Biodiversity Program

Cálidda

Biodiversity Program

In line with the biodiversity program and the project "Implementation of fog catchers to collect water in the hills of Villa María," we monitor the project operation indicators on an annual basis. For this, a team composed of experts in biodiversity in flora and fauna was assembled, along with the Circuito Ecoturístico Lomas de Paraíso Association, who ensure the correct operation and maintenance of the implemented infrastructures.

The goal was to assess the outcomes of the operational phase relative to the 2021 baseline and to implement the necessary improvements to ensure ongoing project continuity. The following results are presented:

- Biodiversity Indicators

The presence of 1 bird species, Burhinus superciliaris huerequeque, was recorded, which does not belong to the list of bird species from previous sources. 1 mammal species was recorded. In addition, 5 species of reptiles were recorded: 2 snakes, 1 serpent, 1 gecko, and 1 lizard. Furthermore, the presence of 3 arthropod species was recorded: 1 arachnid, 1 mollusk, and 1 insect, representative of the lomas ecosystem.

Indicator Description	2021 Baseline	2022 Monitoring	
Protected flora species	112 species of flora	112 species of flora	
Protected fauna species	25 species of fauna	30 species of fauna	21 bird species
			1 mammal species
			5 reptile species
			3 Arthropods

- Landscape Indicators

It was possible to more precisely determine the surface area of hills currently receiving fog water and those potentially able to receive water by gravity. Moreover, improvements were made in monitoring water capture, and all fog-catching structures in the system were included in the calculations. These developments have led to a significant increase in the amount of water collected by fog catchers compared to 2021. This has contributed to a reduction in the carbon footprint.

Cálidda

Indicator Description	2021 Baseline	2022 Monitoring
Area of forested hillside assisted by irrigation	7,500 square meters	12,000 square meters
Area of hillside forested WITHOUT irrigation	3,000 square meters	4,600 square meters
Water captured by fog catchers	330 liters of water captured per day	2,479.8 liters of water captured per day [1]
Reforestation or Tree Planting	700 taras and huarangos trees planted	1,080 tara trees, serrano pepper trees, coastal pepper trees, palo verde trees, huaranhuay trees, and tipa trees planted
	500 tara seeds planted in the nursery	1,200 tara seeds planted in the nursery
Reforestation potential	100,000.0 square meters	151,377.9 square meters
CO2 reduction potential per tree	42 Ton CO2eq	64.8 Ton Co2eq [2]
CO2 reduction potential from captured fog	0.1 Kg CO2eq per day	1.5 Kg CO2eq per day [3]

[1] The indicator for 2022 groups the water produced by all the operating fog catchers totaling 12 meshes. The fog catchers implemented by Cálidda consist of 5 meshes and represent 45% of the total installed collector mesh surface.

[2] CO_2 capture equivalence factor: 0.060 metric tons of CO_2 per urban tree planted over a 10-year lifespan. Source: https://espanol.epa.gov/la-energia-y-el-medioambiente/calculadora-de-equivalencias-de-gases-de-efecto-inv

[3] Non-generated CO_2 equivalence factor: 0.344 kg CO_2/m3 of water collected from the fog net equivalent to the water saved from being extracted from the Chirilu basin for purification and subsequent use for irrigation. Source: UK Government GHG Conversion Factors for Company Reporting (2021). https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021

- Social Indicators

  The biodiversity project - fog catchers has contributed to the growth of local employment during 2022. The indicators show a solid progress for the local families and for the Association Circuito Ecoturístico Lomas de Paraíso.

Indicator Description	2021 Baseline	2022 Monitoring
Number of trained individuals	20+ people trained	42+ people trained
Tourism	95 guided visitors	581 guided visitors (*550%)[1]
	5 new guides registered	10 new guides registered
Gender	50% of visitors are women (52)	64.5% of visitors are women (375)
	50% of visitors are men (43)	35.5% of visitors are men (206)
Public-private partnerships	2 partnerships	3 partnerships[2]
Business	6 businesses	7 businesses
Benefiting families	50 families benefited	62 families benefited
Man-hours saved	3 hours daily for tree irrigation	3 hours per day for tree irrigation

[1] *Information provided by the CET Paraíso Ecotourism Association*
[2] *Two partnerships from 2021 continued into 2022.*

Cálidda