The Global Biodiversity Standard

# TGBS Site Certification Registry

Nicolas Subia – Bolivia

**Project title:**

ArBolivia

**Site name:**

Nicolas Subia

**Final score:**

5.73

| Criterion | Score |
|---|---|
| **Criterion 1:** Select appropriate sites to enhance native biodiversity | 4.18 |
| **Criterion 2:** Enhance protection of existing habitats and biodiversity | 0.00 |
| **Criterion 3:** Protect, restore and manage biodiversity in consultation and partnership with local communities and other stakeholders | 7.50 |
| **Criterion 4:** Aim to maximise biodiversity recovery through ecosystem restoration | 6.67 |
| **Criterion 5:** Avoid and reduce invasive or potentially invasive species | 6.00 |
| **Criterion 6:** Prioritise the use of native, threatened and rare species | 8.00 |
| **Criterion 7:** Promote biodiversity and adaptive capacity | 6.00 |
| **Criterion 8:** Implement robust monitoring, evaluation and adaptive management of biodiversity | 7.50 |

## Project details:

**Name of applicant organization/s, agency/es or institution/s:** SICIREC and Ecosia

**Name of project:** ArBolivia. Arboles para Bolivia

**Site location:** Provincia de Ichilo, Santa Cruz de la Sierra, Bolivia

**Area:** 0.567 hectares

**Number of zones of different restoration types:** 1

**Restoration type:** Agroforestry

**Restoration approach:** Assisted natural recovery with planting

**Biome:** Tropical-subtropical forests biome

**Ecosystem type:** Tropical subtropical lowland rainforest

## Assessor details:

**Names of assessors:** José Mamani, Gabriela Orihuela, Lizeth Huamán

**Affiliated institution:** Huarango Nature

**Dates of visit:** 04/2024, 09/2024

## Project Objectives:

- Biodiversity: Quality
- Climate: Adaptation
- Climate: Mitigation
- Community: Income
- Food and Products: Market
- Food and Products: Yield

## Restoration Activities:

- Enforcement of restrictions or prohibitions on ecosystem conversion or destruction
- Implementation of sustainable ecosystem management practices in productive landscapes
- Tree planting

## Project description:

Represented by SICIREC Bolivia Ltda, the ArBolivia Project is part of the implementation and forest management of a carbon reforestation project with the aim of contributing to the mitigation of climate change and social risks in developing countries. The ArBolivia Project together with local rural smallholders promotes rural and productive development through reforestation activities with mixed, mainly native tree species, sustainable forestry plantation management and the provision of environmental services. Specific silvicultural and forest management tasks are defined together with the farmer. The application of a poly-cyclic harvesting system aims to ensure a relatively high average carbon storing capacity in the plantations. The carbon calculations are based on a mono-cyclic harvesting system applying a conservative approach. The project is being implemented in settler areas in the Cochabamba Tropics, Northern La Paz, and Western Beni, spread by three focal regions as follows: zone of Beni/La Paz covering municipalities of Reyes, Rurrenabaque, San Borja y San Buenaventura; Zone of Cochabamba covering municipalities of Chimoré, Puerto Villaroel y Shinahota. The settlers' areas have been a destination for migrants coming from the "High Valley" and Altiplano regions of Bolivia since the 1930s. Smallholders own 95% of the land in the portfolio regions. The sizes of the properties vary, but they are on average 20 hectares per family in the Cochabamba Tropics, and 25 to 50 ha in the other regions. Only a few farmers have land less than 20 ha. The settlers are organized into syndicates of 20 to 60 farmer families. Approximately 5 syndicates form a "central", which in turn belong to a federation. Traditional land-use practices associated with over-harvesting of native forests have led to widespread deforestation, which has led to a growing shortage of timber from commercial native species. This has spurred interest of smallholder farmers in the conservation and

sustainable management of the primary and secondary forests and in planting trees on their farmland. Areas reforested represent only small portions of the holdings of farmers which they designate voluntarily for this purpose in consideration of their food security and livelihood needs. Special programs like Integrated Land Use Planning, Agroforestry systems and silvopastoral systems accompany the project to guarantee food and income security for the farmers involved. The implementation as well as the maintenance activities necessary to ensure tree development within plantations are carried out by the farmers. The activities, e.g. weeding or pruning, are planned together with the project staff during the farm visits. During the visit a personalized on-farm capacity building assessment is realized by the technician with the farmer to assure accomplishment according to certain minimal technical standards and schedule.

## Ecosystem Integrity:

| Key attribute | Sub-attribute | Baseline | | Current Conditions | | Trajectory | Score |
|---|---|---|---|---|---|---|---|
| | | Description | Star Rating | Description | Star Rating | | |
| Absence of Threats | Contamination | There was no management of contaminants. However, there were few pollutants linked to livestock farming (according to contract). | 2 stars | There is an increased presence of agrochemicals linked to coffee plantations, as well as the noise of chainsaws. | 1 star | Declining | -6 |
| | Invasive species | There are more than 5 potentially invasive species present in the areas, brought by livestock, which cover an area of approximately 40% of the surface. | 1 star | There are more than 5 potentially invasive species present in the areas, brought by livestock, which cover an area close to 30% of the surface. | 1 star | Improving | 2 |
| | Over-utilisation | Fallow lands with grasses and the presence of some scattered trees (according to baseline field sheets). The soils could be in a state of compaction due to the entry of livestock. | 1 star | Forest plantation with evidence of habitats in the ground litter, in trees (little), in dead trunks, among others). No livestock present. NDFI value. | 2 stars | Improving | 6 |

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| | Other degradation drivers | There is no clear evidence that burning has taken place, however it is very likely that it was done in neighboring plots. | 4 stars | No burning of any kind is taking place in the area but possibly in the surroundings. | 4 stars | Improving | 2 |
| Physical conditions | Substrate physical conditions (both abiotic and biotic components) | Soil covered by herbaceous vegetation and evidence of grazing (planet images and field sheet review) | 1 star | Soil conditions improved thanks to the addition of leaf litter (30% in the dry season and around 50% in the wet season) and the absence of livestock. Beetles from the large telecoprid guild were also present. | 2 stars | Improving | 6 |
| | Substrate chemical conditions | Unable to assess | N/A | Unable to assess | N/A | N/A | N/A |
| | Water chemo-physical conditions | Unable to assess | N/A | Unable to assess | N/A | N/A | N/A |
| Species composition | Desirable plants, fungi and lichens | Absence of native trees, except for palm trees. Less than 20% of the reference ecosystem species are represented. Fungi and ferns are almost absent.. | 0 stars | There is evidence of a native tree (*Cetrolobium* sp.) and some useful native plants such as *Daedalea quercina* and *Cookeina speciosa*. Fungi were recorded in up to 35% of the total, compared to 80%. | 1 star | Improving | 6 |
| | Desirable animals | The presence of desirable animals is low due to habitat alteration. Decomposers (beetles) are | 1 star | There are 15 species of decomposers (beetles), out of a total of 132 individuals collected. The presence of large telecoprids | 3 stars | Improving | 10 |

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| | | found in fewer than 15 species, and primates are absent. | | is also evident. There are also two species of primates. | | | |
| | Rare and threatened species | Occasionally, rare birds can be observed due to its proximity to Amboró National Park, but primates and plants are not. Dung beetles are not recorded. | 0 stars | A beetle in danger of extinction in Bolivia and birds are present. The *Amazona aestiva* (NT) was reported in a nearby plot. | 2 stars | Improving | 10 |
| | No undesirable species | Livestock is occasionally present in the area. Weeds occupy more than 50% of the surface. Occasional presence of domestic animals.. | 0 stars | There is little evidence of livestock, and weeds are present in an area covering approximately 20% of the grass cover. Weeds are being controlled. | 2 stars | Improving | 10 |
| | Provenance, genetic diversity and genetic resilience | There was no consideration of seed origin and treatment. Conditions for seed dispersal are appropriate. | 1 star | The seeds were initially collected from a reputable supplier trained by FAO. More recently, they have been selected and collected from their own plantation. | 2 stars | Improving | 6 |
| Structural Diversity | All vegetation strata | Dominance of the herbaceous stratum with the presence of shrubs and occasional trees typical of a fallow land. | 1 star | There is a herbaceous stratum as well as a young, still incomplete upper arboreal stratum (devoid of bromeliads or orchids) | 2 stars | Improving | 6 |

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| | All trophic level | Only the first trophic level is found, with the presence of primary consumers being scarce. | 1 star | Producers, occasional primary consumers and decomposers (beetles) are found in greater diversity. | 2 stars | Improving | 6 |
| | Spatial mosaic | The spatial mosaic is composed of a dominant cover of little fragmented forest with similarity conditions of 50% of the reference cover. | 3 stars | The spatial mosaic is composed of a dominant cover of little fragmented forest with similarity conditions of 50% of the Reference Cover. | 3 stars | Improving | 2 |
| Ecosystem Function | Productivity/ cycling | GPP values with a similarity level of 75% of the reference ecosystem | 4 stars | GPP values with a similarity level of 75% of the reference ecosystem | 4 stars | Improving | 2 |
| | Habitat & interactions | Typical habitats are absent (dead trunks, leaf litter, trees taller than 20 m, burrows, among others). | 0 stars | Evidence of habitats was found in the ground litter, in trees (little), in dead trunks, among others). | 2 stars | Improving | 10 |
| | Resilience & recruitment | There is no evidence of regeneration of almost any species, especially due to the influx of livestock. | 0 stars | There is no clear evidence of regeneration | 0 stars | No change | 0 |
| External Exchanges | Landscape flows | There are no forest patches nearby, but there is a river and riparian forest that can | 2 stars | The planted forest patch promotes connectivity with the river and more distant forest patches. | 2 stars | Improving | 2 |

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| | | allow for landscape connectivity flows. | | | | | |
| | Intraspecific gene flows | The distance from the agroforestry plots to the forest patches is more than 100 m. There is no evidence of native species, birds, or beetles. | 0 stars | Native tree plantations have favored proximity and gene flow with forest patches. There is evidence of some forest species, not in plants, but in beetles. Even so, the distances between deforested areas are very large, in some cases greater than 100 m. | 1 star | Improving | 6 |
| | Habitat links | Unable to assess | N/A | Unable to assess | N/A | N/A | N/A |

## Level of Protection:

**Baseline:** Paper Park (1 star)

| Management activity | Sufficient level | Insufficient level |
|---|---|---|
| Soil erosion control | | x |
| Watershed management | | x |
| Management of wetland hydrology | | |
| Enforcement of restrictions or prohibitions on ecosystem conversion or destruction | | x |
| Implementation of sustainable ecosystem management practices in productive landscapes (e.g., organic farming; agroforestry; Farmer Managed Regeneration) | | x |
| Protection from overhunting, overharvesting, overfishing, or poaching | | x |
| Protection from uncharacteristic fire | | x |
| Maintenance of natural or semi-natural disturbance regimes (e.g., fire; flooding; grazing; haymaking) | | x |
| Fire management, including site preparation (e.g., thinning, hardwood reduction, establishment of fire breaks) | | x |
| Prescribed burning | | x |
| Grazing management (e.g., control of native grazer populations; reductions, removal, or exclusion of non-native grazers) | | x |
| Species control measures, physical or mechanical (e.g., cutting, pulling, burning, covering, digging up, ploughing, scalping, mowing, capturing, hunting) | | x |

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| Species control measures, biological (release of biological control agents, grazing, predation) | | x |
| Species control measures, organic or non-synthetic chemical (e.g., organic herbicides) | | x |
| Species control measures, synthetic chemical | | x |
| Post-control measures | | x |
| Re-invasion monitoring and prevention measures | | x |
| Management of secondary invasives | | x |
| Other control of invasive species | | x |

**Current:** Paper Park (1 star)

| **Management activity** | **Sufficient level** | **Insufficient level** |
|---|---|---|
| Soil erosion control | | x |
| Watershed management | | x |
| Management of wetland hydrology | | |
| Enforcement of restrictions or prohibitions on ecosystem conversion or destruction | | x |
| Implementation of sustainable ecosystem management practices in productive landscapes (e.g., organic farming; agroforestry; Farmer Managed Regeneration) | | x |
| Protection from overhunting, overharvesting, overfishing, or poaching | | x |
| Protection from uncharacteristic fire | | x |

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| Maintenance of natural or semi-natural disturbance regimes (e.g., fire; flooding; grazing; haymaking) | | x |
| Fire management, including site preparation (e.g., thinning, hardwood reduction, establishment of fire breaks) | | x |
| Prescribed burning | | x |
| Grazing management (e.g., control of native grazer populations; reductions, removal, or exclusion of non-native grazers) | | x |
| Species control measures, physical or mechanical (e.g., cutting, pulling, burning, covering, digging up, ploughing, scalping, mowing, capturing, hunting) | | x |
| Species control measures, biological (release of biological control agents, grazing, predation) | | x |
| Species control measures, organic or non-synthetic chemical (e.g., organic herbicides) | | x |
| Species control measures, synthetic chemical | | x |
| Post-control measures | | x |
| Re-invasion monitoring and prevention measures | | x |
| Management of secondary invasives | | x |
| Other control of invasive species | | x |

## Stakeholder Engagement and Social Benefits:

| Attribute | | Score | Description |
|---|---|---|---|
| Stakeholder engagement | Stakeholders identified | 1 | Interviews with stakeholders including: local municipalities, forestry committees, union leaders (communities), forest authority (ABT). |
| | Grievance mechanism | 1 | There is a chain of command to receive complaints according to SICIREC staff. Some cases have been reported with oral evidence. |
| | Primary stakeholders involved | 1 | Land owners involved in the selection of tree species, as workers in some activities. Forest committees are created with support of SICIREC to strengthen local capacities. |
| | Secondary stakeholders involved | 0 | There is insufficient evidence of secondary stakeholder engagement. |
| Benefits distribution | Capacity increased/building | 1 | Nursery interviews. List of nursery workers. Agreements signed with SICIREC evidencing a commitment to training. Interviews with field technicians and owners. |
| | Benefits/opportunities equitably distributed | 1 | Evidence of significant participation by women among nursery workers. Support for disadvantaged members by providing humanitarian loans. |

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| | Improved community wellbeing | 1 | SICIREC promotes the appreciation of rural life by offering more dignified livelihoods for farmers. It supports people in disadvantaged situations. It also participates in educational activities and collaborates with the Municipality. |
| Knowledge Enrichment | Inclusion of local or Indigenous knowledge in project development | 0 | There is no ancestral knowledge specific to the area, as the current inhabitants are settlers. The knowledge brought by newcomers is sometimes counterproductive to nature. |
| | Inclusion of scientific / conservation best practice in project development | 0.5 | Knowledge and experience from the team, which has worked on several projects, especially those linked to FAO. Theses have been written on the topic and extensive experience corroborated by interviews. |
| | Project contributes to the scientific community / wider knowledge | 0.5 | Theses completed in Bolivia and abroad. Knowledge contributed to science. |
| Sustainable Economies | Increased employment | 0.5 | The SICIREC team in Santa Cruz has doubled in size in recent years. Most of the professionals hired come from the region. Permanent and temporary staff are hired at the nursery. Additional income is generated for farmers through coffee collection and sales. |

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| | Improvement to local supply chains/local economy | 0 | There is insufficient evidence of benefits to local supply chains. |
| | Inclusion of sustainable business and employment models | 0 | There are no business initiatives derived from the project intervention |

## Monitoring, Evaluation and Adaptive Management:

**Ongoing Management Planning:**

- The management plan is co-developed with stakeholders and rights and knowledge holders, including local restoration practitioners and implementers.
- The plan builds as far as possible on effective practices, including traditional and Indigenous Peoples' management practices.
- The management plan identifies the ongoing management team, and clearly communicates roles and responsibilities of members of the team.
- The ongoing management plan is modified based on the results of periodic monitoring, and of changes in trade-offs or stakeholder or rights and knowledge holder interests or needs.

**Long-term Resourcing:**

- If not fully secured, appropriate long-term sources of funding for ongoing management are determined. There is coordination with other restoration projects to reduce costs and duplication of effort. These synergies can include, for example, alignment of schedules to facilitate sourcing of plant materials, sharing equipment, and monitoring.
- The project conducts site protection measures needed to prevent deleterious external or internal impacts (e.g. protection from unsustainable grazing, prevention of inappropriate fire, prevention of unsustainable harvesting, control of infestations by invasive species, management of weeds and other vegetative competitors).
- The project develops or supports training and stewardship programs for local communities and practitioners, to improve ongoing management of the site and prevent harm from inappropriate management.
- The project provides a governance structure to oversee ongoing management and stewardship of the site, and ensure legal protections for the investments made in restoration.

**Adaptive Management:**

- The project prepares contingency plans and protocols in case known degradation drivers re-emerge (e.g. populations of invasive animals that were previously managed through a biocontrol agent that ceases to function).

**Continuous Improvement:**

- The project promotes engagement and buy-in from local stakeholders and rights and knowledge holders, including Indigenous Peoples and key groups, so that they can foster and be part of continuous improvement.
- The project explores further funding mechanisms and capital investment to extend restoration to adjacent or nearby sites, including the development of partnerships with local agencies and other organisations.

**Monitoring and Evaluation:**

- The monitoring programme was planned while the restoration project or programme was being designed, rather than after implementation
- The monitoring programme/activities is adequately resourced
- The monitoring programme/activities includes collecting, managing (including cleaning and meta-data documentation), and archiving data
- The monitoring program includes a plan for interpreting results and sharing findings

## Certification issued to:

SICIREC BOLIVIA Ltda

Pasaje Tupiza II N-1124, Zona Recoleta, Cochabamba, Bolivia

Website: www.SICIREC-bolivia.org

## Social Safeguarding:

This project has not undergone a social safeguards assessment by The Global Biodiversity Standard. Responsibility for identifying and managing environmental and social risks lies with the implementing organisation and associated funders.