

# LIFE

THE RESTORATION OF A DEGRADED FERN LAND IN  
HALGAHAWALA, OPATHA AND THE ASSOCIATED  
DEVELOPMENT OF A BIODIVERSITY CREDIT ACCRUAL  
SYSTEM FOR SRI LANKA



**BIODIVERSITY SRI LANKA**



**PREPARED BY**

Biodiversity Sri Lanka



Biodiversity Sri Lanka in partnership with the Forest Department, IUCN Sri Lanka and a consortium of private sector partners, has been undertaking a project since 2018 to restore a 12-ha block of degraded land, in the Kanneliya Conservation Forest. The site could be best described as a degraded rainforest that had been cleared for cultivation and subsequently abandoned, resulting in the colonization by the pioneer fern species *Dicranopteris linearis* (*Kekilla*). The site is surrounded by Wet Lowland Rainforest. The restoration is being undertaken using principles of restoration ecology in order to enhance its ecological functions, habitat quality, species diversity, and capacity to provide biodiversity and ecosystem services that are in close approximation to what prevailed before.

The restoration project successfully completed its 1st phase, ending in April 2023. In order to sustain and maintain the area, a second five-year phase has now commenced. Adjacent to this site more degraded land plots have been identified by the Forest Department for restoration in the future.

The Project has also commenced the development of a biodiversity credit accrual system for Sri Lanka using the derived insights, aiming to assign a unit value for enhanced biodiversity and ecosystem services. Working with local and international experts, the establishment of a biodiversity credit accrual mechanism, on par with international requirements and standards, has also commenced. Policies and tools to utilize the accrued credits in a sustainable manner will be prepared, in consultation with national agencies.

Back in 2018, initial ecological assessments undertaken by IUCN Sri Lanka, acting as the Project's technical partner revealed that the site supported very low species diversity when compared to the adjacent forest, with fewer numbers of endemic species and no recorded threatened species. The Information gathered through the past five years of restoration has played a major role to identify the ultimate ecological impact of the LIFE project.

# INTRODUCTION

# WHAT WE HAVE ACHIEVED DURING THE LAST FIVE YEARS

After years of astute planning, rigorous implementation, and monitoring, despite multiple challenges, the site has shown remarkable progress. At the completion of the fifth year of field implementation, in April 2023, over 18,500 plants from 46 species are in the restoration site. A number of native shrub species have emerged naturally after the systematic removal of the invasive *Kekilla*. Exotic species such as *Alstonia* have been observed alongside the native shrub species. Despite, *Alstonia* being invasive, it is being maintained at the site to obtain shade and to increase the soil carbon levels. Some of the naturally occurring pioneer plant species include *Milla*, *Kekuna*, *Kenda*, and *Geduma*. Faunal surveys have also been undertaken periodically, and it has been observed that there are 90 faunal species, including 31 endemics, 1 critically endangered species, 5 endangered species, 2 vulnerable species, and 5 near-threatened species.

We have learned much about this specific land area and its restoration preferences during the past five years. On the ground, several techniques have been tested. Both successful and not so-successful. The progress of our learning curve and the expertise our project staff has gained is what matters most. We used several adaptive methods which have not been used in forest restoration projects previously. The methodology which was used inspired us to develop a new “intensive restoration” approach for heavily degraded rainforest areas. This assisted us in reducing costs and minimized the duration of the restoration process. For example, we were able to restore another 2-hectare plot in the vicinity within a shorter period of 3 years.

The 12-hectare restoration site has now been listed in the national restoration database by the Forest Department and is part of Sri Lanka’s 200,000-hectare Bonn challenge commitment. In addition, the forest department selected the entire Opatha-Kanneliya landscape as one of the three Forest Landscape Restoration (FLR) pilot sites in Sri Lanka under the Sri Lanka FLR mentorship programme. In addition, the Project has contributed to achieving several global and national environmental and development targets including the Sustainable Development Goals (SDGs) and the Bonn Challenge at the global level and the National Biodiversity Strategies and Action Plan (NBSAP) and the Nationally Determined Targets under the UNFCCC at the national level.

## WHERE WE ARE WITH “BIO CREDITS”

In parallel, with the restoration of the site, creating a biodiversity credit accrual system for Sri Lanka was commenced, notably, to design, test and finalize a credit system that is feasible yet credible in view of the stakeholders both at home and abroad.

As a first step in this direction, BSL partnered with Preferred by Nature (formerly known as NEPCon). Preferred by Nature is an international non-profit accreditation organization working to support better land management and business practices that benefit people, nature and the climate. NEPCon prepared a new Forest Ecosystem Restoration: Field Verification Standard in 2020. This standard focuses on the performance assessment of forest ecosystem restoration at the field level.



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## EXPANDING THE RESTORATION PROGRAMME

The activities of the new plots can be kick started in mid-2023. The restoration program will initially take place over a period of three years and will be carried out in two phases. Phase - I (the first year) will be focused on site preparation, fencing, reinforcement of nurseries, updating species inventories in the restoration and reference sites and setting up a long-term monitoring programme accompanied by the planting of robust native species. Hora, Kekuna, Badi-del, Na-imbul, Kenda, Gedumba, Badadamba, Milla, Na, Godapara and Hedawaka are some of the native plant species which we will introduce at this stage.

Phase - II (next two years) will focus on fence maintenance, increasing the diversity of the site by planting more native species, once the ground conditions of the site are made more conducive for receiving them. The entire programme is being carefully monitored with standard protocols focused on physical progress with respect to established milestones, achievement of restoration goals with changes in species diversity and composition in the restored area akin to conditions that existed in the referral site and measurable changes in ecosystem services such as improvements in soil & water quality and quantity within the restoration site.

## FORESIGHT

The project is a unique opportunity and a first for the country. It offers a number of value additions when compared with traditional tree planting opportunities. The restoration program is coupled with a robust monitoring and gap filling plan, which will help to maintain the survival rate of plants at a high level. Dedicated staff are assigned to implement and monitor the project expeditiously. A project steering committee has been established and assists in coordinating with relevant state authorities in obtaining the required permits for restoration activities. This project offers these benefits/opportunities, which would not be available in a traditional tree planting program.



# WHY PARTNER WITH US AT THIS STAGE

The Life Project has accumulated a host of knowledge and experience on how the land was efficiently restored throughout the past five years. Our project team has a wealth of expertise in this area. We have reduced the project's time requirements and eliminated errors as we determined the correct procedures for maintaining and restoring the forest. This has improved the effectiveness of project activities while lowering costs. This indicates investing in a sound restoration program, with assurance of success.

Additionally,

-the site has been listed in the national restoration database and is included in Sri Lanka's 200,000-hectare Bonn Challenge commitment.

-The Opatha-Kanneliya landscape has been selected as one of three FLR piloting sites in Sri Lanka under the FLR mentorship program

-It has contributed to the achievement of SDGs, the NBSAP, the NEAP, and the NDCs

Nationally and internationally, our restoration site has gained recognition. This means that your investment in rewilding will foster rich results.

## THE COST OF SYSTEMATIC RESTORATION FOR A NEW TWO-HECTARE LAND PLOT AT KANNELIYA CONSERVATION FOREST

Period	Cost per Year (LKR)	Activities
1 <sup>st</sup> year	2,318,830.00	Nursery reinforcement, Fencing & fence maintenance, ground preparation, planting, monitoring, maintenance, training & capacity building, communication & awareness materials, ground truthing (inclusive of labor costs and travel to the site)
2 <sup>nd</sup> year	1,596,220.00	
3 <sup>rd</sup> year	1,335,400.00	Gap filling, soil improvement, maintenance and monitoring
<b>Total (3 years)</b>	<b>5,175,450.00</b>	



# YOUR HAND IN OUR JOURNEY AHEAD

This journey is not one that we could have achieved alone, it is a credit to the significant collaborative spirit and the wonderful partnerships we have built along the way. As such, it is also a fulfilling opportunity for new partners to join hands with us as we enter to restore more land.

By joining us as a partner and contributing, you also earn Biodiversity Credits that allow your company to exercise its sustainability initiatives with good measured results. Due recognition will be given to all our partners through robust communications campaigns as we promote and share the findings and lessons learned throughout every stage of this process.

Together we will truly stand for change.

For more information please contact **Yoshan Gamage, Senior Programme Officer** ([yoshan@biodiversitysrilanka.org](mailto:yoshan@biodiversitysrilanka.org)/0779793951)

