Plan Vivo Annual Report

HINIDUMA BIO-LINK PROJECT, SRI LANKA

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

Submitted by:

Carbon Consulting Company (Pvt) Ltd, Sri Lanka

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Carbon Consulting Company
104/11 Grandpass Rd, Colombo 14, Sri Lanka.
Tel: +94114796764, Fax: +94112334748
Email: info@carbonconsultco.com

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1 Summary

EXECUTIVE SUMMARY

This report summarises the significant activities performed during the period 1st of January 2014 to 31st of December 2014, 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.

CCC has been trying to initiate the formation of a Community-based organisation with the farmer community, and a few successful meetings have been had with some leading private corporates evaluating the financial and other support required for this purpose.

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

Reporting Period	1st January 2014 to 31st December 2014
Technical Specifications In Use	Mixed species reforestation
Area Under Management (Ha) i.e. Implemented *Plan Vivos*	18.8
Areas Put Under Management Since Last Report (Ha)	Not applicable
Smallholders with *Plan Vivos* And PES Agreements (Total for Project)	32 smallholders
New Smallholders with PES Agreements Since Last Report	Not applicable
Total *Plan Vivo* Certificates Issued	2548
Total Payments Made to Community Fund	$ 5740.40
Submission for Certificate Issuance for new areas under management (tCO2)	No new submission

2 Key Events, Developments and Challenges

2.1 Key Events

CCC conducted the following key events.

2.1.1 Awareness Sessions

The awareness sessions were conducted for all farmers currently engaged with the Hiniduma Bio-link Project at present on 29th of July 2014 at Farmer Anura's house.

Figure 1 Farmer training session

Figure 2 Distributing gifts to farmers

2.2 Key Developments

2.2.1 Operational Developments

Mapping the expansion areas and other potential areas

A team of students from the ESGT in Le Mans (France) - an engineering school specialising in land surveying, were engaged in the mapping of the farmlands where the Hiniduma Bio-link is located. This was done as a partial requirement of their degree, which was to engage in a two-month internship locally, or abroad, related to mapping. These second-year students were able to map more than 10 patches of farmland under the Bio-link project, as well as new potential farmer lands for expansion purposes of the project.

Figure 3. Mapping existing and potential farmer lands

2.2.2 Technical improvements:

CCC is in the process of geo-referencing the maps produced by the intern students of ESGT to be able to locate the Hiniduma Bio-link Project on a global geographical map.
The geo-referencing can lead towards a better means of accessing historical maps**,** through improved search and retrieval. It will show the improvement of the forest cover of the project.

2.2.3 Organizational Developments

2.2.3.1 Administrative Changes

The Conservation Carbon Company (Pvt) Ltd was formed back in 2010 for the purpose of implementing and managing the Hiniduma Bio-link Project. The Board of this company consisted of four directors – two directors of Rainforest Rescue International (RRI), Dr. Ranil Senanayake and Mr. Charith Senanayake; Deputy Chairman of Eswaran Brothers Exports (Pvt) Ltd, Mr. Subramaniam Eassuwaren; and the Managing Director of Rainco (Pvt) Ltd, Mr.

Fazal Fausz, the latter both of whom founded the Carbon Consulting Company shortly after. Following its incorporation, CCC took on the responsibility of overseeing all technical matters related to the project, and RRI provided on the ground assistance in carrying out the planting, monitoring, replanting and other related activities. However, over the last 3 years, RRI was found to be inconsistent in carrying out their duties with regards to the project. It was stated in the project's 2013 Annual Report that RRI handed over that year's monitoring and supervision of the project to CCC, and despite numerous attempts in trying to contact RRI as well as its two directors on the Conservation Carbon Company Board, requesting their assistance, they have failed to correspond with CCC on all matters relating to the project. Realising the importance of the Hiniduma Bio-link Project to the environment, the local community as well as the rainforests of Sri Lanka, a decision had to be made regarding its continuation. CCC was willing to assume both financial and operational responsibility for the project, as they have been doing so anyway for the past three years in handling all project related activities. The common Board Directors of the Conservation Carbon Company, and its sister-company CCC, therefore decided to transfer complete administrative authority and ownership of the project to CCC in 2014. The Conservation Carbon Company continues to remain a registered company in Sri Lanka until approval has been obtained from the two other RRI directors to close-down the company, however, it needs to be mentioned that it is no longer operational as all its activities are now handled by CCC.

Two of the key contact persons for the project, as listed on all project documentation, namely Mr. Subramaniam Eassuwaren (Director - Conservation Carbon Company & CCC, Project Developer, Co-Financier & Co-Project Coordinator) and Ms. Lakmini Senadheera (Technical Consultant - Conservation Carbon Company & CCC), will continue to remain in their respective capacities under the operating umbrella of CCC.

To handle this added responsibility, CCC has now recruited a new Assistant Project Coordinator – Ms. Shermila Weragoda (shermila@carbonconsultco.com), who has a sound knowledge of biodiversity, forestry and environmental conservation, to liaise with all existing project stakeholders.

2.2.3.2 Project Promotion

Special promotional materials were developed to help spread the concept of the project amongst the corporate sector, and investment opportunities were detailed in these materials.

2.2.3.3 Species-Specific Biomass Equations

Species-specific biomass equations have been developed and evaluated with recent monitoring results.

2.3 Key Challenges

2.3.1 New Land Scarcity

The main use of land in the Hiniduma area is for tea cultivation. When the monetary value of the tea leaves increases, the farmers will clear any bare land and convert them into suitable areas for tea cultivation. Even if they do agree to plant trees, they are not interested in planting wild varieties in their farmlands or gardens if the tree has limited or no commercial value. Thus finding suitable lands for expansion was of significant difficultly, as the farmers were more interested in fruit/medicinal or trees with timber value. Therefore, after several discussions with the farmers, CCC agreed to provide extra trees, including fruit and timber trees along with wild varieties. However, from those extra trees, any species that are not included in the technical specification would not be taken into account in calculating the carbon credit generation.

2.1.2 Natural Disasters

In April 2014, flooding caused the death of most of the trees that were planted during phase II. There are five farmer lands, which were used for planting during Phase II that are bordering the riverbank. Nearly 40% of trees were destroyed by the flood, most of which were closer to the riverbank in the lands that were affected by floods.

Following the floods, during the casualty replanting session, CCC provided flood tolerant tree species, which were already on the list, to be planted instead. One of the main issues faced by CCC was finding native plant species to replace the dead trees. CCC agreed to supply those trees by retaining a sum of money from monthly PES payment for trees maintenance and protection.

Achievements of the project

2.1.3 Publications

The novel concept of the Hiniduma Bio-link Project - a success story of integrating biodiversity, livelihood enhancement and mitigating climate change through carbon stock enhancement, was shared at the 16th Annual World Congress on Environment Management, held at the Ashok Hotel in Chanakyapuri, New Delhi, from the 11-12th July 2014.

Figure 4. Presenting the novel concept of the Hiniduma Bio-Link

Panel Discussion on 'CSR Strategy for Environment Protection', L to R:- Mohini Daljeet Singh, Chief Executive, Idea India Foundation, D K Sood, Executive Director - Dadri, NTPC Limited, S. Chakraborty, Chief Executive, Innovative Financial Advisors (Chair), Lt Gen Surinder Nath, PVSM, AVSM(Retd), Vice Chairman, Institute of Directors & former Chairman, UPSC, Niranjan Khatri, General Manager – Environment Initiative, ITC Hotels and Namita Vikas, Sr President & Country Head-Responsible Banking, YES Bank Ltd.

S. Masood Hasnain, Director General, National Water Development Agency during the Q & A. Ms Neeru Abrol, Chairman and Managing Director, National Fertilizers Ltd is also seen

consumption' and development. He placed emphasis on various government policies on sustainable development, CDM mechanism, carbon footprint and water footprint for green growth.

Mr. R R Mehta, CEO, Reliance Energy explained the benefits of inclusive growth, green economy and energy security, and their relevance to India's energy sector. He also explained how to deal with both technological and commercial losses of 27%, by adopting advanced technology for power generation as well as transmission and creating awareness about the environment. If there is 8% decline in losses, there will be 1% gain in capital outlay saved. Productivity can be enhanced by total organizational commitment and each stakeholder's participation in the Sustainability movement.

Ms. Lakmini Senadheera, Hon Secretary, Institute of Environmental Professionals, Sri Lanka narrated a typical CSR case study in Sri Lanka. They had linked up forest farmers with enhancement of biodiversity by reforestation under a CSR - funded programme, which was a success story.

Mr. Avinash Harde, AVP-IMS, Hindustan Construction, highlighted various environmental issues like reduction of consumption of water and its recycling and reuse, saving of energy, reduction in solid waste and development of green areas by plantation of trees, using more hygienic technology in the construction workers settlement, during construction activities of various projects. It not only improved environment, but also saved money.

Mr. Ashwini Pasricha, Solution Architect, Asia Pacific, DuPont India explained the good work carried out by his organization in the field of safety and health, environment, ethics and human resources in order to move towards Sustainability by reducing water consumption, GHG emissions, energy consumption in every sphere of activity in business by adopting a holistic approach. "Profitability should be de-coupled from Sustainability".

Plenary Session V – 'CSR Strategy for Environment Protection'.

Mr. S. Chakraborty, Chief Executive, Innovative Financial Advisors chaired the panel discussion and explained the importance of CSR and its relevance in present business scenario of emerging economy and the vital role of CSR for environment protection.

Ms. Namita Vikas, Sr. President and Country Head, Responsible Banking, Yes Bank discussed the role of Sustainability movement in financial sector covering all aspects of financing activities keeping the lending risks to creation of value chain vendors. She discussed different challenges faced during implementation of Sustainability vision, initially in the banking sector. She highlighted the use

Figure 5 Scientific publication of the Hiniduma Bio-link project

3 Activities, total project size and participation

Summary of total participation and project size

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

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

3.1 Monitoring *Plan Vivos*

The annual monitoring session of *Plan Vivos* at the Bio-link was conducted in June 2014, with the involvement of the CCC team and some students from the Sabaragamuwa University of Sri Lanka.

Each and every plant was counted in farmer lands under phase III and phase II. A plot sampling method was used to monitor the plants under Phase I farmer lands. The plots were selected to represent all planted areas in each farmer land and the number of trees in each plot was counted. The results were then used to calculate the survival rate and determine the natural regeneration rates of each area.

Figure 6. Monitoring of the plants

Casualty replanting

There are seventeen farmer lands under Phase III of the project and according to the monitoring results, out of 2000 plants that were planted under this phase, a total of 346 plants had died. As per the agreement, CCC conducted the casualty replanting of Phase III farmer lands on the 23rd of November, 2014.

Phase I farmers had agreed the replacement of the dead trees, however, farmers who had not planted trees given to them, for unspecified/unknown reasons, were penalised and not paid. They still have the opportunity to plant those trees and receive payment for them following the monitoring next year.

Figure 7 Distributing Plants during the casualty replanting

4 Sales of Plan Vivo Certificates

Table 1. Sales 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 Number	PV-PVC-LK-100000000001114-01012012-31122012-2427895-2429394-MER-0-A			
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	N/A			
2014	Steenbergs Limited, UK	29		
Markit Serial Number	PV-PVC-LK-100000000001114-01012012-31122012-2429503-2429531-MER-0-A			

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

Table 2: Carbon Credit Generation Summary

Total saleable CO_2 2,069 ton CO2 (2012) + 1,186 ton CO2 (2013)	3,255 ton CO_2
Total Risk buffer 310 (2012) + 178 (2013)	488 ton CO_2
Total of certificates issued **1,759 ton CO2 (2012 AR) + 1,008 ton CO2 (2013 AR)**	**2767 ton CO_2**
Total certificate sales to date	**1637 ton CO_2**
Balance of unsold certificates	**1,130 ton CO_2**

4.1 Monitoring overview

All trees were monitored in farmer lands under Phase III and random sampling was carried out within the Phase I farmer lands, utilizing a series of sample plots. As part of the methodology, CCC counted the number of trees that were encountered from the center of the plot. Due to the floods during the month of April, the weaker plants were observed to have died. This year's payments were based on the amount of trees planted, the survival rate of the plants and the overall attendance at the aforementioned farmer training sessions. CCC agreed to provide half of the dead plants as the deaths were caused by the floods, and farmers agreed to plant the remainder. If a producer failed to fulfil the above conditions, early warnings were given and if the progress was not satisfactory, deductions were made to their initial payments, and no payments were made until the planting was completed. No payments were made until the planting was completed. The monitoring team had identified a few farmers who had already started replacing the dead trees and therefore, the project coordinators decided to provide the rest of the farmers with an extended period of time in which they would have to complete the replanting.

5 PES update

Payments made to producers to date

Table 3: Ecosystem Payments to date

Farmer No	Producer/ Producer Group name or ID number3 [1]	Payment year	Total payment for the year (Rs.)	Total payment for the year ($)
P3-2011-225-06		January 2014 to December 2014	2052	15.7
P3-2011-225-07		January 2014 to December 2014	3420	26.1
P3-2011-225-08		January 2014 to December 2014	3132	23.9
P3-2011-225-09		January 2014 to December 2014	2916	22.3
P3-2011-225-10		January 2014 to December 2014	4932	37.6
P3-2011-225-11		January 2014 to December 2014	5508	42.0
P3-2011-225-12		January 2014 to December 2014	4140	31.6
P3-2011-225-13		January 2014 to December 2014	3996	30.5
P3-2011-225-14		January 2014 to December 2014	5508	42.0
P3-2011-225-15		January 2014 to December 2014	4464	34.1
P3-2011-225-16		January 2014 to December 2014	2232	17.0
P3-2011-225-17		January 2014 to December 2014	5868	44.8
P3-2011-225-18		January 2014 to December 2014	5688	43.4
P3-2011-225-19		January 2014 to December 2014	1764	13.5
P3-2011-225-20		January 2014 to December 2014	10260	78.3
P3-2011-225-21		January 2014 to December 2014	4248	32.4
P3-2011-225-22		January 2014 to December 2014	1872	14.3
P1 -2009-225-01		January 2014 to	5476	41.8

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

	December 2014		
P1 -2009-225-02	January 2014 to December 2014	14321	109.3
P2-1210-225-01	January 2014 to December 2014	5387	41.1
P2-1210-225-02	January 2014 to December 2014	5174	39.5
P2-1210-225-04	January 2014 to December 2014	6092	46.5
P2 1210-225-05	January 2014 to December 2014	42533	324.7
P2-1210-225-07	January 2014 to December 2014	4686	35.8
P2-1210-225-08	January 2014 to December 2014	44028	336.1
P2-1210-225-09	January 2014 to December 2014	7797	59.5
P2-1210-225-10	January 2014 to December 2014	23815	181.8
P3-2011-225-01	January 2014 to December 2014	13608	103.9
P3-2011-225-02	January 2014 to December 2014	8483	64.8
P3-2011-225-03	January 2014 to December 2014	6392	48.8
P3-2011-225-04	January 2014 to December 2014	12754	97.4
P3-2011-225-05	January 2014 to December 2014	4266	32.6
Total Payment		276812	2113.0

6 Ongoing Community Participation

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

Planting manuals

The participating farmers were provided with Planting Manuals, detailing the planting patterns, specific measurements and tree species used, to further educate them on the importance of the project and its key aspects. This helped significantly speed up the process and avoid confusion among producers.

Issues raised in community meetings

The main issues that arose during the community meetings were farmers requesting for more fruit and commercially valued timber trees, and for an increase in their payments.

7 Breakdown of operational costs

The following table provides an overview of all operational costs connected to the project's pilot phase from 31st December 2013 to 31st December 2014.

Expense	Description	Cost (US$)	Cost covered through sell of PVC
Project salaries	Project officer payments	3230.77	No
Travel	Travel to project site	615.38	Yes
Stationery & other expendable	Accommodation/food	307.69	Yes
Training	Farmer Training programs	384.62	No
Total		4538.46	

8 Future Development

Developing Community-based Organizations

The area in which the project is located has lots of spices and fruit plants in the home gardens of the farmers. Since they do not have a facility to sell their harvest, a lot of these natural products perish due to excess production (more than that is required by each of the farmer families). Therefore, as a solution to this issue, CCC has decided to form a Community-based Organisation (CBO) to address several practical challenges that are discussed with the farmers on a regular basis at farmer meetings. CCC expects to collect the excess home garden spice and fruit harvests of the farmers at a central venue with the involvement of CBO to facilitate the sale of their products within the local communities. Furthermore, a few successful meetings were held with leading private corporates discussing the financial and other requirements necessary for this purpose (Hayleys PLC's Agriculture Division). In addition to that, a CBO will enable CCC to streamline its engagement with the farmers, where the dissemination of awareness and training, as well as the payout of funds, can be handled in a more organised manner.

Scaling up

The project team had identified several new plan vivos and the scaling up of the project will depend mainly on the level of demand of carbon credit buyers. However, it is expected that the project will be expanded to another 5 acres in the coming year.

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

Annex I:

Summary of the monitoring results

Farmer No	Producer/ Producer Group name or ID number[2]	Area (ha)	Total number of Trees	Percentage of area under sampling	Sample Area	Number of Plants Monitored in Sample Plot	Number of dead Plants	Survival rate (%)
Phase II & III Planting								
P3-2011-225-06		0.304	57	100%	0.304	57	4	93
P3-2011-225-07		0.304	95	100%	0.304	95	6	94
P3-2011-225-08		0.194	87	100%	0.194	87	39	55
P3-2011-225-09		0.405	81	100%	0.405	81	10	88
P3-2011-225-10		0.405	137	100%	0.405	137	22	84
P3-2011-225-11		0.304	153	100%	0.304	153	19	88
P3-2011-225-12		1.012	115	100%	1.012	115	25	78
P3-2011-225-13		0.304	111	100%	0.304	111	48	57
P3-2011-225-14		0.506	153	100%	0.506	153	26	83
P3-2011-225-15		0.405	124	100%	0.405	124	14	89
P3-2011-225-16		0.304	62	100%	0.304	62	10	84
P3-2011-225-17		0.506	163	100%	0.506	163	5	97
P3-2011-225-18		0.506	158	100%	0.506	158	31	80
P3-2011-225-19		0.202	49	100%	0.202	49	8	84
P3-2011-225-20		1.619	285	100%	1.619	285	43	85

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

P3-2011-225-21		0.405	118	100%	0.405	118	20	83
P3-2011-225-22		0.121	52	100%	0.121	52	16	69
Phase I Planting								
P1 -2009-225-01		0.404	173	40%	0.202	80	12	83
P1 -2009-225-02		0.404	457	40%	0.202	194	20	89
P2-1210-225-01		0.455	246	40%	0.228	49	16	82
P2-1210-225-02		0.455	242	40%	0.228	45	14	82
P2-1210-225-04		0.405	277	40%	0.203	68	28	73
P2 1210-225-05		2.43	1576	40%	1.215	441	36	94
P2-1210-225-07		0.425	209	40%	0.213	61	24	66
P2-1210-225-08		2.83	1642	40%	1.415	558	105	81
P2-1210-225-09		0.202	285	40%	0.101	104	22	79
P2-1210-225-10		1.62	810	40%	0.810	312	40	86
P3-2011-225-01		1.45	600	40%	0.725	153	55	75
P3-2011-225-02		0.405	300	40%	0.203	98	7	92
P3-2011-225-03		0.405	300	40%	0.203	53	19	83
P3-2011-225-04		0.607	450	40%	0.304	162	24	85
P3-2011-225-05		0.202	150	40%	0.101	61	14	77