



Completion Report

Indigenous Forest Management for Climate Change Mitigation and Adaptation in Northern La Paz, Bolivia

Bolivia

NCF6

Grantee: Nordeco

Local Partner(s): Teko Kavi, WCS Bolivia

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1. EXECUTIVE SUMMARY

Indigenous forest management is key to climate change adaptation and mitigation. A number of studies have shown that the continued presence of indigenous communities living and producing in the forest contribute substantially to conservation and represent an alternative to illegal encroachment associated with deforestation and increased forest fires. The project has shown that it is possible to improve indigenous peoples' livelihoods and resilience to climate change while contributing significantly to climate change mitigation.

The project has enhanced the capacities of 254 households to produce and market sustainable forest products, which in turn has increased their production and income. The project has ensured that the work with the target households can be sustained and replicated to a larger number of beneficiaries. This has been achieved through technical advice and support to an existing production of coffee in agroforestry systems and the sustainable harvesting of the jatata palm used for the construction of roofs in the region. Furthermore, support to a pilot initiative with indigenous women to produce essential oil products was successfully initiated. Lastly, support for the commercialization of forest-based products was prioritized while engaging and increasing the knowledge of the urban population about the role of the indigenous communities and their production in the protection of the global climate as well as the Amazon forest with its biodiversity and ecosystem services.

The overall objective and the six outputs were achieved and, in most cases, exceeded the established targets. This included the support to 116 households producing jatata thatches, 33 women producing essential oil products and generating an income for the first time, as well as 82 coffee producing households, who increased their production and productivity beyond the targets established. The support to 40 Tacana indigenous households gathering wild cacao had to be modified due to the impact of severe floods affecting the area. However, it is still considered that the output was achieved as the annual monitoring, which supports the implementation of the management plan, has shown that there are still wild cacao trees in the forest area covered by the management plan. In synthesis, the project has improved the livelihoods of 254 households while achieving both climate adaptation and mitigation impacts beyond the established targets.

The partners consider that the project has a high potential to be scaled up in the indigenous territories and forests of the region of Northern La Paz where WCS and Teko Kavi are planning to continue work in the coming years. Both WCS and Teko Kavi have already assured funding for follow-up activities from both national and international sources. The scaling up of the sustainable production of coffee in agroforestry systems focusing on sales of high-quality coffee to a growing market of specialty coffees is considered of particularly high potential.

In conclusion, the project has confirmed that reinforcing sustainable forest productions while establishing market channels for these products is a viable strategy for improving livelihoods and generate climate adaptation and mitigation impacts. The project has also shown that the T'simane-Mosetene people of the Quiquibey river and the Tacana people of Carmen del Emero are willing to continue living and working in their forest territory as long as they can meet their basic needs through the diversification of livelihoods and resilience to extreme weather events. A small monetary income can make a significant difference in terms of improving livelihoods, for example to get access to basic products or when someone gets a serious disease and needs medical help. Finally, the project's practical gender equality strategy has been key to improving living conditions and resilience to climate change for the entire family. With a flexible approach aiming at involving both men and women, it has been possible to achieve the support of the men for women's participation in the project activities, which in the longer term will be key to greater gender equality in the communities.

2. ASSESSMENT OF IMPLEMENTATION OF THE PROJECT

2.1 Achievement of Outputs and Objectives

Planned Objectives and Outputs ¹	Indicator(s):	Achievement of the objectives and outputs:
<p>Overall Objective: Through integrated and sustainable forest management projects related to cacao, coffee, jatata and essential oils, indigenous households and farmers, including women, have protected forest ecosystem services and diversified their incomes, thereby improving their livelihoods and resilience to climate change. Together with the development of an urban constituency for conservation and the creation of national urban markets for green products, forests in indigenous territories and national protected areas are conserved, contributing to reduced greenhouse gas emissions.</p>	<p>203,328 CO₂e-t equivalent avoided emissions</p> <p>87,596 CO₂e-t absorbed in carbon sinks</p> <p>217 indigenous households, including women, with additional or improved income generating activities (In the case of essential oil, this initiative will work exclusively with 40 women).</p>	<p>The project has achieved a total of 361.652 CO₂e-t equivalent avoided emissions. This amounts to a total of 178% of the initial target.</p> <p>In addition, the project contributed to climate mitigation through 64.763 CO₂e-t absorbed in carbon sinks with an estimated indirect impact of 35.115 CO₂e-t over 10 years. Including this "indirect impact", a total of 99.878 CO₂e-t will be absorbed in carbon sinks, which is equal to 114% of the initial target of 87.596 CO₂e-t equivalent.</p> <p>The project benefitted 254 indigenous households. In the case of the essential oil initiative, the project worked with a total of 66 women.</p>
<p>Purpose: The project will build resilience to climate change through support to sustainable livelihoods of vulnerable indigenous communities. It will increase productivity of coffee and cacao agroforestry systems, sustainable jatata extraction and natural cacao groves and will develop an essential oil initiative. It will also innovate new post-harvest treatments and improve quality and certifications in order to reach and inform urban markets. Quality products and communications campaign will increasingly engage and commit urban population groups to the protection of vulnerable rain forests.</p>	<p>200 hectares of coffee agroforestry systems established or recovered, and under management.</p> <p>2.200 ha of wild cacao groves under management and monitoring.</p> <p>3.500 ha of jatata patches under management and monitoring.</p> <p>77 indigenous coffee producing households with increased productivity.</p> <p>40 wild cacao producing households with increased productivity.</p> <p>70 indigenous households of the T'simane and Mosekene people harvest</p>	<p>366,46 ha of coffee agroforestry systems were established or recovered and are currently under management. This includes 115,75 ha in production, 60,21 ha in pre-production growth and 190,5 ha of surrounding natural forest.</p> <p>2.554 Ha of wild cacao groves form part of the existing management plan and is being monitored on a yearly basis.</p> <p>7.990 Ha of jatata patches are under management and monitoring.</p> <p>82 indigenous coffee producing households with increased productivity.</p> <p>Production of wild cacao has practically stopped due to the floods. It has not been possible to return to previous levels of productivity.</p> <p>116 T'simane-Mosekene households are currently harvesting jatata under an updated sustainable management plan.</p>

¹ The following six outputs with indicators are from the Logical Framework Matrix. These outputs are coherent with the eight outputs/results reported upon in the progress reports, the difference being that the logframe have merged output 2 and 3 as well as output 5 and 6.

	<p>jatata under a sustainable management plan.</p> <p>40 T'simane, Mosekene and/or Tacana women learn to extract essential oils from native plants.</p>	<p>66 T'simane-Mosekene women received training. 33 of these will form the small business producing essential oils.</p>
<p>Output 1: 77 indigenous coffee producing households increase production by volume and productivity per hectare by 30% (baseline 211 kg/ha²).</p>	<p>Kg coffee produced – Kg coffee produced per hectare.</p> <p>Number of coffee producing households</p>	<p>82 coffee producing households increased their production by 69% from a baseline of 30.025 kg to a total of 50.686 kg. During the same period, their productivity increased 75% from a total of 365 kg/ha to 639 kg/ha.</p>
<p>Output 2: 70 jatata producing households harvest the jatata leaves for weaving jatata patches under a sustainable management plan covering 3,500 hectares of forest.</p>	<p>Production of jatata thatches/year/household.</p> <p>Number of thatches sold by APAI-RQ.</p> <p>Updated jatata management plan and monitoring reports.</p>	<p>116 households harvest jatata under a management plan covering 7990 Ha of forest. It has not been possible to monitor the exact production of jatata thatches because a large part of the production is sold directly to a local merchant who does not report his purchase</p> <p>APAI-RQ has sold the following amount of thatches per year: 2017: 3527; 2018: 5196 and 2019: 3722.</p> <p>The management plan has been updated and two monitoring reports prepared.</p>
<p>Output 3: 2,200 hectares of rainforest with wild cacao groves under improved management benefiting 40 Tacana gathering households.</p>	<p>Kg of wild cacao produced – Extraction rate from wild cacao stands/year/household</p> <p>Wild cacao monitoring reports, based on the management plan.</p>	<p>There are wild cacao trees in 2554 Ha of forests forming part of the management plan. Nevertheless, the production of wild cacao has been practically non-existent since the flooding in 2014 and the extraction rate is close to zero.</p> <p>Annual monitoring reports, based on the management plan, were prepared.</p>
<p>Output 4: 40 indigenous women are trained in the production of essential oils as a way to diversify livelihoods.</p>	<p>Number of women members of essential oils productive associations (and # of women participating in wild cacao, coffee and jatata project activities).</p>	<p>66 T'simane-Mosekene women were trained. 33 of these participated in at least eight field schools and they have formed the small business producing essential oils.</p> <p>Practically all women from the 116 households participate in the jatata production and 40 women are members of APAI-RQ. During the last milestone, an average of 16 women participated in the coffee field schools (27% of participants).</p>
<p>Output 5: One communication campaign on biodiversity conservation, natural resources management and food security launched in the cities of La Paz and El Alto.</p>	<p>Number of recordings, publications and video released for public use.</p>	<p>The campaign was developed and an online store created www.origentienda.com</p> <p>Four videos can be found on the Origen website and two publications have been released for public use.</p>

² The project document mentions a baseline of 211 kg/Ha. However, this was an initial estimation which was later adjusted upwards to 365 kg/Ha.

Output 6: 2 agreements signed with the private sector on purchase of quality coffee, cacao, jatata and/or essential oils.	Number of agreements signed.	Sales have been agreed and completed with a total of 10 commercial clients.
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2.2 Deviations from the planned Outputs and Activities

We consider that all planned outputs and activities have taken place. However, it is worth explaining the modification of the activities related to the achievement of output 3: “2,200 hectares of rainforest with wild cacao groves under improved management benefiting 40 Tacana gathering households”. As explained in the milestone reports, the activities related to this output were affected by the 2014 floods, which led to a dramatic drop in the production of cacao in the area during the following years. Nevertheless, WCS continued to support the Tacana peoples’ territorial management and carried out yearly monitoring missions to the area from 2017 to 2019. In 2018, it was decided not to update the wild cacao management plan, but instead to prepare a final monitoring report, which could eventually serve as an important input for an updated management plan.

We consider that the output has been achieved as the annual monitoring, which supports the implementation of the management plan, has shown that there are still wild cacao trees in 2554 Ha of forest. This area forms part of the existing management plan and it is expected that the harvest of wild cacao will recover in the coming years. Currently, the Tacana households are mostly managing their economy based on products such as fish and other forest products.

2.3 Achievement of NCF indicators

NCF indicators	Results
1. Number of beneficiaries reached (women/men)	1356 (692f/664m) ³
2. Number of people with increased resilience to climate change (women/men)	1356 (692f/664m)
3. CO2e emissions reductions (actual at project completion and expected during the lifetime of the project’s mitigation investments)	22.708 CO2e-t (at project completion) 461.530 CO2e-t (during lifetime of the project’s mitigation investments)
4. Number of green business concepts tested	1
5. Number of new decent jobs created (disaggregated by number of permanent (women/men) and seasonal (women and men))	5 permanent jobs (3f/2m)
6. Number of people with improved livelihoods/income-generating possibilities (women/men)	692 women and 664 men.
7. Number of multi-stakeholder partnerships developed	3

³ 254 households were supported by the project equivalent to 1356 people. Based on official statistics, 51% are estimated to be women (692 women) and 49% men (664 men).

8. Amount of funds leveraged (actual project co-financing and possible secured future investments for scaling-up/replication)	222.003 Euro
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3. CLIMATE CHANGE

As planned, the project has achieved both climate change adaptation and mitigation impacts. The table below shows that the project has supported the improved management of 2.554 hectares of wild cacao groves as well as 7.990 hectares of jatata forest management. The essential oil producers have also contributed to forest management; however, this area is considered included in the jatata management area. In addition, 190,5 hectares of forest has been managed for conservation by the APCERL coffee producers.

ORGANIZATION	PRODUCTION	Ha of forest under management	Ha of agroforestry
CARMEN DE EMERO	Cacao Silvestre	2554	
APAI – RQ	Jatata (harvesting)	3781	
APAI –RQ	Jatata (conservation)	4209	
SHAN	Essential oils	(included in the area with jatata production)	
APCERL	Coffee	190,5	175,96
TOTALS		10.734,5	175,96

In terms of adaptation to climate change, the project contributed to the strengthening and diversification of the sustainable livelihood strategies for the indigenous households, which has improved the families’ resilience to more frequent extreme weather conditions such as droughts or flooding while increasing their access to resources in general. This in turn is expected to raise the probability of these families continuing to live in their communities. In the case of the coffee production, the improved production system and healthier crops will also increase the possibility of the production surviving extreme weather conditions linked to climate change.

Climate change mitigation: The project contributed to climate change mitigation both through “avoided deforestation” and through “carbon sinks”. The detailed calculation both for direct and indirect impacts can be found in the documents included as annex 4.

In terms of “avoided deforestation”, different studies have shown that the continued presence of indigenous communities living in forest areas contribute substantially to forest conservation. The project has calculated the reduction in avoided carbon emissions using the impact of forest loss prevention in comparison to the average annual deforestation rates in the region.

From the fourth to the 20th year we include preventing forest loss in the **10.734,5 hectares** of forest under improved management (see table above), using the average rate of annual forest loss of 0.3% and an average biomass of **660.6 CO₂^e**. Considering these numbers, the forest loss prevention in the 10.734,5 hectares supported by the project leads to the following “Avoided Deforestation per year”: $10.734,5 \times 0,3\% \times 660,6 = 21.274 \text{ CO}_{2e-t}$. Calculating this yearly ‘avoided emissions’ from the fourth to

the 20th year, we arrive at a total of 361.652 CO_{2e-t} (21.274 X 17). This amount of avoided emissions is equal to 178% of the initial target of 203.328 CO_{2e-t}.

In terms of “carbon sinks”, the calculation of the amount of CO_{2e-t} absorbed is based on the biomass accumulation in developing and recovering coffee agroforestry plots during 8 years of growth. In this calculation, a biomass estimate of **381,68 tCO₂^e/ha** was used for mature 8-year-old coffee agroforestry stands, or an equivalent annual accumulation of **47,71 tCO₂^e/ha**.

As a direct impact of the project, from year 1 we consider the initial 108 hectares of agroforestry plots and 20 additional hectares established calculating an annual biomass accumulation of 47.7 CO_{2e} t/yr for 8 years. In year 2 we add an additional 44 hectares of new agroforestry plots for a total of 172 hectares. In year 3 we adjusted this calculation using more detailed georeferencing to 175.96 hectares. For years 8, 9 and 10 we only consider the 59,2 hectares still in the growth stage in 2019. As shown in annex 4, this leads to 64.763 CO_{2e-t} absorbed in carbon sinks over a total of 10 years.

Furthermore, as an indirect impact, from year 4 we consider an additional 44 hectares of agroforestry plots and then a further 40 hectares in year 5 and another 8 hectares in year 6. This leads to 35.115 of CO_{2e-t} absorbed in carbon sinks over a total of 10 years as an indirect impact likely to be achieved due to the NCF project. Including the “indirect impact” the project will achieve 99.878 CO_{2e-t} absorbed in carbon sinks. This amount of emissions absorbed in carbon sinks is equal to 114% of the initial target of 87.596 CO_{2e-t} absorbed in carbon sinks.

4. DEVELOPMENT IMPACTS AND CROSS-CUTTING ISSUES

The project has improved livelihoods and resilience to climate change for 254 indigenous households through the creation of sustainable economic alternatives and consolidation of an existing forest-based production. This has been done while surpassing the project targets of both the avoided greenhouse gas emissions through indigenous peoples’ territorial management and forest conservation as well as the CO_{2e-t} absorbed in carbon sinks through coffee agroforestry systems.

As foreseen in the Project Description, local capacity for land and natural resource management has been enhanced through the support to indigenous productive associations, in close coordination with their political organizations responsible for the territorial management of the indigenous lands. This, in turn, has led to more transparent and democratic governance practices at the local level and has contributed to greater respect for lowland indigenous peoples’ land and access rights. This has significant positive impact on the sustainability and replication of the project interventions.

In order to achieve greater gender equality and maximize the productive capacity of the communities, the project partners have prioritized the participation of women in all activities. In particular, 33 indigenous T’simane-Mosetene women living in the forest have for the first time been able to generate their own income through the production of essential oil products such as artisanal soaps. This group of women, most mothers and in many cases heads of households, has not only generated additional income with the sale of handcrafted soaps and essential oils but has also generated a space for discussion and analysis of topics related to the strengthening of indigenous women and how to solve their problems based on their own initiatives (*see annex 5*). One of these T’simane-Mosetene women expressed: *“This is a good project for us women. Before this project, when going to different training workshops, we would only be observing....and we would be the ones cooking for everybody.*

Now, this is our initiative (the production of essential oils products), we participate and we make the soaps and the oils for our economy”.

5. ASSESSMENT OF THE RESULTS AND IMPACTS OF THE PROJECT

5.1 Relevance

The indigenous peoples living in and close to the protected areas of Madidi, Pilon Lajas and Apolobamba⁴ are struggling to survive and improve their living conditions while protecting their forests. Previous to the project, WCS-Bolivia supported the Leco, Tacana and T’simane-Mosetene peoples with the elaboration of their territorial management plans and the NCF project has supported the implementation of concrete activities included in these plans. As such, the NCF project has been part of an on-going effort to support the indigenous people to identify the best productive and economic options, which would allow them to continue living on their lands while avoiding the processes of deforestation, which are currently taking place in the region.

The priorities of the productive organizations participating in the project have continuously influenced the operational strategy of WCS and Teko Kavi, who have been open to revising their planning and priorities in order to achieve a mutual understanding on the best way to achieve the ultimate goals of improving local livelihoods while protecting the forest.

The indigenous people living in the forest are highly vulnerable to climate change but at the same time they also understand the environmental changes occurring and are therefore excellent allies in identifying the best way forward in terms of mitigating and adapting to climate change. In general, they are aware of the consequences of climate change and how the more frequent extreme weather events may damage their crops and living conditions and ultimately make it more difficult for them to continue living in the forest. As such the project strategy and objectives have corresponded with the priorities of the indigenous organizations and beneficiaries and they have been very much in agreement with the project strategy to promote the commercialization and consumption of their products as a way to protect the forest and contribute to mitigation of climate change.

5.2 Effectiveness

The overall objective, of improving livelihoods and resilience to climate change while contributing to reduced greenhouse gas emissions, has been achieved. As mentioned in chapter 2, the main targets / indicators were exceeded by achieving the following results: (i) Avoided emissions: 361.652 CO₂e-t; (ii) Carbon Sinks: 87.596 CO₂e-t and (iii) 254 indigenous households with additional or improved income generating activities.

The three indicators are interrelated as the assumption behind the reduction in greenhouse gas emissions is that the indigenous producers and families will continue to live and work in the forest areas. Thus, the project strategy of improving the sustainable income generating activities of the indigenous households living in the forest is pivotal to achieving both the climate mitigation objective and to improving their livelihoods and resilience to climate change.

⁴ These protected areas overlap partly with the three indigenous lands of Lecos Apolo, Tacana and T’simane Mosetene of Pilon Lajas.

The six outputs of the project were all achieved and, in most cases, exceeded the established targets. They all contributed to the overall objective although, as earlier described, the activities related to the management of the wild cacao production of the Tacana people of Carmen del Emero (output 3) had to be modified. In the case of output 1, a total of 82 coffee producing households increased their production by 69% from a baseline of 30.025 kg (2016 harvest) to a total of 50.686 kg (2019 harvest). During the same period, their productivity rose 75% from a total of 365 kg/ha⁵ to 639 kg/ha. In general, this has been considered an important result of the project after a period of difficulties for organic coffee production in the region both in terms of sales and in terms of devastating plant diseases.

The achievement of output 2 (jatata) and output 4 (essential oils) also contributed to improving production and livelihoods of the indigenous population and the sustainable management and production in the T'simane-Mosetene indigenous territory. Currently, a total of 116 indigenous households are harvesting and producing jatata thatches under an updated sustainable management plan of 7990 Ha⁶ of forest and 33 T'simane-Mosetene women from the same communities along the Quiquibey river are, at present, producing essential oil products. Despite not counting on the formal approval of the updated jatata management plan, WCS is currently basing its monitoring on this plan and continues its coordination with SERNAP (Protected Area Authority) to present the updated management plan for the approval by ABT (Forest and Land Authority). This process has been delayed due to the unstable political situation following the presidential elections on 20 October 2019.

The integrated and sustainable forest management supported by the project was complemented by the production and distribution of communication materials highlighting the positive biodiversity and climate impact of consuming the goods produced by the indigenous people living in and close to the protected areas of Northern La Paz (output 5). As part of this work, Teko Kavi coordinated the design of attractive layouts, packaging and logos emphasizing the story behind the products, including the environmental, social and cultural living conditions of the indigenous producers. Finally, to promote the commercialization of the goods produced by the indigenous groups, the implementation partners supported the identification of customers/clients and the preparation of concrete sales agreements as well as the setting up of the company Chomateo SRL and the accompanying online store around the brand "Origen" (output 6). In particular, the implementation partners prioritized the commercialization of the coffee, especially linked to the sales agreements with buyers of specialty coffee. This also led to higher sales prices and increased incomes for the farmers especially linked to the 2019 harvest⁷.

As a specific result of the above, during the project period the income of the coffee producers went up by 77%. The project did not have a specific target for the increase in the farmers' income as this is somewhat out of control of the project in part due to the instability of the world market price of coffee. However, we conclude that the improved quantity and quality of the coffee have played an important role in this significant increase of the farmers' income.

⁵ The project document mentions a baseline of 211 kg/ha. However, this was an initial estimation which was later adjusted.

⁶ According to the updated management plan, these 7990 Ha of forest with jatata is divided with 3781 Ha for harvesting and 4209 Ha for conservation.

⁷ In comparison, according to [macrotrends.net](http://www.macrotrends.net/2535/coffee-prices-historical-chart-data) the average world market price for coffee went down by 26% from 2016 to 2019 - www.macrotrends.net/2535/coffee-prices-historical-chart-data

5.3 Efficiency

The climate mitigation analysis presented in chapter 3 and in annex 4 is one way to assess the cost efficiency of the project. In this analysis, it is estimated that the project will contribute with a total of 461.530 CO₂e-t in avoided emissions and carbon sinks over a twenty-year period, equivalent to a revenue of 2.544.087 Euro. The total sum invested in the project is 517.225 EUR. In this example: The return on investment from climate mitigation = Revenue from climate mitigation / total expenditure of the project. This calculation leads to a Return on investment of: $2.544.087 / 517.225 = 491,87\%$ over a twenty-year period.

The project team has also analysed the cost efficiency of the Project in terms of the project's investment in coffee production and commercialization in relation to the increase in the income of the coffee producers. In this example: The return on investment from support to coffee farmers = Increase in coffee farmers' income / Project investment in coffee production and commercialization, where:

- Increase in coffee farmers' income = Income for coffee farmers during the years 2017, 2018 and 2019 minus the estimated income without the project (equivalent to three years of the baseline income, year 2016).
- Project investment in coffee production and commercialization = Estimated expenditure of the project in support of the coffee production and commercialization⁸.

WCS has calculated the income of the coffee farmers, which amounts to:

	Organization	2016 (Baseline)	2017	2018	2019	Total (2017-2019)
Income (USD/Year)	APCERL	88.065	113.965	92.891	134.853	341.709
	APOLO	7.565	10.401	14.369	34.835	59.605
	Totales	95.630	124.366	107.260	169.688	401.314

The income data reflected in this table, leads to a calculation in the increase of income for coffee farmers from 2017 to 2019 as: $401.314 - (95.630 \times 3) = 114.424$ USD (or 38.141 USD per year).

Following the assumptions explained in footnote 8, the project investment in coffee production and commercialization has been estimated as: USD 140.016, equivalent to Euro 126.700⁹. With these data, it is possible to calculate the Return on Investment from the coffee investment as: $114.424 / 140.016 = 81,72\%$ over a three-year period.

It could also be argued that the support of the project would most probably lead to a continued higher income for the coffee farmers during the coming years. For example, if we make a conservative estimate of the same average increase in the farmers' income during the next five years, the return on the investment could be calculated as $305.131^{10} / 140.016 = 217,93\%$ over an eight-year period.

⁸ In this estimated expenditure, we have included all expenditures directly related to the coffee production and commercialization, including one third of "other costs", which includes communication / commercialization expenditures. We have not included other personnel or operational costs such as travel and other office support.

⁹ The exchange rate used here is the average rate used in the milestone 5 report: 1 Euro = 1,1051 USD.

¹⁰ This amount is equivalent to eight years with an annual increase of 38.141 USD compared to the 2016 baseline.

5.4 Impact

The main impact of the project is that the indigenous beneficiaries have improved their livelihood and strengthened their resilience to climate change through the enhancement of their skills and capacities to produce and market sustainable forest products from their plots of land and territories, which in turn has increased their production and income. Especially the coffee producers have increased their production and income through important sales to buyers of organic and particularly speciality coffees.

The potential impact of the support to commercialization of the indigenous forest-based products should be highlighted, as it is essentially the sales of these products, which will assure the economic sustainability and the continuation of the production in the territories. In addition to the monetary income for the indigenous producers in the communities, the project's support for the establishment of the producer-owned company Chomateo SRL with its initial sales¹¹ and work to produce added value products with cacao grains and coffee, has generated important enthusiasm and credibility among the beneficiaries by showing that it is possible to improve living conditions and to create opportunities for the new generations while continuing to live in their forest communities. It is also worth mentioning that the results of the project have generated interest in the possible scale-up of the project methodology among other local stakeholders such as the organizations of coffee producers.

The project partners have also worked to engage and increase the knowledge of the urban population especially in La Paz and El Alto about the role of the indigenous communities and their production in the protection of the global climate as well as the Amazon forest with its biodiversity and ecosystem services. Teko Kavi supported the development of a manual to guide the strategic use and design of the brand "Origen" and the logos as well as the description of the products and the producer groups were prepared. Furthermore, short videos have been produced with clear and user-friendly messages to promote the consumption of the environmentally sustainable products. The project partners are convinced that the creation of greater both national and international societal awareness and pressure on the government and the private sector is increasingly important if we are to revert the processes of deforestation and environmental degradation. An evidence of this was seen during the months of August through October 2019 when especially students and younger people organized unprecedented protests against the widespread forest fires raging in the country and in favour of greater environmental protection and the rights of the lowland indigenous people to live and produce in the forest.

Furthermore, the Project has benefitted the partner organizations in the sense that they have been able to strengthen their capacity and focus on sustainable production and value chain development as a strategy for climate change adaptation and mitigation. Especially, the new business contacts and opportunities to access the market of specialty coffees, through the emphasis placed on the conditions of sustainability, has been a rewarding experience for the project partners. Finally, the work with the T'simane-Mosetene women to create a sustainable business initiative has been a new and enriching experience, which has generated attention among other development partners interested in replicating and financing similar initiatives.

¹¹ WCS supported the two producer associations APCERL and Choco Leco to join forces to create the company Chomateo SRL with the objective of improving the production, transformation and commercialization of coffee, cacao, essential oils and other products from the Amazon forest. The company has until now completed sales to: NOMAD Coffee (Spain), Celler de Can Roca (Spain), Kreyol Coffee (USA), and in Bolivia Gustu, Bronce Brothers, Ruah Chocolate, Master Blend, Pigalle, Robert's Place, Macksui and Viza

5.5 Sustainability

The strategy to assure the sustainability of the project activities has been based on the following three pillars: (i) The establishment and initial consolidation of the income generating activities in the areas of coffee, jatata and essential oils; (ii) the support for the commercialization of the forest-based products and (iii) the continued implementation of the long-term institutional conservation program of WCS in the Greater Madidi-Tambopata Landscape.

To begin with, the support to the income-generating activities of the indigenous people living in the forest has improved and diversified livelihoods which in turn has increased resilience to climate change and the probability that the indigenous communities will continue their sustainable subsistence and livelihoods in the territories. This is key to the long-term both economic and environmental sustainability of the project as studies have shown that forests in indigenous territories are less subject to deforestation and degradation than forests outside these territories. This objective is also supported through the on-going work of WCS to update and implement integrated land use planning and management as well as through the advocacy support of Teko Kavi and WCS to defend and secure the indigenous territorial land rights.

The progress reports have described how WCS has supported APCERL and Choco Leco to join forces to create the company Chomateo SRL with the objective of improving the production, transformation and commercialization of coffee, cacao and other products from the Amazon forest such as incense, jatata, vanilla and essential oils. The sales from the online store is now the responsibility of Chomateo using the name and brand "Origen". During 2018-19, with the support from WCS, Chomateo SRL was able to sign sales agreements with ten clients (see footnote 11). Chomateo still receives support from WCS but recent sales have increased optimism that the company will in a foreseeable future be able to finance a company manager to create a profitable and sustainable business. Evidently, this will be key to the long-term economic and financial sustainability of Chomateo and the economic activities supported by the project.

Regarding the continued implementation of the long-term institutional conservation program of WCS in the Greater Madidi-Tambopata Landscape, WCS has been implementing this program since 1999 in which they have focused their efforts on iconic and threatened species while searching to harmonize the requirements for human development with wildlife needs. The program is oriented towards strengthening the links between protected areas and other land management units (communities, indigenous territories and municipalities), supporting integrated planning processes and the development of land management capacities. By working together with local allies, such as social organizations, communities and productive associations, research and natural resource management experiences are being generated leading to concrete economic results and ecological sustainability. The current program strategy of WCS-Bolivia 2014-2020 has been positively evaluated and it is expected that the new strategy for the period 2021-2027 will continue the same approach and geographical focus. Obviously, this continuation of current priorities will strengthen the social, economic-financial and environmental sustainability of the project.

6. POTENTIAL FOR SCALING UP AND FOLLOW-UP INVESTMENTS

The project has a high potential to be scaled up and replicated in the indigenous territories and forests of the Greater Madidi Tambopata landscape where both Teko Kavi and WCS are planning to continue work in the coming years. The project has developed pilot experiences and training modules, which

through alliances with different types of organizations and institutions, can be replicated in other communities and territories.

The project partners consider that there is a particularly high potential to replicate and scale-up the sustainable production of coffee in agroforestry systems focusing on sales of organic high quality coffee to the growing market of specialty coffees. As mentioned in chapter 3, it is estimated that, as a result of the project, an additional 92 hectares of coffee in agroforestry systems will be implemented during the next ten years. This estimate is based on the interest of the coffee producers in the targeted regions and the planned future actions of the Bolivian project partners. WCS is currently working in Apolo, in coordination with CIPLA¹² and APCA¹³, to promote the technological package and methodology of coffee in agroforestry systems among APCA's approximately 200 coffee farmers. Some of these farmers have shown great interest and estimate that in the near future they could grow an average of four hectares of coffee in agroforestry systems per household. Also, in the area of Teoponte, more specifically in the municipalities of Coroico and Caranavi, coffee producer organizations have proposed an exchange of experiences to learn more about the technological package and varieties used in the coffee agroforestry systems implemented by APCERL.

Currently the national Productive Development Bank (*Banco de Desarrollo Productivo or BDP*) is financing a credit program oriented at micro and small enterprises, and WCS has recently had two meetings with BDP in order to participate in their program of soft loans to productive associations. However, the project partners agree that in the current political and economic situation, the scaling-up activities would probably require at least some grant funding. At present, Teko Kavi and WCS have assured funding for follow-up activities from the following sources:

- (i) The Danish civil society association "CISU" (EUR 297.763). This grant will finance environmental education and training in the prevention of zoonotic diseases, such as dengue and leptospirosis, in the Tacana communities of the municipalities of San Buenaventura and Ixiamas. The project will support the Tacana People's Council (CIPTA) as well as local and national health institutions (Teko Kavi).
- (ii) The Bolivian bank FIE through its Corporate Social Responsibility program (EUR 43.109)¹⁴. This grant is financing technical assistance in coffee production and commercialization, financial literacy/education as well as support to Chomateo SRL in improving its laboratory (WCS)
- (iii) The Federation of Cooperatives of Asturias ASATA¹⁵, Spain (EUR 32.420). This grant is financing support to Chomateo SRL and to the T'simane-Mosetene women producing essential oil products known as Shan (WCS)
- (iv) The Critical Ecosystem Partnership Fund (EUR 37.249). This grant will finance institutional strengthening of the T'simane-Mosetene Peoples' Regional Council (CRTM) as well as a productive business initiative for the T'simane-Mosetene women living along the the road running between Rurrenabaque and Yucumo. This business initiative will build on the

¹² CIPLA is the Indigenous Organization of the Leco People of Apolo (Central Indígena del Pueblo Leco de Apolo).

¹³ APCA is the Association of Coffee Producers in Apolo (Asociación de Productores de Café Apolo).

¹⁴ For more information about the Bank FIE see www.bancofie.com.bo

¹⁵ The Federation of Cooperatives of Asturias is the translation of "Agrupación de Sociedades Asturianas de Trabajo Asociado y Economía Social" (ASATA), www.asata.es

experience of Shan but probably with another product such as the production of dried fruit and/or marmalade (WCS).

In addition to these grants, Teko Kavi and WCS continue to identify potential private sector buyers of the forest-based products. A rising demand for the products will eventually determine the possibility of scaling-up the production. Currently, Chomateo, with the support of WCS, is negotiating sales of coffee to two specialty coffee importers in the UK as well as to a cafeteria in Cordoba (Argentina).

Finally, Teko Kavi and WCS have close working relations with several government institutions, particularly with SERNAP and ABT, and they have linked their work with the National Economic and Social Development Program, which is currently being continued by Bolivia's interim government.

7. UNEXPECTED OUTCOMES

The initial success with the essential oils initiative for the T'simane-Mosetene women of the Quiquibey river has generated a larger than expected interest from other organizations and development partners. Interestingly, towards the end of the NCF project, the traditionally male dominated organization of the T'simane-Mosetene People (CRTM) asked WCS for support in replicating the production and business initiative from the Quiquibey river with a group of approximately 40 T'simane-Mosetene women living along the road bordering the indigenous territory of Pilon Lajas. As mentioned above, this initiative has now received funding from the Critical Ecosystem Partnership Fund and is expected to take off in the coming months.

Another project output, which has generated an unexpected interest from other development organizations, is the communication strategy coordinated by Teko Kavi around the brand "Origen" with the creative design of logos, description of the products and producer groups. After seeing and learning about this marketing and communication strategy, the organization APCOB, which has been part of the other NCF project with Forests of the World, wanted to explore the possibility of partially replicating the marketing and communication strategy developed by the project. With this objective TekoKavi facilitated the contact with the very creative consultants who had developed the strategy and concrete outputs for our Project.

In general, the establishment and development of the producer-owned company Chomateo SRL has been more successful than expected. For example, it was not expected that the company would end the Project and the year 2019 with zero inventory of coffee and cacao after having sold the entire stock of these products to a number of new clients. It has also been interesting to follow the development of the sons and daughters of the coffee and cacao producers who have been employed by Chomateo. The project partners have been impressed by the way these young people have participated in trade fairs and in general how they have taken ownership of the company and the Project. These sons and daughters of the producers are all currently studying or have recently finished studying and it is expected that they will be the future leaders of their communities and possibly the company Chomateo.

Finally, the project partners have pre-identified an exciting potential new business opportunity based on the rising demand for Bolivian products among Bolivians living abroad. For example, the owner of Kreyol Coffee in Virginia (USA) has informed that he has received concrete sales requests for Bolivian coffee from the Bolivian community living in Virginia. There are indications that the demand for home-country products is rising in these years particularly among latinos in USA, and it will be exciting

for Chomateo and WCS to further explore business opportunities in this market of “nostalgic products” in USA and possibly Spain and Argentina.

8. LESSONS LEARNT

The following key lessons learnt should be highlighted:

- The project has shown/confirmed that it is possible to reinforce existing sustainable forest productions as well as develop new products and establish economically sustainable market channels for these products. However, it is not a short term endeavour to create a profitable enterprise and especially the commercialization and business administration aspects of the value chains will benefit from additional support, for example from WCS, in the next 2-5 years.
- The T’simane-Mosetene people of the Quiquibey river and the Tacana people of Carmen del Emero are willing to continue living and working in their forest territory as long as they can meet their basic needs through the diversification of livelihoods and resilience to extreme weather events. A small monetary income can make a significant difference in terms of improving livelihoods, for example to get access to basic products such as salt, cooking oil, flashlights, cartridges for rifles etc. or when someone gets a serious disease and needs medical help.
- The project’s practical gender equality strategy has been key to improving living conditions and resilience to climate change for the entire family. With a flexible approach aiming at involving both men and women in the project activities, it has been possible to achieve the support of the men for women’s participation. Nonetheless, the project partners have had to face a number of cultural and legal obstacles to the advancement of greater gender equality. For example, in the case of women’s participation in the coffee field schools, apparently the project was more successful in Apolo where 37% of the participants were women versus only 12% in APCERL. The project coordinator explains this phenomenon in the following way: *“I think it is because in a patriarchal society, the legally established productive organizations like APCERL will normally only register the husband as the formal member of the organization. In Apolo, the organization is not yet legally established and it is possible that the women will participate more openly here. It is not, that the women do not participate in APCERL, but they are often invisibilized for this reason. For example, often when there is a field school or a meeting, the women participating will write the name of their husband on the participant list. They say that it is because their husband is the formal member of the organization and in order not to be fined. Our technicians accepted this until we made the observation and after that it changed to a certain degree”.*

The main media for the dissemination of the project results has been the site for the online store origentienda.com as well as the Origen facebook and instagram sites. Some of the more technical documents, such as the monitoring reports and the document about the production of sustainable coffee, have been distributed directly to organizations and institutions considered to be particularly interested in the topic, including the indigenous organizations, relevant public institutions, development partners and the national coffee program.

9. FINANCIAL SUMMARY

Table 1. Project financing per partner

Expenditures, EUR	Financing, EUR					Total
	NCF	Grantee	Teko Kavi / WCS	XXX	Revenues from the project	
Grantee (Nordeco)	159.933,61	28.030				187.963,61
Teko Kavi / WCS	248.575,16		79.195,01			327.770,17
XXX						
[...]						
Total	408.508,77	28.030	79.195,01			515.733,78

10. CONCLUSIONS AND RECOMMENDATIONS

The project has improved the livelihoods and resilience to climate change of 254 indigenous households living and producing in the forest while contributing significantly to climate change mitigation. This has been achieved through support to the production of coffee in agroforestry systems, the sustainable harvesting of jatata and support to a pilot initiative with indigenous women to produce essential oil products.

In addition, the project has supported the commercialization of these products while aiming to engage the urban population about the role of the indigenous communities and their production in the protection of the global climate as well as the Amazon forest. The project partners are convinced that the creation of greater both national and international societal awareness and pressure on the government and the private sector is increasingly important if we are to revert the processes of deforestation and environmental degradation. The increased climate awareness worldwide is a potential favouring the objective of the project. This climate movement is also having its impact in Bolivia, which could be sensed during the months of August through October 2019 when especially younger people organized unprecedented protests against the widespread forest fires raging in the country and in favour of greater environmental protection and the rights of the lowland indigenous people to live and produce in the forest.

However, it is not a short term endeavour to create a profitable enterprise and especially the commercialization and business administration aspects of the value chains will no doubt benefit from additional support, for example from WCS, in the next 2-5 years. In synthesis, the support to commercialization of the indigenous forest-based products should continue to be emphasised as it is essentially the sales of these products, which will assure the economic sustainability and the continuation of the production in the territories.

Annex 1 Project completion fact sheet

Project Name:	Indigenous Forest Management for Climate Change Mitigation and Adaptation in Northern La Paz, Bolivia		
Country/ Region:	Bolivia	Financing:	
		EUR	%
Nordic Partner:	Nordeco	28030	5,43
Local Partner:	Teko Kavi	79195	15,36
Other Partner:	WCS Bolivia	(incluido en el monto de TekoKavi)	-----
	NCF grant disbursed	408508	79,21
	Total	515733	100.00
Classification:	Combination		
Project cycle:	Contracted: 31.01.2017 Original Closing Date: 31.07.2019 Actual Closing Date: 31.10.2019		
Project description:			
Key results:	NCF indicators	Results	
	1. Number of beneficiaries reached (women/men)	1356 (692f/664m) ¹⁶	
	2. Number of people with increased resilience to climate change (women/men)	1356 (692f/664m)	
	3. CO ₂ e emissions reductions (actual at project completion and expected during the lifetime of the project's mitigation investments)	22.708 CO ₂ e-t (at project completion) 461.530 CO ₂ e-t (during lifetime of the project's mitigation investments)	
	4. Number of green business concepts tested	1	
	5. Number of new decent jobs created (disaggregated by number of permanent (women/men) and seasonal (women and men))	5 permanent jobs (3f/2m)	
	6. Number of people with improved livelihoods/income-generating possibilities (women/men)	692 women and 664 men	
	7. Number of multi-stakeholder partnerships developed	3	
	8. Amount of funds leveraged (actual project co-financing and secured future investments for scaling-up/replication)	222.003 Euro	
Project performance:	Main Expected Outputs	Achieved	End-of-project status
	77 households increase coffee production 30% by volume and productivity	Yes	82 household increased production by 69% and productivity by 75%
	70 jatata producing household harvest jatata leaves for weaving jatata patches under a sustainable management plan covering 3500 Ha of forest.	Yes	116 households harvest jatata under a sustainable management plan covering 7990 Ha of forest.
	2200 Ha of rainforest with wild cacao under improved management benefiting 40 Tacana households	Yes	2554 Ha of forests with wild cacao monitored annually according to management plan.
	40 indigenous women are trained in the production of essential oils as a way to diversify livelihoods	Yes	66 indigenous women were trained. 33 of these will form the essential oils business.
	One communication campaign on biodiversity conservation, natural resources management and food security launched in the cities of La Paz and El Alto.	Yes	The campaign was developed and an online store created: origentienda.com
	2 agreements signed with the private sector on purchase of quality coffee, cacao, jatata and/or essential oils.	Yes	Sales have been agreed with 10 commercial clients.
Final beneficiaries:	207 indigenous households from the Leco, T'simane-Mosetene and Tacana communities and 47 organic coffee producing communities from the municipality of Teoponte.		

¹⁶ 254 households were supported by the project equivalent to 1356 people. Based on official statistics, 51% are estimated to be women (692 women) and 49% men (664 men).

	project targets of both the avoided greenhouse gas emissions through indigenous peoples' territorial management and forest conservation as well as the CO2e-t absorbed in carbon sinks through coffee agroforestry systems.
Development impacts:	Indigenous beneficiaries have strengthened their resilience to climate change through the enhancement of their skills and capacities to produce and market sustainable forest products from their plots of land and territories, which in turn has increased their production and income. Especially the coffee producers have increased their production and income through important sales to buyers of organic and particularly speciality coffees.
Innovation, technology and learning:	<ol style="list-style-type: none"> 1) Coffee producing households are trained in agroforestry systems. 2) Coffee in agroforestry systems is certified as bird-friendly. 3) A producer-owned company is marketing forest-based products. 4) An essential oils business initiative for T'simane-Mosetene women is launched. 5) A communication and marketing strategy to create an alliance with an urban constituency to consume forest-based goods produced by indigenous people living in the forest is launched.
Partnership:	Nordeco – Teko Kavi – WCS
Sustainability and replicability:	<ol style="list-style-type: none"> 1) Consolidation of sustainable income-generating activities for forest dependent indigenous people increases resilience to climate change and the probability that the indigenous people will continue to live in the forest. 2) Increased sales and consolidation of the producer-owned company 'Chomateo' assures the economic sustainability and the continuation of the sustainable production of forest dependent indigenous people. 3) High potential to replicate the sustainable production of coffee in agroforestry systems focusing on sales of high-quality coffee to a growing market of specialty coffees. 4) WCS has assured funding from both national and international sources to replicate the most successful project activities.
Lessons learned:	<ol style="list-style-type: none"> 1) Reinforcing sustainable forest productions while establishing market channels for these products is a viable strategy for improving livelihoods and generate significant climate adaptation and mitigation impacts. 2) The forest dependent people are willing to continue living and working in their forest territory as long as they can meet their basic needs through the diversification of livelihoods and resilience to extreme weather events 3) A practical and flexible gender equality strategy involving both men and women is key to improving living conditions and resilience to climate change for the entire family.

Annex 2 Logical Framework Matrix

Narrative Summary	Objectively Verifiable Indicators (OVIs)	Means of Verification (MOVs)	External Factors (Assumptions)
<p>Overall Objective Through integrated and sustainable forest management projects related to cacao, coffee, jatata and essential oils, indigenous households and farmers, including women, have protected forest ecosystem services and diversified their incomes, thereby improving their livelihoods and resilience to climate change. Together with the development of an urban constituency for conservation and the creation of national urban markets for green products, forests in indigenous territories and national protected areas are conserved, contributing to reduced greenhouse gas emissions.</p>	<p>203,328 CO2e-t equivalent avoided emissions</p> <p>87,596 CO2e-t absorbed in carbon sinks</p> <p>217 indigenous households , including women, with additional or improved income generating activities (In the case of essential oil, this initiative will work exclusively with 30 women).</p>	<p>Concluding report on accumulated milestones and outputs</p>	<p>Increased pressure on the forest and indigenous land, specifically from colonization and associated expansion of the agricultural and cattle frontier and illegal logging</p> <p>Institutional instability at the central and local government and indigenous organizations</p>

<p>Purpose</p> <p>The project will build resilience to climate change through support to sustainable livelihoods of vulnerable indigenous communities. It will increase productivity of coffee and cacao agroforestry systems, sustainable jatata extraction and natural cacao groves and will develop an essential oil initiative. It will also innovate new post-harvest treatments and improve quality and certifications in order to reach and inform urban markets. Quality products and communications campaign will increasingly engage and commit urban population groups to the protection of vulnerable rain forests.</p>	<p>200 hectares of coffee agroforestry systems established or recovered, and under management.</p> <p>2,200 ha of wild cacao groves under management and monitoring.</p> <p>3,500 ha of jatata patches under management and monitoring.</p> <p>77 indigenous coffee producing households with increased productivity.</p> <p>40 wild cacao producing households with increased productivity.</p> <p>70 indigenous households of the T'simane and Mosekene people harvest jatata under a sustainable management plan.</p> <p>30 T'simane, Mosekene and/or Tacana women learn to extract essential oils from native plants.</p>	<p>Concluding report on accumulated milestones and outputs</p>	<p>levels, leading to delays in project results</p> <p>Decreases in market prices making it difficult to sign favourable commercial agreements for coffee, cacao and essential oils.</p> <p>Extractive projects that can generate instability or unfair competition with productive activities supported.</p>
<p>Output (Results)</p> <ol style="list-style-type: none"> 1. 77 indigenous coffee producing households increase production by volume and productivity per hectare by 30% (baseline 211 kg/ha). 2. 70 jatata producing households harvest the jatata leaves for weaving jatata patches under a sustainable management plan covering 3,500 hectares of forest. 3. 2,200 hectares of rainforest with wild cacao groves under improved management benefiting 40 Tacana gathering households. 4. 30 indigenous women are trained in the production of essential oils as a way to diversify livelihoods. 5. One communication campaign on biodiversity conservation, natural resources management 	<ol style="list-style-type: none"> 1. Kg. coffee produced - Kg coffee produced per hectare 2. Kg. of wild cacao produced - Extraction rate from the wild cacao stands/year/household 3. Wild cacao monitoring reports, based on the management plan 4. # of women members of essential oils productive associations (and # of women participating in wild cacao, coffee and jatata project activities) 5. # of recordings, publications and video released for public use 6. # of coffee producing households certified as organic producers 7. Production of jatata thatches/ year/household. 	<p>Six months reports on semester specific output indicators.</p> <p>Concluding report on accumulated milestones and outputs.</p>	

<p>and food security launched in the cities of La Paz and El Alto.</p> <p>6. 2 agreements signed with the private sector on purchase of quality coffee, cacao, jatata and/or essential oils.</p>	<p>Number of thatches sold by APAI-RQ.</p> <p>8. Updated jatata management plan and monitoring reports.</p> <p>9. # of agreements signed</p>		
<p>Activities</p> <p>1.1 Production of 142,139 coffee seedlings.</p> <p>1.2 Training; Design, organization and implementation of 24 field schools to manage coffee seedlings and plots.</p> <p>1.3 Purchase of coffee equipment modules. Establishment of terms of reference, tender, purchase, and implementation of 18 coffee equipment modules.</p> <p>2.1 Development of an updated management plan for jatata, and monitoring the application of recommendations for good practices.</p> <p>2.2 Purchase of jatata transportation equipment.</p> <p>3.1 Preparation of monitoring reports for wild cacao, including recommendations for changing practices.</p> <p>4.1 Organization and planning for production of essential oils. Analysis of the potential for producing essential oils and development of a business plan.</p> <p>4.2 Training: Design, organization and implementation of 12 field schools to provide training on essential oils extraction and processing.</p> <p>4.3 Purchase of a pilot equipment module for essential oils extraction.</p> <p>5.1. Development and implementation of a communication campaign, purchasing of media equipment, design and elaboration of materials and manuscripts, and final distribution through different media channels.</p>	<p>1.1 # of coffee seedlings produced</p> <p>1.2 # of field schools conducted (# of participants per gender), evaluation reports of field schools.</p> <p>1.3 Evaluation report on training modules, business plan and field schools.</p> <p>2.1 Delivery certificates of equipment acquired for stockpiling jatata thatches.</p> <p>3.1 Updated management plan and monitoring reports.</p> <p>4.1 Evaluation report on training modules, business plan and field schools.</p> <p>4.2. # of field schools conducted (# of participants, per gender) and reports of field schools.</p> <p>5.1 Delivery certificates of equipment purchased.</p> <p>5.2 Purchase invoices, recordings, publications and videos</p>	<p>Six month reports</p>	

<p>6.1 Development and signing of sales agreements. Engagement with private business and potential buyers, presentation of products and material, development and signature of contracts.</p>	<p>6.1 Signed agreements</p>		
<p>Inputs Two professionals from Nordeco for overall coordination, technical backstopping, on site monitoring and quality control; three professionals from WCS for design, implementation and supervision of project outputs; one professional from Teko-Kavi for in field coordination, organization and supervision of staff; field project coordinator, coffee technician, two local coffee technicians, one jatata technician and a local jatata and essential oils technician.</p> <p>Equipment for processing coffee and essential oils.</p> <p>Equipment for communication campaign (publications, videos, recordings)</p>	<p># and nature of contracts</p> <p>Purchase invoices</p>	<p>Six month reports</p>	

Annex 3 **Pictures (empty)**

Annex 4 **Climate mitigation benefits (attached)**

Annex 5 Impact story

Situation before project



Ten hours by boat from Rurrenabaque, up the Quiquibey River, is the community San Luis Chico, where Brisaida Huallata lives, a brave and young T'simane woman who dreams of a brighter future. She is a mother of six children and has been married since she was 13 to Nicanor. Like her, many women her age did not have the opportunity to access education and can barely speak Spanish, which limits her chances of personal growth and well-being. Brisaida's desire is that her daughters and sons can finish studying and fulfilling their own dreams.

The forest and the Quiquibey River are the source of life for the T'simanes, so it is vital that these ecosystems are preserved, because that is where they obtain their food, medicines and resources that they market or exchange. One of the main products they have is jatata, a shrub palm that grows abundantly in the forest.

Brisaida tells how the weather has changed and how the heavy rains during the 2014 flood caused major changes in the course of the river, e.g. their community is now a 40 minutes' walk from the river shore which makes it more difficult to access the river and other communities.

Situation after the project

To increase resilience to climate change, the project proposed among its results two key aspects for the communities of the Quiquibey River. The first involves a management plan for the sustainable use of jatata and the strengthening of its productive organization (APAI-RQ) and the second is the social and economic empowerment of a group of indigenous women for the implementation of a pilot venture production of essential oils.

This group of women, most mothers and in many cases heads of households, have not only generated additional income with the sale of handcrafted soaps and essential oils but has also generated a space for discussion and analysis of topics related to the strengthening of indigenous women and how to solve their problems based on their own initiatives.

Important results of the project

With the management plan for the sustainable use of jatata, 7990 hectares of riverforest have been protected for the sustainable production of 14000 jatata thatches of 3 meters each per year,

estimating a total income of Bs. 140.000 (USD 20.000) for the six communities that make up APAI – RQ.

66 indigenous women have participated in field schools for the production of essential oils, of which 28 have formed a stable group and developed a brand called SHAN for the production of soaps and essential oils. This venture generated an income in 2019 of 31.000 bolivianos (USD 4.430). The income they generate covers family expenses such as school supplies for children, clothing, and some little treat or another for themselves.

