



Darwin Initiative Main: Final Report

To be completed with reference to the “Project Reporting Information Note”:
(<https://www.darwininitiative.org.uk/resources/information-notes/>).

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes.

Submission Deadline: no later than 3 months after agreed end date.


Submit to: BCF-Reports@niras.com including your project ref in the subject line.

Darwin Initiative Project Information

Project reference	28-019
Project title	Protecting ecosystem functions in key watersheds for biodiversity and people
Country(ies)	Bolivia
Lead Organisation	Asociación Armonia
Project partner(s)	<ol style="list-style-type: none"> 1. Tiquipaya Municipal Government 2. Regional Government of Cochabamba 3. Tunari National Park 4. Faunagua
Darwin Initiative grant value	£270,000
Start/end dates of project	Reporting period: 01/Oct/2021 – 20/Sep/2023
Project Leader name	Rodrigo W. Soria-Auza
Project website/blog/social media	https://armoniabolivia.org/
Report author(s) and date	

1 Project Summary

Tunari National Park (TNP) lacks strategies that integrate local community needs with nature protection. This has triggered native forest destruction, loss of ecosystem functions, and expansion of exotic tree plantations. We implemented a habitat restoration program in coordination with key stakeholders and engaged local communities within Park boundaries to strengthen local development based on sustainable forestry use and protection of biodiversity/ecosystem functions. A massive communication strategy was implemented to create suitable conditions for project replication in neighbouring municipalities. In fact, by the second year of project implementation we started pilot restoration and sustainable development in coordination with communities in Quillacollo and Vinto municipalities. This clearly shows that the scope of our project’s impacts surpassed our estimations. Without doubt, suitable conditions to replicate our projects in neighbouring municipalities were successfully created, and we started this process of project expansion.

All supplementary material (reports, maps, pictures, etc.) can be accessed through the following . Additionally, below we include links to specific materials that are referred specifically. However, all materials are contained within the google drive folder whose link we shared above.

2 Project Partnerships

Project partners are:

1. **Tiquipaya Municipal government (TMG)**. TMG and Armonia signed a [REDACTED] to restore the degraded watersheds within the TNP and to foster connections between the communities in this area and the TNP administration. The main nursery for the project was built on municipal land, and the municipality supplied us with crucial resources for managing the nursery, such as water and electricity. Personnel of the municipality also assisted us in the organization of reforestation campaigns and the monitoring of saplings planted.
2. **Regional Government of Cochabamba (RGC)**. Armonia and the RGC's [REDACTED] led to annual sapling production, with 40,000 saplings for 2021-2022, 10,000 for 2022-2023, and 4,000 for 2023-2024. RGC staff joined reforestation and monitoring efforts each year. We also collaborated on training forest firefighter brigades for two municipalities, implementing fire prevention measures, and general communication activities.
3. **Tunari National Park (TNP)**. Armonia and the TNP also signed an [REDACTED]. The personnel of its protected area also participated in the reforestation campaigns, and in the monitoring of planted trees as well.
4. **Faunagua (FAU)**. Faunagua undertook the task of creating a baseline of technical and scientific data on the ecosystem functions of the TNP, along with monitoring protocols for these functions. As part of this project, we signed a [REDACTED] with Faunagua.

We established partnerships with other institutional actors: 1) the Risk Management Unit of the CRG (as we already have an agreement with CRG, no additional agreement was needed), 2) TMG's Tourism unit (as we already have an agreement with TMG, no additional agreement was needed), interested in developing bird watching tourism, 3) Agrecol, an NGO with whom we coordinated agroforestry development (see agreement [REDACTED]), 4) The SANAPI consortium, coordinating activities like reforestation and forest fire brigades (see agreement [REDACTED]), and 5) Kurmi, a Bolivian NGO that organized workshops for local community planning and strengthening (no formal agreement was signed).

During the project, we achieved excellent coordination between local communities, the RGC, and the TMG, significantly improving relations with the TNP administration. This is shown by the consolidation of a platform with local communities (represented by the "Organismo de Gestion de Cuencas"; see below), the TMG, the RGC, and the TNP. This platform will implement the watershed management and conservation plan for Tiquipaya.

A challenge remains in integrating the TNP with local communities. It is now evident that the TNP administration lacks the capacity to manage social issues with communities within the TNP. Future actions should aim to strengthen the TNP's capabilities.

3 Project Achievements

3.1 Outputs

Output 1. We created a map illustrating the reforested areas for each reforestation season and an updated projection map for the reforestations to be undertaken in next five years in Tiquipaya municipality (see map [REDACTED] indicator 1.1). Our aim was to plant 390,000 native trees over the project period (130,000 each reforestation season; Indicator 1.2). We surpassed this, planting 660,080 native trees from at least nine species (140,080 saplings between Dec 2021 & Mar 2022; 200,000 saplings between Dec 2022 & Mar 2023 and 320,000 saplings between

Dec 2023 & Mar 2024), including two threatened tree species, the *Polylepis subtusalbida* and *Kageneckia lanceolata*. This is 1.7 times our initial target (or 169%; [REDACTED]).

Though not planned within the scope of this project, we started a collaboration with Agrecol (see cooperation agreement [REDACTED]), which is implementing agroforestry plots in the same area. Armonía provided tree saplings for Agrecol's plots and in turn, Agrecol induced to their beneficiary families to participate in further reforestation campaigns to increase the number of planted saplings (in reforestation plots to recover native forests). This helped us to increase the number of planted saplings during the 2022-23 and 2023-24 reforestation campaigns.

We constructed six water reservoirs for agriculture during the dry seasons and firefighting (3 of which are within the Tiquipaya municipality; also exceeding indicator 1.3). Aside from the Laphia community reservoir, which has a capacity of 1,000,000 litres (see picture [REDACTED]), the other reservoirs store 100,000 litres each. Currently, the reservoirs hold 1,500,000 litres (see location of water reservoirs [REDACTED]). The water distribution network, improved by this project, extends 13.5 km (see delivered pipes [REDACTED]).

From 2022 to 2024, we trained 79 local community members as forest firefighters (picture [REDACTED]). Only 50 completed the full training (both basic and advanced) and received a full set of firefighting equipment (picture [REDACTED]). These members formed five brigades, that now are part of the rapid response mechanism led by the Risk Management Unit of the regional Government of Cochabamba. Thus, successfully meeting Indicator 1.4 (see the logical framework).

Thanks to an agreement of cooperation with ASPEM (see [REDACTED]), we were able to exceed the scope of training workshops in forest firefighting. Aspen contribution made possible to include personnel from Quillacollo and Vinto municipalities in the forest firefighting training workshops.

Output 2. The sustainable forestry management plan that we helped to develop (see document [REDACTED]) was approved by local communities (see [REDACTED]; indicator 2.1), the Tiquipaya Municipal Government (see approval [REDACTED]) and the Autoridad de Bosques y Tierras (Bolivian office in charge of forestry activities; see approval [REDACTED]) as well (indicator 2.2). Though the Tunari NP administration was not able to formally sign any permit, due to a severe institutional crisis that is affecting the SERNAP (the Bolivian office that manages all National Protected Areas), that affected the administration of the Tunari NP (the Tunari NP had three directors between February 2023 and March 2024), we do count with unofficial support and the formal permit will be issued later.

At this point, the Tiquipaya municipal government will monitor the implementation of the management plan. This role will be assumed by its Secretary of Environment, Forest and Watersheds. At a latter point (when the SERNAP overcomes the institutional crisis that is affecting this institution) the administration of the Tunari NP will designate a person to join the Tiquipaya municipal government's monitoring role.

Finally, we acquired and delivered to local communities the needed equipment which is comprised by 1 portable sawmill, 1 chainsaw and 2 sets of personal protection (see minute of equipment delivery [REDACTED]; indicator 2.3). As operators for this equipment need training, we organized 6 training workshops. From 15 community members that started this training process, only 10 went throughout the whole training process. The OGC (see output 3 below) is in charge of this equipment (see [REDACTED] the report of the training process).

Output 3. Following numerous meetings with communities' members in Tiquipaya, we consolidated the OGC (Organismo de gestion de Cuencas = Watershed Management Organisation; see [REDACTED] its structure, regulations and statutes), made up of representatives from Tiquipaya's communities we worked with (District 3 of Tiquipaya municipality). Though gender equal participation (50%-50%) has not been achieved in the directorate of the OGC (10 persons), 30% of the directorate are women. Considering that leadership (or decision making) roles in these communities are culturally dominated by men, through this project we are producing a cultural change (indicator 3.1).

Together with the OGC, we developed a ten-year strategy for the sustainable development of local communities, the protection of watersheds and forests (see strategy [REDACTED]). Additionally, we also produced useful notebook that is of practical use for people and contain the strategy written in an easy-to-understand language (avoiding technical jargon). This notebook was delivered among communities' members (see notebook [REDACTED]; see picture of communities' members holding the notebook [REDACTED]). The OGC is tasked with ensuring this strategy's implementation and coordinating with other stakeholders (municipal and regional governments, NGOs, and Universities) to ensure future projects are consistent with the strategy.

To facilitate the OGC's collaboration with other stakeholders (e.g., Tiquipaya municipal government, Cochabamba regional government, other NGOs, and universities), we partnered with KURMI (another Bolivian NGO working in the area) to form a platform. This platform is composed by the OGC (in representation of local communities), a representative of the Tiquipaya Municipal Government and other stakeholders (see [REDACTED] the foundational act; and [REDACTED] is the municipal decree that supports its foundation). This platform will coordinate and channel projects aimed at protecting watersheds, forests, and promoting sustainable development in these communities (Indicator 3.1).

We organised training courses to empower the OGC by teaching community members how to develop sustainable development and watershed protection project proposals. Twenty-eight individuals participated in these courses (11 women and 17 men), with 21 graduating (10 women and 11 men). The graduates formed three groups, each creating a project proposal (proposals developed can be seen [REDACTED]; Indicator 3.2). These proposals were submitted to various ministries, including the Ministry of Productive Development and Plural Economy (Indicator 3.2). We also presented the proposals to the FAO office in La Paz, the Inter-American Foundation of the U.S. government (application submitted online), and a support program for developing countries by the "Commune of Geneva," Switzerland (Indicator 3.3; proofs of proposals submission are [REDACTED]).

We would like to highlight that during this training, three women leaders emerged who played key roles in developing the project proposals and are now assuming local leadership positions. These women are Judith Gonzales, Uvaldina Luna, and Aleida Bautista (see picture [REDACTED]). Moreover, seven other women have been also identified as potential future leaders for their communities (further details see sections 3.2 (indicator 02) and 4.3).

Output 4. By 2022, the monitoring protocol for reforested areas was refined and standardised. This process included participation from Tiquipaya municipal government staff, Tunari NP personnel, and community members. The protocol, detailed in an easy-to-understand document (see [REDACTED]), has been distributed to all municipalities within the southern slope of Tunari National Park (Indicator 4.1). Annually collected data from randomly established plots in reforested areas includes: (1) seedling survival rates and (2) the size of planted seedlings. As monitoring of reforested areas must adapt to the changes in the landscape, we also developed a monitoring protocol using drones to measure changes in forest cover at a landscape scale (see [REDACTED]). This monitoring protocol is planned to be used from 2032 onwards.

We created a monitoring protocol for bird species dependent on native forests (e.g., Cochabamba Mountain-Finch, Giant Conebill, Tawny Tit-spinetail, etc.) and published it (see [REDACTED]). We trained community members and park rangers so these actors can implement the monitoring program (indicator 4.2). Interestingly, we found greater commitment among local community members, who also showed high interest in becoming bird-watching guides (see pictures [REDACTED]). Carmela Rocha, a park ranger, demonstrated the most interest and potential among trained park rangers. She assisted our ornithologist in data collection for establishing a baseline of bird species diversity and abundance. We additionally produced a folding guide of the most common birds in the Tunari National Park ([REDACTED]).

Our partner Faunagua studied the impact of reforestation on water recharge and slope stability ([REDACTED]). They also created a baseline for water flow in the area's watersheds over a wet and a dry season ([REDACTED]). A water flow measurement protocol was developed

(see [REDACTED]) and distributed among all key stakeholders in Cochabamba (Indicator 4.3). Faunagua also trained local actors in measuring water flows using simple equipment. These protocols have been developed in coordination with personnel of the Tiquipaya Municipal Government and are now included in its annual plans.

Output 5. During the first two years of the project's implementation, we engaged with the municipal governments of Cercado, Quillacollo, Sacaba, Sipe Sipe, and Vinto (the other municipalities with territory on the southern slope of Tunari National Park; minutes and letters of contact can be found [REDACTED]). In these municipalities, we presented the social and environmental impacts achieved through the project to municipal authorities, community representatives and other key stakeholders (Indicator 5.1). As a result of these presentations some communities in these municipalities requested us to include them in the project. As a pilot, we began reforestation in at least five communities located in Sacaba, Quillacollo, Cercado, and Vinto. In March 2024, we held a public presentation in the auditorium of the Regional Government of Cochabamba where numerous decision-makers from across the department attended.

Throughout the project's implementation, we had seven interviews on various TV channels (see interviews [REDACTED] Indicator 5.2). We used these opportunities to inform the Cochabamba Metropolitan Region inhabitants about the project. Although we exceeded the proposed number of TV interviews (see Indicator 5.2), we believe it is necessary to increase our presence on TV to better inform the metropolitan area's residents about our project. Our presence in newspapers also surpassed our expectations. Five national newspapers published nine articles about the project's activities and achievements along the project implementation (see a compilation of published news [REDACTED] Indicator 5.3).

As social media is an important mean to broadcast news, we posted at least two updates about the project monthly in Armonía's social media (Facebook, Instagram and X). We also produced seven short video clips (also surpassing the proposed Indicator 5.4; see videos [REDACTED]) that were shared on Armonía's social media, some of which were also broadcasted on television. Since radio is the most used information medium in the communities, we produced and broadcasted two radio spots (each in Spanish and Quechua; radio spots can be found [REDACTED]).

We coordinated with the Institute of Technical Training in Forestry, Agronomy, and Environmental Sciences of Cochabamba (BTH) for student brigades to visit schools to inform/educate the importance of Tunari NP and the project (Indicator 5.5; different documents produced can be found [REDACTED]). They visited 13 schools, reaching over 600 students. Additionally, we participated in numerous public events and fairs that attracted large crowds (see [REDACTED]).

We conducted three surveys to assess the public's awareness of the importance of Tunari NP. The first survey, conducted in the first quarter, showed that most people knew very little about this National Protected significance. Many were unaware that most of water they consume comes from Tunari NP. The final survey showed a significant increase in the number of well-informed and aware people (see report [REDACTED]).

3.2 Outcome

The municipality of Tiquipaya has become a model for its neighbouring municipalities in terms of the integration it has achieved regarding the protection of watersheds and native forests with the sustainable development of its local communities. This is a significant accomplishment because, in the Bolivian mindset, there is often a perceived conflict between rural development and conservation. Through this project, we have demonstrated that both can coexist harmoniously under the concept of sustainable development. Below, we detail the achievements made in the context of each of the proposed indicators in the project's logical framework.

Indicator 01. The project has resulted in the establishment of two nurseries that together produce a minimum of 200,000 native tree seedlings annually. One nursery is co-managed by the municipal government of Tiquipaya and Armonía, while the other is managed by the five

communities in Tiquipaya with which we collaborated. There is a reforestation plan in place until 2030, spearheaded by the “Organismo de Gestión de Cuencas” (OGC; formed by representatives of the same five communities), which was consolidated through the project (see [REDACTED] OGC’s statutes).

To ensure the financial sustainability of the community nursery, we established a fund that compensates participating communities £0.1 per tree planted for a fixed number of saplings produced per year (140,000 saplings per year). This fund that is supported by the Acción Andina initiative, is reserved to match funding for sustainable development and watershed protection projects within the same participating communities, fund tree nursery management costs in the future and create a safe accounting for communities (more details in section 4.2; see [REDACTED] the agreement signed with local communities to manage this fund). By the 2023-24 period (March 2024), this fund has generated [REDACTED].

Additionally, our impact has extended beyond the Tiquipaya municipality. We have also carried out reforestation campaigns with communities in neighbouring municipalities (Quillacollo, Sacaba, and Vinto). We are now starting to plan the development of reforestation programmes in these municipalities (see reforestations map [REDACTED]).

Indicator 02. The Quechua families from the Tiquipaya communities (Cruzani, Laphia, Linkupata, Tholapujru, and Totorá) primarily engage in farming, with their produce aimed at both self-consumption and market sales. According to our initial socio-economic assessment, their annual income from agriculture ranges between 13% and 61% of the national minimum annual wage, which is £3,385 (£282/month; see report [REDACTED]). This underscores the poverty levels faced by Bolivian farming families.

The project's socio-economic impacts on household economies were diverse, with both direct and indirect effects. The most evident social impact was the organisational strengthening of the communities, demonstrated by the consolidation of the “Organismo de Gestión de Cuencas” (OGC) and the local capacity for developing sustainable community project proposals (see [REDACTED] the content of the course, reports of course development, list of attendants, etc.). During this training process we identified and empowered three women leaders, Judith Gonzales, Uvaldina Luna, and Aleida Bautista ([REDACTED]). Moreover, other women that participated in the training courses have been also identified as future potential leaders: Amalia Rocha, Siliva Aranibar, Mayde Espinoza, Dayana Choque, Zulma Nogales and Mercedes Nogales.

The economic impact on the five Tiquipaya communities was varied. Economic activity was generated for some families through their involvement in building firebreaks and water reservoirs. The construction of these reservoirs and the installation of water distribution pipes increased agricultural productivity by 10% throughout the year (e.g., agriculture can be practiced during the dry season as well; see [REDACTED]). The project’s contribution of [REDACTED] to build the water reservoirs and pipes acquisition made through this project was substantial, for communities themselves could not have been able to afford these costs. Also, this facilitated the channelling of further [REDACTED] in kind contribution from the Tiquipaya municipal government and [REDACTED] from other donors. In total seven water reservoirs were built along the implementation of this project, three of them in Tiquipaya municipal government (see map [REDACTED] see section 4.2 for further details).

The reforestation fund, supported by Acción Andina ([REDACTED] per planted tree; see section 4.2 for further details), has accumulated [REDACTED] to date. The communities, under the leadership of the OGC, decided to save this fund in a savings account, to be used as a counterpart once funds are secured for any of the community projects developed through this project ([REDACTED]; this is further developed in section 4.2).

Finally, although the forest management plan is pending implementation, awaiting SERNAP (the national bureau in charge of managing the Bolivian National Protected Areas) approval, we estimate that its eventual implementation will increase the income levels of the families involved by 3% to 5%.

Indicator 03. The consolidation of the “Organismo de Gestión de Cuencas” (OGC) is one of the most significant impacts, as it is composed of community members committed to protecting the watersheds and their native forests. This community organisation promotes sustainable development projects compatible with the protection of the watersheds and their forests. This strengthened capacity has resulted in the development of a sustainable development strategy until 2032 (see [REDACTED]) and three community project proposals that are part of this strategy ([REDACTED]). The OGC is also mandated by the communities to coordinate with the Tiquipaya municipal government and other organisations/institutions. Consequently, the Tiquipaya municipal government, the Cochabamba regional government, other institutions, and NGOs recognise the existence and role of the OGC.

During the consolidation process, three women with leadership potential were identified. We fostered these three women further development (Judith Gonzales, Uvaldina Luna, and Aleida Bautista), and now they hold leadership roles within the OGC and their communities. Finally, as mentioned above, the OGC's role in determining the management of the reforestation fund was vital.

Indicator 04. Upon completing this project, we can confidently assert that we have established the conditions necessary to replicate the project's successes in neighbouring municipalities. Indeed, we have already begun taking steps to extend the project to several adjacent municipalities (Quillacollo, Sacaba, and Vinto) and will soon start activities in the remaining municipalities (Cochabamba, Sipe Sipe).

In the project's early months, we developed a comprehensive communication strategy (see [REDACTED]). This included TV interviews, local and national radio interviews, and coverage in several national newspapers throughout the project's implementation. The impact of our presence in these mass media outlets is difficult to measure, as we do not have access to their audience reach. Conversely, the reach of our social media communications was quantifiable. Along the period of project implementation, we published 97 posts. Only on Facebook (we do not know how to estimate these metrics from X and Instagram), the average number of persons reached through our posts increased from 212 in 2021 (project started in 1st of October 2021) to 41,000 in 2024 (project ended in 30th of March 2024). Likewise, averaged posts' interactions increased from 51 in 2021 to 387 in 2024 ([REDACTED]).

To assess the impact of our communication activities on public opinion in the Cochabamba Metropolitan Area, we conducted three surveys. The first survey took place in the first half of the project, the second at the end of the first year, and the final one during the project's last half-year. The first survey revealed that most respondents were unaware that nearly all the water consumed in the Cochabamba Metropolitan Area originates from the Tunari National Park. By the final survey, the percentage of well-informed individuals had increased (see report [REDACTED]). Despite this increase in awareness about the importance of Tunari National Park, it is evident that much more communication work is needed to ensure that the majority of the population in the Cochabamba Metropolitan Area is sufficiently informed about the park's significance.

Indicator 05. Protocols were developed to monitor: 1) the survival and growth of reforested seedlings ([REDACTED]), 2) the abundance and diversity of birds associated with native forests ([REDACTED]), 3) streamflow measurements in rivers, streams, and springs ([REDACTED]) and 4) the monitoring of reforested areas using drones ([REDACTED]). The latter will be implemented from 2030, once the planted trees have grown into young trees and the forest becomes more noticeable.

These documents have been formalized into protocols distributed to all local stakeholders. In addition, training workshops were held for local stakeholders to facilitate their integration as active participants in future monitoring activities, as has already happened in the monitoring of reforested areas.

Given that forest fires are the most significant threat to native forests, we developed a community reaction protocol to forest fires as a result of our activities to combat and prevent this threat (██████). This document clearly demonstrates how the forest brigades coordinate with the Risk Management Units of the Cochabamba Regional Government and the Tiquipaya Municipal Government. This was an additional product not initially included in the project's logical framework.

3.3 Monitoring of assumptions

Output level assumptions

Assumption of Output 1. This assumption held true throughout the project implementation period. There was extensive participation from local stakeholders, especially the local communities. The Tiquipaya Municipal Government and the Cochabamba Regional Government were also consistently committed to the project. The only stakeholder that was committed but had limited involvement was the Tunari protected area (evidence of stakeholders' participation/commitment have been shown repeatedly above).

Assumption of Output 2. The institutional crisis within SERNAP (the national office responsible for all national protected areas), which saw three directors between 2021 and 2024, hindered the comprehensive commitment and full integration of Tunari National Park staff (which had four directors during the same period). While this did not obstruct the implementation of any project activities, it did result in some delays.

Assumption of Output 3. There was indeed excellent communication between the local communities and their municipal government (Tiquipaya). Although some disagreements arose during this process, there was always a positive space for dialogue to reach agreements.

Even though a communication channel was established between the local communities and the Tunari National Park, and there was coordination between both stakeholders, a certain level of distance between these two actors remains evident. Local communities do not see an ability for dialogue in the protected area's staff. This could be a result of the institutional crisis facing SERNAP and the clear financial crisis it is undergoing.

Assumption of Output 4. Stakeholders show varying levels of commitment. Local communities and the municipality are enthusiastic about continuing with future monitoring. The municipal government staff in Tiquipaya is also motivated. However, it is evident that ongoing follow-up will be necessary to secure long-term commitment from the Tiquipaya municipal government.

Assumption 1 of Output 5. There is no doubt that this assumption was maintained. Nearly all neighbouring municipalities gave us platforms to showcase the accomplishments achieved in Tiquipaya.

Assumption 2 of Output 5. This assumption also held true. The opportunities for interviews (both on TV and radio) and the press articles published throughout the project's implementation period are evidence of this.

Outcome level assumptions.

Assumption of Outcome. This assumption also held valid. No significant political crisis took place while the project was being implemented.

3.4 Impact

The communities within Tunari National Park have historically opposed the existence of this protected area due to the lack of an adequate management strategy. For approximately 70

years, there has been a tense relationship between the protected area and the numerous communities that were already there when the national park was declared. Hence, we aimed to contribute to the following long-term impact: Communities on the southern slopes of Tunari National Park (TNP) and the park administration work together to protect threatened biodiversity, ecosystem functions and to implement sustainable development initiatives

Through this project, we have contributed to a change in attitude and perception by the communities we worked with towards this protected area. In all the activities carried out with the communities of Tiquipaya, we emphasized that they are beneficiaries of the project because they live in a Key Biodiversity Area/protected area that is important for both the endemic and threatened biodiversity it harbours and the valuable ecosystem functions it provides to the Cochabamba Metropolitan Area. This has triggered a change in the attitude of these communities towards the area they live in and facilitated the participation of local communities and protected area staff in various activities. Today, these communities have become protectors of the watersheds and native forests within their territories (see the following video clips by clicking [\[REDACTED\]](#)). They also recognise the importance of maintaining communication and coordination with Tunari National Park.

To solidify this new relationship, it is crucial to strengthen Tunari National Park. Currently, the administration of this protected area lacks an integrated management vision (the park has a management plan for 2016-2026 that has not been implemented at all) and lacks the essential human and financial resources to manage the protected area adequately. This creates frustration among the communities living within this protected area. This lack of management vision is undoubtedly a result of the institutional crisis within SERNAP (the national office responsible for protected areas), as previously mentioned.

To reinforce the added value that local communities derive from living within Tunari National Park and to robustly support the protection of their watersheds and forests, we have enhanced living conditions and local economic opportunities. This will be detailed further in section 4.2.

4 Contribution to Darwin Initiative Programme Objectives

4.1 Project support to the Conventions, Treaties or Agreements

Throughout the project, we successfully initiated the restoration process of native forests (particularly *Polylepis* forests) that contain unique and threatened range-restricted biodiversity. Over 660,000 seedlings of native species were planted in approximately 360 hectares in vulnerable watershed areas of significant importance to the Cochabamba Metropolitan Area. Additionally, a reforestation program has been established that will continue until 2032 and is expanding to neighbouring municipalities. These achievements contribute to Goal A of the Kunming-Montreal Declaration, which aims to maintain, enhance, and substantially restore the integrity, connectivity, and resilience of all ecosystems by 2050.

This project contributed to four of the 17 Sustainable Development Goals (SDGs) in five communities. By improving the sustainable use of natural resources within their territories (irrigation systems, forest management plan, and local capacity building for proposing and developing sustainable development projects), we supported SDG 1 (no poverty) and SDG 10 (reduced inequalities). During the community organisation strengthening process, we identified women with leadership potential who now hold decision-making positions. Although we acknowledge that much work remains to achieve gender equality (SDG 5), we made significant strides considering the social context of the communities we worked with. Lastly, the overall framework of the project aimed to enhance the resilience and adaptive capacity of communities to climate change (SDG 13).

4.2 Project support for multidimensional poverty reduction

The contributions this project made to reduce multidimensional poverty among local communities were diverse. In response to the commitment made by communities to reforest

and protect the remaining native forest fragments in their territories and consequently protect the degraded watersheds that have repeatedly caused mudslides (affecting urban neighbourhoods), this project invested ██████ to improve water use (an increasingly scarce resource). The project investment triggered the municipal government to offer an in-kind counterpart valued at approximately ██████ (tractor work hours, operating costs, and personnel) and to generate additional counterpart funds from other donors ██████. This enabled the construction of 7 water reservoirs with a combined capacity of 1,500,000 litres. Additionally, a water distribution network covering a total distance of 13.5 km was established.

This is an investment that the communities could never have made without the project's intervention. The municipality was encouraged to offer the counterpart only after it was clear that the project secured the matching funds from Darwin Initiative. As a result of this investment, we estimated an average 10% increase in agricultural yield for the families in these communities during the last year of project implementation ██████. This is significant because we estimate that the income (from agriculture) of families ranged from 13% ██████ to 61% ██████ of the monthly minimum wage adjusted to annual income, i.e., ██████/year (the minimum wage is ██████).

The development of a sustainable development strategy for a 10-year period and the creation of local capacities to propose and develop sustainable development projects are qualitative contributions that help communities move out of multidimensional poverty while protecting watersheds and forests. The outcome of the local capacity-building process was the development of 3 community project proposals. These proposals have been submitted to various ministries and international cooperation sources, and we are still awaiting responses to these applications.

Thanks to the cooperation of another donor partner (Accion Andina Initiative), a fund has been created with an estimated contribution of £0.1 per planted tree. To date, ██████ has been raised through this fund over the 2022-23 and 2023-24 reforestation campaigns (█████ in 2022-23 and ██████ in 2023-24). The number of seedlings that Andean Action will support is defined at the beginning of each management period. For example, for the 2024-25 reforestation campaign, another ██████ will be generated.

The OGC, representing the communities, has been the community platform that has taken the lead on this issue, and together we have defined the use of the funds generated annually. The full amount generated annually is divided into five parts. Each community receives a portion (five communities). Of the amount each community receives, 50% is saved as each community's contribution to cover operating and maintenance costs of the nursery, 30% is saved in a fund (accumulated annually) to be offered as a counterpart for sustainable development projects. 17% is saved in a savings account maintained by each community, and the remaining 3% covers OGC operating costs (█████).

Finally, we are still awaiting SERNAP's approval to start implementing the forest management plan. Due to frequent personnel changes (including directors of SERNAP and Tunari National Park) and the tedious bureaucratic process inherent to SERNAP, we have been waiting for this approval for almost two years. Armonía will continue to support this process until it is completed. Once the forest management plan is operational, we estimate that the involved families' economies could increase by 3% to 5%

4.3 Gender Equality and Social Inclusion (GESI)

Please quantify the proportion of women on the Project Board ¹ .	50%
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¹ A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women ² .	50%
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GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	X
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

As mentioned above, Gender roles in Bolivian Andean cultures are traditionally well defined. Men normally taking community decision-making roles, and relegating women to housekeeping roles. Through this project we encouraged the participation of women across all project's activities (see table below). Though gender balanced participation in decision-making is still far from balanced, through this project we achieved some progress. Judith Gonzales, Uvaldina Luna and Aleida Bautista are examples of this progress (██████████). These three women are now part of the OGC that represents the local communities. Moreover, we identified. Moreover, we also identified other women with potential to take decision-making roles in the future. These are Amalia Rocha, Siliva Aranibar, Mayde Espinoza, Dayana Choque, Zulma Nogales and Mercedes Nogales. We are, however, aware that further extensive and intensive work is needed to reach a balanced gender participation in communities' decision-making processes.

The participation/integration of women across most activities that we organized can be seen in the table that is located ██████████

4.4 Transfer of knowledge

The transfer of the project model toward neighbouring municipalities was done through presentations and workshops that we organized in each municipality. We also facilitated the participation of key members from the communities in Tiquipaya to talk about their experiences with this project in communities from other municipalities. This was crucial in encouraging communities in other municipalities to request the project's extension to their areas. Indeed, we have already initiated some reforestation efforts in community territories in Quillacollo, Sacaba, and Vinto.

² Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

We facilitated the travel expenses for Don Benjamin Vargas (a key member of the Laphia community) to attend the “XI Encuentro Internacional de Saberes y Haceres” event in Ecuador. Don Benjamin was invited to this event to share the Tiquipaya communities' experiences in sustainable development and watershed protection. As a result of this attendance, Don Benjamin was able to share the project proposals developed by the communities within the framework of our project, thereby giving him the opportunity to seek funding on his own.

The establishment of forest fire brigades was essential in enhancing the rapid response mechanism to forest fires managed by the regional government of Cochabamba. This initiative encouraged other municipalities (Quillacollo and Vinto) to request the inclusion of their residents in the training courses we conducted within the project.

4.5 Capacity building

Several project team members have been invited to events to showcase the work we are undertaking. These events have varied widely, including activism events, radio and TV interviews, and scientific conferences. This exposure has undoubtedly elevated the personal profiles of project staff members Daniela Aguirre and Omar Oporto.

5 Monitoring and evaluation

The follow-up of project progress and internal evaluation were conducted through weekly meetings with the core project team (Armonía), where we reported on the progress of each deliverable and planned activities for the coming weeks. Monthly meetings with the Faunagua team (every first Monday of the month during the first half of 2022) were held to report on progress, evaluate upcoming activities, and coordinate training sessions. Meetings with other project partners (Tiquipaya Municipal government, Cochabamba Regional government, and the Tunari NP administration) were less frequent (every two to three months) due to their demanding work schedules. These meetings were essential for receiving feedback from project partners and adjusting plans periodically.

Despite the mechanism of keeping track of project progress (internally and with partners), we proposed three change requests. The first was to delay the project's start date because Darwin Initiative's response to our proposal arrived by August 2021 (the proposed start date was April 2021). The second change request was submitted to allow us to move some expenses among items and adjust some elements of the Logical Framework. The final request was to allow us to extend the period of project implementation. This extension was caused by the difficult times through the SERNAP was going. This caused that some planned activities that involved the Tunari National Park personnel had to be rescheduled and consequently, some indicators as well. Also, because the time required to agree the implementation of some activities with communities took longer than expected (specially during the first year and a half of project implementation).

The M&E implemented for each project deliverable was as follows:

Reforestation Programme. Once production began in the nursery (April each year), the development of seedlings was monitored constantly. For each management cycle, a mapping of reforested areas was conducted. The survival and growth rate of the planted seedlings were tracked at the end of the first dry season after planting. Finally, a monitoring protocol was developed to evaluate long-term landscape changes using drones.

Strengthening and Improving Local Economies. A socioeconomic study (baseline) was conducted with the participation of local surveyors to understand the current economic conditions of the communities. After completing the fieldwork, a meeting with the surveyors was held to conduct an internal evaluation of the survey, their work, the limitations, weaknesses and strengths of the process. Following the database completion, data analysis was carried out, and an evaluation protocol for the project's socioeconomic impact was developed. The second study on the project's impact was conducted by the end of the project. The socioeconomic

impact report provides insights into what needs to be improved or complemented in the project's benefits and the areas that need future focus (improvement plan).

Governance and Capacity Building. Progress on this deliverable was tracked through monthly meetings with the OGC and workshops related to specific project activities, recorded in minutes signed by participants. For capacity building, evaluations were conducted during the course on community project development. At the project's conclusion, the socioeconomic impact survey was applied (to understand the expectations, needs, and perspectives of community families regarding the project and its activities).

Communication and Dissemination. To evaluate changes in people's opinions, perceptions, and knowledge about Tunari National Park, two public opinion surveys were conducted (April and September 2022). In February 2024, at the project's close, the third survey was conducted.

Biodiversity and Ecosystem Function Monitoring. After the conclusion of each reforestation season, permanent plots were established to measure the survival rate of the planted saplings. This saplings monitoring is conducted at the end of each dry season (Oct to Nov). This monitoring protocol will be conducted each year on the permanent plots until 2032. For subsequent landscape changes, comparisons will be made using high-resolution drone images. For this purpose, a database of drone images has been constructed.

To establish the local capacity among stakeholders required for the implementation of various protocols developed (such as bird population monitoring and river flow measurement), we organized training workshops and ensured that local actors participated in data collection activities.

6 Lessons learnt

After two years of project implementation, one of the most crucial lessons learned was that achieving effective community participation required more time than initially expected. This was due to the organizational culture and structure of communities, which must be respected to secure their commitment. The process is as follows: 1) any project, work plan, etc., must first be presented to the "Subcentral" (a board representing the five communities) and the leaders of each community at one of their scheduled meetings (which occur once a month). 2) The community leaders then inform their respective communities about the initial meeting (community meetings are held once a month). 3) Finally, the "Subcentral" provides an official response at a subsequent formal meeting. This means that the start of any project, new plan, etc., can take 3 months to receive a response. The creation of the OGC helped to accelerate this process.

Today, the communities we have worked with in the municipality of Tiquipaya have members who are highly motivated and have a clear vision of the future they want for their communities. The training sessions we conducted were essential in achieving this. However, it is important to provide follow-up support for at least two more years to monitor the performance of those we trained (e.g., in project development). In general, the training processes we offered to community members took much more time than we expected, which was one of the reasons for requesting extensions.

Finally, we underestimated the bureaucratic processes of our project partners (Tiquipaya municipal government, Cochabamba Regional government, and Tunari National Park). In particular, the administration of Tunari National Park is slow and highly dependent on decisions made at the SERNAP office (the national office in charge of managing national protected areas) in La Paz. SERNAP depends on the Ministry of Environment and Water, and unfortunately, many decisions made in this office are influenced by political interests. Given Bolivia's unstable political situation, this resulted in frequent staff changes at SERNAP (including three directors during the project's implementation), which also affected the administration of Tunari National Park (which experienced frequent staff changes). This situation clearly highlights the importance of supporting the institutionalization of protected

areas and possibly advocating for greater independence from SERNAP. Perhaps a co-management model with regional institutions such as municipal governments or a hybrid approach involving regional governments and local/regional civil society institutions would be beneficial.

7 Actions taken in response to Annual Report reviews

Below are responses to specific requests from previous review:

- 1) **Please comment on the level of collaboration with additional NGOs mentioned in the annual report 2.** In this report, we have outlined our relationship with other NGOs that also operate in the region. Our philosophy prioritizes cooperation, as our ultimate aim is to restore native forests and ensure that key local stakeholders (especially communities) develop in a socially and environmentally sustainable way. Our goal is for these stakeholders to become the custodians of forests (watersheds). The NGOs with which we established cooperation agreements were Agrecol (██████████) and ASPEM (██████████). With Agrecol, we focused on agroforestry development, and with ASPEM, we strengthened training for local stakeholders in forest fire management (see Output 1 in section 3.1). Although we did not formalize cooperation with Kurmi through a signed agreement, we collaborated on specific actions. This was particularly evident in complementary actions that were crucial for forming the platform and building the community development strategy (██████████).
- 2) **Please provide additional details regarding the maintenance of the project's platform. Specially, it is mentioned that information is stored on Google Drive and shared through whatapp. Could you clarify which organization hosts this platform and who will be responsible for updating it once the project is completed?** It seems there was some confusion on the reviewer's part regarding this point. We did not state that Google Drive is used to store information officially for the platform (it is used to store additional material that we share together with our reports). However, there is a WhatsApp group that serves as a communication medium among OGC members who are part of the platform. WhatsApp has become a commonly used communication method among the platform's stakeholders.
- 3) **Given that the project is expected to conclude in September 2023, there is some concern that achieving Outcome indicator 02 within the given timeframe may be challenging. Additionally, it is unclear how much time is needed for diversification activities to have a significant impact on the livelihoods of the families involved. Please provide more details and clarification regarding the timeline and the expected outcomes of these activities.** On September 6th 2023 we submitted a change request to request an extension until March 30th, 2024 primarily. Part of this change request was an adjustment to the Logical Framework, which we adjusted to 'Quechua family economies in Tiquipaya communities within TNP (200 families, totalling approximately 900 persons) have diversified and increased. These changes will be documented by the end of this project'.
- 4) **In order to capture gender-specific impacts, it is recommended that the project records data disaggregated by gender in their Project Standard Indicators.** This has been done in the corresponding section.
- 5) **Annual report 2 highlights that all project-related documents, including socioeconomic surveys and monitoring protocols, will be shared with partners and that Armonia plans to create a dedicated section on their website where these documents can be downloaded. Please, clarify whether these documents will also be made available on the platform.** All protocols, diagnostics, surveys and documents in general, that have been produced with information from local communities and/or together as a result of the project's activities, have been shared with local communities and stake holders.
- 6) **Please provide an update on the five-year strategy plan.** The strategy became a 10-year strategy (██████████). It was developed in coordination and agreement with

community leaders. For its validation, the strategy was presented in front of all communities. Finally, in agreement with the OGC, it was delivered to all communities' members embedded into a notebook. To make it easy-to-understand, it is written using concrete easy-to-understand language and using as much graphics as possible (see [REDACTED])

- 7) **Please provide additional insights on the engagement with the Vice-minister of environment, Biodiversity, Climate change and Forestry Development. Specifically, elaborate on whether presenting the project has influenced policy development and the shaping of future initiatives.** We gave several presentations of the project to several state offices. One of these was to the former Vice minister and the current Director of the Dirección General de Biodiversidad y Areas protegidas (DGB AP), Omar Osco. In fact, Omar Osco used to work for the Cochabamba Regional Government (CRG) during the first year of the project implementation and was key for consolidating the relationship that we today have with the CRG. So, national authorities are aware of the project that we implement in the Tunari National Park. Most of the project's areas of work (e.g., restoration, local communities' sustainable development, etc.) are included within the national strategy. However, neither the national government, nor the regional governments (including municipal governments) have the human and financial resources to implement on-the-ground actions. In this sense, this project is helping Bolivia's strategy to reach their commitments (CBD, NDS, etc.).

8 Sustainability and Legacy

This project was key to facilitating Acción Andina's contribution to create the tree nursery fund (£0.1 per sapling). This fund, which has accumulated £28,000 to date (see Indicator 02 in section 3.2), ensures the financial sustainability for the nursery's management for several more years (planned until 2032). It also creates a fund for communities to use as a counterpart for watershed/forest conservation projects and their sustainable development, and secures the governance structure established by this project (see section 4.2). This strategy was essential to ensure that local communities took ownership of the forest restoration program.

The formation of the forest fire brigade in Tiquipaya was instrumental for the Cochabamba Regional Government's UGR (Unidad de Gestión de Riesgo = Risk Management Unit) to adopt this project as a model. [REDACTED], the head of Cochabamba's Regional Government' UGR, Tiquipaya now has the lowest number of forest fires and the fewest hectares burned by uncontrolled fires. This shows a significant change from 2016 and 2017, when it had one of the highest numbers of forest fires. Indirect evidence of this can be seen in statements from a member of the Laphia Community who is now a forest firefighter [REDACTED]. Cochabamba Regional Government's UGR has highlighted Tiquipaya as an example in fire management (thanks to the project) and has advocated for including other municipalities. This success was made possible by the project and ASPEN's contribution to this project's component. However, it's important to note that success depends on providing necessary equipment, which is costly.

Most of the equipment and capital costs acquired during the project (except for the vehicle), were transferred to beneficiaries and project partners. For instance, firefighting equipment was given to beneficiary communities [REDACTED]). The purchased container is located in the nursery co-managed by Armonía and the municipal government and will be handed over to the Tiquipaya Municipal Government after the project ends. The vehicle will remain with Armonía for continued use in their projects (preferably in Tunari National Park).

All information generated during the project has been shared with key local stakeholders and will soon be available on Armonía's website.

Finally, the project's success has inspired us to explore the feasibility of creating a fund to support the long-term restoration of native forests on the southern slope of Tunari National Park and the sustainable development of its custodians (local communities). This fund would be

financed by contributions from Cochabamba Metropolitan Area's residents and local businesses. This idea is supported by the Director of the Departmental Secretariat for the Environment and Water Resources of the Cochabamba Regional Government (Dora Claros).

9 Darwin Initiative identity

The Darwin Initiative logo has been used on every document produced throughout the project. In all presentations, workshops, meetings, and public activities we organized or attended, we wore uniforms featuring the Darwin Initiative logo. In fact, all project staff have work uniforms with the Darwin Initiative logo. Consequently, all local stakeholders know that the Darwin Initiative is a key donor to our project [REDACTED]

We participated in events organized by the British Embassy in Bolivia on several occasions. At these events, we presented the project to an audience that included representatives from other embassies in Bolivia (e.g., Spain, Sweden, France, Japan, etc.). The British Embassy also allowed us to organize an event to showcase the achievements of our projects, including this project and the "Reducing Poverty and Illegal Trade Utilizing Bolivia's Charismatic Red-fronted Macaw" project, supported by the Illegal Wildlife Trade Challenge Fund (Project ID: IWT103) [REDACTED]. Additionally, Mr. Jeff Glekin, the former UK Ambassador to Bolivia, visited the project area in May 2023 [REDACTED], and Armonia's Executive Director held a project presentation for the current UK Ambassador in Bolivia, Mr. Richard Porter in April 2024.

Finally, all notes published through our social media (Facebook, X, Instagram) use tags and hashtags linking these posts to the Darwin Initiative's social media.

10 Risk Management

The only risk that was present along the last 12 months of project implementation is SERNAP's delay to approve the forestry management plan that we developed along this project. In fact, we have been waiting for SERNAP's approval for over one year. Despite the approval granted by the ABT (Autoridad Nacional de Bosque y Tierra), which is the national bureau entitled to provide technical criteria to approve or reject forestry management plans. As mentioned above, SERNAP is going through an institutional crisis. Along the last 15 months of project implementation, we had numerous meetings with the last three directors of the Tunari National Park (technical personnel), and also at least one meeting with each of the last two director of the SERNAP (and technical personnel). However, as personnel changes were frequent, conversations had to be initiated from the beginning. To overcome the risk imposed by this delay, on September 6th (2023), we submitted a change request to adjust the Logical Framework to take into account this risk. Finally, Armonia will continue supporting local communities beyond the end date of this project until the SERNAP approval is issued.

11 Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	No
Have any concerns been investigated in the past 12 months	No
Does your project have a Safeguarding focal point?	Yes [REDACTED]
Has the focal point attended any formal training in the last 12 months?	No
What proportion (and number) of project staff have received formal training on Safeguarding?	Past: 100% [5] Planned: 100% [5]

Has there been any lessons learnt or challenges on Safeguarding in the past 12 months?
Please ensure no sensitive data is included within responses.

No, none during the last 12 months

Please describe any community sensitisation that has taken place over the lifetime of the project; include topics covered and number of participants.

Numerous activities. Most sensitisation activities were embedded on the workshops and meetings we had. But we also conducted some specific activities with school children from communities. We also conducted sensitisation activities in coordination with BTH (see indicator 5.5) and reached over 600 school children in the Cochabamba Metropolitan Area.

Finally, we attended several environmental fairs along the implementation of the project.

Have there been any concerns around Health, Safety and Security of your staff over the lifetime of the project? If yes, please outline how this was resolved.

No. we did not have any concern around these issues

12 Finance and administration

12.1 Project expenditure

Project spend (indicative) since last Annual Report	2023/24 Grant (£)	2023/24 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				Audit will be spent and finalized by August 2024
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				Less COVID-19 sanitary expenses and less rate of Exchange loses were necessary
TOTAL	49,209.00	47,219.00		

Staff employed (Name and position)	Cost (£)
Rodrigo W. Soria Auza – Project Director	
Daniela Aguirre – Project Coordinator	
Eneida Zurita – Project Assistant	
Sebastian K. Herzog – Biodiversity Scientific Advisor	

Suzanne Edwards – Communications Officer		
Partner project coordinator, environmental & ecosystem functions scientific advisor – Paul Van Damme		
TOTAL		21,572.86

Capital items – description	Capital items – cost (£)
Firefight equipment	4,724.68
TOTAL	4,724.68

Other items – description	Other items – cost (£)
Bank Fees, rate of exchange loses & taxes	
Sanitary protection implements -project personnel (clothing, anti-covid tests, medical supplies, etc)	
Publication & promotion costs (design, printing, translation costs, radio spots broadcasting, etc.)	
Firefighting training	
TOTAL	4,048.96

12.2 Additional funds or in-kind contributions secured

Matched funding leveraged by the partners to deliver the project	Total (£)
Staff costs	
Consultancy costs	
Overhead costs	
Travel and subsistence	
Operating costs	
Capital items	
Others	
TOTAL	345,485.18

Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project	Total (£)
Staff costs	
Consultancy costs	
Overhead costs	
Travel and subsistence	
Operating costs	
Capital items	
Others	
TOTAL	31,971.85

12.3 Value for Money

With a global project budget of [REDACTED] for a 3-year implementation period (36 months) and a direct beneficiary population of 200 families (approximately 900 persons) grouped in 5 communities (Cruzani, Laphia, Linkupata, Tholapujru, and Totor), the Darwin Initiative investment amounted to [REDACTED] per family ([REDACTED] per month per family). This investment was pivotal in securing [REDACTED] as counterpart funding from the Acción Andina, Trillion Trees and Tiquipaya Municipal government (in-kind) over the same period (total investment per family/month: [REDACTED]).

This project showcased that this level of funding enabled these five communities, which previously had a confrontational approach towards watershed and forest protection, to transform into protectors of native forests. We not only reforested 380 hectares but also succeeded in having at least 1,000 hectares of existing native forests declared as community protection areas [REDACTED]. The training process for sustainable development and watershed protection projects (forests) clearly demonstrated that protection (watersheds/forests) creates development opportunities for the communities themselves.

The indirect beneficiaries of the project include the population of the Tiquipaya municipality living in the valley bottom (approximately 50,000 people). While the investment does not directly benefit this population, it does so indirectly by reducing the risk of mudslides and floods that almost annually affect this population ([REDACTED] a local news video reporting about the mudslide of February 2018 in Tiquipaya municipality, [REDACTED] a video report made by Euronews Spanish about the mudslides that happened in 2020). Improving the conservation status of watersheds by increasing the forest cover is key to minimize such tragic impacts in the future. By the conclusion of this project, a significant part of the population down the watershed understands this, and support the us.

Unlike other international organizations working in Bolivia, where salaries are typically higher than the national average (including other large Bolivian organizations), the salaries of Armonía staff are within the normal range for salaries in Bolivia. Armonía's philosophy is to maximize the amount of money allocated to conservation and work with a committed team. Additionally, gender equity within the project staff is evident (50%-50%). We made every effort to extend this to the beneficiaries as well. Initially, we integrated as many women as possible into the various project activities and identified women leaders. However, we must recognize that much work is still needed to achieve a balance (cultural aspects must be changed gradually, and this process takes time).

13 Other comments on progress not covered elsewhere

Even with the agreement of all stakeholders and partners at the start of the project, we had to submit addendums, particularly concerning SERNAP. This government agency, in charge of managing national protected areas, has faced an institutional crisis rooted in Bolivia's ongoing financial difficulties. It is crucial that civil society steps in to help this national institution achieve financial sustainability. We are grateful to the Darwin Initiative for understanding these challenges.

Through this project, both Armonía and its partners have gained significant insights. Likewise, various stakeholders, particularly local communities within Tunari National Park, are finally realizing that living within a protected area can offer additional benefits, closely tied to the preservation of the surrounding environment.

14 OPTIONAL: Outstanding achievements of your project (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here).

File Type (Image / Video / Graphic)	File Name or File Location	Caption, country and credit	Online accounts to be tagged (leave blank if none)	Consent of subjects received (delete as necessary)
video	Download here	Bolivia		Yes
Video	Download here	Bolivia		Yes

Video	Download here	Bolivia		Yes
Video	Download here	Bolivia		Yes
Video	Download here	Bolivia		Yes
Video	Download here	Bolivia		Yes
Video	Download here	Bolivia		Yes
Photo	Download here	Bolivia	@PaulJones this picture's photographer	Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Photo	Download here	Bolivia		Yes
Multiple communication material	Download here	Bolivia		Yes

Annex 1 Report of progress and achievements against logframe for the life of the project

Project summary	Progress and achievements
<p>Impact</p> <p>Communities on the southern slopes of Tunari National Park (TNP) park administration work together to protect threatened biodiversity, ecosystem functions and to implement sustainable development initiatives.</p>	<p>Communities in the southern slope of the Tunari NP that are in the Tiquipaya municipality have become custodians/protectors of the native forests and their watersheds (██████████ a proof of local communities' commitment).</p> <p>These communities now coordinate better with their municipal government and the Regional Government of Cochabamba to conduct actions to protect native forests and watersheds. The consolidation of the OGC is a proof of this specific impact (see text and proofs shared for Output 3 in Section 3.1).</p> <p>Thanks to the project, local communities in Tiquipaya have some level of cooperation with the Tunari National Park (something that was virtually non-existent before). This can be seen in the participation of these two actors in the numerous meetings reported here and in the reforestation campaigns where both stakeholders participate.</p> <p>Finally, as a result of our project's impacts/influences, several communities in other municipalities (Quillacollo, Sacaba and Vinto municipalities) have also started to reforest their watersheds as well. This can be seen in the reforestation campaigns that we conducted in other municipalities (see reforestation ██████████)</p>
<p>Outcome</p> <p>Tiquipaya is the model municipality for protection of ecosystem functions provided by TNP and the sustainable development of local communities within this protected area.</p>	
<p>Outcome indicator 0.1</p> <p>Tiquipaya is the first municipality that develops a reforestation program to protect the ecosystem functions and threatened biodiversity within the Key biodiversity Area (KBA) southern slopes of TNP.</p>	<p>This program is running since 2020 by Armonía. Now Armonía have signed with communities an agreement through which local communities start managing its own nursery, participating in reforestation campaigns and managing the fund created for this specific purpose (see text for Indicator 0.1 in section 3.2, and section 4.2).</p>
<p>Outcome indicator 0.2</p> <p>Quechua family economies in Tiquipaya communities within TNP (200 families, totalling approximately 900 persons) have diversified and increased. These changes will be documented by the end of this project.</p>	<p>Impacts on families from local communities was diverse and it is well explained in section 3.2 (text for indicator 0.2) and in section 4.2. Here I summarize the impacts</p> <ul style="list-style-type: none"> - Water reservoirs and water pipes distributed increased agriculture productivity. - Some familiar economies improved through its participation in some activities (e.g. fire breakers construction, water reservoirs construction, etc.)

	<ul style="list-style-type: none"> - The investment made in water reservoirs construction motivated the Tiquipaya Municipal Government and other actors to also invest. - The creation of a reforestation Fund (£0.1 per planted tree). - Though not yet in implementation per se, the forestry management plan will increase economies of involved families by 3% to 5%.
<p>Outcome indicator 0.3</p> <p>Governance and social organizations (including gender equity) and their capacities for sustainable development are strengthened.</p>	<p>The consolidation of the Organismo de Gestión de Cuencas (OGC) is the most important achievement here. See the text for Indicator 0.3 in section 3.2. Here we share the statutes of the OCG (██████████).</p>
<p>Outcome indicator 0.4</p> <p>A communications strategy put in place to create suitable conditions in neighbouring municipalities to replicate this project's achievements.</p>	<p>We developed a communications strategy, and then implemented. This helped us to create conditions to replicate the project's achievements in several neighbouring municipalities (Quillacollo, Sacaba and Vinto). This is described in detail in the text for Indicator 04 (section 3.2).</p>
<p>Outcome indicator 0.5</p> <p>A monitoring programme to evaluate biodiversity and ecosystem functions is developed and implemented in coordination with key stakeholders.</p>	<p>Four protocols were developed to achieve this indicator. Stakeholders were part in the development of some of these protocols and also received training to implement them. See the text for Indicator 05 in section 3.2.</p>
<p>Output 1</p> <p>A five-year native forest restoration program is consolidated with the participation of key stakeholders (local communities within the TNP, protected area and municipal authorities and other key stakeholders).</p>	
<p>Output indicator 1.1</p> <p>Areas for habitat restoration identified and mapped (during the first semester of project implementation).</p>	<p>After the end of each reforestation season, we mapped all reforested areas. The map was updated every year. See the final map of reforestations that took place since 2020 up to 2024 (██████████). Additionally see the text for Output 1 in section 3.1.</p>
<p>Output indicator 1.2</p> <p>At least 130,000 saplings of native tree species produced annually in project partners nurseries are planted every year</p>	<p>Every year we surpassed this indicator. Along the whole project we project to plant at least 390,000 saplings of native trees. By the end of the project, we planted 660,080 saplings. See the text for Output 1 in section 3.1.</p>
<p>Output indicator 1.3</p> <p>An anti-wildfires infrastructure and irrigation system built (two 100,000 litre reservoirs and water distribution).</p>	<p>Three water reservoirs were constructed in Tiquipaya Municipality. The remaining four were built with in-cash and In-kind contributions in other municipalities: Quillacollo, Sacaba and Vinto municipalities). The total storage capacity of all water reservoirs is 1,500,000 litres. See the text for Output 1 in section 3.1.</p>

<p>Output indicator 1.4</p> <p>At least 50 persons from local communities are trained and equipped to fight wildfires and become volunteer members of the local firefighter group.</p>	<p>Seventy-nine persons from local communities received training to become forest firefighters (██████████). Only 50 completed the training and received equipment (██████████). See the text for Output 1 in section 3.1.</p>
<p>Output 2.</p> <p>A sustainable forestry management plan is developed to manage forestry plantations of exotic trees (eucalyptus and pines), and approved by all stakeholders (local communities, TNP administration, the state office in charge of national protected areas and the Tiquipaya municipal government).</p>	
<p>Output indicator 2.1</p> <p>Forestry management plan is approved by local communities involved (area for forestry well identified, volumes of annual wood extraction defined, and social regulations clearly defined).</p>	<p>Local communities' approval of the forestry management plan was successfully obtained and delivered to Darwin in an earlier annual report (██████████).</p>
<p>Output indicator 2.2</p> <p>TNP administration and the Tiquipaya municipal government endorse the forestry management plan and coordinate with each forestry supervisor (see 2.1.2) the implementation of the forestry management plan</p>	<p>The Tiquipaya Municipal Government issued the corresponding approval (██████████). The ABT (Bolivian office that issues the permit for forestry management plans) also approved this plan (██████████). However, the administration of the Tunari NP didn't due to an internal institutional issue (explained in detail in section 3.1; text developed for Output 2).</p>
<p>Output indicator 2.3</p> <p>One chainsaw, 2 sets of protection and one portable sawmill have been delivered to local communities. This equipment will be under the supervision of a designated supervisor chosen by all communities (see 2.1.2).</p>	<p>This equipment was delivered to local communities. We also trained communities' members in the proper management and operation of these equipment. See the report here.</p>
<p>Output 3.</p> <p>A platform formed by representatives of local communities, the TNP, and the Tiquipaya municipal government is established. This platform helps to the communities' governance body to develops and promotes the sustainable development of local communities and protection of ecosystem services within the TNP.</p>	
<p>Output indicator 3.1</p> <p>Through a series of workshops and meetings all stakeholders are brought together to improve the organization of the governance body for local communities (gender equality will be encouraged). The local communities' governance body will establish a channel of regular communication with representatives from: 1) TNP and 2) the municipal government through this platform. This platform's role is: 1) To help strengthen a five-year sustainable development strategy developed by communities and promote the conservation of ecosystem functions. 2) To promote and supervise the implementation of the strategy.</p>	<p>Though not a single report was prepared, we documented key events that took place (acts, minutes, agreements/decisions, etc). (██████████).</p> <p>Twenty-eight persons attended the training courses. Only 21 concluded the training process (Documentation of the training course that includes the list of participants, pictures, content of the course, (██████████)).</p> <p>Statutes and regulations of the OGC (Organismo de Gestion de Cuencas) developed. The OGC now represents local communities and it is concerned with the protection and management of watersheds (██████████).</p>

	A 10-year strategy was developed and. The Strategy was distributed among communities' members, the Tiquipaya Municipal Government and the Tunari National Park. See the text for Output 3 in section 3.1 (██████████).
<p>Output indicator 3.2</p> <p>Before the conclusion of the third semester of project implementation, the communities' governance body presents at least two concept projects (sustainable development and protection of ecosystem functions) to the ministries of: 1) Rural Development and Lands, and 2) Productive Development and Plural Economy and 3) Environment and Water.</p>	<p>Three project concepts developed and shared with Darwin Initiative. See text for Output 3 in section 3.1.</p> <p>Concept projects were submitted to the ministry of rural development. See text for Output 3 in section 3.1.</p>
<p>Output indicator 3.3</p> <p>With the support of this Darwin project, the communities' governance body management committee presents at least two concept projects to at least three international cooperation agencies present in Bolivia.</p>	<p>Concept projects were submitted to FAO (Office in Bolivia), the Inter American Foundation and an organisation based in Switzerland. Proof of this can be found ██████ (together with project concepts, letters of contact, etc.)</p>
<p>Output 4</p> <p>Project's environmental and social impacts are evaluated through the development of monitoring protocols implemented with the participation of stakeholders.</p>	
<p>Output indicator 4.1</p> <p>A monitoring program to keep track of reforested areas and the survival rate of planted trees is developed. This programme is carried out by TNP and the Tiquipaya municipal government with the assistance of Asociación Armonía.</p>	<p>The monitoring protocol has been printed and shared with stakeholders (see ██████████). We also developed a monitoring protocol with the use of drone imagery to be implemented after 2032, when changes in the landscape are more evident (██████████). See text for Output 4 in section 3.1.</p>
<p>Output indicator 4.2</p> <p>Bird species population monitoring program for threatened key species and species that depend on the critically degraded native vegetation (e.g. Cochabamba Mountain-finch, Giant Conebill and Tawny Tit-Spinetail) is developed by Armonía and implemented by personnel of the TNP and local communities</p>	<p>The monitoring protocol has been printed and shared with stakeholders ██████████. A training course was given to stakeholders (local people and personnel from the Tunari National Park).</p> <p>We held several meetings with the directors of the Tunari National Park and even personnel of this protected area received training (monitoring of birds).</p>
<p>Output indicator 4.3</p> <p>A monitoring protocol to evaluate local water retention by project interventions (reforestation, water reservoirs) and environmental flow in micro basins (within the Tiquipaya municipality) is developed and implemented in coordination with the Tiquipaya municipal government and other NGOs.</p>	<p>The protocol was developed, printed and shared with personnel from the Tiquipaya Municipal Government.</p> <p>The Tiquipaya Municipal Government included the implementation of this protocol as part of activities that its department of watersheds management will implement yearly.</p> <p>For further details, see text for Output 4 in section 3.1.</p>

<p>Output 5</p> <p>Appropriate audiences (municipal authorities, local community leaders, civil society organizations, and general public) in neighbouring municipalities are reached, thus creating suitable conditions to replicate this experience.</p>	
<p>Output indicator 5.1</p> <p>Project achievements and impacts are presented to municipal governments and key civil society organizations in neighbouring municipalities (Cochabamba, Quillacollo, Sacaba and Vinto) through public presentations and meetings (at least one per municipality).</p>	<p>Along the implementation of this project we contacted all municipal governments that have territory in the southern slope of the Tunari National Park (Cochabamba, Quillacollo, Sacaba, Sipe Sipe, Tiquipaya and Vinto), and developed a relationship with some of them (Quillacollo, Sacaba, Tiquipaya and Vinto). To achieve this, we organized several meetings and presentations (Minutes and letters of some of these events [REDACTED]). Other NGOs and groups also attended these meetings. For further details, see the text for Outut 5 in section 3.1.</p>
<p>Output indicator 5.2</p> <p>At least two TV interviews to talk about project goal and objectives (first year or project implementation), and achievements and impacts (before the conclusion of second year of project implementation).</p>	<p>By the end of the project implementation, we were invited to have TV interviews in seven occasions (see here). See further details in the text for Output 5 in section 3.1.</p>
<p>Output indicator 5.3</p> <p>At least one newspaper article about TNP and the project progress published per semester</p>	<p>Nine articles published about our project were published in five Bolivian newspapers ([REDACTED]).</p>
<p>Output indicator 5.4</p> <p>Three video clips produced. The first video clip will focus on the critical conservation status of the threatened biodiversity and the ecosystem functions affected by the current state of native ecosystems in this part of the TNP, and how important is to preserve native ecosystems for disaster prevention. The second clip will focus on the participation and commitment of different stakeholders to achieve this projects goal. And the third video will show the achievements and impacts reached through the project.</p>	<p>By the end of the project implementation, we produced and broadcasted seven video clips about the project ([REDACTED]).</p>
<p>Output indicator 5.5</p> <p>Brigades are formed in coordination the institute of Technical Training in Forestry, Agronomy and Environmental Sciences Cochabamba BTH that will visit schools and other sites to inform people about the critical conservation status of the TNP and its importance for the inhabitants of Cochabamba</p>	<p>We coordinated wit the BTH to form brigades of environmental educators. This group of educators visited 13 school and reached over 600 school children (see some materia [REDACTED] and attended several environmental fairs [REDACTED])</p>
<p>Output indicator 5.6</p>	<p>We conducted an impact evaluation of the communications activities that we conducted. For further details, see the report of this evaluation [REDACTED]</p>

The impact of communication activities is evaluated through surveys of public opinion (evaluations are implemented during the first and last semester of project implementation).

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

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact:			
Communities on the southern slopes of Tunari National Park (TNP) and the park administration work together to protect threatened biodiversity, ecosystem functions and to implement sustainable development initiatives.			
<p>Outcome: (Max 30 words)</p> <p>Tiquipaya is the model municipality for protection of ecosystem functions provided by TNP and the sustainable development of local communities within this protected area.</p>	<p>0.1 Tiquipaya is the first municipality that develops a reforestation program to protect the ecosystem functions and threatened biodiversity within the Key biodiversity Area (KBA) southern slopes of TNP.</p> <p>0.2 Quechua family economies in Tiquipaya communities within TNP (200 families, totalling approximately 900 persons) have diversified and increased. These changes will be documented by the end of this project.</p> <p>0.3 Governance and social organizations (including gender equity) and their capacities for sustainable development are strengthened.</p> <p>0.4 A communications strategy put in place to create suitable conditions in neighbouring</p>	<p>0.1.1 A five-year reforestation plan is approved by the Tiquipaya municipal government and the TNP.</p> <p>0.2.1 Socio-economic impact study of the project published and shared with stakeholders.</p> <p>0.3.1 Social organization consolidated and recognized by the municipal and regional governments.</p> <p>0.3.2 At least two concept projects developed by local leaders with our support that aim to strengthen the sustainable development of local communities and protection of ecosystem services.</p> <p>0.4.1 A report that details the impact of the diverse activities implemented as part of this project's communication strategy.</p> <p>0.5.1 a document describing the protocols of the monitoring</p>	<p>No political crisis that potentially might interrupt the successful implementation of this project takes place in the next three years.</p> <p>It is a reasonable assumption as last national elections outcome (October 2020) has been accepted by all parties.</p>

	<p>municipalities to replicate this project's achievements.</p> <p>0.5 A monitoring programme to evaluate biodiversity and ecosystem functions is developed and implemented in coordination with key stakeholders</p>	<p>programme printed and distributed among key stakeholders.</p>	
<p>Outputs:</p> <p>1.</p> <p>A five-year native forest restoration program is consolidated with the participation of key stakeholders (local communities within the TNP, protected area and municipal authorities and other key stakeholders).</p>	<p>1.1 Areas for habitat restoration identified and mapped (during the first semester of project implementation).</p> <p>1.2 At least 130,000 saplings of native tree species produced annually in project partners nurseries are planted every year.</p> <p>1.3 An anti-wildfires infrastructure and irrigation system built (two 100,000 litre reservoirs and water distribution).</p> <p>1.4 At least 50 persons from local communities are trained and equipped to fight wildfires and become volunteer members of the local firefighter group.</p>	<p>1.1.1 A map that shows the location of areas where habitat restoration takes places in the next five years is elaborated during the first semester of project implementation and shared with Darwin Initiative and all stakeholders.</p> <p>1.2.1 A five-year management plan is developed for the municipal tree nursery and approved by the municipal government. Thus, the production of at least 130,000 native saplings per year is guaranteed, and its implementation (management plan) is evaluated every year.</p> <p>1.2.2 The map (see 1.1.1) is updated annually to show areas where habitat restoration activities have been implemented. The map is part of an annual report and is available at Armonia's website (as well as other websites).</p>	<p>All stakeholders endorse this initiative.</p> <p>This assumption is reasonable as we have already initiated some activities with all stakeholders</p>

		<p>1.3.1 A report produced by the municipal government on the anti-wildfire infrastructure built.</p> <p>1.4.1 The Cochabamba firefighter body prepares a detailed report of the training courses. The report includes the complete name of participants and the communities to which each participant belongs.</p> <p>1.4.2 Local communities report in detail the equipment distributed through this Darwin project. The report is shared with all stakeholders.</p> <p>1.4.3 The Cochabamba firefighter body issues (1) a certificate to trained persons, and (2) a written commitment from participants to assist the firefighters when wildfires take place in Tiquipaya municipality territory that is within the Tunari national park.</p>	
<p>2. A sustainable forestry management plan is developed to manage forestry plantations of exotic trees (eucalyptus and pines), and approved by all stakeholders (local communities, TNP administration, the state office in charge of national protected areas and the Tiquipaya municipal government).</p>	<p>2.1 Forestry management plan is approved by local communities involved (area for forestry well identified, volumes of annual wood extraction defined, and social regulations clearly defined).</p> <p>2.2 TNP administration and the Tiquipaya municipal government endorse the forestry management plan and coordinate with each forestry supervisor (see 2.1.2) the</p>	<p>2.1.1 The governance body for local communities issues certificates that express their conformity with the forestry management plan.</p> <p>2.1.2 The governance body for local communities designates a member of its directory to take over the responsibility to supervise forestry activities.</p> <p>2.2.1 Documents issued by the TNP and the Tiquipaya municipal government to express their</p>	<p>The office of national protected areas and the Ministry of environment and water (MMAyA) endorse this initiative.</p> <p>This assumption is reasonably as the MMAyA through its vice-ministry of Hydric Resources and Watersheds have supported already projects to strengthen local communities' sustainable</p>

	<p>implementation of the forestry management plan.</p> <p>2.3 One chainsaw, 2 sets of protection and one portable sawmill have been delivered to local communities. This equipment will be under the supervision of a designated supervisor chosen by all communities (see 2.1.2).</p>	<p>conformity/approval of the forestry management plan.</p> <p>2.3.1 The governance body for local communities prepares a report that details the equipment delivered through this Darwin project.</p>	<p>development within protected areas in the last years.</p>
<p>3.</p> <p>A platform formed by representatives of local communities, the TNP, and the Tiquipaya municipal government is established. This platform helps to the communities' governance body to develops and promotes the sustainable development of local communities and protection of ecosystem services within the TNP.</p>	<p>3.1 Through a series of workshops and meetings all stakeholders are brought together to improve the organization of the governance body for local communities (gender equality will be encouraged). The local communities' governance body will establish a channel of regular communication with representatives from: 1) TNP and 2) the municipal government through this platform. This platform's role is: 1) To help strengthen a five-year sustainable development strategy developed by communities and promote the conservation of ecosystem functions. 2) To promote and supervise the implementation of the strategy.</p> <p>3.2 Before the conclusion of the project implementation, the communities' governance body presents at least two concept projects (sustainable</p>	<p>3.1.1 Report with the number of persons from each local community that participated in the meetings and workshops</p> <p>3.1.2 Names of persons from local communities trained to design projects.</p> <p>3.1.3 Statutes and regulations developed for the management committee and approved written prove of its insertion within already existing mechanism of coordination between all stakeholders.</p> <p>3.1.4 The five-year strategy developed.</p> <p>3.2.1 Project concepts shared with Darwin Initiative.</p> <p>3.2.2 Proofs that projects are submitted to the ministries shared with Darwin Initiative.</p> <p>3.3.1 Proof that projects are submitted to International cooperation agencies present in</p>	<p>Local communities, the TNP and the Tiquipaya municipal government reach agreements.</p> <p>Local people are keen to receive training in designing sustainable development and conservation projects.</p>

	<p>development and protection of ecosystem functions) to the ministries of: 1) Rural Development and Lands, and 2) Productive Development and Plural Economy and 3) Environment and Water.</p> <p>3.3 With the support of this Darwin project, the communities' governance body presents at least two concept projects to at least three international cooperation agencies present in Bolivia</p>	<p>Bolivia are shared with Darwin Initiative.</p>	
<p>4. Project's environmental and social impacts are evaluated through the development of monitoring protocols implemented with the participation of stakeholders.</p>	<p>4.1 A monitoring program to keep track of reforested areas and the survival rate of planted trees is developed. This programme is carried out by TNP and the Tiquipaya municipal government with the assistance of Asociación Armonía.</p> <p>4.2 Bird species population monitoring program for threatened key species and species that depend on the critically degraded native vegetation (e.g. Cochabamba Mountain-finch, Giant Conebill and Tawny Tit-Spinetail) is developed by Armonía and implemented by personnel of the TNP and local communities.</p> <p>4.3 A monitoring protocol to evaluate local water retention by project interventions</p>	<p>4.1.1 The monitoring plan is printed and shared with all stakeholders, Darwin Initiative and others.</p> <p>4.2.1 Monitoring protocol printed and shared with all stakeholders, Darwin and others.</p> <p>4.2.2 Written commitment with the personnel of the Tunari National Park and the *OGC.</p> <p>4.3.1 The protocol is printed and shared with the Tiquipaya municipal government and other stakeholders.</p> <p>4.3.2 The Tiquipaya municipal government ratifies and signs a commitment to incorporate the implementation of the monitoring protocol every year.</p>	<p>Key stakeholders are committed to the implementation of activities beyond the duration of this project.</p>

	(reforestation, water reservoirs) and environmental flow in micro basins (within the Tiquipaya municipality) is developed and implemented in coordination with the Tiquipaya municipal government and other NGOs.		
<p>5. Appropriate audiences (municipal authorities, local community leaders, civil society organizations, and general public) in neighbouring municipalities are reached, thus creating suitable conditions to replicate this experience.</p>	<p>5.1 Project achievements and impacts are presented to municipal governments and key civil society organizations in neighbouring municipalities (Cochabamba, Quillacollo, Sacaba and Vinto) through public presentations and meetings (at least one per municipality).</p> <p>5.2 At least two TV interviews to talk about project goal and objectives (first year or project implementation), and achievements and impacts (before the conclusion of second year of project implementation).</p> <p>5.3 At least one newspaper article about TNP and the project progress published per semester.</p> <p>5.4 Three video clips produced. The first video clip will focus on the critical conservation status of the threatened biodiversity and the ecosystem functions affected by the current state of native ecosystems in this part of the TNP, and how important is to</p>	<p>5.1.1 A report of all presentations that summarizes: 1) discussion that took place in each presentation, 2) a systematization of opinions, 3) identification of key actors and 4) List of attendees to each presentation.</p> <p>5.2.1 Interviews recorded and delivered.</p> <p>5.3.1 A portfolio with all newspaper notes delivered.</p> <p>5.4.1 A portfolio with detailed information of the means used to broadcast (TV channels, public large screens in bus terminal, airport, social media, etc.) the video clips.</p> <p>5.5.1 A report prepared by principal of the Institute o Technical Training in Forestry, Agronomy and Environmental Sciences Cochabamba BTH that summarizes the number of sites visited, and the number of persons reached.</p> <p>5.6.1 Reports of surveys delivered.</p>	<p>Key actors in neighbouring municipalities give us space to present the project</p> <p>Key journalists give us space in newspapers, TV channels and other spaces.</p>

	<p>preserve native ecosystems for disaster prevention. The second clip will focus on the participation and commitment of different stakeholders to achieve this projects goal. And the third video will show the achievements and impacts reached through the project.</p> <p>5.5 Brigades are formed in coordination the institute of Technical Training in Forestry, Agronomy and Environmental Sciences Cochabamba BTH that will visit schools and other sites to inform people about the critical conservation status of the TNP and its importance for the inhabitants of Cochabamba.</p> <p>5.6 The impact of communication activities is evaluated through surveys of public opinion (evaluations are implemented during the first and last semester of project implementation).</p>		
<p>Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)</p> <ol style="list-style-type: none"> 1.1 Elaboration of detailed maps for the study area. 1.2 Coordination of tree nursery management with project partners (sapling production, saplings breeding, etc.). 1.3 Monthly update of track of the number of species and number of individuals being produced in partners nurseries 1.4 Organisation of reforestation campaigns in coordination with project partners. 1.5 Construction of two water reservoirs in coordination with all stakeholders. 			

- 1.6 Installation of at least 10 km of a water distribution network to distribute water toward most fire-vulnerable areas.
- 1.7 Organisation of training courses in coordination with firefighters of Cochabamba.
- 1.8 Organisation of an event to deliver certificates to local people trained in firefighting.
- 2.1 Elaboration of the forestry management plan (mapping, field work to estimate wood availability, extraction rate, replacement rate, etc.).
- 2.2 Presentation of the forestry management plan to all stakeholders
- 2.3 Organisation of at least one meeting/workshop to promote discussion about the management plan. Thus, stakeholders' inputs are incorporated in the management plan.
- 2.4 Presentation of the management plan to the SERNAP (Bureau of the Bolivian system of Protected Areas) and the MMAyA (Ministry of Environment and Water).
- 2.5 Acquisition of equipment for forestry management
- 2.6 Delivery of forestry management equipment to local communities.
- 3.1 Frequent visits communities to implement diverse activities with women (key to identify potential leaders).
- 3.2 Organization of workshops and meetings (at least 5) to make the needed progress to consolidate the formation of the governance body (composed by representatives of local communities) and the platform (where local communities, municipal authorities and a representative of the Tunari National park take part), and its compatibility with already existing social organisational structures.
- 3.3 Several workshops and meetings to elaborate and present the 5-year strategy (to strengthen sustainable development and protection of biodiversity/ecosystem functions).
- 3.4 At least three workshops and meetings to elaborate at least two projects (products of the 5-year strategy developed) to foster the sustainable development of local communities and protection of biodiversity/ecosystem functions.
- 3.5. Presentation of project to the governing body for further discussions and project improvements.
- 3.7 Elaboration of a calendar to visits to ministries and international cooperation missions in La Paz.
- 3.8 Visits to ministries and international cooperation missions present in La Paz (at least two representatives of communities and one project personnel).
- 3.9 Community leaders apply for funds and Armonía offer support.
- 4.1 Development and implementation of protocol to monitor the survival and development of saplings planted
- 4.2 Development and implementation of the protocol to monitor key biodiversity (threatened and vulnerable species)
- 4.3 Socialization of both protocols with all stakeholders and organisation of training workshops.
- 4.4 Meetings with potential participants – monitoring programme (e.g. bird watchers, park rangers, etc.)

- 4.5 Implementation of socioeconomic study (baseline of socioeconomic conditions in local communities)
- 4.6 Development of a protocol to measure project's socioeconomic impacts
- 4.7 A Second survey conducted by the end of the project to measure socio economic impacts
- 4.8 Optimize drone applications for the monitoring of vegetation coverage
- 4.9. Quantify water retention of project interventions (reforestation, reservoirs) at the microscale using an existing methodology optimized in the study area and translate this impact in terms of local socioeconomic benefit
- 4.10. Implement a monitoring station that consists of a meteorological and gauge station and that can be implemented by local communities through a citizen science framework
- 4.11. Monitor short term and long term (future projected) changes in vegetation cover in native forests and plantations and model the impact of changes in water retention and infiltration on the stream water flow and on the water balance in the river basin.
- 4.12. Measure monthly stream flows and use obtained data to adjust the water balance model for the three watersheds in Tiquipaya municipality and establish environmental flows
- 4.13. Evaluate the relation between short-term and long-term reforestation impacts and landslide risk in vulnerable and prioritized areas, in coordination with regional technical authorities
- 4.14. Implement environmental and biological indicators (riparian bird indicators, surface area covered by riparian aliso forest) that can be used to monitor environmental quality and changes at the watershed level
- 4.15 Develop and adjust the protocol to monitor waterflow and other ecosystem services.
- 4.16 Printing and distribution of a document that contains all developed protocols.
- 5.1 Regular meetings with local and regional authorities are organised to keep informed about project progress and achievements
- 5.2 Meetings with municipal authorities from neighbouring municipalities
- 5.3 Organization of at least one public presentation per municipality
- 5.4 Meeting/workshops with potential partners (journalists, and other key partners for communication and dissemination
- 5.5 Construction of a calendar of probable interviews
- 5.6 Elaboration of videoclips (footage collection in the field, and edition)
- 5.7 Meetings and training workshops to teachers and students of the Institute of Technical Training in Forestry, Agronomy and Environmental Sciences Cochabamba BTH
- 5.8 Development of a plan of activities for teachers and students of the Institute of Technical Training in Forestry, Agronomy and Environmental Sciences Cochabamba BTH.

5.9 During the first two months of project implementation a survey will be conducted to evaluate the perception and opinion of people in Cochabamba valley over the Tunari National park. This survey will be repeated two months before the conclusion of the project.

Annex 3 Standard Indicators

The Biodiversity Challenge Funds (BCFs) use high quality and accessible Monitoring, Evaluation and Learning (MEL) to enable scaling, replication and increase the impact of the funds and the projects we support. By asking project teams to report against a minimum of three Darwin Initiative Standard Indicators, we aim to increase our contribution to the global evidence base for activities that support biodiversity conservation, poverty reduction and capability & capacity.

The tables below are provided to assist project teams in reporting against Standard Indicators. Please report against the Standard Indicators that you have selected specifically for your project in Table 1 below. Refer to the Standard Indicator Guidance & Menu available on the [Darwin Initiative website](#) for guidance on how to select indicators, as well as how to disaggregate reporting within your chosen indicators.

You should copy and paste the information from previous years and add in data for the full lifetime of your project.

We recognise that the Standard Indicators in our menu are by nature general. We also ask you to develop your own Project Indicators. These should be more specific and relevant to your project. See our BCF MEL guidance on best practices for selecting and developing Project Indicators (which are reported against in your logframe).

Table 1 Project Standard Indicators

DI Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DI Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-A01	Course: Firefighting training	Number of local actors trained in firefighting	People	Men & female 4 días (6 hrs/día)	0	51	53	104	50
DI-A01	Course: Project development and management	Number of people trained in project development and management	People	Men & female 13 semanas (6,5 hrs/semana. Total: 85 horas)	0	21	0	21	20
DI-A01	Workshop: Training in flow measurement	Number of people trained in flow measurement	People	Men & female 1 día (5 hrs)	0	26	0	26	20
DI-A01	Workshop: Survey interview	Number of people trained to conduct public opinion surveys on the PNT	People	Men & female 1 día (4 hrs)	13	8	12	33	30
DI-A01	Workshop: Socioeconomic surveys	Number of people trained in socioeconomic surveys	People	Men & female of communities 1 día (8 hrs)	0	10	0	10	10
DI-A01	Workshop: Management plan	Number of people trained in Management of equipment for forestry exploitation	People	Men & female of communities	0	0	15	15	20
DI-A02	Forestry student internship	Number of student trainees in forestry	People	Men & female	1	1	1	3	3

DI-A03	Monitoring of biodiversity, watersheds and participatory methodologies	Number of local institutions trained in monitoring biodiversity, watersheds and participatory methodologies	Number of organizations	DMyMT of the municipal government of Tiquipaya (staff) SERNAP PNT (park rangers)	0	0	5	5	7
DI-A04	Workshop: Production of native plants in nurseries	Number of people trained in the production of native plants in nurseries	People	Men & female Students, municipal technicians, communities	0	38	20	58	58
DI-A06	Two 100,000 litre reservoirs and water distribution	Number of families benefited from the water reservoirs	Families	Families	60	72	0	132	132
DI-B01	Elaboration and printing of forestry management plan	Number of forest management plans	Number	Exotic pine and eucalyptus plantations	1	1	1	1	1
DI-B05	Establishment of a governance body named Organismo de Gestion de Cuencas formed by communities' representatives	Number of people involved with the governance body named Organismo de Gestión de Cuencas	People	Men & female of communities	10	20	20	20	50
DI-B12	Contribution to the Integral Watershed Management Plan of the Municipality of Tiquipaya	Number of municipal watershed management plans in the Tiquipaya municipality supported by the project	Number	Municipal Plan	0	1	2	3	2

DI-C01	Elaboration and printing of monitoring protocols	Number of monitoring protocols	Number	Reforested areas, watersheds, key biodiversity and forest fire control	1	0	4	5	4
DI-C1	Elaboration on monitoring protocols	Number of monitoring protocols	Number	Measurement of the socioeconomic impact of the project	0	0	1	1	1
DI-C02	Study of the bird population on the southern slope of the Tunari National Park	Number of assessments of bird populations in Tunari National Park	Number	Birds, regional, point count	0	1	0	1	1
DI-C12	None	Social Media presence with publications	Number	Click-through rate (Facebook)	5,347	59,510	35,945	100,802	4930
DI-C14	Events organized to disseminate project achievements	Number of decision-makers attending brief events (GAM Tiquipaya, GAD Cochabamba, PNT, OGC, Subcentral 13 de Agosto, líderes de las comunidades)	Number	Events organized Events that project personnel attended and presented the project	17	21	10	48	48
DI-C15	TV interviews	Number of interviews and reports on television	Number	Local and national television	2	3	2	7	2
DI-C15	Internet interviews	Number of interviews through internet media	Number	Local	0	2	2	2	2

DI-C15	Broadcasting of the project by radio	Number of radial wedges	Number	Local and metropolitan (5 radios)	0	4	0	0	4
DI-C15	Elaboration of informative video clips	Number of video clips	Number	Videos y cápsulas	1	5	2	7	3
DI-C15	Design and printing of informative leaflets	Number of informative leaflets	Number	-	2,000	3,000	3,000	2,000	8,000
DI-C15	Design and printing of informative banners about the project	Number of informative banners and placard	Number	Restauración de bosques, protección de las funciones de ecosistemas, ciclo de agua, prevención y combate de incendios, OGC	3	6	6	15	10
DI-C16	Socioeconomic conditions of local communities (to be updated periodically)	Number of records added to accessible databases	Number	Socioeconomic databases	0	1	1	2	2
DI-C16	Tree nursery production database (to be updated every year)	Number of records added to accessible databases	Number	Tree nursery production database	1	0	0	1	1
DI-C16	Forestry management plan database (to be updated every year)	Number of records added to accessible databases	Number	Forestry management plan database	1	2	0	3	3

DI-C16	Watersheds flow database (to be updated every year)	Number of records added to accessible databases	Number	Watersheds flow database	0	1	0	1	1
DI-C16	Key biodiversity data base (to be updated periodically)	Number of records added to accesible databases	Number	Key biodiversity data base	0	1	0	1	1
DI-C16	Surveys of public opinion	Number of records added to accessible databases	Number	Surveys of public opinion data base	0	1	0	1	1
DI-C19	Socioeconomic analysis of local communities	Number of technical reports from project studies	Number	-	0	1	1	2	2
DI-C19	Technical reports of project studies	Number of technical reports from project studies	Number	-	1	9	2	12	12
DI-D12	Area of degraded or converted ecosystems that are under active restoration	Reforested area with native species	Hectares	Polylepis, Aliso, Lloque, Kiswara	200	75	75	275	275

In addition to reporting any information on publications under relevant standard indicators, in Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Mark with an asterisk (*) all publications and other material that you have included with this report.

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Forestry management plan (Thola Pujru community). This technical report is written in Spanish*	Technical report	Dennis Alfio Mollinedo Gutierrez	Male	Bolivian	Armonía, Cochabamba	██████████
Monitoring Protocol to collect data from reforested areas. This technical report (draft) is written in Spanish*	Manual	Omar Oporto Daza, Dennis Mollinedo, José Luís Ramos y Eneida Zurita Edition and concept: Daniela Aguirre Torres	Male & Female	Bolivian	Armonía, Cochabamba	██████████
Protocol to fight and prevent forest fires*	Manual	Daniela Aguirre Torres	Female	Bolivian	Armonia, Cochabamba	██████████
Protocol to monitor birds in the Southern Slope of the Tunari National Park*	Manual	Victor Hugo García-Solíz Edition and concept: Daniela Aguirre Torres	Male & Female	Bolivian	Armonía, Cochabamba	██████████
Protocol to measure flows in rivers, riverine and springs	Manual	Fernándo Sagárnaga y René Herbas Edition and concept: Daniela Aguirre Torres	Male & Female	Bolivian	Armonía, Cochabamba FAUNAGUA, Cochabamba	██████████
Protocol to measure the socio-economic impact of the project	Manual	Daniela Aguirre Torres	Female	Bolivian	Armonía, Cochabamba	██████████

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
(short and long-term impacts)*						
Protocol to monitoring reforested areas through the use of drone*	Manual	FAUNAGUA	Male	Bolivian	Armonía, Cochabamba	██████████
Report: Water retentions on the microscale:	Technical report	FAUNAGUA	Male	Bolivian	Armonia, Bolivia	██████████
Report of installation and operation of monitoring station.	Technical report	FAUNAGUA	Male	Bolivian	Armonía, Bolivia	██████████
Report on vegetation cover and water discharge.	Technical report	FAUNAGUA	Male	Bolivian	Armonía, Bolivia	██████████
Report with monitoring results and short summary on water balance and environmental flow.	Technical report	FAUNAGUA	Male	Bolivian	Armonía, Bolivia	██████████
Zoning of reforestation areas on the southern slope of the PNT	Technical report	FAUNAGUA	Male	Bolivian	Armonía, Bolivia	██████████
Evaluation of the conservation status of vegetation in 6 basins	Technical report	FAUNAGUA	Male	Bolivian	Armonía, Bolivia	██████████

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
of the PNT using IUCN criteria*						
Study of the avifauna of the southern slope of the Tunari National Park based on a standardized protocol for a census in natural forests and reforested areas within the Tunari project *	Technical report	Victor Hugo García-Solíz	Male	Bolivian	Armonía, Cochabamba	██████████
Socioeconomic study and impact of the project in communities of district 3, Tiquipaya municipality*	Technical report	Daniela Aguirre Torres	Female	Bolivian	Armonía, Cochabamba	██████████
10-year strategy for the protection of ecosystem function and sustainable development of communities *	Technical report	Daniela Aguirre Torres y Eneida Zurita	Female	Bolivian	Armonía, Cochabamba	██████████
Communication strategy*	Technical report	Teresa Ardaya	Female	Bolivian	Armonía, Cochabamba	██████████
Report of the public opinion poll on the Tunari National Park*	Technical report	Eneida Zurita y Daniela Aguirre Torres	Female	Bolivian	Armonía, Cochabamba	██████████

Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the correct template (checking fund, type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission?	Yes
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line. All supporting material should be submitted in a way that can be accessed and downloaded as one complete package.	No need
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 14)?	Yes
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	Yes