Plan Vivo
Annual Report

HINIDUMA BIO-LINK PROJECT

SRI LANKA

Reforesting traditional home gardens using the analog forestry concept in the wet zones of Sri Lanka

Submitted by:

Carbon Consulting Company (Pvt) Ltd, Sri Lanka

May 2017

Carbon Consulting Company
5NM, Ascot Avenue, Colombo 05, Sri Lanka.
Tel: +94114796764, Fax: +94112334748
Email: info@carbonconsultco.com

CONTENTS

TABLES

FIGURES

1 Summary

Project Overview	
Reporting period	**1st of January 2016 – 31st of December 2016**
Geographical areas	**Galle District, SE, Sri Lanka**
Technical specifications in use	**Mixed Species Reforestation**

Project Indicators	Historical (2011 – 2015)	Added this period	Total
Number of smallholders with PES agreements	32	0	32
Number of Community Groups with PES agreements	n/a	n/a	n/a
Approximate number of individuals in these community groups	n/a	n/a	n/a
Area under Management (Ha) where PES agreements are in place	18.8	0	18.8
Total PES payments made to participants (USD)	7,566.80	1,856	9,423
Total sum held in trust for future PES payments (USD)			8,000
Allocation to Plan Vivo buffer	488	0	488
Unsold Stock at time of submission			
2012 Vintage			20
2013 Vintage			1,008
Total Unsold Stock			1,028
Total *Plan Vivo* Certificates (PVCs) issued to date			**2,767**
Plan Vivo Certificates requested for issuance (2015 Vintage)			**0**
Total PVCs issued (including this report)			**2,767**

EXECUTIVE SUMMARY

The following report summarises the significant activities performed during the period of 1st January 2016 to 31st December 2016, at the Hiniduma Bio-link Project.

The Carbon Consulting Company (CCC) continued to improve the programme's administrative and management systems through regular updates of the database, as well as improved tracking of carbon credit sales and payments to farmers and the monitoring of actual carbon stock change.

The Hiniduma – Kanneliya Bio-link Society and CCC team conducted farmer training and awareness sessions with focus on plant budding, plant nursery maintenance and beekeeping with the dual purpose of increasing the self-sufficiency and income level of farmers.

CCC conducted land surveys and farmer awareness sessions to enhance the Hiniduma Bio-link project for the following year, details of which are described in this report.

The following Annual Report details the progress of the Hiniduma Bio-link Project, Sri Lanka, submitted to the Plan Vivo Foundation.

2 Key events, developments and challenges

2.1 Key events

CCC conducted the following key events:

2.1.1 Farmer training sessions

The Hiniduma-Kanneliya Bio-link Society is a community-based organisation with a majority of the farming community currently engaged in the Hiniduma Bio-link Project. The project was formed in September 2015 with the main aim of supporting rural smallholder communities by managing their natural resources in a more sustainable manner, with a view to generate benefits which would positively impact their livelihood and the surrounding ecosystem.

Several activities were carried out throughout the year by the society, including farmer training and awareness sessions conducted on the 17th of December 2016 with the help of the Carbon Consulting Company. Farmers who were already involved as well as newcomers participated in this program.

The main objective of the session was to generate awareness of the projects importance and how it would benefit the community, village and surrounding ecosystem. Furthermore, new farmers who expressed interest in engaging with the session were made aware of the importance of the projects future and expansion. Training was conducted in two phases;

Session I focused on improving knowledge on plant budding, its application and plant nursery management. Session II placed focus on beekeeping and improving skills for self-employment to generate income for these communities.

Refer to Annex II for the agenda of the farmer training session.

Figure 1: Plant budding session

Figure 2: Beekeeping session

Figure 3: Awareness session

2.1.2 Land survey for project expansion

Two sponsors (Patagonia Inc. and the Hirdaramani Group) have come on-board to provide funds towards planting saplings in the Hiniduma Bio-link Project. CCC aims to plant 4000 saplings by mid-2017 with funds provided by both sponsors. In light of this, the Company has conducted land surveys with the intention of expanding the project further.

Phases I and II of the plated lands are located between the Kanneliya Forest Reserve and the Polgahakanda forest patch. CCC is planning to expand the project between the Kanneliya forest reserve and the Singharaja rainforest to connect the three blocks of forest under Phase III of the planting process. CCC selected the Neluwa area following land surveys. The map below reveals the selected new area for expansion.

Figure 4: Location map of the Bio-link Project with selected area for expansion

2.2 Organisational developments

2.2.1 Project promotion

CCC is looking for stakeholders and funding to take the project further. Special promotional material was developed to help spread the concept of the project among the corporate sector, and investment opportunities were detailed in these materials.

As a result of the project promotion activities, two sponsors have agreed to fund the Hiniduma Bio-link Project and negotiations are currently underway with other parties regarding funding.

2.2.2 Species-specific biomass equations

Species-specific biomass equations used to calculate future carbon sequestration was evaluated with the recent findings from monitoring activities, and has been evaluated and adapted to the developed equations.

2.3 Key challenges

2.3.1 New land scarcity

Most of the farmers were not in favour of planting wild varieties on their farmlands. Much of the land in the Hiniduma - Neluwa areas is utilised for tea cultivation. When the monetary value of tea leaves increases, farmers will clear any bare land and convert it to suitable areas for tea cultivation. Therefore, CCC had to convince farmers about the importance of having an area allocated for forest trees and vegetation to sustain their tea cultivation as they experienced a lengthy dry period recently due to a shift in climate. CCC agreed to provide extra fruit / medicinal trees or those with timber value along with the wild varieties. However, from those additional trees, any species that are not included in the technical specification would not be considered in calculating carbon credit generation.

Figure 5: During the new land survey

2.4 Outcomes and achievements of the project

2.4.1 Publications

A paper on *The Hiniduma Bio-link Project and valuing ecosystem benefits through reforestation of degraded rainforest patches in Sri Lanka while helping to mitigate climate change* was presented at the 'International Research Symposium on Valuation of Forest Ecosystems and their Services', held on 17th – 19th October 2016 at BMICH in Colombo, Sri Lanka.

igure 6: Presenting a paper on Hiniduma Bio-Link Project

3 Activities, total project size and participation

3.1 Summary of total participation and project size

The following data represents the scale of the project to date (all vintage).

Table 1 Summary of the project size

Vintage		
2012	The number of producers with registered PES agreements:	15
	The area covered by the project:	11 ha
2013	The number of producers with registered PES agreements:	17
	The area covered by the project:	7.8 ha
2014	Total number of producers with registered PES agreements	32
	The total area covered by the project	18.8

3.2 Monitoring Plan Vivos

The annual monitoring session of *Plan Vivos* for the Bio-link project was conducted in August 2016 which saw the involvement of the CCC team and several students from the Sabaragamuwa University of Sri Lanka.

Depending on the land extent, 100m x 100m or 50m x 50m random sampling plots were selected in each section. The number of saplings initially planted were counted by using the tree maps on each land, where the number of dead trees was counted accordingly. The Diameter at Breast Height (DBH) and height of the trees were measured in the sample plot to justify species-specific biomass equations. The plots were selected to represent all

planted areas in each farmer's land. The results were then used to calculate the survival rate and determine the natural regeneration rates of each area.

Figure 7: A)Recording tree monitoring at Senavirathne's Land, B) Measuring DBH of a planted tree at Amarasingha's Land C) Reading tag number of a tree at Nalin's Land, D) Reading tag number of a tree at Albert's Land

3.3 Monitoring overview

Sample plots were selected on each land to monitor trees and as part of the methodology, the CCC team counted the number of trees from the centre of the plot (Refer Annexure I for a summary of the monitoring results).

Table 2: Summary of the monitoring results

Parameter	Number of lands visited	Average Survival rate	Number of farmers that did not meet the targets	Corrective action taken
Plant establishment	32	77%	3	• The survival rate of the project is ≥80% after the third year of planting as per technical specification. Farmer payments were deducted based on survival rate. • If farmers are unable to fill the targets before the next monitoring, trees will be planted on another farmer's land. • The plant nursery will be maintained by the CBO of the project. Farmers will be able to buy saplings for low prices and complete the number of trees which should fill the land.

The boundaries of the tea lands were selected and saplings planted to connect the cultivated tea lands with the Bio-link corridor, mainly during Phase II planting in 2013. It was

noted during this year's monitoring that there was a good plant growth rate, as well as the connectivity of the cultivated land through Bio-link trees.

Farmer Lasika (P3-2011-225-11) has cleared his land to cultivate tea and wished to cease his participation in the project. Therefore, CCC selected new land in the same area to include same the number of plants which were planted on Lasika's land to re-allocate the sale. The CCC team will provide saplings to the new farmer during the Phase III planting session which is planned for mid-2017, and is currently preparing farmer transfer documentation as required for the project.

Figure 8: Trees planted under Phase II

Figure 9: Trees planted along the boundaries of tea land

4 Sale of Plan Vivo Certificates

Table 3: Sale of Plan Vivo Certificates

Vintage	Name of purchaser/source of funds	Number of Plan Vivo certificates purchased	Price per certificate ($)	Total amount received ($)
2011	Marks and Spencer Plc - UK	1500		
Markit Serial	PV-PVC-LK-100000000001114-01012012-31122012-2427895-2429394-MER-0-A			

Number		
2012	Standard Chartered Bank - Sri Lanka	40
Serial Number	PV-PVC-LK-100000000001114-01012012-31122012-2429395-2429434-MER-0-A	
2013	ZeroMission AB - Sweden	68
Markit Serial Number	Transfers	
2014	Steenbergs Limited - UK	29
Markit Serial Number	PV-PVC-LK-100000000001114-01012012-31122012-2429503-2429531-MER-0-A	
2015	ZeroMission AB - Sweden	30
Markit Serial Number	Transfers	
2015	Geekoella Ltd.	5
Markit Serial Number	PV-PVC-LK-100000000001114-01012012-31122012-2429562-2429566-MER-0-A	
2016	ZeroMission AB - Sweden	30
Markit Serial Number	PV-PVC-LK-100000000001114-01012012-31122012-2429567-2429596-MER-0-A	
2016	ZeroMission AB - Sweden	37
Markit Serial Number	Transfers	

N.B. - Individual pricing information supplied to the Foundation will be for internal purposes only.

Table 4: Carbon Credit Generation summary

Total issuance for sale **1,759 tom CO2 (2012 AR) + 1,008 ton CO2 (2013 AR)**	**2767 ton CO_2**
Total risk buffer **310 (2012 AR) + 178 (2013 AR)**	488 ton CO_2
Total certificate sales to date	**1,739 ton CO_2**

Balance of unsold certificates	**1,028 ton CO_2**

5 PES update

5.1 Payments made to producers to date

Table 5: Ecosystem payments to date

Farmer No	Producer/ Producer Group name or ID number[1]	Payment Year	Total Payment for the year (Rs.)	Total Payment for the year ($)
		Phase II Planting		
P3-2011-225-06		January 2016 to December 2016	1890	12.9
P3-2011-225-07		January 2016 to December 2016	3094	21.2
P3-2011-225-08		January 2016 to December 2016	2436	16.7
P3-2011-225-09		January 2016 to December 2016	2763	18.9
P3-2011-225-10		January 2016 to December 2016	4401	30.1
P3-2011-225-11		January 2016 to December 2016	288	2.0
P3-2011-225-12		January 2016 to December 2016	3146	21.6
P3-2011-225-13		January 2016 to December 2016	3350	22.9
P3-2011-225-14		January 2016 to December 2016	4328	29.6
P3-2011-225-15		January 2016 to December 2016	2841	19.5
P3-2011-225-16		January 2016 to December 2016	1633	11.2
P3-2011-225-17		January 2016 to December 2016	5300	36.3
P3-2011-225-18		January 2016 to December 2016	5143	35.2
P3-2011-225-19		January 2016 to December 2016	1080	7.4
P3-2011-225-20		January 2016 to December 2016	9576	65.6
P3-2011-225-21		January 2016 to December 2016	3493	23.9
P3-2011-225-22		January 2016 to	1440	9.9

[1] Due to data protection regulations, names of participants have been removed from the public version of this document

	December 2016		
	Phase I Planting		
P1 -2009-225-01	January 2016 to December 2016	5369	36.8
P1 -2009-225-02	January 2016 to December 2016	13041	89.3
P2-1210-225-01	January 2016 to December 2016	5314	36.4
P2-1210-225-02	January 2016 to December 2016	5663	38.8
P2-1210-225-04	January 2016 to December 2016	6712	46.0
P2 1210-225-05	January 2016 to December 2016	41362	283.3
P2-1210-225-07	January 2016 to December 2016	6521	44.7
P2-1210-225-08	January 2016 to December 2016	50767	347.7
P2-1210-225-09	January 2016 to December 2016	7524	51.5
P2-1210-225-10	January 2016 to December 2016	22911	156.9
P3-2011-225-01	January 2016 to December 2016	16200	111.0
P3-2011-225-02	January 2016 to December 2016	8100	55.5
P3-2011-225-03	January 2016 to December 2016	7200	49.3
P3-2011-225-04	January 2016 to December 2016	14143	96.9
P3-2011-225-05	January 2016 to December 2016	3996	27.4
Total		**271024**	**1856**

Figure 10: Farmer payment during and after the meeting of Hiniduma-Kanneliya Bio-link Society

6 On-going community participation

To ensure effective communication with all participants, CCC implemented the following:

6.1 Awareness session

Training and awareness sessions were conducted for all farmers currently engaged with the Hiniduma Bio-link Project to educate them on the importance of the project and its key aspects.

In addition, CCC conducted a few awareness sessions in several village communities within the project area focusing on the importance of the Bio-link project as CCC plans to further develop the project next year. This contributes towards sourcing new land for the farmers and clears any misconceptions among producers.

Figure 11: Farmer awareness session

7 Breakdown of operational costs

The following table provides an overview of all operational costs connected to the project's pilot phase from 1st January 2016 to 31st December 2016.

Expense	Description	Cost (US$)	Cost covered through sell of PVC
Project salaries	Project officer payments	2,876.71	No
Travel	Travel to project site	620.69	Yes
Stationary & other expendables	Accommodation/food	344.83	Yes
Training/ Awareness session	Farmer training and awareness programs	482.76	No
Land survey	Project development	413.79	No
Total		4,738.78	No

8 Future development

8.1 Community Based Organisations (CBO)

In future, CCC plans to arrange a central point to collect produce (i.e.: fruits and spices) from these farmers as they lack a system to gather and sell produce for a competitive price. Positive signs emerged as successful meetings were held with leading private corporations who discussed requirements (financial and other factors) needed to make this a reality.

CCC requested that the Hiniduma-Kanneliya Bio-link Society start a plant nursey, providing technical guidance and the necessary plant species required to further develop the project.

8.2 Scaling up

The project team had identified several new Plan VIVO's and two sponsors are already on board with funding for 4000 plants for the next year (Refer 2.1.2). CCC is conducting discussions with other sponsors regarding financial support to plant trees in the Hiniduma Bio-link project during the next year.

THE CARBON CONSULTING COMPANY

Contact Person:
Lakmini Senadheera – lakmini@carbonconsultco.com
Shermila Weragoda - shermila@carbonconsultco.com

Annexure I: Summary of the monitoring results – 2016

Farmer number	Producer/ Producer Group name or ID number[2]	Area (ha)	Total number of trees	Sample area (m2)	Number of plants initially planted in sample plot	Number of plants monitored in sample plot	Number of dead plants in sample plot	Survival rate (%)
Phase II Planting								
P3-2011-225-06		0.304	57	50 x 50	38	35	3	92
P3-2011-225-07		0.304	95	50 x 50	42	38	4	90
P3-2011-225-08		0.194	87	50 x 50	63	49	14	78
P3-2011-225-09		0.405	81	100 X 100	38	36	2	95
P3-2011-225-10		0.405	137	100 X 100	65	58	7	89
P3-2011-225-11		0.304	153	100 X 100	153	8	145	5
P3-2011-225-12		1.012	115	100 X 100	50	38	12	76
P3-2011-225-13		0.304	111	50 x 50	68	57	11	84
P3-2011-225-14		0.506	153	50 x 50	42	33	9	79
P3-2011-225-15		0.405	124	50 x 50	66	42	24	64
P3-2011-225-16		0.304	62	50 x 50	41	30	11	73
P3-2011-225-17		0.506	163	50 x 50	62	56	6	90
P3-2011-225-18		0.506	158	100 X 100	73	66	7	90

[2] Due to data protection regulations, names of participants have been removed from the public version of this document

P3-2011-225-19		0.202	49	50 x 50	49	30	19	61
P3-2011-225-20		1.619	285	100 X 100	75	70	5	93
P3-2011-225-21		0.405	118	50 x 50	45	37	8	82
P3-2011-225-22		0.121	52	50 x 50	52	40	12	77
Phase I Planting								
P1 -2009-225-01		0.404	173	50 X50	58	50	8	86
P1 -2009-225-02		0.404	457	50 X50	82	65	17	79
P2-1210-225-01		0.455	246	50 X50	65	39	26	60
P2-1210-225-02		0.455	242	50 X50	40	26	14	65
P2-1210-225-04		0.405	277	50 X50	52	35	17	67
P2 1210-225-05		2.43	1576	100 X 100	155	113	42	73
P2-1210-225-07		0.425	209	50 X 50	30	26	4	87
P2-1210-225-08		2.83	1642	100 X 100	85	73	12	86
P2-1210-225-09		0.202	285	50 x 50	30	22	8	73
P2-1210-225-10		1.62	810	100 X 100	70	55	15	79
P3-2011-225-01		1.45	600	100 X 100	52	39	13	75
P3-2011-225-02		0.405	300	50 x 50	60	45	15	75
P3-2011-225-03		0.405	300	50 x 50	45	30	15	67
P3-2011-225-04		0.607	450	100 X 100	63	55	8	87

P3-2011-225-05		0.202	150	50 x 50	50	37	13	74

Annexure II: Farmer training program schedule

Hiniduma Bio-link farmer training program
Organised by the Hiniduma-Kanneliya Bio-link Society, Carbon Consulting Company and Conservation Carbon Company

Date – 15th of January 2017

Venue – Panangala Madya Maha Vidyalaya, Panangala (Western)

Objectives

- Introduction to the **Hiniduma Bio-link Project** --- generating awareness on the importance of the project, its current status and future plans of the Hiniduma Bio---link Project.
- Improve knowledge and awareness about **Plant budding** and its application.
- Improve knowledge on **Beekeeping** and improve skills for self-employment to increase income and create awareness about future benefits for the community, village and ecosystem.

Agenda

8.30 am to 8.45 am	Welcome speech by Mr. Anura Weerasingha, President of the Hiniduma Bio-link Society
8.45 am to 9.30 am	Importance of reforestation and non-carbon ecosystem benefits of reforestation and introduction to the Hiniduma Bio-link project by Ms. Lakmini Senadheera, Conservation Carbon Company
9.30 am to 12.30 pm	Plant budding by Mr. Nuwan Bhuddika Mohotti, Department of Agriculture
12.30 pm to 1.30 pm	Lunch
1.30 pm to 3.45 pm	Beekeeping by Sampath Manjula, beekeeping practitioner
3.45 pm to 4.00 pm	Vote of Thanks – Mr. Wijedasa, Secretary Hiniduma Bio-link Society
4.00 pm to 5.30 pm	Farmer payment session – Mrs. Shermila Weragoda, Project Coordinator