Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

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Darwin Initiative Main Project Annual Report

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Darwin Project Information

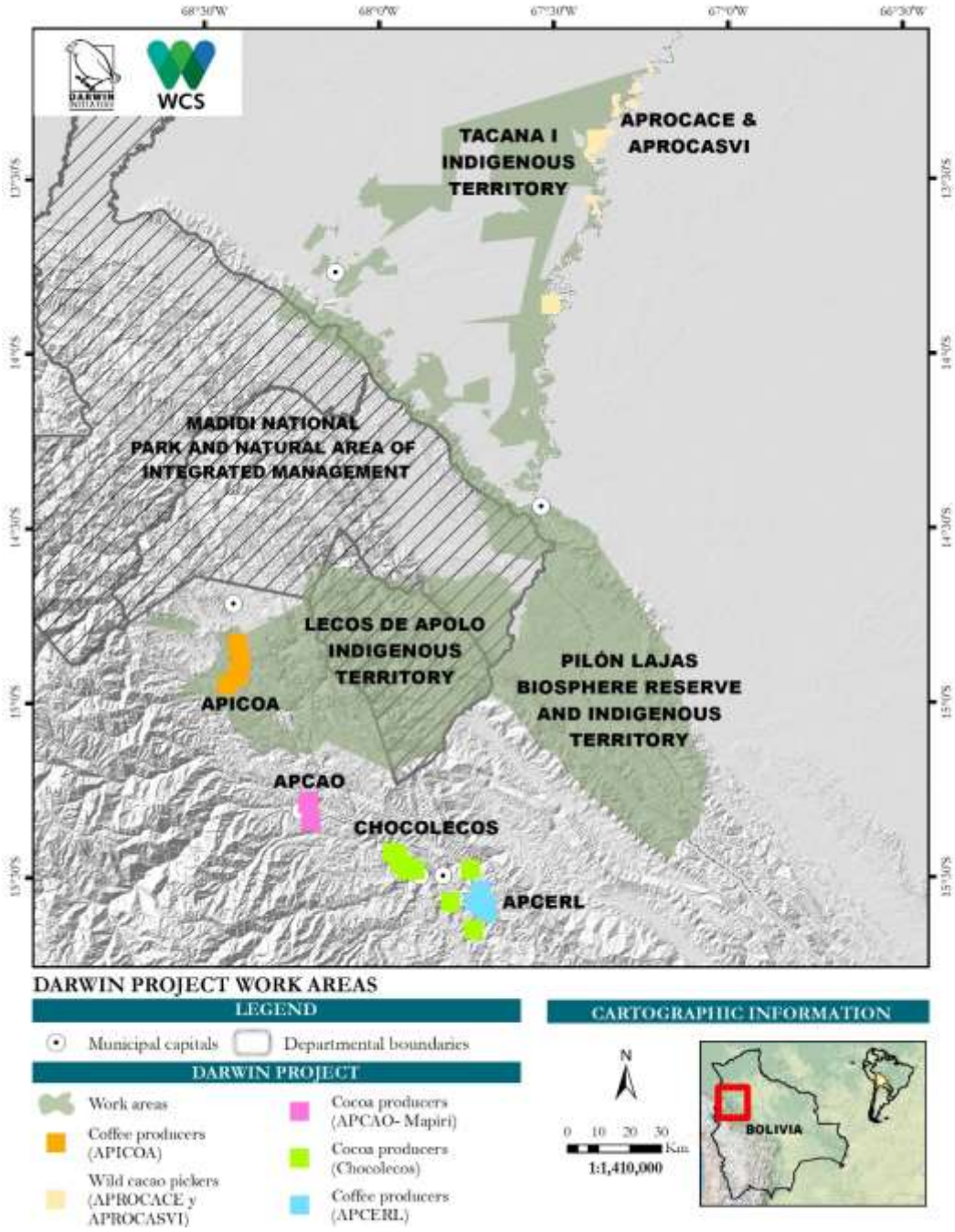
Project reference	24-011
Project title	Wildlife-friendly agroforestry and sustainable forest management in Bolivian indigenous territories
Host country/ies	Bolivia
Contract holder institution	Wildlife Conservation Society (Bolivia)
Partner institution(s)	Fundación Teko Kavi
Darwin grant value	£ 398,872
Start/end dates of project	July 1, 2017-March 31, 2021
Reporting period (e.g., Apr 2017-Mar 2018) and number (e.g., Annual Report 1, 2, 3)	July 2017-March 2018 Annual Report 1
Project Leader name	Oscar Loayza Cossio
Project website/blog/Twitter	www.wcsbolivia.org
Report author(s) and date	Oscar Loayza Cossio, Ximena Sandy, Nuria Bernal Hoverud, Lilian Painter, Jaime Ayra

Project rationale

The T'simane Mosetene, Leco, and Tacana indigenous people's territories in Bolivia cover over one million hectares bordering and overlapping the Madidi and Pilón Lajas protected areas. 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 and degradation due to illegal agricultural clearing and settlements, timber extraction, and gold mining. This perpetuates a cycle of poverty arising from forest loss or degradation and negatively impacts community livelihoods, which depend on forest resources and are therefore particularly vulnerable to climate change.

These indigenous communities in Northern La Paz benefit from access to collective lands. Their internal regulations require them to monitor these lands as a way of contributing to the common good. Our project helps strengthen the monitoring capacity, ultimately benefiting both biodiversity and local livelihoods. We do so by coupling improvements in monitoring of illegal encroachment on indigenous territories with investing in sustainable agroforestry.

We are supporting a decentralized and cost effective system for control and vigilance of territorial lands, improved communication protocols, event/threats mapping, and rapid collective response against encroachment and other threats mentioned previously. However, monitoring comes with high transport costs because communities are widely dispersed. They also lack systems to gather legal proof of illegal events, and to coordinate communication with relevant authorities, leading to a low rate of prosecution. 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, small-scale local producer organizations involvement in control and surveillance activities can greatly reduce the high transportation costs of monitoring. Building technical capacity in sustainable agroforestry will improve productivity and access to niche markets, generating much needed income, while strengthening their capacity to exert territorial control, actively helps to protect forests and biodiversity.



Project partnerships

Teko Kavi, our project partner in Bolivia, is a local NGO that implements environmental education projects with schools in the Umala municipality of La Paz, 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 in WCS 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 and funded by the Nordic Climate Facility (NCF) to support climate change mitigation through improved agroforestry practices with local partners in Northern La Paz. This grant provides matching funds to this project's activities. Teko Kavi also collaborates with WCS on a communications campaign to develop an urban consumer constituency that supports indigenous territorial management and sustainable natural resource use through consumer choices.

Local producer organizations are also important partners in this project, and approve the specific work plans to implement this project. They include APCERL (Association of Ecological Coffee Producers of Larecaja), APCAO MAPIRI (Association of Organic Cacao Producers of Mapiri), and CHOCOLECOS (Association of Producers of Indigenous Leco Cacao). These three organizations represent different small-scale producers of cacao and coffee, and WCS has been working with them to improve management practices for over five years. Additionally, other local indigenous organizations will also participate through matching funds, and include the local coffee producers of Apolo, in the Lecos Apolo TCO (APICOA); and the wild cacao producers of Carmen del Emero, in the Tacana I TCO (APROCACE), although they are less involved due to their location 12 hours downriver by boat, which makes logistics challenging.

Project progress

During the first year of the project, WCS worked with partners to develop work plans and carry out coordinated activities. WCS and Teko Kavi held regular meetings with producers and their territorial organizations, CIPTA (Tacana Indigenous Council), CIPLA (Lecos Apolo Indigenous Organization) and CRTM (Tsimane Mosetene Regional Council) to coordinate joint actions for territorial control and approve internal regulations to enforce implementation of best management practices by their member producer organizations.

3.1 Progress in carrying out project activities

During the first year of the project, we carried out the following activities under each of the four outputs.

Output 1: Producer organizations and their representative territorial organizations have developed and implemented systems for control and vigilance of their territorial lands (Activities 1.1 and 1.2)

WCS gathered geographic information on vulnerability to illegal encroachment within the Tacana, Lecos, and T'simane Mosetene territories, responding to the territorial protection strategy included in CIPTA's 2014 Life Plan, the 2016 Pilón Lajas Biosphere Reserve and Indigenous Territory control and vigilance strategy, and CIPLA's 2014 co-management strategy for the area of their indigenous land overlapping with the Madidi Protected Area. This information was the basis for developing a draft vulnerability map for each of the indigenous lands, containing information on vulnerability along main roads, areas under timber concessions, areas with gold mining potential, and areas of historical encroachments. The maps were adjusted and complemented, through participatory mapping, with information on vulnerability to illegal colonization, illegal timber extraction, poaching and unregulated mining. In total, 3 baseline maps were completed (*Annexes 4, 5 & 6*) and now serve as a basis for establishing control and vigilance protocols according to the degree of vulnerability, which is based on exposure and types of threats. These baseline maps were completed and presented to the indigenous leaders and communities and validated by the producer organizations and their communities the last quarter of 2017 and January 2018 (*Annexes 7, 8 & 9*).

The next step was the selection of a tool to report and communicate illegal encroachments, and a mobile phone device with GPS and satellite communication was deemed most appropriate. With matching funds from the MacArthur Foundation, we designed a digital application (app) to document these events, including location information and photographic evidence, and report them to the indigenous territorial organization, who then alerts the relevant authorities (*Annex 10, Territorial Management App summary*). The app will relay information to a dedicated computer in CIPTA's headquarters (and later also to the headquarters of CIPLA and CRTM) and provide an immediate visualization of incursions, the production of reports from different producers, and registration of illegal events. This baseline information will help inform collective responses from grassroots organizations and engagement with government agencies and authorities to take appropriate action against illegal encroachments.

The app design includes three different levels of functionality. The first level involves search access to documents containing the legal and technical supporting information on indigenous territorial rights in Bolivia. The second level of functionality deals specifically with control and vigilance, and is supported by a platform to report incidents, in which producers or community leaders can input information into pre-defined forms and upload photos on the reported events. The third level of functionality uses the phone GPS to confirm the location of the incident and is available even without cell phone coverage. Finally, to follow up on and monitor the complaints received, as well as evaluate the effectiveness of the instrument in reducing encroachment events, a server will concentrate all reports received and a member of the board of directors will respond to the incident reports.

The app is now being tested in the field by CIPTA's board of directors with five communities that are representative of the community distribution along the San Buenaventura-Ixiamas road and along the Beni river. They will report back with suggestions for improvements and establish a communication channel to report incidents to authorities. After testing the app with the Tacana, WCS will adjust and expand its use to the Lecos and T'simane Mosetene territories. We expect that the app will be corrected and adapted based on feedback from current users by the next report, due at the end of October 2018.

As a next step in the process of implementing systems for control and vigilance for these indigenous territories, we will support the indigenous organizations in sharing the vulnerability maps with all their communities and provide training to test the use of the mobile phone and the app, including holding community workshops on the protocols to report illegal incursions into their management areas.

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 and 2.3)

Cacao and coffee producers have received training on applying best practices during pre and post-harvest stages, providing them with the knowledge and capacity to meet organic standards and additional certifications, such as the Smithsonian Bird Friendly® certification. This 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 (*Annexes 23 & 24*).

Parallel to these harvest campaigns, WCS also implemented "field schools" to identify common production problems and alternative solutions. These initiatives are planned and organized by geographic location and consider the level of expertise of the producers to ensure a mix of expert and beginner producers for peer-to-peer learning. Producers themselves, under WCS technical guidance, put together the training program and select the most important issues to be tackled at the training event. Training supplies and materials are provided to support hands-on activities under a dynamic knowledge sharing strategy of "learning by doing."

Pre-harvest field schools with the coffee producers of APCERL are conducted in four already-established demonstrative coffee plots, which serve as demonstration areas for a technology package including use of natural compost and shade tree diversification (*Annexes 8, 9, & 10, Field school reports*). The pre-harvest field schools with the cacao producers are conducted in all communities on a rotation basis to tackle day-to-day problems such as cacao harvesting and pruning (*Annexes 14 & 15*, *Field School reports*).

In Year 2, our experiences with the coffee and cacao field schools will be compiled as part of a training curriculum and training materials to be replicated elsewhere. Also in the coming year, field technicians will work with coffee producers to establish seedling nurseries that will provide them with a variety of plant species that can be used to increase tree diversity in their coffee plots. This is an important target for bird friendly certification since adding a diverse shade tree canopy provides habitat for migratory songbirds and other wildlife, as well as carbon storage.

Output 3. Post-harvest management of cacao and coffee is improved, and local capacity built for diversification of products (Activities 3.1, 3.2 and 3.3)

The field technical staff are building on expertise in pre-harvest phases and leveraging their experience to develop a training curriculum for post-harvest processing of coffee and cacao, focusing on quality control required for the target niche markets.

To date, the coffee producers have stockpiled dry parchment coffee beans through a collective rotating fund established with support from the Danish Cooperation's FOSC (Fund in Support of Civil Society) program, with a starting capital of 14,000 USD (Bs100,000). Under WCS leadership and in negotiation with Banco FIE's Social Corporate Responsibility Program (RSE), an additional rotating fund was established for 7,000 USD (Bs 50.000). This year, the rotating fund is being used for stocking the new cacao production, and will be also used during the 2018 coffee harvest season later in the year.

APCERL's (Association of Ecological Coffee Producers of Larecaja) coffee production of 2017 went through a coffee tasting and Cup of Excellence classification to grade cleanness, sweetness, acidity, body, flavor,

aftertaste, balance, and overall impression, and received an average score of 83.6 out of 100. It is being well received and sold as double certified coffee in national specialized markets.

Field schools with coffee and cacao producers on post-harvesting processes were conducted as planned, with good participation (*Annexes 16 & 17, Field School reports*).

Finally, we constructed community processing infrastructure of cacao and coffee fermentation and drying with additional funding from FOSC, which will enable important improvements in the processing of the two crops harvested this year, both in terms of the quality and the efficiency (defined as processing time).

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)

To date, 34 organic coffee producers from APCERL have been certified as organic, of which 13 are also certified as bird-friendly (8 previously certified and 5 new); potential new bird-friendly coffee plots are being evaluated. WCS technicians visited all potential bird-friendly certifiable coffee producers to provide information on the certification process and all requirements. Bird-friendly certification is carried out every two years, and organic certification is renewed annually. WCS made progress in the implementation of an internal control system to comply with requirements for both certifications, which will prepare the producers for each certification cycle (*Annexes 23 & 2*4).

To visualize the biodiversity value of the shade-grown coffee plots, APCERL producers have committed to monitor bird diversity in their plots, and an initial training program on bird diversity monitoring took place in June 2017, with the participation of 25 APCERL coffee producers. The workshop dealt with capacity training in bird watching and monitoring protocols, and most importantly, an ornithologist was able to establish a baseline list of 179 bird species in the shade-grown coffee plantations, which adds 17 species of birds to an initial list produced four years ago (*Annex 18, Report on training event in Chuchuca*). The coffee plots are located in an area classified as an Important Bird and Biodiversity Area (*Annex 19, Map of IBA*)

With initial funding from DANIDA FOSC, WCS and Teko Kavi developed a communications strategy document, which includes launching the Origen brand as part of a limited liability enterprise with producers as partners, to improve access to markets for coffee, cacao and other forest products (*Annexes 28, Coffee marketing portfolio; and Annex 29, Communications strategy*).

To train the younger generation of coffee producers and assist with marketing in local, national, and international fairs, we released a call for training to compete for a place to be trained in roasting, coffee tasting, and barista techniques. We selected three young women to receive training, with financial support from Banco FIE, from Specialty Coffee Association (SCA) certified teachers at Vive Café in Bogotá, Colombia, owners of specialty coffee brand Amor Perfecto. We expect this initiative to motivate a greater number of younger producers in the second year of the project (*Annex 22 Report*).

This year we also produced audio-visual materials to promote coffee and cacao products from organically certified indigenous producers. Printed promotional information materials were distributed in various venues and fairs participated in by producers (*Annex 20 & 21, Coffee and cacao leaflets; Annex 30, Promotional coffee video*).

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 our indigenous local partners and coffee and cacao productive associations, we identified and mapped the areas vulnerable to illegal encroachment in three indigenous territories (Tacana I, Lecos Apolo and Pilón Lajas), including the degree of severity for each of the threats identified. We held seven meetings in the various indigenous communities between December 2017-January 2018 (4 in Tacana I, 2 in Lecos Apolo, and 1 in Pilón Lajas) with a total participation of 211 people, of which 37% were women and 63% were men. The conflicts and threats identified fell into four main categories explained in Section 3.1 above. The maps also identified the most vulnerable areas within each indigenous territory (*Annexes 4, 5, 6, Maps of vulnerability; 4, 5, & 6, Attendance lists*). We will surpass the output indicators in training events and participants and support the development and implementation of systems for indigenous control and vigilance

by the end of the project. Two activities are now being conducted based on the vulnerability maps and the development of the app for mobile phones: first, piloting the use of the app in the field, and second, planning the workshops for training indigenous leaders and technical staff to use the system.

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 first year of the project, the total area planted with coffee and cacao under agroforestry systems came to 221 ha, made up of individual and family plots. Of this area, 156.77 ha are coffee plantations under agroforestry systems and shade-grown plots, and 64.25 ha are cacao under agroforestry plots. These areas are being restored via 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 technological 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.

To date, out of the 221 ha of coffee and cacao plots, 42% (95 ha) are in the growing stage. In 2018, we will provide producers with seedlings for the expansion and renewal of 16 ha of coffee and 3 ha of cacao. We have a preliminary agreement with a Colombian coffee association to obtain 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. By Year 2, 40 new coffee plots will be established, as well as 3 ha of cacao, reaching the target area of 283 ha of cacao and coffee.

Field schools are open spaces for the exchange of knowledge between coffee and cocoa producers. Topics are selected based on the growth stage of the crop, and problems are addressed *in situ*. Participation of producers in the field schools is monitored by individual participant, which lets technicians monitor individual performance. During the first year of the project, with funds from the DANIDA's FOSC program and the Nordic Climate Facility, we carried out five pre-harvest field schools on coffee production, with 81 producers (26 women and 55 men, or 47% female participation). Topics covered in the field schools included: a) Preparation of green fertilizers; b) Preparation of organic insecticides; c) Coffee pruning; and d) Management of "ojo de gallo" fungus (*Annexes 11, 12 & 13, Technical reports of schools and lists of participants*). The number of producers participating at the field schools will increase progressively in the coming months, until reaching 280 producers, especially since harvesting season for cacao is ending, and preparation beginning for coffee harvesting in the following months.

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

During the first year of the project, and with additional funds from DANIDA FOSC, we completed two centralized "modules" for cocoa bean drying and fermentation, one for the Chocolecos association and the other for the APCAO-Mapiri association (See Map on page 3). Each module was built based on a previously tested prototype; the first consists of a drying section of 14.7 x 7.5m and a maximum height of 2.3m, with a pre-drying table and five drying tables; and the second includes a fermentation section of 5.8 x 4.5m and a height of 2.6m, with 6 fermenting drawers. These post-harvest modules have made it possible to significantly improve the quality of the fermentation, since temperature can be kept stable and anaerobic and aerobic fermentation can take place in a controlled space. The drying module reducdrying time of the cacao beans by half, achieving and controlling humidity to the standard 8% and resulting in a high quality cacao; it also allows for processing larger amounts of cacao simultaneously *(Annex 26, Installation of cacao processing module).*

For coffee processing, we built four family modules for post-harvest processing of the coffee fruit; both modules were placed in the Lecos Apolo indigenous land. Next year, and with additional funding from the NCF project, 12 family and bi family modules will be constructed. Each module will have two pools, one for fermentation and another for washing the pulp of the coffee beans, as well as a running channel and a de-pulping machine. The drying module is made up of a pre-drying table and a drying table. With this investment, we expect significant improvement in the coffee quality of the Apolo region. The results will be presented in the next report, once the construction of the modules and the 2018 coffee harvest is completed (*Annex 27, Installation of coffee processing module).*

This year, we carried out three field schools, two with cacao producers and one with coffee producers. The topics addressed with cacao producers included cacao harvest optimal point and cacao bean extraction and selection. A total of 24 producers participated, half women and half men. The coffee field school addressed

quality control during fermentation and included participation of 7 producers, 3 were women and 4 men. In total, 31 people participated in the post-harvest training (48% women and 52% men). During Year 2, we expect to hold a larger number of training events with more participants, since the coffee harvest will start in a couple of months, and significant emphasis will be put into control of the coffee bean fermentation process *(Annexes 16 & 17, Technical report of the post-harvest schools and attendance lists).*

Finally, with additional support from DANIDA, we acquired equipment for husking and grinding of cacao beans and conducted tests in the preparation of the cacao paste. The process of sanitary registration will be completed by the end of 2018. Producers presented the chocolate at local fairs, with good visibility as the Chocolecos association was recently recognized as one of the best cacaos in the world by the International Cacao Program of Excellence in Paris. At the fairs, the sale price of each chocolate bar of 100 grams was Bs.15 (2 USD). One kg of dry cacao beans renders about six 100g chocolate bars; consequently, one kg of cacao beans results in a revenue of Bs. 90, representing a four-fold increase in revenue compared to the sale price of one kg of cacao beans.

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

We conducted a four-day workshop on bird monitoring at the start of the project, with the participation of 25 APCERL coffee producers; of these, half are certified as bird-friendly. Based on the list of birds identified, a set of 10 species were selected to be monitored monthly, with the assistance of the field technician *(Annex 25, Bird Monitoring Form*). These reports will feed 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 as promotion of the impact on bird conservation, and the ARMONIA Association, the main bird research institution in the country responsible for monitoring bird diversity in Bolivia. By the end of the second year of the project, APCERL producers will be able to visualize their contribution to conservation by reporting all bird species observed monthly in their coffee plots.

APCERL coffee producers are interested in receiving barista training to enable them to present their bird-friendly certified coffee in local and international fairs. We selected three young women, daughters of producers, to travel to Bogotá, Colombia and receive training from the Special Coffee Association (SCA) under support from Banco FIE at the coffee company Vive Café, which owns the special coffee brand Amor Perfecto. *(Annex 22*). We expect to motivate a greater number of young coffee producers in the second year of the project.

With the initial funding from DANIDA FOSC, we prepared leaflets and audiovisual material to be used in upcoming communication campaigns in Year 2 *(Annexes 20 & 21*). With support from Teko Kavi, we also drafted a communications strategy document to launch the "Origen" brand as part of a limited liability enterprise whose partners are the producers themselves, and which aims to access niche markets for coffee, cacao and other quality and sustainable forest products (*Annexes 28, Coffee marketing portfolio; Annex 29, Communications strategy*). During Year 2, we will carry out commercialization tests with national and international private companies.

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.

In the first year of this project, we made important progress towards achieving the project outcome. WCS and Teko Kavi are working with two shade coffee producer organizations, APCERL and APICOA. The 2017 coffee harvest rendered on average 522 kg/ha, surpassing baseline numbers by 2.5 times. Improvements are a result of the application of the integrated technological package explained in Section 3.2.

For cacao production, WCS is working with a total of 60 producers, 22 from APCAO, 30 from Chocolecos, and 8 from Carmen del Emero. 2017 harvest production (January to April) produced an average yield of (272 kg/ha), surpassing the baseline numbers by 51%.

In both cases, production of coffee and cacao increased substantially, surpassing initial estimates thanks to DANIDA FOSC funding in previous years and allowing the establishment of the productive bases for both commodities by opening new cacao and coffee plots, which are now under production.

Progress made during this first year in annual household income from agroforestry systems shows that for coffee producers, after sales of the 2017 harvest during this first year of the project average income was Bs. 15,027 per family (2,159 USD). For cacao producers, the average income per family was Bs. 1,717.62 per family (246.78 USD). In the next annual report, we will update this indicator with 2018 harvest results. The support provided by the project in post harvest processing and marketing of cacao almost doubled average annual household income from the baseline. However, the 2017 average income from coffee compared to the original proposal baseline decreased by 24% due to normal oscillation in market prices, and because redistribution of sales to local niche markets is pending.

We made significant progress on the certification of coffee producers under the Smithsonian "bird-friendly" standards. To date, 13 producers (12 men and one woman) have been certified for the next 3 years (2017-2019). Five additional potential producers have been identified, and their plots are being prepared for certification (*Annex 23 & 24*).

To evaluate the impact on avian diversity in shade coffee plantations during the four years of the project, we are developing producer capacity to monitor bird diversity through time, using a baseline of 179 species. We expect an increase of at least 27 additional species under the shade grown coffee plantations, partly through an increase in structural diversity and landscape connectivity but also through the establishment of an improved bird record including sampling different seasons of the year, leading to possible recordings of boreal and austral migrant species.

To contribute to biodiversity conservation more broadly, we are supporting a Masters degree thesis by Carlos Landivar from the Technological University of Dresden, Germany, who will analyse ecosystem services within coffee plots with forest cover, plots managed under traditional agroforestry systems, and monoculture coffee plantations. Mr. Landivar will evaluate bird diversity in coffee monoculture plots to establish a baseline in monoculture plots for comparison, and we expect at least 30% fewer bird species, specifically the understory bird species specialists (*Annex 18, Report on Bird survey*).

Finally, 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 certainly caused an impact in the wild cacao groves of Carmen del Emero (Tacana I Indigenous Territory), although to date, the degree of impact on cacao productivity is unknown. For Year 2 of the project, we will conduct an *in situ* evaluation on the current situation of the wild cacao groves that are part of the management plan to establish a more accurate projection on the effect on production.

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.

The pressure from large infrastructure projects as well as economically important extractive activities such as mining, illegal timber logging and wildlife traffic have not resulted in internal social conflicts. However, gold mining in the Mapiri and Teoponte region has resulted in a reduction in the time dedicated by the producers to cacao production due to the high prices of gold. Nevertheless, a strong base of producers continue their activities regularly, complementing it with mining activities to guarantee family income and food security.

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).

Providing assistance and training to producers will directly impact the yields in coffee and cacao production, translating into an economic impact. Poverty alleviation is measured as the number of cacao and coffee producers with improved income. The expected 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 period, annual income per household in 2017 was Bs. 15,027 (2,159 USD) from coffee production Bs. 1,717.62 (246.78 USD) from cacao production. We work with 117 indigenous producers with 221 hectares under agroforestry management and 19 hectares under growth stage; and 13 producers with bird friendly certification, with 389,303.98 hectares under improved indigenous control and 3,773 indigenous people with improved control over their collective ancestral lands.

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

Our activities address Goal 12 (Responsible production and consumption: Ensure sustainable consumption and production patterns) by supporting the sustainable management of natural resources; 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; and 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 shocks and disasters through territorial management and sustainable livelihoods.

During this reporting period, income increased for 117 indigenous producers, 221 hectares are under agroforestry management, 389,303.98 hectares are under improved indigenous control, and 3,773 indigenous people have improved control over their collective ancestral lands.

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 will 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; and will also contribute to Strategic Goal E by respecting and supporting the customary use of indigenous lands by the T'simane Mosetene, Tacana and Lecos indigenous communities, since all activities are conducted in agreement with the local stakeholders as direct beneficiaries.

The different 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 longtime 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)*.

The project contributes to the implementation of ITPGRFA (International Treaty on Plant Genetic Resources for Food and Agriculture) 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.

The project was featured by the Ministry of Foreign Affairs in Bolivia, through the Vice Ministry of Foreign Trade and Integration. Through their policy to support the promotion of Bolivian products for export, such as cacao and coffee, the Ministry sent cacao samples from Bolivian producer associations, including Chocolecos, to compete at the International Cocoa Award (https://www.salon-du-chocolat.com/international-cocoa-

awards/?lang=en) in Paris, France in October 2017. As a result, the Bolivian Chocolecos Association were selected among the 18 best cacaos in the world. To recognize this effort, on December 15, 2017, an event was organized by the Ministry and held at their salon with the diplomatic corps to recognize the importance of the prize and taste the cacao. APCERL's coffee was also present at the event, and representatives of the diplomatic corps were able to learn more about the products from the producers directly (*Annex 31, Event materials*).

6. Project support to poverty alleviation

To date, activities are still under implementation and no targets were planned for this period. The direct beneficiaries of the activities in the project are the communities and producers of the indigenous territories of T'simane Mosetene, Tacana and Lecos.

This year we saw an increase in productivity from baselines presented in the proposal of more than 2,5 times for coffee and 51% for cacao (See Section 3.3). The project made important progress in improving indigenous control over the Tacana indigenous land, and in the next reporting period we will report on its impact over both the Tacana and the Lecos indigenous lands.

7. Project support to gender equality issues

Following our institutional commitment towards ensuring gender equality during project implementation, and according to our participant lists in the community training workshops and meetings, 37% of participants were women. This is already an encouraging result, since venues for participation and decision making have been dominated by male leaders.

The project is working with the indigenous communities and local producers to visualize the role of each individual producer. Our impact on promoting women's participation is evident in the case of the three female coffee baristas who represent a new generation of coffee producers, have shown great potential, and stood out during different training and selection events (*See Annex 22*).

8. Monitoring and evaluation

No changes in the M&E 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 1M hectares of indigenous land. Results for this indicator will come from the digital reporting system currently being tested.
2. Number of cacao and coffee producers with improved productivity/hectare. This indicator has been used to evaluate productivity during the 2017 harvest.
3. The increase in household income is measured through recording sale process and benefit distribution and has been evaluated for the 2017 harvest with no difficulty.
4. The number of new certified producers is documented by the existence of the certificates.
5. Bird biodiversity was registered through field evaluation, and the only difficulty is in producers' capacity for continuous monitoring.
6. Forest loss and avoided carbon emissions will be monitored in the future, and we don't expect difficulties.

As a result of the interest of a Masters student working with us on evaluating the ecosystem functions of coffee agroforestry plots under three different management approaches, we will be able to complement the evaluation of our impact on local livelihoods with additional information relating to watershed conservation. This thesis will also allow us to analyze the relative merits of bird friendly, organic, or intensive monoculture production of coffee in relation to provision of environmental services in this region.

9. Lessons learnt

At this stage, the main lessons learnt relate to the socioeconomic impacts arising from gold mining in the Mapiri and Teoponte region, which has resulted in a reduction in the time dedicated by the producers to cacao production due to the high prices of gold. Additionally, the vulnerability of cacao groves to extreme flooding events is greater than we had anticipated.

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

N/A. This is the first annual report.

11. Other comments on progress not covered elsewhere

N/A.

12. Sustainability and legacy

The activities conducted secure social sustainability by working with established producer organizations operating under approved and legitimate indigenous management plans and natural resource use regulations and committed efforts towards 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; we have also achieved 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. Benefits of these activities will continue via peer-to-peer learning and through our continuing long-term commitment to working with indigenous communities in this region.

13. Darwin identity

We included the Darwin logo to materials and forms used in the meetings and workshops; it was also included in two leaflets on cacao and coffee to recognize Darwin's contribution as a co-funding donor. We also produced a video which includes the Darwin identity (*Annex 20, 21, 30*).

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2017 – 31 March 2018)

Project spend (indicative) since last annual report	2017/18 Grant (£)	2017/18 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			0.7	
Consultancy costs				
Overhead Costs			-2.53	
Travel and subsistence			-3.17	
Operating Costs			1.99	
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2017-2018

Project summary	Measurable Indicators	Progress and Achievements April 2017 - March 2018	Actions required/planned for next period
Impact: 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.		We made progress in improving indigenous capacity for control and monitoring of the Tacana indigenous land over 389,303.98 total hectares, including 221 hectares in sustainable agroforestry. This increased income and benefitted the livelihoods of 3,890 people. Impacts on biodiversity and ecosystem services will be included in future reports.	[redacted]
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.	**0.1** 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) **0.2** 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). **0.3** By the end of Year 4, 280 indigenous Tacana, Lecos and T'simane Mosetene producers (60 women) have increased productivity by 20% (Baseline = 180 kg/ha cacao and 211 kg/ha coffee).	**0.1 and 0.2** We made important progress during Year 1 in developing tools and protocols to report encroachments in 389,303.98 ha of indigenous lands. We also identified the main vulnerable areas in the three indigenous territories. **0.3** Among two cacao productive associations, Chocolecos and APCAO-Mapiri, which both manage native cocoa under agroforestry systems, and the wild cacao producers of Carmen del Emero (APROCACE), there are a total of 60 producers, 22 from APCAO, 30 from Chocolecos, and 8 from Carmen del Emero. In the 2017 cacao harvest season, yield was 272 kg/ha, surpassing the baseline numbers by 51%.	Replicate and adapt reporting system of illegal activities in the other two indigenous territories working in the project. By Y1, both cacao and coffee producers have already reached the projected target productivity and it is expected that production, and the challenge will be to stabilize production as a result of all the training and application of improved management techniques. Focus will be on standardizing quality of the products to be offered to the new market buyers.

		Coffee associations APCERL in Teoponte and APICOA in Apolo (90 producers) reported an average 2017 coffee harvest yield of (522 kg/ ha), surpassing the baseline numbers by 2.5 times.	
	0.4 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).	**0.4** There are 150 current indigenous producers working as partners of the project. This number varies from year to year, since indigenous producers have a diversified economy. By Year 4, we still aim to reach double the number of producers, especially if market prices are good. Average annual household income from cacao production in 2017 was Bs. 1,717.62/family (246.78 USD), a 50% increase due to good market prices. Average annual household income from coffee in 2017 was Bs. 15,027/family (2,159 USD), an estimated 24% reduction due to a normal oscillation in market prices. This is mainly because there are still funds that are pending redistribution to the producers for the premium market prices.	Since cacao and coffee are considered commodities, international supply and demand defines market price, but we expect demand to rise, and more producers will be interested in getting certified as well. In YR2 there will be a change in the marketing strategy, since most of the coffee will be sold as roasted, and to previously identified green markets, where focus is in quality more than quantity. Markets are very dynamic, and 2018 will be a year of tough competition on coffee supply.
	0.5 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 (*Simoxenops striatus), (Myrmotherula grisea*), (*Phyllomyias weedeni*) (Baseline = 7 producers are currently certified, but will need recertification).	**0.5** To date, 13 producers (12 men and one woman) have been certified for the next three years (2017-2019). Five additional new producers are receiving technical assistance and preparing their plots for bird friendly certification.	We expect that in Year 2, at least 2 new producers will be ready for bird-friendly certification, for a total of 15 producers.

	0.6 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).	**0.6** A baseline study on bird diversity in the bird friendly certified coffee plots was conducted four years ago. Last year (2017) a new bird survey was conducted and the new baseline number for birds in shade coffee plantations is now 179, with 17 new additional species (*Annex 18*). The coffee plots are located in an area classified as an Important Bird and Biodiversity Area (IBA) (*Annex 19*).	Establish a baseline of environmental functions of coffee plots.
	0.7 By the end of Year 4, an estimated 152,672 tCO2e is absorbed in new agroforestry plots (Baseline = 0).	**0.7** N/A for the reporting period.	
	0.8 By the end of Year 4, 80 hectares of avoided forest loss and the associated 46,374 tCO_2e equivalent avoided emissions (Baseline = 0.3% annual forest loss in the region).	**0.8** N/A for the reporting period.	
Output 1: Producer organizations and their representative territorial organizations have developed and implemented systems for control and vigilance of their territorial lands.	**1.1** 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).	**1.1** Through participatory workshops in the three indigenous territories (Tacana I, Lecos Apolo, and Pilón Lajas) and the participation of the local people and representatives from the productive associations, all under the leadership of the territorial organizations CIPTA, CIPLA, and CRTM, we conducted a participatory mapping process and identified those areas most vulnerable for encroachment. Principal categories of intrusion inluded: 1) illegal exploitation of natural resources (illegal mining, illegal timber extraction, poaching and illegal fishing); 2) conflict limits with third parties and/or intrusion of third parties into state land; and 3) extraction of aggregates for road construction. All categories were mapped and validated, and coded by degrees of severity (*Annex 4*).	
	1.2 By the end of Year 1, three training workshops are held between producer organizations and their territorial organizations on formal documentation of infractions, with 45 participants overall. (Baseline: no such trainings are currently held with these groups)	**1.2** During the first year of the project, and with additional support from the Moore Foundation and the Critical Ecosystem Partnership Fund (CEPF), participatory mapping events took place in several communities inside the three indigenous territories. In the Tacana I TCO, we held four meetings in December 2017 for CIPTA to define the most vulnerable areas in their territory, with a total participation of 130 people, 37% women and 63% men. All meetings were led by the president of CIPTA and the board of directors. In the Lecos Apolo territory, CIPLA led meetings to work on mapping the vulnerable areas in at least two occasions between November 2017-January 2018, with the participation of 76 people, 38%women and 62% men.	

		Finally, the CRTM led several meetings with their communities, with participation of 21 women and 23 men.
	1.3 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).	**1.3** N/A for the reporting period.
Activity 1.1: Facilitate participatory mapping of areas under management by producer organizations vulnerable to illegal encroachment.		Participatory mapping has been completed according to schedule.
Activity 1.2: Hold a training workshop with each of the producer organizations on legal requirements for processing illegal incursions into their management areas.		On time. Activity planned for Year 2.
Activity 1.3: Test digital platforms and develop protocols for producer organizations and their territorial organizations to take coordinated actions against.		On time. Activity planned for Year 3.
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.	**2.1** 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).	**2.1** To date, coffee plots cover an area of 156.77 ha, while cacao agroforestry plots amount to 64.25 ha. We are applying a technological restoration package over a total area of 221 ha under agroforestry systems and under forest cover, which includes seedling production, composting, remediation of soil acidity, organic and live fertilization (through the use of legume understory), and disease monitoring. By the end of Year 2, a total of 240 hectares will have been established, and by Year 3, it is estimated that additional 40 ha of coffee and 3 ha of cacao will be established as new plots.
	2.2 By end of Year 3, 200 new hectares of agroforestry systems are established (100 by Year 2) (Baseline = 0).	**2.2** Out of the 221 ha under agroforestry systems and under forest canopy, 95 ha are plots under growth (50.5 ha of coffee and 44.5 ha of cacao). For this year, seedlings were produced in the local nurseries for the expansion and renewal of 3 hectares of cacao and 16 additional hectares of coffee (19 ha). An initial agreement was made to get coffee seeds of the Castillo variety, a rust-resistant variety created in Colombia by Cenicafe, for expansion in Year 3 and Year 4. In Year 3, 154 ha will be established, while the remaining 46 hectares are projected to be established in Year 4.
	2.3 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	**2.3** During the first year of the project, with additional funds from DANIDA's FOSC Program and the Nordic Climate Facility (NCF), 5 pre-harvest field schools were carried out on coffee productions topics such as green fertilizers, organic insecticides, coffee pruning, and control of the *ojo de gallo* fungus. Of the 81 producers that participated, 26 were women and 55 men (*Annex 11).*

	fertility, pruning, and implementation of the management plan for wild cacao groves (Baseline = 0).	
Activity 2.1: Provide technical assistance for producers to restore their agroforestry plots through soil management, pruning and diversification of shade trees.		Activity completed as planned. 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. Assistance is planned on a case by case scenario, depending on the needs of each producer.
Activity 2.2: Develop a training curriculum and associated training materials for pre harvest management of agroforestry plots and native cacao forest groves.		Activity in progress. Teaching materials are being organized to put together a specific training curriculum for cacao and coffee agroforestry management. The experience gained by students and teachers in the field schools will be captured in specific manuals, including soil management, seedling production, pruning, and shade management, as well as a protocol for bird-friendly certification. In Year 2, we will produce a manual on post-harvesting of coffee, and by Year 4, 2 additional manuals are planned, one on coffee and cacao toasting and catering, and the second on barista techniques.
Activity 2.3: Implement field schools.		During this first year, 5 pre-harvest schools were conducted successfully (See Indicator 2.2 above).
Activity 2.4: Install communal seedling nurseries.		Activity planned for Year 2. Communal seedling nurseries for coffee and cacao, as well as for tree species are already existent and periodically managed by the producers. Seedlings are produced to improve varieties of coffee and cacao for transplantation and increase production of good quality coffee beans (Please refer to Indicators 2.2 and 2.3 above).
Output 3: Post-harvest management of cacao and coffee is improved, and local capacity built for diversification of products.	**3.1** 5 community processing infrastructure “modules” for cacao 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). **3.2** 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).	**3.1** With additional funds from DANIDA FOSC, two modules were constructed for post-harvest cacao processing, one for the Chocolecos association and the other for the APCAO-Mapiri association. These will benefit a total of 52 direct producers currently affiliated to Chocolecos and APCAO. For coffee production, four family modules were built for wet coffee processing in the TCO Lecos de Apolo. With additional counterpart funds from NCF, 12 additional family and bi-family modules are being built for de-pulping, washing, and fermenting; with an additional drying module, these will allow a significant improvement in the coffee quality of the Apolo. These improvements benefit 65 coffee total affiliates, 35 from APCERL and 30 from APICOA. *(Annex 27*). **3.2** In the first year of the project, three field schools have been carried out, two on cacao production, and one in coffee production. For the cacao field schools, a total of 24 producers participated, out of which 12 were women and 12 were men (*Annex 14*). The coffee field school dealt with coffee fermentation process. A total of 7 coffee producers participated, 4 men and 3 women (*Annex 17*). Consequently, a total of 31 producers have been trained in post-harvest this past year. For the second year, we expect to conduct more training events. In the coming year, we will place strong emphasis on the control of the fermentation process in coffee.

	3.3 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).	**3.3** With funds from DANIDA FOSC project, we acquired machinery for husking and grinding cacao beans, conducted tests in the preparation of the paste, and have almost completed the process of sanitary registration. This activity is conducted by women producers who have already presented the chocolate at local fairs. The sales price for the 100g chocolate bar in fairs is Bs15 (about 2 USD). The revenue of one kg of cacao beans processed to 6 units of 100g chocolate bars will therefore generate an income of Bs.90, almost three times the baseline estimation.
Activity 3.1: Develop training curriculum and associated training materials for post-harvest processing of cacao and coffee.		On time. Activity is in progress; teaching materials are being organized to put together a specific training curriculum for cacao and coffee agroforestry management.
Activity 3.2: Implement field schools.		During this first year, 3 post-harvest schools were conducted successfully (See Indicator 3.2 above).
Activity 3.3: Install community processing infrastructure for cacao fermentation and drying.		Activity completed. Two processing modules for cacao were constructed.
Activity 3.4: Provide technical assistance to women producers to produce an artisanal chocolate bar.		On time. Activity in progress. Necessary equipment for processing cacao beans into paste is already available, and different protocols for preparing cacao pastes are being tested.
Activity 3.5: Install community processing infrastructure for coffee pulping and fermentation.		Activity completed. Four processing modules for coffee have already been constructed, and 12 additional family modules are being implemented with additional funding.
Output 4: Marketing strategies for cacao and coffee are improved and diversified, including wildlife friendly certification.	**4.1** 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). **4.2** 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). **4.3** 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	**4.1** We conducted a workshop to establish a bird monitoring system by producers, and it is currently being tested. A monitoring protocol has been agreed on with the coffee producers, and a bird monitoring database will be completed in Year 2. **4.2** We disseminated a call for the younger generation of coffee producers to be trained in roasting, coffee tasting, and barista techniques. Three young women were selected to receive training by SCA certified teachers with additional financial support from Banco FIE at the Vive Café, in Bogotá, Colombia, which has the special coffee brand Amor Perfecto. We expect this to motivate a greater number of a new generation of producers in the second year of the project. **4.3** With funding from the DANIDA's FOSC program, we prepared leaflets and audiovisual material for the communication campaign. We also drafted a communication strategy document that will guide the marketing campaign of these green products.

	sustainable agroforestry and biodiversity protection) **4.4** 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).	**4.4** Some new marketing channels have been initiated with specialized market niches in both coffee and cacao. We will carry out commercialization tests with national and international private companies.
Activity 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.		Activity completed. The new potential bird-friendly certification producers are already identified.
Activity 4.2: 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, and are planning new events for the next coming years.
Activity 4.3: Implement a marketing strategy for roasted coffee and processed chocolate for the local market.		Activity in progress (*Annex 29 Marketing strategy).*
Activity 4.4: 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, we have trained 3 coffee producers in roasting and barista techniques. See Indicator 4.2 above.
Activity 4.5: Develop and broadcast audiovisual materials to develop an urban constituency supporting cacao and coffee produced by indigenous groups.		Activity in progress. See Indicator 4.4 above.

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

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: 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.			
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.	**0.1** 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)	**0.1** Digital maps and infraction reports by producer organizations of the Tacana, Lecos and T'simane Mosetene indigenous lands.	Institutional stability in the producer organizations and indigenous territorial organizations. Extreme flooding does not occur in more than 1 year.
	0.2 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).	**0.2** Number of joint actions between producer organizations and their territorial organizations as documented in technical reports.	
	0.3 By the end of Year 4, 280 indigenous Tacana, Lecos and T'simane Mosetene producers (60 women) have increased productivity by 20% (Baseline = 211 kg/ha coffee and 180 kg/ha cacao).	**0.3** Benefit distribution report of producer organizations and technical monitoring reports.	
	0.4 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 2852 USD for coffee).	**0.4** Benefit distribution report of producer organizations and technical monitoring reports.	
	0.5 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	**0.5** Certification documents.	

	162 bird species, including 14 Andean endemics, such as (*Simoxenops striatus*), (*Myrmotherula grisea*), (*Phyllomyias weedeni*) (Baseline = 7 producers are currently certified, but will need recertification). **0.6** 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). **0.7** By the end of Year 4, an estimated 152,672 tCO_2^e is absorbed in new agroforestry plots (Baseline = 0). **0.8** By the end of Year 4, 80 hectares of avoided forest loss and the associated 46,374 tCO_2e equivalent avoided emissions (Baseline 0.3% annual forest loss in the region).	**0.6** Bird diversity monitoring results as documented in technical reports. **0.7** Technical monitoring reports developed by project staff. **0.8** Landsat satellite imagery analysis and field verification.	
Output 1: Producer organizations and their representative territorial organizations have developed and implemented systems for control and vigilance of their territorial lands.	**1.1** 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). **1.2** By the end of Year 1, three training workshops are held between producer organizations and their territorial organizations on formal documentation of infractions, with 45 participants overall. (Baseline: no such trainings are currently held with these groups) **1.3** By the end of Year 2, a digital platform (eg. SMART) and clear	**1.1** Maps identifying vulnerable perimeters and areas under control by producer organizations. **1.2** Training materials and participant lists. **1.3** Signed agreements between producer organizations and indigenous	The producer organizations and indigenous organizations are not affected by social conflicts related to increased pressure from extractive and infrastructure projects.

	protocols for coordination of actions against encroachments in three indigenous lands are under implementation (Baseline = such a platform and protocols do not currently exist).	territorial organizations approving territorial control plans.	
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.	**2.1** 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). **2.2** By end of Year 3, 200 new hectares of agroforestry systems are established (100 by Year 2) (Baseline = 0). **2.3** 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).	**2.1** Technical and monitoring reports, maps of interventions. **2.2** Technical and monitoring reports, maps of interventions. **2.3** Training materials, participant lists, course evaluations.	
Output 3: Post-harvest management of cacao and coffee is improved, and local capacity built for diversification of products.	**3.1** 5 community processing infrastructure “modules” for cacao 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). **3.2** 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	**3.1** Technical monitoring reports, photographs of infrastructure. **3.2** Training materials, participant lists, course evaluations.	

	Year 3, 2 workshops in Year 4) (Baseline = 0). **3.3** 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).	 **3.3** Benefit distribution report and project technical reports.	
Output 4: Marketing strategies for cacao and coffee are improved and diversified, including wildlife friendly certification.	**4.1** 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). **4.2** 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). **4.3** 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) **4.4** 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).	**4.1** Certifications, bird diversity monitoring reports. **4.2** Training evaluation reports, participant lists. **4.3** Audiovisual materials. **4.4** Commercial contracts.	

Activities per Output

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

1.1 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.

1.2 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.

1.3 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.

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.

2.1 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.

2.2 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.

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

http://darwin.defra.gov.uk/resources/

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	1	0	2	0	3
12A	Database of bird diversity reported during the monitoring events in the shadow-grown coffee plots, conducted in the bird-friendly certified plots once a month	0	-	0	1	0	0	0	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	-	1) £5,825 2) £67,729 3) £4,010 4) £5.000 aprox. (7,000 USD)	1) £20,897 2) £0 3) £47,324 4) £0	1) £5,357 2) £0 3) £42,163 4) £0	1) £0 2) £0 3) £0 4) £0	1) £5,825 2) £67,729 3) £4,010 4) £5.000 approx. (7,000 USD)	1) £32,079 2) £67,729 3) £93,497 4) £5,000 approx. (7,000 USD)

Names of funding sources from Code 23. 1) NORDECO/TEKO KAVI; 2) DANIDA_FOSC; 3) NORDECO/WCS; 4) Banco FIE.

Table 2 Publications

n/a

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

All documents included as part of the report are listed below and can be found in the Darwin YR1 report annexes at:

Annex 4. Map of vulnerable areas in the Tacana I TCO.
Annex 5. Map of vulnerable areas in the Lecos Apolo TCO
Annex 6 Map of vulnerable areas in the Pilón Lajas TCO.
Annex 7. Attendance list meeting in Tacana I communities (4).
Annex 8. Attendance list meeting in Lecos Apolo (2).
Annex 9. Attendance list meeting T'simane Mosetene CRTM Pilón Lajas.
Annex 10. Presentation details on device and APP design.
Annex 11. Field School report pre-harvest *Ojo de gallo* fungus.
Annex 12. Field School report pre-harvest insecticides.
Annex 13. Field School report pre-harvest green fertilizer.
Annex 14. Field School report on cacao harvesting.
Annex 15. Field School report on cacao pruning.
Annex 16. Field School report post-harvest caldo.
Annex 17. Field School report coffee harvest and post-harvest.
Annex 18. Bird friendly report on workshop.
Annex 19. Map identifying IBAs for conservation.
Annex 20. Leaflet of cacao.
Annex 21. Leaflet of coffee.
Annex 22. Report on baristas travel.
Annex 23. Organic certification of coffee producers.
Annex 24. Bird friendly certification of coffee producers.
Annex 25. Monitoring form proposed.
Annex 26. Installation of cacao processing module.
Annex 27. Installation of coffee processing module.
Annex 28. Coffee portfolio for marketing.
Annex 29. Communication strategy marketing of green products.
Annex 30. Promotional coffee video.
Annex 31. Invitation, Facebook info & photographs of the event at the Ministry of Foreign Affairs.

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	
Have you involved your partners in preparation of the report and named the main contributors	
Have you completed the Project Expenditure table fully?	
Do not include claim forms or other communications with this report.	