs for restoration or renewal, as well as the shade and soil fertility conditions. With this information, we will develop an annual action plan for each producer. The technical assistance will be provided through field schools and demonstration plots. This process will be implemented and monitored by field technicians.</p> <p><b>2.2</b> Develop a training curriculum and associated training materials for pre-harvest management of agroforestry plots and native cacao forest groves. The technical team will leverage their extensive experience to develop a specific training curriculum for cacao and another for coffee agroforestry management. Supporting training materials will also be developed and will include soil management, seedling production, pruning and shade management.</p>			

- 2.3 Implement field schools. The training materials produced under activity 2.2 will be used to implement field schools that will enable peer-to-peer discussion to identify common production problems and alternative solutions. Field schools will be implemented at least once a month according to priorities identified by the producers and organized by geographic location and level of expertise to have a mix of expert producers and new producers.
- 2.4 Install communal seedling nurseries. As a first step, a diagnostic will be carried out to establish the requirement of seedlings and in the field schools of activity 2.3 we will provide guidance on the use of local materials for the seedling nursery and responsibilities for looking after the seedlings. An important step will be finding certified coffee seeds from Central America or Colombia, since locally available seeds are produced from a very limited genetic stock. Cacao seeds will be obtained by taking advantage of the local genetic diversity and we will establish clonal gardens to source the seeds as well as vegetative materials for grafts.

**Output 3: Post-harvest management of cacao and coffee is improved, and local capacity built for diversification of products.**

- 3.1 Develop a training curriculum and associated training materials for post-harvest processing of cacao and coffee. In the same manner, as for the pre-harvest phase the technical team will leverage their extensive experience to develop a training curriculum for coffee and cacao post-harvest processing focusing on quality control as required for the target niche markets.
- 3.2 Implement field schools. Using the above training materials, we will implement field schools focusing on post-harvest processing of cacao and coffee. Field schools will be implemented at least once a month according to priorities identified by the producers and organized by geographic location and level of expertise to have a mix of expert producers and new producers.
- 3.3 Install community processing infrastructure for cacao fermentation and drying. We will support producers to establish the necessary infrastructure for post-harvest processing of both coffee and cacao. Each community processing module will include fermentation boxes, drying tables, as well quality control equipment such as balances, thermometers and hygrometers. The construction and installation of the fermentation and drying modules will be established with the participation of the producers and also using the field schools to discuss their design.
- 3.4 Provide technical assistance to women producers to produce an artisanal chocolate bar. We will purchase basic cacao grain roasting, peeling and grinding equipment in order to allow women members of the cacao producing organizations to produce high quality cacao paste. We will also bring specialists to train these producers in the production of granola, chocolate bars and chocolate nibs for the local market.
- 3.5 Install community processing infrastructure for coffee pulping and fermentation. We will provide technical guidance and materials to the coffee producers to establish communal post harvesting processing modules for coffee, consisting of fermentation pits, washing channels and drying tables. We will work closely with the producers to design the modules taking into account the best distribution depending on distance to the different production plots, distance to de-pulping machines and volume produced.

**Output 4: Marketing strategies for cacao and coffee are improved and diversified, including wildlife-friendly certification.**

- 4.1 Identify coffee producers managing agroforestry plots closest to the required standard for bird-friendly certification and develop a work plan to support them through the certification process. We will identify new coffee producers with a potential for bird-friendly certification and provide them with technical assistance throughout the certification process and compliance during the implementation phase. Bird-friendly certification is carried out every two years and will require organic certification that is renewed annually. An internal control system will be developed in order to fulfil requirements of both certifications.
- 4.2 Carry out a training program on bird diversity monitoring with these producers. We will work with newly certified bird-friendly producers and previously certified producers on the use of a bird monitoring protocol based on indicator species of good quality montane forests of the Central Andes and that are mostly recognizable by their distinctive calls. This monitoring is based on a simple monitoring form and is carried out with minimum additional effort in the agroforestry plots. Indicator species include 14 Andean endemics, such as *Simoxenops striatus*, *Myrmotherula grisea*, and *Phyllomyias weedeni*.

- 4.3** Implement a marketing strategy for roasted coffee and processed chocolate for the local market. We will implement a marketing strategy for roasted coffee and processed chocolate for the local market that will involve developing the capacity of producer organizations to manage production flows, have solid administrative capacity and form market linkages for product distribution and sale.
- 4.4** Train between 5 and 10 coffee producers in roasting and as baristas to assist with marketing in local and national fairs. This activity is part of the marketing strategy for roasted coffee and will allow product placement in local fairs, enabling the producers to promote the quality and the story behind the bird-friendly coffee with urban Bolivian consumers.
- 4.5** Develop and broadcast audiovisual materials to develop an urban constituency supporting cacao and coffee produced by indigenous groups. The audiovisual materials will tell the story behind sustainable coffee and cacao to support the marketing strategy. High quality visual materials will be used to develop short spots to be transmitted through television and digital platforms, such as Facebook and YouTube.



## Annex 3: Standard Measures

**Table 1 Project Standard Output Measures**

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Total planned during the project
7	Manuals for producers and other users on 1) coffee post-harvesting processes, 2) coffee and cacao fermentation and roasting, 3) coffee tasting/cupping and barista techniques	0	-	0	3	0	2	3	5
12A	Database of bird diversity reported during the monitoring events in the shadow-grown coffee plots, conducted in the bird-friendly certified plots periodically (once a month)	0	-	0	1	0	0	1	1
23	Value of resources in USD raised from 4 additional sources for cacao and coffee production (apart from Darwin funding for project work)	0	-						

Names of funding sources from Code 23: 1) NORDECO/Teko Kavi; 2) DANIDA\_FOSC; 3) NORDECO/WCS; 4) Banco FIE; 5) FAO

**Table 2 Publications**

Title	Type	Details	Gender of Lead Author	Nationality of Lead Author	Publishers	Available from
Rescate de saberes locales de adaptación al cambio climático mediante el manejo de germoplasma forestal y agroforestal de la Asociación de Productores de Café Ecológico Regional Larecaja, Municipio de Teoponte (La Paz, Bolivia)	Scientific magazine	Kea Alanoca, S.; Perez Mamani, J.; Tariqui Alanoca, S.; Condori Chipana, J.; Rojas Acebey, J.; Peñafiel R. Mario & Quiroga Sossa, B.	Female	Bolivian	Universidad Mayor de San Andrés (UMSA), School of Agronomy, Department of Agronomy engineering, IIAREN, La Paz (Bolivia).	Annex 25

## Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

### Checklist for submission

	Check
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.	YES
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.	NO
<b>Have you included means of verification?</b> You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	YES
<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	NO
Have you involved your partners in preparation of the report and named the main contributors?	YES
Have you completed the Project Expenditure table fully?	YES
Do not include claim forms or other communications with this report.	