# Darwin Initiative Innovation Annual Report

To be completed with reference to the "Project Reporting Information Note": (https://www.darwininitiative.org.uk/resources-for-projects/information-notes-learning-notes-briefing-papers-and-reviews/ ).

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

**Submission Deadline: 30th April 2023**

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

## Darwin Initiative Project Information

| | |
|---|---|
| Project reference | **DARNV006** |
| Project title | **Replenishing Bolivia's Water Footprint: Scaling Watershed Conservation through Public-Private Partnerships** |
| Country/ies | **Bolivia** |
| Lead Partner | **Natura Bolivia Foundation** |
| Project partner(s) | **Coca Cola Bolivia, (CEJIS) Center for Legal Studies and Social Research, Cuencas Sustentables Ltd.** |
| Darwin Initiative grant value | **£185,209** |
| Start/end dates of project | **April 1, 2022-Mar 31, 2024** |
| Reporting period and number | **April 1, 2022-Mar 31, 2023, Annual Report 1)** |
| Project Leader name | **Nigel Asquith** |
| Project website/social media | **n/a** |
| Report author(s) and date | **Nigel Asquith April 29 2023** |

## 1. Project summary

The project locations – Bolivia's Santa Cruz Valleys – are part of the tropical Andes biodiversity hotspot. Amboró National Park, the Valleys' northern border, hosts >900 bird species, almost 10% of the bird species on earth. Many rural communities in the Santa Cruz Valleys – as in much of the developing world – depend on streams and rivers for their water supplies. Livestock often defecate in these water sources and are major contributors to contamination and concomitant health problems, especially amongst children. Moreover, extensive cattle grazing is one of the primary threats to global biodiversity and forest cover. Cows enter riverine forests, to drink and graze. They disturb crush herbs and fungi, consume seedlings of endangered tree species, and disturb the habitat of small animals, thus severely reducing biodiversity. Cows also defecate and urinate in the streams and compact soil, leading to higher levels of faecal coliforms, increases in flooding and sedimentation, and decreases in dry season water flows and quality.

Even though Bolivian municipalities invest significant sums in water access projects, there is currently no financial or legal mechanism through which they can simultaneously invest in upstream conservation. Such "access only" water systems are thus destined to provide users with drinking water that is legally unfit for human consumption. On the other hand, philanthropic investment in biodiversity conservation is decreasing, and once local communities realize that their water supplies are contaminated, it is often too late to inexpensively resolve the problem.

This project's innovation is to try to determine a legal pathway by which the public funds being invested in water access projects could also be used to undertake upstream conservation. Such a mechanism would allow governments to simultaneously guarantee clean water supplies and to protect the biodiversity of some of the world's most biodiverse forest, in a more efficient and effective way than trying to achieve these goals separately. Our project is thus designing and piloting an innovative financing model for integrated water access and conservation. In the projects' first year we designed the legal and financial pathways to implement the green/grey infrastructure model and persuaded three municipalities to finance pilot interventions.

## 2. Project stakeholders/ partners

Project partners meet frequently, both during field activities and at a management level.

Our main advance over the last year was to identify and start working with our on-the-ground municipal partners. These comprise the local governments and water users associations in the municipalities of Villa Serrano, El Trigal and Comarapa. We have worked closely with these institutions as we have further planned and designed the field interventions: i.e., the three projects that will be completed in 2023-2024.

The British Ambassador to Bolivia, Mr. Jeff Glekin, visited Natura Bolivia offices at the end of March, and we briefed him on the project. Due to time considerations Ambassador Glekin was unable to visit the field, but we hope to arrange a field visit for him later in 2024.

## 3. Project progress

### 3.1 Progress in carrying out project Activities.

In year 1, we had expected to advance on Output 1:

**The technical, legal, and financial pathway to implement a green/grey infrastructure public private partnership model for water access and sustainable watershed management is designed.**

With the indicators:

**1.1. The financial and technical model is designed, and its logic and implementation feasibility confirmed by municipal technicians** (by September 2022)
**1.2. The legal pathway for municipal investment in watershed conservation is designed and verified** (by September 2022)
**1.3. Three municipalities commit to investing in pilot green/grey infrastructure projects** (by March 2023)

All three indicators were completed as expected, and activities undertaken as programmed.

*1.1.1. Analyse literature to evaluate previous similar experiences in other fields.*
*1.1.2. Meet with 20 municipal authorities and technicians to discuss concept/analyse options.*
*1.1.3. Design draft model, share with partners and refine based on feedback.*
*1.1.4. Finalize model and present to municipal collaborators for approval.*
*1.2.1. Analyse legal precedents to identify options.*
*1.2.2. Meet with 10 municipal lawyers to discuss concepts and analyse options.*
*1.2.3. Design draft of proposed legal pathways, share with partner lawyers and refine.*
*1.2.4. Finalize model and present to municipal lawyers for approval.*

These activities were undertaken in a series of one-on-one meetings with municipal authorities and technicians and finalized in a 4-day workshop that discussed the details of the new "innovation" version of the Watershared model. This event was co-funded by the Nordic Climate Facility and the Darwin Innovation project. Workshop participants comprised 45 water experts, and municipal technicians from eight countries, including staff from project partners and water professionals from Colombia, Ecuador, Peru and Chile and from across Bolivia.

From October-March we then visited individual municipalities of El Trigal, Villa Serrano, Comarapa, Saipina, Tomina, Pampagrande, San Ignacio de Velasco, Vallegrande, Samaipata and Quirusillas to:

*1.3.1. Analyse municipal documents and land use maps to identify potential communities.*
*1.3.2. Discuss potential sites with municipal leaders and community members.*
*1.3.3. Develop concept proposals for green/grey infrastructure in 10 communities and discuss.*
*1.3.4. Select sites with greatest potential and finalize project design.*
*1.3.5. Submit proposals into annual municipal budgeting process.*
*1.3.6. Work with municipal technicians to ensure acceptance of proposals in municipal budgets.*

## 3.2 Progress towards project Outputs

Due for Year 2 were three of the Output 1 indicators namely:

**1.1. The financial and technical model is designed, and its logic and implementation feasibility confirmed by municipal technicians (by September 2022, baseline, 0 approved models).** After initial analyses we concluded that the only way to efficiently assess logic and implementation feasibility was to undertake two real-life designs. We therefore worked with municipal technicians to undertake cost analysis for two municipalities, Tomina and El Trigal. The cost of repair and expansion of the potable water system of the Fuerte Rua community in Tomina, was calculated to be £6,705, while improvement of the water system from the water intake to the installation of two storage tanks in El Trigal would cost £25,228. Built into the costs of these projects was the conservation of 377 ha and 870 ha respectively. Both municipal governments confirmed that such projects were feasible and initiated a search for financing.

**1.2. The legal pathway for municipal investment in watershed conservation is designed and verified (by September 2022, baseline, 0 approved legal pathways).** Project lead Liset Menacho worked with lawyers from Tomina and El Trigal to ascertain that, with community support, there was a legal pathway to using national government funds to finance the projects.

**1.3. Three municipalities commit to investing in pilot green/grey infrastructure projects (by March 2023, baseline, 0 municipal investments):** We continued to engage with advancing the projects in the municipalities of Tomina and El Trigal. In addition, the municipalities of El Trigal (for a second project), Villa Serrano and Comarapa committed to invest in the initiative. We now have four three signed agreements (two from El Trigal and one from each of Tomina and Villa Serrano, while that from Comarapa municipality is still pending).

## 3.3 Progress towards the project Outcome

We feel we are well on track to achieve our project outcome: i.e., **An innovative, self-financing water access model, integrating grey and green infrastructure, is piloted by local municipalities, conserving 4000 hectares of forest, and replenishing 2 million m3 of water annually**. We can confirm that our outcome indicators appear adequate for measuring the intended outcome and that we are likely to achieve the outcome by end of funding. However, we have not advance significantly yet on either outcome indicator.

**0.1. Three example of an integrated grey/green infrastructure water access/watershed conservation model are designed, built, financed, and maintained by municipal governments and private sector water users** (KPI 1: Extent to which intervention is likely to lead to Transformational Change (1 potentially transformational change by March 2024)

**0.2. 4000 hectares of forest are conserved, 2 million m3 of water are restored to the ecosystem, and 300 families have access to clean water** (KPI 1: Number of people whose resilience has been improved (1200 people by March 2024); KPI 2 net change in greenhouse gas emissions (tCO2e) (3.6 million tCO2e stored by March 2024), KPI 3 Number of hectares where deforestation has been avoided (4000 hectares by March 2024)

## 3.4 Monitoring of assumptions

**Outcome level assumption:** We assume that municipal governments and private sector water users have sufficient financing to develop grey/green infrastructure projects. We also assume that communities are willing and able to conserve their forests, and that that there is a link between forest conservation and water quality.

**Output 1 Assumption:** The fundamental assumptions underlying output 1 are that 1) we can integrate grey and green infrastructure into one single project 2) an integrated project will be only marginally more expensive than a standard grey infrastructure project, and 3) we can convince municipal governments to pay for such integration.

We have signed agreements with the municipalities of Tomina, El Trigal and Villa Serrano, and with the relevant communities. These agreements thus effectively recognize that: “municipal governments and private sector water users have sufficient financing to develop grey/green infrastructure projects”, “that communities are willing and able to conserve their forests”, “that that there is a link between forest conservation and water quality “that we can integrate grey and green infrastructure into one single project”, “that an integrated project will be only marginally more expensive than a standard grey infrastructure project” and that “we can convince municipal governments to pay for such integration”. In short then, all our assumptions and are pathway to change are holding up so far.

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

The impact to which expect to contribute is that “Bolivian water users achieve water neutrality (100% replenish) through upstream forest conservation.

“Business as usual” for water access projects across the Andes is that investments are made in grey infrastructure without any concern for upstream watershed management. Pipes quickly clog, dams fill with sediment, and drinking water is contaminated with faecal coliforms. Meanwhile, “Business as usual” for environmentalists is to invest donor funds and new water user tariffs to try to recover the situation through upstream restoration.

Our objective is a new “business as usual”, which a priori melds the civil engineering of grey infrastructure with the protection, maintenance, (and if necessary, restoration) of existing green infrastructure. Such integration will happen before the grey infrastructure is built to 1) ensure that upstream degradation does not prejudice the new investment and 2) “piggyback” the costs of the inexpensive green infrastructure protection onto the far more expensive grey infrastructure construction costs.

Given that thousands of rural Bolivian communities lack access to potable water and that protected forested watersheds can help clean water at low cost, we expect that the model will spread rapidly. Natura already works in more than 60 municipalities across Bolivia, and so we have direct access to hundreds of decision makers and thousands of communities where the new model could function.

The major barrier to scaling this model is that is has never yet been used. It is new and is requiring a change in thinking for both community members and municipal governments.

## 4. Project support to the Conventions, Treaties or Agreements

Bolivia's NBSAPs under the CBD are outlined in the 2019-2030 National Biodiversity Strategy. This project is helping achieve the following within Strategic Line 3: "Maintenance of environmental functions and Living Well in harmony with Mother Earth, by promoting regional, sub-national and local actions for the conservation of ecosystems and species of flora and fauna with a certain degree of threat and in the Transversal Lines: "contributing to ecosystem-based adaptation as a strategy for socio-ecological resilience to climate change in life systems" and "Adjusting regulations, programs, projects and actions to gender equality to ensure the equitable participation of women in Integral Management and Sustainable Biodiversity"

As part of its NDCs under the UNFCCC Bolivia expects to achieve a series of objectives in mitigation and adaptation by 2030. In terms of water, the project will specifically help "increase in a holistic manner the adaptation capacity and systematically reduce the hydric vulnerability in the country" and provide a "Significant improvement of social participation for local water management" and "Increase food production under irrigation.

In terms of forests the project will "increase the capacity of joint adaptation and mitigation through the comprehensive and sustainable management of forests" by "increasing forest areas with integrated and sustainable community management approaches" and "strengthening environmental functions (carbon capture and storage, organic matter, and soil fertility, biodiversity conservation and water availability)".

Natura has a formal cooperation agreement with the Bolivian governments "Mother Earth Authority" which commits Natura to provide "Technical and coordination support for the preparation of Bolivia's Nationally Determined Contributions", specifically through the "Technical, logistical and coordination support for the assignment of three municipalities to the Joint Mechanism for Adaption and Mitigation".

In 2022-2023 we had a series of meetings with the Mother Earth Authority, both in La Paz and in visits to our field sites.

## 5. Project support to poverty reduction

The primary beneficiaries of the project are the upstream beneficiary families of the Santa Cruz valleys (half of the beneficiaries are female) who will get cleaner water and receive development projects. Downstream families will benefit from improved access to clean water. Females will benefit disproportionately from reductions in their daily burden of water collection. Children under five will also benefit disproportionately, as it is they who suffer the most gastro-intestinal diseases from polluted water. In the long term, if our project works, the potential beneficiaries of the new model will be the hundreds of thousands of families in rural Bolivia who have no access to clean water. Our new financing model will ensure that when access to water is provided by their municipal government, it will contain less faecal coliforms because of the healthier upstream ecosystem.

However, the first year of the project was focused on scoping/developing the idea/testing the concept behind the innovation. We therefore have not yet had any impact, neither generally nor on the specific issue of poverty reduction

## 6. Gender equality and social inclusion

In the often-male dominated culture of Bolivia, women's and especially girl's voices are rarely heard. Many women own land in Bolivia's Santa Cruz valleys but are unable to use it effectively. Traditional development projects that focus on improving crop yields and productivity invariably benefit men. Our project is different. Women are most usually responsible for collecting and managing household water supplies. By enhancing water access, we will immediately improve the living standards of many women.

However, the first year of the project was focused on scoping/developing the idea/testing the concept behind the innovation. We therefore have not yet had any impact, neither generally nor on the specific issue of gender equality and social inclusion.

| | |
|---|---|
| Proportion of women on the Project Board. | We don't have a project board |
| Proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women. | 50% of project partners are led by women, Natura has a senior leadership team consisting of at least 50% women |

## 7. Monitoring and evaluation

Our "Innovation" project has not been standard in the sense that we have not had a series of detailed sub-activities and activities that we expected and needed to monitor and evaluate.

Indeed, the nature of our innovation is that we did not expect that all individual activities and sub activities would go as planned, nor that we need necessarily successfully complete them all as planned.

Thus, for example, while we had expected that Activities 1.1.1. to 1.2.4 would be undertaken primarily in a series of one-on-one meetings with municipal authorities and technicians, we quickly realized that it would be more efficient to do so in a group. We therefore finalized them in unexpected fashion, in a 4-day workshop that discussed the details of the potential innovation. Similarly, after an initial analysis we concluded that – rather than undertaking the expected desk studies – the only way to efficiently assess logic and implementation feasibility was to undertake two real-life designs. We do not view such changes and the M&E challenges that go along with them as problematic. Rather they are the nature of an innovation project.

Rather than monitoring and evaluating activities, we focused on one output and its three indicators:

**The technical, legal, and financial pathway to implement a green/grey infrastructure public private partnership model for water access and sustainable watershed management is designed.**

**1.1. The financial and technical model is designed, and its logic and implementation feasibility confirmed by municipal technicians.**
**1.2. The legal pathway for municipal investment in watershed conservation is designed and verified.**
**1.3. Three municipalities commit to investing in pilot green/grey infrastructure projects.**

These have been completed as planned.

## 8. Lessons learnt.

The project has progressed as expected this year. It has been an explorative process that has taken us up and down a series of legal and technical blind alleys. However, we understood that this was the nature of such an "innovation" project. We think we are on a good track and expect to have an entire series of lessons to share at project completion. This will be Output Indicator 1.4. Project lessons are learned, published, disseminated, and discussed with at least 100 municipal leaders and 500 community members, expected by March 2024.

## 9. Actions taken in response to previous reviews.

Not applicable

## 10. Risk Management

No new risks have arisen in the last 12 months that were not previously accounted for. We have made no significant adaptations to the project design related to risk. Below is a copy of the original risk register, there have been no changes to either risks or probabilities.

| Risk Description | Mitigation | Residual Risk |
|---|---|---|
| Partners, especially program participants who are not staff, misuse funds or payments are not accounted for | Natura's accounting and safeguards system has been used with and approved by donors including USAID (5 years $1.7 M), the European Union (8 years, $2 M) and the Interamerican Development Bank (5 years, $1.6 M). | Minor |
| Participants will travel along potentially dangerous roads, resulting in risk of accidents | Natura's travel policies require no travel after dark, respect of speed limits, defensive driving, and vehicle tracking in real time using GPS. We will also take out accident insurance policies for all participants. | Minor |
| Municipal governments do not provide the expected funding for the three green/grey infrastructure initiatives | Natura annually leverages significant municipal funds for conservation, so we think we can manage this risk. However, if funds cannot be raised for the three projects, then our innovation attempt will have failed. This will not be catastrophic though, as commit to providing the required £150,000. | Severe |
| Sexual or other harassment or abuse of participants and project Staff | All participants will have to read and sign our safeguards policy. We will identify and publicise the contact details of a female project staff member to be the point of contact for complaints and concerns, to whom anonymous complaints can be made. | Minor |
| Communities and municipalities do not see the need for investments in green infrastructure | Our objective is to see if this new green/grey model can work. If a community or municipality is not interested in such a project, then we will simply invite the next community/municipality. More than 30 communities have already expressed interest, so we believe that we can find enough appropriate communities | Minor |
| Conflict between upstream and downstream communities | Our negotiation model is a cooperative community-based participative process, and so can help resolve such conflicts. Our offer to invest along with our primary concept of reciprocity has been shown to be a low-cost, local mechanism for conflict resolution | Minor |

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

To build support for the fusion of grey and green infrastructure into an integrated project (i.e., water access plus watershed protection), our marketing and communication strategy focused on two main messages. The focus of these messages to municipal governments – i.e., the potential new investors and participants in the model – was that:

1) Clean water is a human right, and investment should be in both constructing water distribution systems and in also protecting the forested upstream "Water Factories"

2) Such investments should be structured in the same way as school and hospital construction are financed, through public investments by municipal authorities.

In addition to in person meetings with local authorities in their offices, we produced a series of videos, and we held an international meeting in Santa Cruz, at the UTEPSA University with more than 200 participants, including national, regional and local governments. The meeting was opened by a representative of the State Government of Santa Cruz, and featured speakers from across the Andes.

## 12. Sustainability and legacy

In 2019 Natura, Cuencas and CEJIS implemented a project in La Asunta community that build the grey infrastructure of 2000 metres of pipes, installed a water tank and chlorination unit, and secured and conserved 1500 hectares of upper watershed forest. The project did not attempt to get municipal government finance, but instead relied on donors. Despite the innovative success of integrating grey and green infrastructure development into one project, forest conservation was still funded by donors (albeit donations for water access, not for biodiversity).

This project is taking the innovation one step further, to try and figure out a way to use municipal public funds for such integrated water systems. What we are undertaking – figuring out how local governments can pay for biodiversity from within water access budgets – will be a quantum leap for conservation financing in Bolivia.

In the first year of the project, we have ascertained how to achieve this, and started the field intervention to demonstrate it. In the second year of the project we will pilot, replicated, and then start the process to scale the innovation. The intended benefits are still valid, and we do not expect to make changes to what was originally proposed.

## 13. Darwin Initiative identity

The first year of the project was focused on scoping/developing the idea/testing the concept behind the innovation. We therefore have not yet had many opportunities to publicize our results, although we did have a significant discussion about Darwin and the UK Government's contribution to our work with the British Ambassador, Jeff Glekin. In the next year, as results come in from the field, we expect to have much larger social media and other communication presence.

## 14. 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, Tatiana Torres [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: % [and number]<br>Planned: % [and number] |
| 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 | | |
| Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so please specify. No | | |

## 15. Project expenditure

**Table 1: Project expenditure during the reporting period (1 April 2022 – 31 March 2023)**

**Please note that these are DRAFT numbers and will corrected by May 31**

| Project spend (indicative) since last Annual Report | 2022/23 Grant (£) | 2022/23 Total Darwin Initiative Costs (£) | Variance % | Comments (please explain significant variances) |
|---|---|---|---|---|
| Staff costs (see below) | [redacted] | | | |
| Consultancy costs | | | | |
| Overhead Costs | | | | |
| Travel and subsistence | | | | |
| Operating Costs | | | | |
| Capital items (see below) | | | | |
| Monitoring & Evaluation (M&E) | | | | |
| Others (see below) | | | | |
| **TOTAL** | | | | |

## 16. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

The first year of the project was focused on scoping/developing the idea/testing the concept behind the innovation. We therefore have not yet had any outstanding achievements, but we expect to have some in 2023-2024.

## Annex 1: Report of progress and achievements against logframe for Financial Year 2022-2023

| Project summary | SMART Indicators | Progress and Achievements April 2022 - March 2023 | Actions required/planned for next period |
|---|---|---|---|
| ***Impact***<br>Bolivian water users achieve water neutrality (100% replenish) through upstream forest conservation | | No impact yet | [redacted] |
| **Outcome:** An innovative, self-financing water access model, integrating grey and green infrastructure, is piloted by local municipalities, conserving 6000 hectares of forest and replenishing 2 million m3 of water annually | 0.1 Three integrated grey/green infrastructure water access/ watershed conservation model is designed, built, financed, and maintained by municipal governments and private sector water users (KPI 1: Extent to which intervention is likely to lead to Transformational Change (1 potentially transformational change by March 2024, baseline 0)<br><br>0.2 4000 hectares of forest are conserved, 2 million m3 of water are restored to the ecosystem, and 300 families have access to clean water (KPI 1: Number of people whose resilience has been improved (1200 people by March 2024, baseline 0); KPI 2 net change in greenhouse gas emissions (tCO2e) (3.6 million tCO2e stored by March 2024, baseline 0), KPI 3 Number of hectares where deforestation has been avoided (4000 hectares by March 2024, baseline 0) | 0.1. Design documents, photos of three working systems, financing contracts signed by municipal governments and private water users.<br><br>0.2. Satellite imagery pre/post project, municipal records of land under signed conservation agreements, hydrological modelling results, faecal coliform load in community water supplies, standard carbon calculations based on existing forest plots.<br><br>No outcome indicators yet | As per activities below described in original logframe |

| | | | |
|---|---|---|---|
| **Output 1.** The technical, legal, and financial pathway to implement a green/grey infrastructure public-private partnership model for water access and sustainable watershed management is designed | 1.1. The financial and technical model is designed, and its logic and implementation feasibility confirmed by municipal technicians (by September 2022, baseline, 0 approved models)<br><br>1.2 The legal pathway for municipal investment in watershed conservation is designed and verified (by September 2022, baseline, 0 approved legal pathways)<br><br>1.3. Three municipalities commit to investing in pilot green/grey infrastructure projects (by March 2023, baseline, 0 municipal investments) | 1.1. Detailed financial and technical document describing model, with signed approval of municipal technicians.<br><br>1.2. Legal document describing governmental financing options, with signed approval of municipal lawyer.<br><br>1.3. Letters of approval or municipal decrees approving investment<br><br>These are appropriate indicators. All three have been completed and we have attached evidence as an attachment | |
| 1.1.1. Analyse literature to evaluate previous similar experiences. | | Completed | No more actions necessary |
| 1.1.2. Meet with 20 municipal authorities and technicians to discuss concept and analyse options. | | Completed | No more actions necessary |
| 1.1.3. Design draft model, share with partners and refine. | | Completed | No more actions necessary |
| 1.1.4. Finalize model and present to municipal collaborators for approval. | | Completed | No more actions necessary |
| 1.2.1. Analyse legal precedents to identify options. | | Completed | No more actions necessary |
| 1.2.2. Meet with 10 municipal lawyers to discuss concepts and options. | | Completed | No more actions necessary |
| 1.2.3. Design draft of proposed legal pathways, share with partner lawyers and refine based on feedback. | | Completed | No more actions necessary |
| 1.2.4. Finalize model and present to municipal lawyers for approval. | | Completed | No more actions necessary |
| 1.3.1. Analyse municipal documents and land use maps to identify potential communities. | | Completed | No more actions necessary |
| 1.3.2 Discuss potential sites with leaders and community members. | | Completed | No more actions necessary |
| 1.3.3. Develop concept proposals for green/grey infrastructure in 10 communities and discuss with stakeholders. | | Completed | No more actions necessary |
| 1.3.4. Select sites with greatest potential and finalize project design. | | Completed | No more actions necessary |
| 1.3.5. Submit proposals into annual municipal budgeting process. | | Completed | No more actions necessary |
| 1.3.6. Work with municipal technicians to ensure acceptance of proposals into municipal budgets. | | Completed | No more actions necessary |

## Annex 2: Project's full current logframe as presented in the application form

| **Title: Replenishing Bolivia's Water Footprint: Scaling Watershed Conservation through Public-Private Partnerships** | | | |
|---|---|---|---|
| **Project Summary** | **SMART Indicators** | **Means of Verification** | **Important Assumptions** |
| **Impact**: Bolivian water users achieve water neutrality (100% replenish) through upstream forest conservation | | | |
| **Outcome:** An innovative, self-financing water access model, integrating grey and green infrastructure, is piloted by local municipalities, conserving 6000 hectares of forest and replenishing 2 million m3 of water annually | 0.1. Three integrated grey/green infrastructure water access/watershed conservation model is designed, built, financed and maintained by municipal governments and private sector water users (KPI 1: Extent to which intervention is likely to lead to Transformational Change (1 potentially transformational change by March 2024, baseline 0)) | 0.1. Design documents, photos of three working systems, financing contracts signed by municipal governments and private water users | We assume that municipal governments and private sector water users have sufficient financing to develop grey/green infrastructure projects. We base this assumption on Bolivia's decentralization laws, that guarantee municipal funds for communities, linked with the high demand for community water projects caused by the increasing frequency of drought in Bolivia. We also assume that communities are willing and able to conserve their forests, and that that there is a link between forest conservation and water quality, these assumptions being based on our previous successes protecting 500,000 hectares of forests through community watershed conservation agreements. |
| | 0.2. 4000 hectares of forest are conserved, 2 million m3 of water are restored to the ecosystem, and 300 families have access to clean water (KPI 1: Number of people whose resilience has been improved (1200 people by March 2024, baseline 0); KPI 2 net change in greenhouse gas emissions (tCO2e) (3.6 million tCO2e stored by March 2024, baseline 0), KPI 3 Number of hectares where deforestation has been avoided (4000 hectares by March 2024, baseline 0) | 0.2. Satellite imagery pre/post project, municipal records of land under signed conservation agreements, hydrological modelling results, fecal coliform load in community water supplies, standard carbon calculations based on existing forest plots | |
| **Outputs:** | | | |
| 1. The technical, legal, and financial pathway to implement a green/grey infrastructure | 1.1. The financial and technical model is designed, and its logic and implementation feasibility confirmed by municipal technicians (by September 2022, baseline, 0 approved models) | 1.1. Detailed financial and technical document describing model, with signed approval of municipal technicians | The fundamental assumptions underlying this proposal are that 1) we can integrate grey and green infrastructure into one single project 2) an integrated project will be only marginally more expensive than a standard grey infrastructure project, and 3) we can |

| | | | |
|---|---|---|---|
| public-private partnership model for water access and sustainable watershed management is designed | 1.2. The legal pathway for municipal investment in watershed conservation is designed and verified (by September 2022, baseline, 0 approved legal pathways) | 1.2. Legal document describing governmental financing options, with signed approval of municipal lawyer | convince municipal governments to pay for such integration. The innovation of our proposal will be in rigorously testing these assumptions. Bolivian communities and municipal governments have historically spent (and wasted) hundreds of millions of pounds on water access projects that have ignored upstream landuse. This is especially ironic given that Natura's experiences show that watershed conservation can be remarkably inexpensive (less than £1 /ha/year). Significant municipal investments in integrated water access - watershed conservation projects thus seem financially possible (and indeed logical). What we don't yet know are the precise mechanisms by which we can such make integrated green/grey projects technically, legally and politically possible (and then widespread) |
| | 1.3. Three municipalities commit to investing in pilot green/grey infrastructure projects (by March 2023, baseline, 0 municipal investments) | 1.3. Letters of approval or municipal decrees approving investment | |
| | 1.4. Project lessons are learned, published, disseminated, and discussed with at least 100 municipal leaders and 500 community members from around Bolivia (by March 2024, baseline, 0 meetings to discuss lessons) | 1.4. Lessons learned document, list of meeting attendees | |
| 2. A green/grey infrastructure public-private partnership model for water access and sustainable watershed management is financed by municipal governments and tested by local stakeholders. | 2.1. Three water access systems (the grey infrastructure of tanks, dams, pipes etc.) are built (by December 2023, baseline, 0 systems) | 2.1. Receipts and contracts, photos, signed acceptance of delivery of water access system by community and municipal authorities | We assume that Municipal governments will be able and willing to pay for the green/grey projects. We also assume that even once the projects have been approved, government bureaucratic processes will take significant time to access the finance. We will therefore use £150,000 of our own funds (from Cuencas Sustentables, not counterpart funds) to pre-finance the construction and conservation -- i.e., build the infrastructure and demarcate the conservation areas. Municipal governments will only pay for each of the water access and watershed conservation systems upon completion (i.e. only at the end of the project will they re-pay our pre-financing). We will use Darwin funds ONLY for the design and development of the model concept, and lesson learning. If all of our assumptions are correct, and the project succeeds, then the municipal governments |
| | 2.2. Three communities implement a new user tariff to cover maintenance costs of the water distribution system and watershed conservation (by July 2024, baseline, 0 tariffs) | 2.2. Statutes of new tariff rules, bank statements or receipts showing fee payments | |
| | 2.3. Water systems are managed sustainably by three newly created community-based water management institutions (3 institutions created by March 2024, baseline, 0 systems managed, 0 institutions trained) | 2.3. Articles of incorporation of new community-based institutions, signed training attendance reports, levels of free chlorine levels in system | |

| | | | |
|---|---|---|---|
| | | | will pay us back our £150,000 by March 2024. If our assumptions were wrong, and Output 2 fails, we will have lost our own money, not Darwin funds. |
| 3. Local communities manage their water supplies sustainability and conserve their forests | 3.1. 4000 hectares of watershed forests are protected from agriculture and cattle through fencing and/or compensation payments to owners (by December 2023, baseline, 0 hectares) | 3.1. Signed conservation agreements (including maps) | We assume that communities will agree to conserve their forests in order to safeguard their water supplies and that they are able to do so. To minimize risk we will select communities with full legal title to the land, and with no clear and apparent risk of outsiders entering illegally. |
| | 3.2. Protected forests are patrolled monthly to ensure compliance and, if necessary, incompliance is sanctioned and restorative measures applied (2 patrols per month, 100 beneficiary families of which 200 beneficiaries are female, by March 2024, baseline, 0 patrols, 0 families with clean water) | 3.2. Patrolling reports, levels of fecal coliform in household water supplies, village surveys, records of any required restoration measures | |

**Activities** 1.1.1. Analyse literature to evaluate previous similar experiences in other fields 1.1.2. Meet with 20 municipal authorities and technicians to discuss concept and analyse options 1.1.3 Design draft model, share with partners and refine based on feedback 1.1.4 Finalize model and present to municipal collaborators for approval. 1.2.1. Analyse legal precedents to identify options 1.2.2. Meet with 10 municipal lawyers to discuss concepts and analyse options 1.2.3. Design draft of proposed legal pathways, share with partner lawyers and refine based on feedback 1.2.4 Finalize model and present to municipal lawyers for approval. 1.3.1. Analyse municipal documents and landuse maps to identify potential communities. 1.3.2. Discuss potential sites with municipal leaders and community members 1.3.3. Develop concept proposals foe green/grey infrastructure in 10 communities and discuss with stakeholders 1.3.4. Select sites with greatest potential and finalize project design, 1.3.5. Submit proposals into annual municipal budgeting process 1.3.6. Work with municipal technicians to ensure acceptance of proposals into municipal budgets. 1.4.1. Publish and distribute lessons-learned document 1.4.2. Organize meetings and workshops to present findings to 100 municipal leaders across Bolivia. 2.1.1. Build grey infrastructure systems (pipes, dams, tanks, chlorinators/purifers etc.), 2.1.2. Deliver functioning water access system to community members and municipal officials, 2.1.3. Municipal governments reimburse project for funds expended in construction. 2.2.1. Hold meetings to discuss new community-based maintenance tariffs, 2.2.2. Community members organize implement new tariff system. 2.3.1. Identify community members and train them in system management and monitoring, 2.3.2. Community members manage chlorination systems to maintain free chlorine at a concentration of 0.3-0.5 mg/l in community water supplies 2.3.3. Chlorine tablets are replaced on schedule and system is maintained. 3.1.1. Present and discuss watershed conservation agreement model with landowners and community members. 3.1.2. Negotiate compensation packages, and draft contracts that define responsibilities and rights. 3.1.3. Sign conservation agreements and deliver compensation packages such as fruit tree seedlings, honey production equipment etc. 3.2.1 Community members walk transects within the conservation area and report incursions or other threats to local and municipal authorities. 3.2.2. Define penalties for infractions, notify and sanction infractors, and repair damages to watershed, such as replanting.

# Annex 3: Standard Indicators

### 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 project |
|---|---|---|---|---|---|---|---|---|---|
| DI-A03 | Number of local/national organisations with improved capability and capacity as a result of project. | Number of Municipal Governments and water users associations with improved capability and capacity as a result of project. | People | # of Municipal Governments.<br># of water users associations. | 0 | | | 0 | 3 |
| DI-B03 | Number of new/improved community management plans available and endorsed. | Number of new community management plans available and endorsed. | Number | # of community watershed management plans. | 0 | | | 0 | 3 |
| DI-C01 | Number of best practice guides and knowledge products published and endorsed. | Number of best practice guides and knowledge products published and endorsed. | Number | Best practices/lessons learned guide based on project experiences. | 0 | | | 0 | 1 |
| DI-D01 | Hectares of habitat under sustainable management practices. | Hectares of habitat under sustainable management practices. | Area, hectares | # of hectares in community controlled protected areas | 0 | | | 0 | 4000 |
| DI-D02 | Number of people whose disaster/climate resilience has been improved. | Number of people whose disaster/climate resilience has been improved. | People | # of people,<br># of women<br># of girls<br>with water and food security | 0 | | | 0 | 1200<br>600<br>300 |

We have not yet published any documents

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

We have attached a series of documents and photos as supplementary material as evidence of project achievement. They are also available by link.

### 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. | |
| **Have you included means of verification?** You should not submit every project document, but main outputs and a selection of others would strengthen report. | Yes |
| **Do you have hard copies of material you need to submit with the report?** If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic. | No |
| If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 16)? | Yes |
| Have you involved partners in preparation of report and named main contributors | Yes |
| Have you completed the Project Expenditure table fully? | Yes |
| Do not include claim forms or other communications with this report. | |