Hiniduma Biolink Project, Sri Lanka

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

Plan Vivo Project Design Document (PDD) June 2011

conservation carbon company.

Bringing economic, social & enviromental principles into the development of carbon markets.

Implemented by

Conservation Carbon Company (Pvt) Ltd, Sri Lanka

Together with Rainforest Rescue International, Sri Lanka

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Executive Summary

'Hiniduma Biolink Project' is an effort of Conservation Carbon Company (CCC) along with Rainforest Rescue International (RRI) to establish a biodiversity corridor between the two large remnant disturbed rainforest patches in Sri Lanka and to conserve buffer zones around the forest edges. The total land area of this proposed biodiversity corridor is approximately 2000 ha.

The objective of this *Plan Vivo* project activity is to initiate the first part of PDD Phase 1 & 2 of the biodiversity corridor project through the 'Analog forestry' principle by supporting home garden reforestation and agro forestry using a farmer-based participatory approach. The land area of this PDD is approximately 10.88 ha and a bio-link (corridor) selected linking Polgahakanda and Kanneliya two disturbed forest patches. Distributed trees are native and endemic rainforest species, as well as fruit and medicinal trees, thus allowing the farmers to derive additional income from their lands. More than ninety tree species were introduced as new plants to improve the supply of ecosystem services. The full project aims to cover 1500 families

The project adopts a Payments for Ecosystem Services model: participating farmers will receive staged payments in return for following management plans (*plan vivos*) developed with the support of the project.

Section A. Aims and objectives

The project aims to develop a bio-link by setting up few forest corridors to improve biodiversity through flora and fauna movements. This initiative will ecologically link two disturbed forest patches. Since the lands in between the forest patches are populated, isolating them through a 'pure forest project' is not practical. The main objective of the project is to minimize the threats from communities adjacent to these

forest buffers and in between the two forest patches by improving the know-how of ecosystem values and involving communities in planting trees using a participatory approach.

Valuing farmer community involvement to improve the supply of ecosystem services including carbon sequestration is the second objective taking into account the need for activities to be economically viable for communities. Promoting eco-friendly livelihood practices such as organic farming with analog forestry ensures activities do not disturb existing livelihood practices.

Analog Forestry Concept

Analog Forestry is a system of silviculture, which aims to restore the local biodiversity while providing economic opportunities to small-scale farmers. Inspired by Sri Lanka's tradition of home-gardens it encourages the use of economically viable crops such as tea, spices, fruit and vegetables, as well as ecologically important species. Where Analog Forestry differs from other systems is in the planting design, which mimics both the structure of a natural forest (i.e. different canopy layers) and the ecological functions of a natural forest (i.e. watershed management).

Source: www. rainforestrescueinternational.org

Section B. Site information, activities and carbon benefit

1. Project location, land type and boundaries

The project is located in Hiniduma, Galle in Sri Lanka. The project area is defined as the area between Polgahakanda and Kanneliya disturbed forest patches. Local landmarks in the nearby region include 'Ginganga' river situated in Galle district which is approximately 116 km long, The *Plan Vivo* project activity (PDD Phase 1& 2) is located within the polygon named Area 1. The area of this 'pilot' project activity (PDD Phase 1) is 10.88 ha.

The yellow polygons in the figure below represent 5 likely corridor candidates of which a total of 2000 ha which is the expanded area of the pilot land areas assumed to be area which will selected based on current knowledge of forest patches, waterways, human population, and land use.

Figure 1: Biological corridor candidates (The yellow lines represent potential corridor areas based on current knowledge.)

Table 1.1: PDD Phase 1, Current land use pattern of famers

Farmer	Land area within the project (ha)	Current land Uses	Land use history
Selected 15 famers for the PDD Phase 01 pilot trial	Approx 10.88ha	Land cover is heterogeneous and includes remnant forest patches, riverine forest, smallholder sustenance cash crops -mainly tea and traditional faming plots of , rubber, coffee and palm s	Deforested lands and now used by small farmers

Topography of the corridor area is dynamic with a mix of a rolling hills and floodplains. Elevation of the project area ranges from approximately 200 – 1,100 meters. Tropical wet lowland evergreen forest is found below 1,000 meters while wet-sub montane forests can be found on the hilltops over 1,000 meters. Land cover is heterogeneous and includes remnant forest patches, riverine forest, smallholder sustenance cash crops (mainly tea), and commercial plantations of spice specie and palm. The forests within the study area are located mainly on steep slopes and/or on hilltops where access is more difficult. However, there are small and highly disturbed forest patches remaining on some tea estates in lowland areas that act as windbreaks.

2. Description of the project area

PDD Phase 1 of Hiniduma Bio-link Plan Vivo project activity targets 15 farmer families within the selected 2,000 ha who is farming either adjacent to the selected disturbed forest patches. The pilot PDD Phase 01 covers 10.88 hectares. The full project aims to cover 1500 families

The land at the project start is home garden, which has been demonstrated through a field survey (Annex 8: Land Assessment) showing that the lands to be planted in the proposed small project activity are small deforested patches, within the cash crop extents, forest patches along river, barren lands, grasslands and home gardens

Land tenure

Land tenure of the project area is either solely farmer ownership or Swarnabhoomi or Jayabhoomi deeds for farmers. Swarnabhoomi and Jayabhoomi is a long term land lease scheme awarded to small scale traditional farmer community from Sri Lankan government. The farmers do not have ownership of the land. The government of Sri Lanka has provided the farmers a perpetual lease facility thus giving complete rights to farm on the lands and generate income.

Climate and Soil

The project activity is situated in the mid country intermediate zone of Sri Lanka, more specifically within the IM2b agro-ecological region of Sri Lanka. The annual rainfall expectancy of the area is over 1600 mm. The rainfall distribution of the area is such that mid January to February and June to mid August is dry months with scattered rain while other months of the year are wet months.

The soils consist of reddish brown latsolic, brown loam, and red yellow podzolic and clayey with rich humus. The physical characteristics of the soil are moderate to deep, well drained and relatively less susceptible to soil erosion.

Salient geographical features

The Kanneliya Reserve (10,140 ha) is renowned for supporting the highest percentage (60%) of woody species of any single wet zone forest.

Past ecological research has focused primarily on the larger reserves. Thus, less is known about Hiniduma, Delwalla, and other forest patches. However, preliminary observations by RRI scientists indicate that these under-protected areas are critical habitat for a number of endemic and endangered species. For instance, RRI has already confirmed the presence of 6 endemic and endangered amphibians in a small portion of Hiniduma Forest. The main ecosystems include remnant protected low land primary rainforest, anthropogenic tea, rubber, home gardens, and degraded riverine forests.

3. Description of the Plan Vivo technical specifications (methodologies)

Carbon quantification is based on conservative estimates of the expected average increase in carbon stocks in above and below-ground woody biomass over 20 years.

Table 3.1: Description of the Plan Vivo technical specifications

Title	Type of activity	Objectives	Brief description	Target areas / groups
Hiniduma Biolink Project, Sri Lanka	Aforrestation and restoration	Home garden reforestation and agroforestry using a farmer-led participatory approach Minimize the threats from the communities adjacent to these forest buffers Improve the supply of ecosystem services, farmer income by strengthening the livelihood.	The project involves the planting and intensive management of lands through a famer-led participatory approach. The trees will be native and endemic rainforest species (using more than 90 species), including fruit and medicinal trees thus enabling farmers to derive additional income from their land Ecosystem service payments (PES) will be made in return for taking care of the planted trees while farmers will also have the advantage of harvesting of fruits and other products.	Smallholder farmers live around the Kanneliya and Polgahakanda forest patches

4. Duration of project activities and crediting period

The full project aims to cover 1500 families; the current phase is only covering 15 farmers covering nearly 10.88 ha. The crediting period for the project is twenty years.

Table 4.1: Time Plan for the bio-link

Stage	Land area	Number of farmers	Time line for completion of planting	Project status
PDD Phase 01	10.88 ha	15	Completed – March 2011	Farmer agreements signed, plant maintenance in progress
Future activities				
Second phase	2,00ha	250 families (Tentative)	December 2015	Location identification in progress
Third Phase	1500ha	-	-	Location will identify in future

5. Carbon benefits of project activities

Carbon benefits of individual *plan vivos* are assessed using the project technical specifications. Table 5.1 summarises carbon benefits in the initial pilot project phase, and table 5.2 below summarises expected carbon benefits as the project scales up. Actual impacts will be reported in Plan Vivo annual reports triggering credit issuance.

Table 5.1: Expected carbon benefit in the initial phase (Pilot Phase)

Title of tech spec	Carbon uptake above baseline [tCO_2]	Expected losses from leakage [tCO_2]	Risk buffer (15%) [tCO_2]	Total carbon benefit [tCO_2]
Reforesting traditional home gardens using the analog forestry concept	2069	Zero	310	1759

The average carbon benefit per hectare in the 10.88ha pilot area was 162 ton CO_2

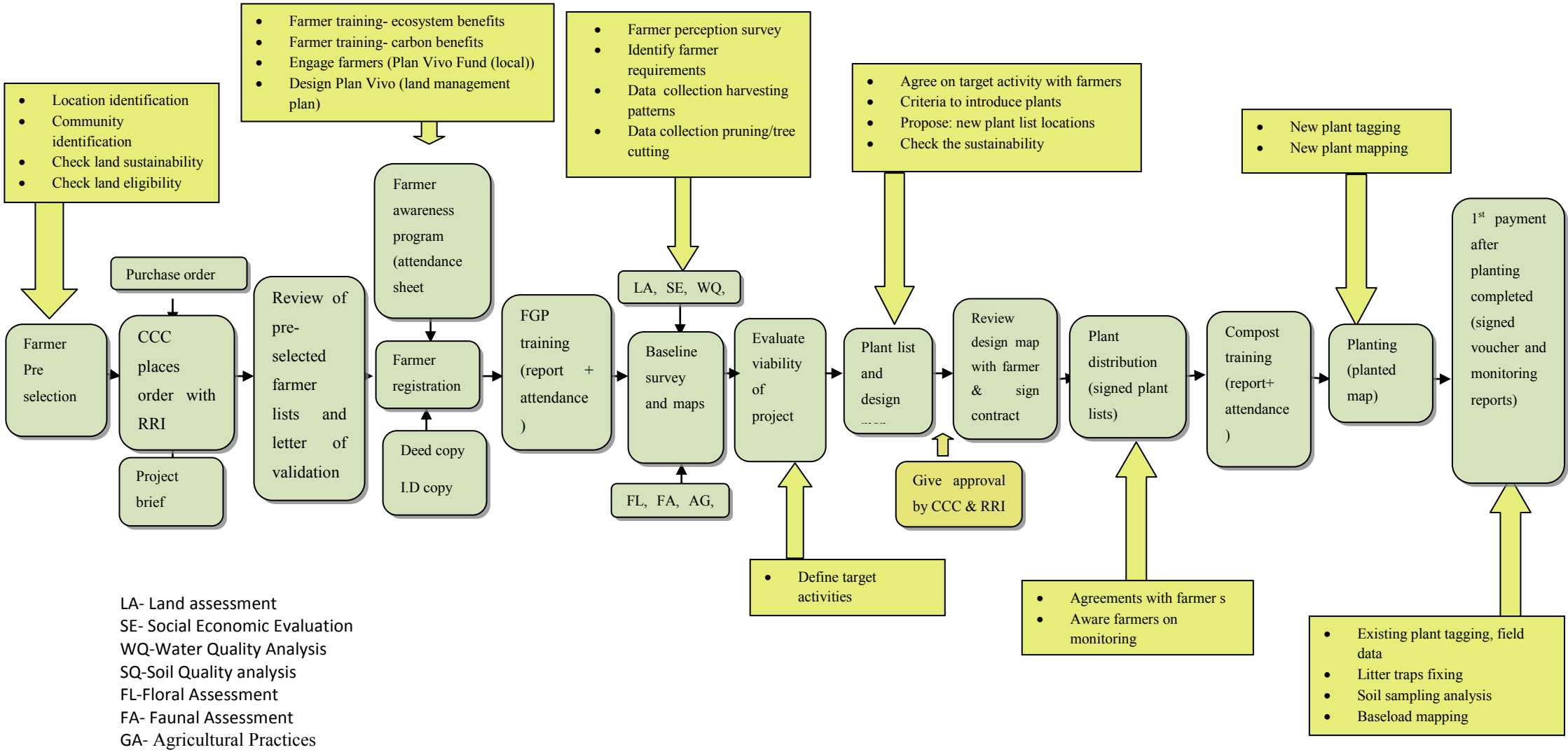
Table 5.2: Expected carbon benefits of first 200ha

Technical specification	Estimated long-term potential carbon benefit t CO2e	
	Areas to be established by Year 2015 (ha)	Total estimated realizable potential
Reforesting traditional home gardens using the analog forestry concept	200	32,400 ton CO_2

6. Process and requirements for registering *Plan Vivos*

Hiniduma Bio link project starts from the famer selection process and runs through several steps. All the processes of the Plan Vivo project on Hiniduma Bio link are shown in the following diagram.

CCC – RRI Project Process Flow Diagram



LA- Land assessment
SE- Social Economic Evaluation
WQ-Water Quality Analysis
SQ-Soil Quality analysis
FL-Floral Assessment
FA- Faunal Assessment
GA- Agricultural Practices

7. Measures to address risks and ensure permanence

15% of calculated carbon benefits will be held as a risk buffer by the project as insurance against unexpected losses or under-achievement of carbon benefits.

The project will only succeed if land-use practices are viable over the long-term and provide sustainable economic and social benefits to communities over and above carbon payments.

Risks of leakage (losses of carbon stocks outside the project area) are identified below and mitigation measures described.

Table 7.1: Leakage and mitigation measures

Leakage	Level of risk (low/medium/high)	Management Measures
Displacement of existing land use activities	Medium	Provide technical support in the development of farm plan to ensure that the farmers have sufficient productivity over and above tree planting
		Regular socio-economic assessments to monitor land use changes within the project area
Increased harvesting to meet demand for timber	Low to Medium	Establishment of forest plantations on producer's land to provide a sustainable source of timber and poles
Displacement of Livestock grazing	Low	Technical support in the development of farm plan to ensure that the farmers have sufficient land for pasture over and above tree planting.

Factors identified as presenting a risk to permanence of carbon stocks are listed below with proposed risk mitigation measures. These were determined via a participatory workshop approach involving RRI, CCC and participating famers.

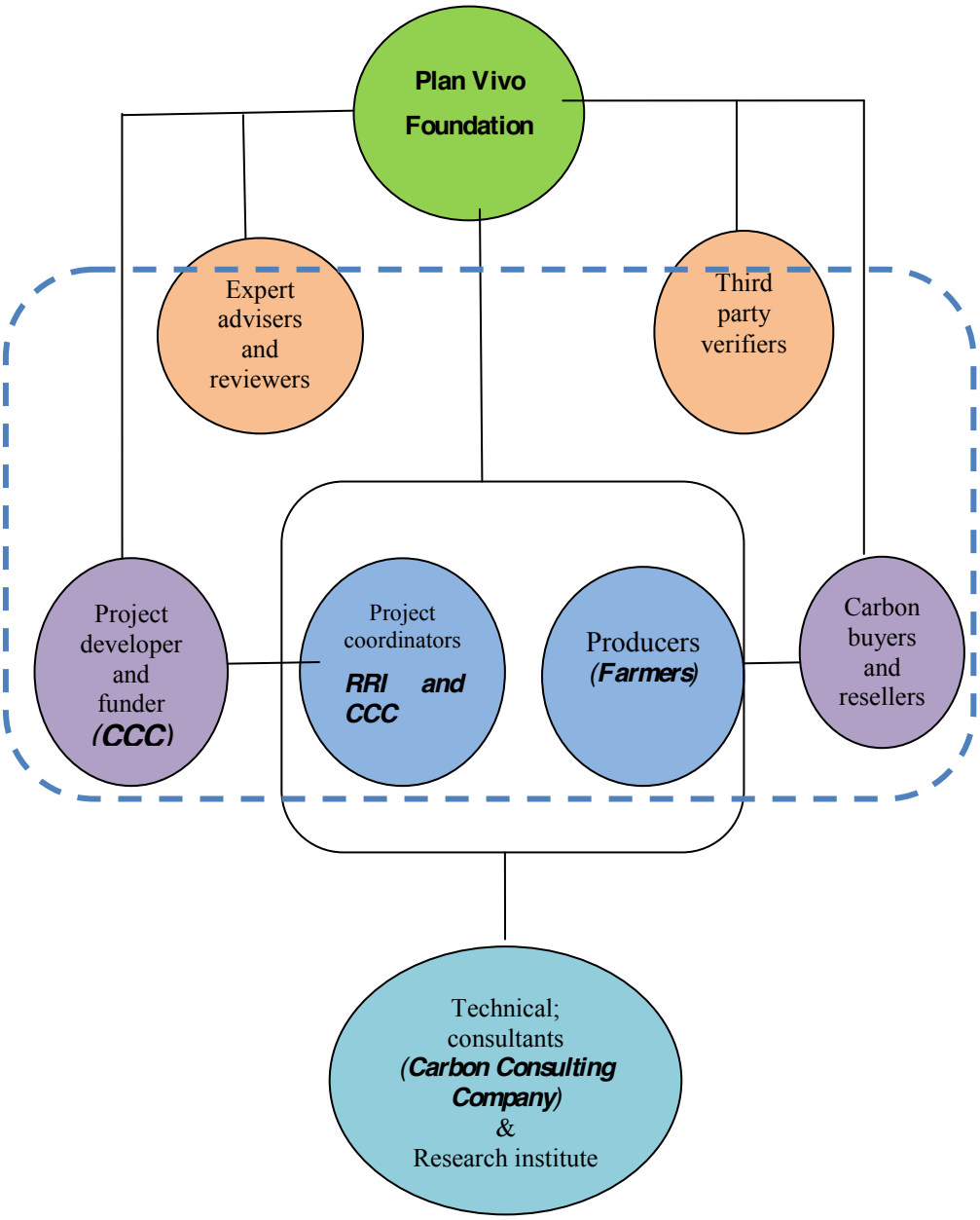
Table 7.2 : Risk factors to permanence and the mitigation strategies

	Risk	Level of Risk (low/medium /high)	Mitigation options
Natural factors	Fire	Medium	Regular monitoring practices and plantation clearing to minimize deadwood fuel load plus the local government has recently imposed heavy restrictions on the use of fire to clear land
			forest cover in the area is minimal and isolated making it difficult for fires to spread
	Pests and diseases	Medium to high	Careful selection of tree species.
			Introduce and implement proper monitoring systems
	Extreme climatic events	High	Carful site selection criteria
Social/legal	Disputes caused by conflict of project aims/activities with local	Medium	Participatory planning and continued stakeholder consultation over the project life-span
			Good communication and awareness between community and project

	communities/ organizations		coordinators
	Increased fuel-wood use	Low	Establishment of forest plantations on producer's land to provide a sustainable source of fuel-wood distribution of fuel-efficient cook stove
Project organizational	Management of activities not carried out effectively	Low	Recruit adequately trained staff
	Double-counting due to poor record keeping and calculations	Low	Transparent record-keeping procedures
			Up to date database maintained with records of all carbon monitored and sold.
	Project not practically viable in long term due to lack of resources/skills /expertise	Low	Community training via CBO forming for long term administrative work Community awareness and training

Section C: Project governance and financial structure

8. Project organisational structure



Key:-

	Internal parties
CCC	Conservation Carbon Company
RRI	Rainforest rescue International
MIND	Munasinghe Institute of developments

Table 8.1: Project partners and responsibilities

	Role	Description	Entity	KPA's
Core	Project coordinator	The project-coordinator is the overall manager of the project and should be a non-governmental community-based organization with strong links to local groups and, ideally, experience working with the target groups.	Conservation Carbon Company	Maintaining the project database (see section 1.3); Reporting to the Plan Vivo Foundation Concluding sales for ecosystem services and allocating sales to producers. Managing project finances and disbursement of payments to producers
			RRI	Engaging producers to participate in the project Coordinating ongoing community consultation and training. Co-coordinating monitoring of producers' progress towards delivery of ecosystem services
Core	Producers	Small-scale farmers	Farmers	Writing their own *Plan Vivo* with support from the technical team (voluntary). Entering into sale agreements with project coordinators (voluntary). Implementing activities identified in their *Plan Vivo* and carrying out management activities according to their *Plan Vivos* and advice given by technicians

Core	Project developers & funders		Conservation Carbon Company	Start-up funding to fund training and community meetings Develops technical specifications Pay for external technical support and build internal capacity to set up systems
Core	Technical consultant	Technical assistance to set up technical aspects of the project	Carbon Consulting Company (Pvt) Ltd	Assisting in all aspects of project design and development; Providing training to local technicians and assist in community training workshops; Developing carbon modeling and technical specifications (chapter 3, Hiniduma Bio-link project); Helping to prepare project documentation such as the PDD Preparing, monitoring protocol a perform effective monitoring rounds.
Complementary	Research institutes	Involved during project development to provide information for technical specifications and during project implementation to provide support to the technical team	MIND (Decision in progress)	Biomass surveys and carbon modeling; Baseline studies; Providing advice on particular technical problems (e.g. disease); Assisting with training workshops for producers; Biodiversity surveys.
Optional	Project Social Team	Advise on social aspects of project design and implementation	RRI	Forming CBO, give advices for social problems

9. Relationship to national organisations

Stakeholder management and communication is handled using two approaches. The project was communicated to national level institutions and their inputs and recommendations were obtained. This was mainly coordinated by the project technical partner Carbon Consulting Company and it was agreed in the first stakeholder meeting to review the project progress in six monthly meetings. Some constraints for the technical specifications preparation were discussed during these initial meetings.

RRI and CCC have developed the project based on community consultation. The project was initially developed during a community consultation workshop held in 2008 with the presence of Divisional Secretariat, Grama Niladhari (village headman), Land Officers, Forest Conservation Department officers and the public health inspector. The cooperative ministry, tea board and the local police have been made aware of the corridor/bio-link concept. Regional and local level stakeholder engagement is coordinated by RRI.

Since the project area is not under the forest cover controlled by the government, no permissions are required for project activities.

Section D: Community and livelihood information

10. Target communities/groups

The target groups and communities involved in this project are the locals living in the surrounding areas to the project activity as described in Section B. Approximately 1,500 families are targeted based in the nearby areas to the initial 10.88 ha project phase. Most of them are traditional farmer communities who engaged in small scale tea, spices, palm, paddy and other short cash cropping.

The project aims to address the limited income generation opportunities faced by local communities in the project area. The main income source of the local community is the production of green leaf for tea manufacture, thus limiting the earning capacity of these small holders to the land extent that they own. Communities in the project area generally own small acreages (under 2-3 acres), or around 1 hectare, and as such look

for opportunities to increase production by activities such as forest and reservation encroachment

11. Ownership of carbon benefits (land-tenure)

Land tenure of the project area **is either solely farmer ownership** or Government of Sri Lanka has provided the farmers Swarnabhoomi or Jayabhoomi deeds; a perpetual lease facility thus giving complete rights to farm on the lands and generate income. Therefore they have ownership and the rights of ownership of any carbon funding received by the use of these lands. CCC, who is the project coordinator and funders for the Plan Vivo project activity, has a partnership with the farmers ensuring the safety of the plants under their tutelage.

12. Socio-economic context and anticipated impacts

Traditional small scale farming (tea, spices, paddy and other shift term cash crops) is the main source of income for local communities in the project area.(Annex 9: Social Survey). To maximize the socio-economic benefit of the project, the reforestation design was prepared using a participatory approach. There are no identified significant potential socio-economic risks involved in this project. Interviewing and consulting was done with farmer households in the project areas to understand the local farmers/communities' preferences, wishes and concerns, so that the proposed small-scale analog forestry project activity would better respond to their desires for livelihood development by looking at below areas.

The project aims to enhance local earning capacities in order to reduce this degradation and pressure on local forest resources. One method which will be used will be the promotion of certification as a viable alternative for value addition forest garden certification (www.forestgardencertification.com) whereby the primary product tea could be grown as a more sustainable crop. Markets have been contacted and initial discussions have taken place in this regard. Methods of diversification of primary production will be enhanced by introducing a tree cropping regime and processing and bottling of fruit products will be trialed by the community. Benefit of the above actions will be distributed equally among the community using a entrepreneur model to promote and help develop greater market linkages for communities to access as a whole.

Table 12.1: Socio-economic impact areas and assessment indicators

Socio-economic impact	Actions taken	Indicators
Income generation	• All the precautions were made to improve the farmer livelihood activities. • According to the contractual arrangement, farmers can enjoy the harvesting benefits of the plants • Addressing the issues of small scale farmers facing problems on applying loans or other financial benefits through free plant distribution (part of the plants are short term cash crops)	• Per month income of the farmers • No of women involved in self employment • Number of households with food security
Strengthening social cohesion	• Forming the famer organizations and enhance the unity of the farmers • Improve the interaction between individuals. • Improve the social acceptance through state stakeholders, as more responsible farmers towards ecological conservation	• Number of women who are economically independent. • Reduction in number of illnesses due food and water related diseases. • Reduction in number of children suffering from malnutrition.
Improve the agro-technical developments	• Providing high quality seedlings and for successful tree planting • Other livelihood benefit training – organic farming, green fertilizer usage etc	• No of farmer enter into the CBO • Number of people able to grow and produce various cash and food crops

13. Community-led design and livelihood benefits

Target groups were organised by RRI to attend voluntary workshops during the initial design of the project. Local views and knowledge, in particular on biodiversity were utilised during the designing phase of the project. Quarterly meetings and the visits of monitoring staff will ensure continuous involvement by the community.

Species of utility and commercial plants provided to the community under this program are expected to increase the nutritional input for families significantly and increase the commercial potential of their home gardens. By enhancing long term cropping cycles by introduction of Mango, Rambutan and other high value fruit species, livelihoods will improve. Further it is expected that the project will enhance local community health by the improvement of agricultural inputs in the local area.

The project design for the bio-link has been designed from plant placement and selection onwards to enhance local systems both anthropogenic and natural. The use of relatively large numbers of species provides a diversified system; this diversification is used to enhance local water resource quality by including natural riverine species, soil quality by introduction of soil conditioning plants and crops. Income generation and biodiversity enhancement are the other impacts that the panting design will attempt to achieve through the life time of the project.

14. Capacity building and training

In additional to capacity building workshops organised with the community, the project will also encourage the participants to become certified under the Forest Garden Programme (Source: www.forestgardencertification.com), System which will not only give them a higher price on their products, but also open new marketing opportunities for the community. Technology transfer activities such as composting, farm planning, better tea production, organic agriculture, and soil management are also introduced and promoted during the project life time. An internal control system which can help the regulation of the project will be set up via a community based farmer organization. There will also be a regular evaluation of the production potential of the community and this project will explore new buyers or other commercially interested organisations to be introduced to the selected famer community.

15. Monitoring livelihood and socio-economic impacts

Table 15.1: Methods of measurement of expected socio-economic impacts

Area of impact	Baseline	Method of measurement
Local incomes	The average earning capacity of the targeted families is 100 USD per month	The size of dependants, home ownership details and other variables were assessed by RRI. This will be monitored annually
Average number of income sources (including PES)	All farmers have the ownership of at least 0.405-0.81 ha of production land of which tea is the main crop noted.	Famer interviews and physical observations

Section E: Ecosystem impacts and monitoring

16. Ecosystem impacts (threats to ecosystem services in the project area)

Not surprisingly, this land tenure system leads to rapid deforestation and greatly inhibits community based forest conservation initiatives. Another underlying cause is the misuse of agro-chemicals. In response to land degradation, farmers turn to chemical fertilizers. However, improper use of these inputs results in gross imbalances of soil nutrients, which leads to further decreases in soil productivity. The end result is that farmers need more land, often at the cost of natural forest, to maintain productivity.

17. Ecosystem benefits by the project

The project area is designed to enhance the high value biodiversity areas of the Singharaha and Kanneliya rain forest. As these last patches of Sri Lanka's rain forest have become isolated, the project seeks to link them through the creation of a corridor. Further as this corridor is developed along the Ginganga river watershed, it is expected to generate a large value in the restoration of the watershed as well as the retention and decrease water pollution.Through the protection of wildlife habitat for a diverse plant and animal life will help to increase biodiversity. New planting will help develop a canopy structure which will increase animal movements.

Table E.1 Summary of expected impacts of project activities on key environmental services				
Title of technical specification	**Biodiversity impacts**	**Water availability /watershed impacts**	**Soil productivity/conservation impacts**	**Other (Social impacts)**
Himiduma-Knneliya Bio Link	Establishment and protection of wildlife habitat for diverse flora and fauna. General improvement in Microclimate associated with trees including shade provision	Reduction of runoff through stem and root effects on soils. Planting suitable trees species near the riverine, will helps to protect the river basins and it also helps to protect the watershed in the area. Improvement of ground water recharges systems through enhanced water infiltration due to increased residence time.	Reduced soil erosion through binding effect of tree roots. Reduced soil erosion through improved structure due to increased organic matter content. Improved soil fertility through biological nitrogen fixation and addition of nitrogen-rich organic residues and through nutrient cycling.	• Woodlots will provide a local and sustainable source of firewood, poles and it will reduce pressure other forest resources. • Income diversification through non timber forest products (NTFP's) as– medicines, fruits, shading materials, livestock feeding, etc • Provision of potential bee keeping habitat as beehives could be hung in the trees • Shading for humans and livestock. • Pruning material may be used as firewood.

18. Monitoring of ecosystem impacts

Biodiversity baselines

Base lines were taken as visual identification in areas. The main species were categorized as indicators of healthy environments. The following indicator species were chosen described in table 19.1.

Table 18.1: Biodiversity indicator species

Indicator species	Low disturbance	Medium disturbance	High Disturbance
Purple Faced Leaf monkey		X	
Slender Loris	X		
Ceylon hanging Parrot.		X	
Wood pigeon	X		
Red vented bul bul			X
Lereocephalis	X		
Calotes calotes			X

All community lands showed low to medium disturbance and medium disturbance lands occurring directly on the forest edge.

Table 18.2: Methods of monitoring environmental impacts of proposed activities

Impacts	Baseline	Methods and thresholds
Biodiversity impacts	Biodiversity impact Land area (ha)	Planted and maintained with trees and other vegetation according to the technical specifications. Number of effective village forest management committees managing village forest areas. Monitoring activities of the planted trees

		according to the technical specifications managing them according to recommended forest management practices
Water availability impacts	Water quality was not affected by current community activities	All lands showed a surface water pH value over 8 which can be considered slightly acidic. Total Suspended Solids (TDS) showed high levels on all lands 183ppm which make it suitable for drinking water purposes. Increase of use of water pipe line Measurement of water Biological Oxygen Demand (BOD), TSS and Turbidity of the waters.
Soil conservation impacts	Soil conservation impacts reduction in frequency of surface run-off events from sites planted and maintained with trees. Reduction in number soil wash away from areas planted and maintained with trees	Soil quality reduction over time farmed was recorded. Turbidity of water Annual assessment of top soil C content
Other	All the boundaries of each and every famer have been identified separately and maps were taken. Maps will be evaluated periodically.	Reduction in number of uncontrolled forest encroachments per year in the community Regular monitoring of the land use of the farmers

Section F. Additionality of project and project activities

A number of policies exist that, if enforced, hold potential for effective ecosystem conservation. However, enforcement is inconsistent and weak, particularly outside protected areas.

If these small farmer communities cannot see attractive financial benefits to conservation activities, regaining forest patches is a difficult task. When the price of tea goes down farmers have a tendency to expand their crop extent, either disturbing the forest buffers or watershed buffers. Similarly, these effects on reducing the remaining isolated forest patches in their lands. Another important fact is, for the bio-link most of the introduced plants are wild varieties. These plants do not provide significant financial benefits to the farmers. However these plants will also make canopy structures and reduce the space for cash crop growing. As such landowners are not inclined to plant wild varieties since it may reduce their income. By introducing an ecosystem valuing mechanism through carbon benefits, and passing financial gains to these farmers, will increase their interest more in conservation and sustain the plant maintenance activities. Through the baseline social survey, implementing groups identified that without monetary support, it is difficult to implement such activities. It was considered that carbon financial incentives are a must for the long-term sustainability of the project.

The lack of agro-technicality is also an identified main barrier in this project area. Introducing 'analog forestry' concepts, home garden practices, organic food practices, composting trainings are some of training and development activities lined up for the benefit of famers. Since the project tries to close this gap there is a higher acceptance rate from the farmers. Hence this project provides support to overcome technical barriers to sustainable land-use.

Findings of the social survey have shown the reluctance of the farmers in stakeholder engagement, mainly with state sector representatives. This maybe mainly due to the isolated business practices with few selected marketers. If these farmers can foster a good relationship and get the support of government institutions like: the export agriculture department, the forest conservation department, the agriculture department, the tea research institute, local corporative society, and rural banks most of the marketing barriers can be overcome. Proposed farmer organization will be a

strong stakeholder engaging body and some of the marketing barriers will be reduced. Similarly this will improve the promotional activities and recognition as well.

Currently there are no such laws or regulatory framework instilled by the Government of Sri Lanka and the selected lands are not forest or covers under forestry legislations or state lands.

Table F 1: Identified barriers

Barrier	Reasons	Mitigation measures
Investment Barriers	• Lack of access to credit • Debit funding not available for this project activity	• Working as a farmer community, more options to access credit/funding • Project income sources harvested yield, monthly payment scheme)
Technological barriers	• Lack of access to planting materials • Lack of silvicultural and forest management technology	• Regular training • More networking opportunities
Barriers due to social conditions	• Lack of skilled or properly trained labor force • Lack of organizational capacity of local communities	• Establishing a Community based organization – more social acceptance

Given the trends in the area, the increase in the tea market has been moving the vegetation from high biomass to low biomass ecosystems. With this project it is intended to reverse these trends and move from a low biomass to high biomass mature

ecosystems, such a process would not been possible without the support of carbon finance.

Section G: Monitoring, technical support and payment plan

19. Monitoring of performance indicators

This section describes proposed monitoring methods and procedures to ensure the delivery of ecosystem services. The key parameter of quantifying the ecosystem services of this *Plan Vivo* project is carbon sequestration potential of new plants.

The monitoring plan, which is used to assess the results of each Plan Vivo, sets forth a series of milestones that must be reached in order for payments to be received by participating farmers. Each participating producer's *Plan Vivo* is monitored twice in annually according to the given indicators. A detailed monitoring plan is included in Annex 5.

The following indicators will also measure to assess the social and ecological improvements with in time to time.

Table 19.1: Indicator measures for ecological improvements

Monitoring measure	Indicator	Responsibility	Frequency
Physical indicators	Soil quality pH of water Related other water quality parameters	RRI	Annually
Biological indicators	Monitoring and labelling of the threatened species. Survey to find the improvements of faunal populations	RRI and CCC	Annually

Project coordinators encouraged the farmers to have their own monitoring plan through forming famer organization. CCC's and RRI technical expertise will be the one who is fully responsible to monitor the success of the post planting process.

20. The Project's Financial Structure and benefit sharing information

The Hiniduma Bio- Link was established using funding from Rainforest Rescue International. Future funding is designed to predominantly come from the sale of Plan Vivo Certificates and private investments towards the delivery of future Plan Vivo Certificates.

Long term financial responsibility will be taken by the Conservation Carbon Company and the payments held on behalf of farmers over the long term are carefully handled through a separate account.

The use of funds acquired from the sale of Plan Vivo Certificates will be divided into two broad categories. 44% will go to the first category for project operations and development expenses, tree protection and for monitoring and the certification cost whereas the remaining 56% will directly be provided to the community involved in the project in addition the cost of provision of seedlings). The financial allocation is illustrated in Figure 1 below.

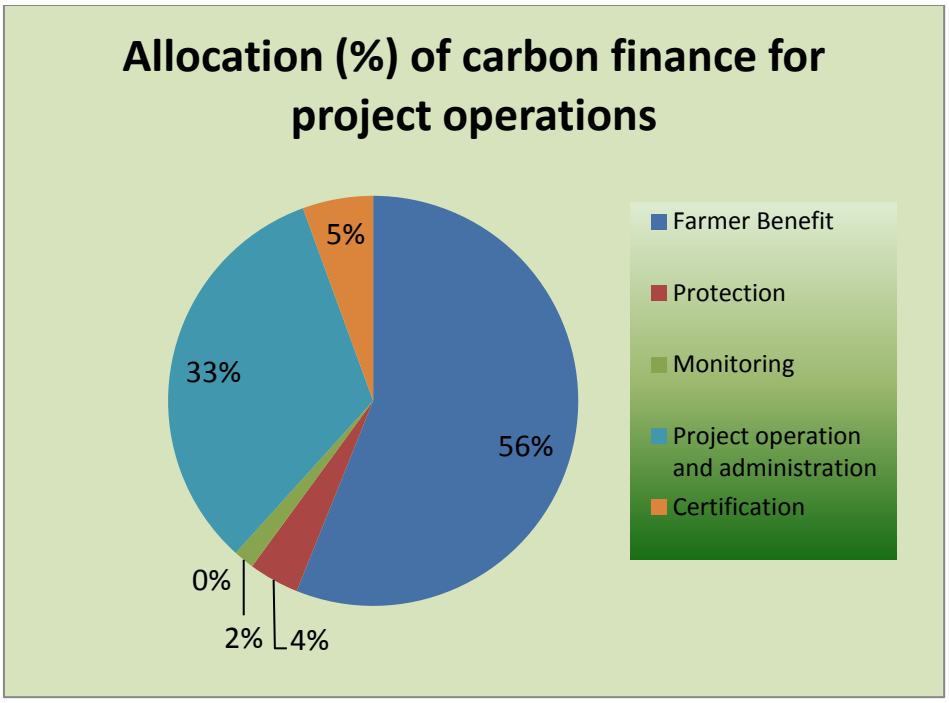


Figure 2: Financial allocation of the Hiniduma Bio-link Project

Farmers who are directly engaged with the project will be benefited by being provided seedlings and the cost of seedling is deducted from carbon payment as the project coordinators are absorbing the cost up-front but later receives a share of income from sales of plan vivo certification. The provided seedlings have ecological

value as well as economically valuable trees which farmers will have alternative income for enhancing their livelihood in addition to the farmer payment they will receive. Farmers will be trained in the Analog Forestry methodology [a] and engage in self monitoring of the plants in order to achieve long term success of the project. The percentage of the cost break down is given in the table 21.1.

Table 20.1: The percentages of the financial breakdown

Recourses	Cost of per ton per farmer (Rs)	USD	%
Farmer Benefit			
Seedling utility 2	40.88	0.37	0.83
Farmer payments	2724.00	24.76	55.13
Farmer training	6.44	0.06	0.13
Protection			
tags and covering	196.20	1.78	3.97
Monitoring			
Monitoring	81.00	0.74	1.64
CBO forming			
Seedling trees1	817.50	7.43	16.54
CBO set up	22.55	0.21	0.46
Sub total	3888.57	35.35	
CCC administration cost	777.71	7.07	15.74
Certification cost	275.00	2.50	5.57
Grand Total	4941.29	44.92	

Notes:

[1] Seedlings of timber trees refers to the tree species which are native to the region and has a good carbon sequestration capability, and which is economically beneficial for the farmers.

[2] Seedlings of utility trees refers to the tree species which are distributed purely to enhance the ecological value of the area hence the carbon sequestration of these trees was not taken for the calculation of net carbon benefit.

Project Operations & Administration

16.2 % of the total funds are used for the operational and the administrational expenses of the project coordinators.

[a] **Analog Forestry** is a system of silviculture, which aims to restore the local biodiversity while providing economic opportunities to small-scale farmers. (www.Rainforestrescueinternational.com,2011)

Project coordinator costs are as follows,

- Salary costs for project coordination staff
- Payments to site coordinators and field workers/ community technicians /monitoring staff
- Costs of research and other work subcontracted to technical service providers or research and other institutions (e.g. universities)
- Overhead costs related to the project - office infrastructure costs and rents, rates and utilities, IT and telecommunications, publicity, stationery and consumables, the cost of hosting community meetings, supplies, travel, subsistence and other expenses related to the project.
- Cover the costs of submitting annual reviews to the Plan Vivo Foundation
- Covering the costs of third party audits
- Helping participating producers develop and access markets for their firewood and sustainably managed forest products
- Holding periodic public and expert consultations
- Other costs related to organizational development

5.57 % of the total funds are used to cover the issuance and registry fee for each Plan Vivo Certificate generated

Benefit sharing with the community will be as per the prior Sales agreement with *the Plan Vivo's*. According to the Key performance indicators mention in the Hiniduma Bio-link Technical specification, payments will be delivered by cash or cheques. In addition to the key performances, we have considered four conditions to be fulfilled by the farmes to get the full payment at once. (Annex 5: Monitoring plan and the farmer payment conditions)

The monitoring plan, which is used to assess the results of each *plan vivo*, sets forth a series of milestones that must be reached in order to receive the ecosystem benefits as monthly payments to be received. Monitoring both ecosystem services and the performance of the *Plan Vivos'* will be done by the project coordinators. (Monitoring Plan is attached in Annexure 5).In addition initially four conditions will be considered for the farmer payments.

A clear mechanism is being introduced to address the inflation of the rupee value to maintain 56 % benefit to the farmers. A review the inflation rate of rupee and readjust the farmer payments.CCC will ensure that farmers benefit will remain as 56% and we are reviewing the inflation/depreciation of rupee value in every 5year time thus we will readjust the farmer payment if the inflation rate exceeds 5%(current inflation rate is 2.7%).

21. Technical support and review:

Expertise in RRI will provide guidance for farmers from the pre planting activities and to the final inspection process. They provide necessary training and mainly on followings,

- Pre Planting activities
- Nursery management
- Planting activities
- New plant maintenance
- Compost making/training

Details are explained in the Technical Specification of Hiniduma Biolink Project and the training workshops and community participatory activities are stated under Section D 8.Capacity building and training

Section H. Compliance with the law

One of the primary underlying causes of deforestation in the area is the Land Development Ordinance (Chapter 464), which was established to encourage agricultural production. In order to enjoy benefits through this ordinance smallholders are required to clear land for cultivation in order to claim property rights.

If the land tenure of the project area either solely owned by the farmers or Swarnabhoomi, Jayabhoomi deeds for farmers, famers have right to do planting activities. (Swarnabhoomi and Jayabhoomi is a long term land lease scheme which awarded to small scale traditional farmer community from Sri Lankan government. It allows carrying out their normal activities)

Land of Riverine in the buffer is owned the forest department, under the Forest Ordinance. Hence it is prohibited to carry out land clearance in those areas other than planting with the authority of forest department. Introducing new plant species (non native plant) to riverine should be done with the permission of the Forest department.

However lands behind small streams located in some land are owned and long term leased by the famers.

Section I. Certification or evaluation to other standards

N/A

Annexes

Annex 1: List of responsible staff and contact information

Table I 1: List of responsible staff and contact information Responsible staff

Project staff	Responsible personnel	Contact information
Project Developers & funders, Co- project coordinators CCC - Conservation Carbon Company	Subramaniam Eassuwaren	Address 104/11 Grand pass Road, Colombo 14, Sri Lanka. Phone: +94112334748, +94112423268, +941147967 Fax:+94112344363 Email: subra@conservecarbon.org www.conservecarbon.org
Co-project Coordinators, Project Social team RRI - Rain Forest Rescue International	Charith Senanayake	Address: Rainforest Rescue International, No169, Matara Road, Galle, Sri Lanka. Phone: +94912232585 Fax: +94912223735 E-mail: charith@rainforestrescueinternational.orgwww. rainforestrescueinternational.org
Technical Consultants Carbon Consulting Company	Lakmini Senadheera	Address: No 15,Ramya Road, Colombo 04 Phone +94-11-7208208,/+94777725032/ 4796798 Fax +94-11-2344363 E-mail: lakmini@carbonconsultco.com/ info@carbonconsultco.com www.carbonconsultingcompany.com
Research Institute MIND - Munasinghe Institute for Development, Sri Lanka	Discussions in progress	Address: 10/1 De Fonseka Place, Colombo 5, Sri Lanka Phone +94-(0)1-551208 Fax +94-(0)1-551608 www.mindlanka.org

Annex 2: Information regarding public and other sources of co-funding

N/A

Annex 3: Technical specifications

Hiniduma Biolink Project, - Reforesting traditional home gardens using analog forestry concept in wet zone of Sri Lanka

Annex 4: Producer/group agreement template

I. Sales Agreement with the famer (template)

Sinhalese version of the following agreement will be distributed among the farmers

AGREEMENT

*I ……holder of National Identity Card No……. of …… **("the Farmer")** do hereby request Conservation Carbon Company (Private) Limited a company registered under No…….in terms of the Companies Act No. 7 of 2007 and having its registered office at No. 104/11, Grandpass Road, Colombo 14, Sri Lanka[X1] **("the Company")** to grant me the stipend and other support as provided herein to plant, grow and maintain trees on the land owned to me by the State as per the details set out in the First Schedule hereto subject to the terms and conditions set out in the Second Schedule hereto.*

THE FIRST SCHEUDLE REFERRED TO ABOVE

1. *Details of Trees(Annex 1 : Green list)*
   - *1.1 Type of Trees*
   - *1.2 Number planted per species*
2. *Location (Describe the location on which the trees are planted).*
3. *Right of the Farmer to the location (eg. details of State lease etc.).*

THE SECOND SCHEDULE REFERRED TO ABOVE

Terms and Conditions

1. *The Farmer will plant, grow and maintain the trees at the location as per the details set out in the First Schedule hereto.*

2. *The Farmer will always ensure that the minimum number of trees as appears in Annex 1 is planted on the location described in the First Schedule hereto.*

3. *The Farmer will meet all expenses for planting growing and maintaining the said trees.*

4. *The Farmer shall not destroy or cut the said trees without the prior written permission of the Company.*

5. *The Farmer shall ensure that the necessary manuring and pesticides are done correctly.*

6. *This Agreement comes into operation on the day of signing and shall continue for a period of 20 years from sign date.*

7. *Either party may terminate this agreement by written notice of at least three calendar months to the other party excepting the first five years from planting where compensation for payments made or alternative plantations are provided by the farmer.*

8. *Nothing in this Agreement shall do not constitute a partnership between the parties nor constitute any party as agent of the other party.*

9. *The Agreement shall bind and accrue to the benefit of the Company and its successors and to the Farmer and his heir's executors and administrators.*

10. *The Company may assign its rights hereunder to any other institution but with at least one calendar month's written notice to the Farmer*

11. *Notice if any required to be given by one party to the other sent under registered post to the other party and if the other party does not dispute its receipt within 7 days of posting of the notice it shall be deemed to be accepted by the other party.*

12. *The Farmer confirms and declares that he is executing this Agreement giving the above undertakings to the Company in consideration of the Company agreeing to pay a stipend of 3.00 Sri Lanka Rupees per tree per month as a performance payment based on plant quality and maintenance.*
13. *After the clear agreement with the farmer the Company is liable to pay a stipend for a 20 year period and farmer will have the right to decide the frequency of Stipend payment, and it will be negotiable with both parties.*

14. *The Farmer recognizes and appreciates that the Company has agreed to pay the said stipend as a part of the programme for protection and development of bio diversity in the region under the programme of analog forestry.*

15. *The Farmer agrees and undertakes to permit the Company and its authorized representatives to inspect the location and the trees planted thereon and take photographs and also to furnish whatever information is required from the Farmer in respect of the trees.*

16. *The Farmer agrees and undertakes that in the event of any tree dying or is destroyed to plant another tree agreed to by the company in writing in place thereof.*

17. *The company has the full authority to monitor the survival of the plants distributed and if plants die for any reason company will provide plants for replanting. The cost of seedlings is deducted from carbon payments over the 20year projects period..*

18. *The Farmer agrees to attend individual or group training programmes or workshops in analog forestry organized by the Company and also to comply with the instructions and guidelines given by the Company in the implementation of the Project of planting growing and maintaining trees in the circumstances set out above*

19. *The Farmer agrees and undertakes not to do any act or allow any third party to disturb or drive away native fauna excepting known pest species that may enter upon the location from time to time nor cause any harm to them.*

20. *The farmer agrees and undertakes minimize harm and displacement of existing trees in the project area.*

21. ***Good Faith***

In entering into this Agreement the parties hereto recognize that it is impracticable to make provisions for every contingency that may arise in the course of their performance. Accordingly, the parties hereby declare it to be their intention that this Agreement shall operate between them with fairness and without detriment to the interests of either of them and that none of the parties shall make undue gains at the other party's expense and that all provisions of this Agreement shall be applied in good faith. If in the course of the performance of this Agreement unfairness to any party is disclosed or anticipated then the parties shall use their best endeavors to agree upon such action as may be necessary and equitable to remove the cause of the same.

22. ***Interpretation***

For the purpose of interpretation and construction of this Agreement the following provisions shall apply:-

22.1 Expressions in the singular shall include the plural and in the masculine shall include the feminine and vice-versa

22.2 Headings used in this agreement are inserted for convenient only and shall not affect its interpretation or construction

22.3 The Schedules form part of the Agreement.

Date: ……..

……..

(Farmer)

WITNESSES

1.

2

KN/RP

31.12.10

2(453)-AGREEMENT (CON)

II. Confirmation letter of Planting

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<u>Confirmation letter of Planting</u>

Farmer Number : P2 - 1210 - 225 - 01

Farmer Name : G. Weerasinghe

Land extent : 6 AC.

Plant amount received : ……………………

Planted amount : 1576.

I do hereby confirm that I completed the planting under the supervision of Rainforest Rescue international. The plant list which I have planted have attached with this letter.

Name of Farmer [illegible]

Signature of Farmer [illegible]

Date 2011 - 03 - 17

Name of RRI officer Vijaya Anand.

Signature of RRI officer [illegible]

Date 17/03/2011.

Rainforest Rescue International
169, Matara Road, Magalle, Galle, Sri Lanka
www.rainforestrescueinternational.org

t: + 94 91 223 2585
f: + 94 91 222 3735

Annex 5: Monitoring plan and the farmer payment conditions

Table I.2: Monitoring plan

Time line	Parameter	KPI	Monitoring Responsible	Monitoring team, resources	Monitoring / review frequency	payment
Year 01	Plant establishment in the ground	60%	RRI	RRI, farmers	Two times/year	Deduct
	Participation on farmer awareness sessions (4 sessions/year)	≥75%	CCC	CCC, RRI	After each session	Deduct
Year 02	Plant survival	≥70	carbon consulting Company	CCC, University students group	Two times/year	Deduct
	Participation to farmer awareness sessions (3 sessions/year)	At least attend two session out of three	Carbon Consulting Company	CCC, RRI	After each session	Deduct
Year 03 onwards (till 20years)	Plant survival	≥80%	Carbon Consulting Company	CCC, University students group	Two times/year	Deduct
	Participation to farmer awareness sessions (2 sessions/year)	100%	Carbon Consulting Company	CCC, RRI	After each session	Deduct
	Growth	50%	CCC, RRI	CCC, and	Two	Deduct

	analysis (DBH, Height)	achieved from predicted DBH		RRI University students group	times/year	
First year onwards	Other parameters : Soil analysis, water analysis, biodiversity assessment surveys		RRI		Annually	Not affected

(Source: Hiniduma bio-link project, Sri Lanka)

Farmer payment criteria and conditions

Initial payment

- When a new farmer joins the project **Rs 750** will be given as the joining fee

Payment criteria

- Agreed payment is Rs 3.00 per tree per month
- In initial farmer meeting, farmers have agreed to have their payments as installments and one installment includes the **fee of three months**
- The project coordinates have set up four conditions that should be followed by farmers in order make sure the farmer responsibilities and they are as follows,

Condition 01 Farmers should complete the planting

Condition 02 Farmer should hand over a copy of his/her national identity card or any other recognized document to prove the citizenship

Condition 03 Farmer should hand over a copy of deed or land ownership

Condition 04 Farmer should complete the protection (put up the polythene cover)

If a farmer fails to do above conditions, project coordinators will deduct the payment proportionately under the agreement of paying the balance after he/she fulfill the criteria

Survival rate

- From second year onward if the farmer fails to have the plant survival rate which is given in KPI's in the technical specification, farmers are subject to a reduction from their payment for dead plants

Annex 6: Database template

Table I 3: Template of data sheet Baseload Carbon stock calculation – part 01

No	Project type (BL/BF)	location	Farmer	Site	Land use type	Management unit	Sub Catagories	Extent	Eligible / not Eligible	Base / new	Tag no	Specimen No	Common Name	Scientific Name	habit of the plant
	BL	KP	Danapala	0	Home garden	A			Exclude	Base	B017	0	Milla	*Vitex altissima*	Tree
	BL	KP	Danapala	0	Home garden	A			Include	Base	B019	0	Alstonia	*Alstonia spp*	Tree
	BL	KP	Danapala	0	Home garden				Include	Base	B020	0	Alstonia	*Alstonia spp*	Tree
	BL	KP	Ariyarathna	0	Home garden	A			Exclude	Base	B034	0	Arriconut	*Areca catechu*	Palm
	BL	KP	Ariyarathna	0	Home garden	A			Exclude	Base	B035	0	Arriconut	*Areca catechu*	Palm

Table I 4: Template of data sheet - Baseload Carbon stock calculation – part 02

Girth [cm]	dbh [cm]	Root Girth	Root diameter	No of copies	Horizon dis	Top angle	Bole angle	Bottom angle	Total height	Bole height	Bole volume [m3]	Biomass for palm	carbon stock of palm	Biomass for broad leave trees	Total (S.brown)	Total bio mass
0	5.7	0	0	0	15	11.5	5.5	-8	5.16	3.55	0.00				11.80	11.80
0	20	0	0	0	20	49.5	38	-6.5	25.70	17.90	3376.26				368.60	368.60
0	25	0	0	0	20	58.5	41.5	-3	33.69	18.74	5522.39				641.04	641.04
0	12.9	0	0	0	10	35	28	-13	9.31	7.63	0.00		69.59	143.91		143.91
0	11.7	0	0	0	10	32	20	-24	10.70	8.09	0.00		78.49	162.31		162.31

Table I 5: Template of data sheet - new plant species – Part 01

Botanical Name	*Tree size*	*Habitat*	*Growth Model*	*Plant Family*	*Common Name (Sinhala)*	*Comman Name (English)*	*Habit*	*Growth*
Adenanthera pavonina	Mediun - large	tropical we zone	D= 0.347e0.173t (R^2 = 0.989)	Fabaceae	Madatiya			
Areca catechu	Small	tropical we zone	D = 0.856e0.148t (R^2 = 0.652)					
Artocarpus altilis	Large	tropical we zone	D= 0.42e0.234x (R^2 = 0.980)	Moraceae	Rata del	bread fruit	Tree	Medium
Artocarpus heterophyllus	Meduum - large	tropical we zone	D = 5.471e0.146t (R2 = 0.629)	Moraceae	kos	Jack	Tree	Medium
Artocarpus nobilis	Meduum - large	tropical we zone	D= 0.42e0.234x (R^2 = 0.980)	Moraceae	wal del	wild breadfruit	Tree	Medium slow

Table I 6: Template of data sheet - new plant species – Part 02

Growth habit/Stratum	*Climatic zone*	*Endemicity*	*Use Catogary*	*Tot ht (M)*	*Dbh (cm) in 20 yrs*	*Ht 20 yrs (m)*	*AGBM (kg)*	*Distriobuted green list*	*AGBM total(kg)*	*AGBM total(kg)*
	W				11.04		34.73	29	14240.48	1007.25
	W				16.52	9.353882	76.52	49	2448.80	3749.72
Home gardens	W	Introduced	Fruit - Edible, W - Light construction, shade tree		29.70		467.71	1	467.71	467.71
	W	No	fruit - edible, leaves - fodder, W - constructions, furniture, Whole plant -		29.33		453.79	111	73060.17	50370.68
Intermediate and rain forest	IN, W	Endemic	seeds-edible, w- construction Timber Class I		29.70		467.71	97	65478.98	45367.58

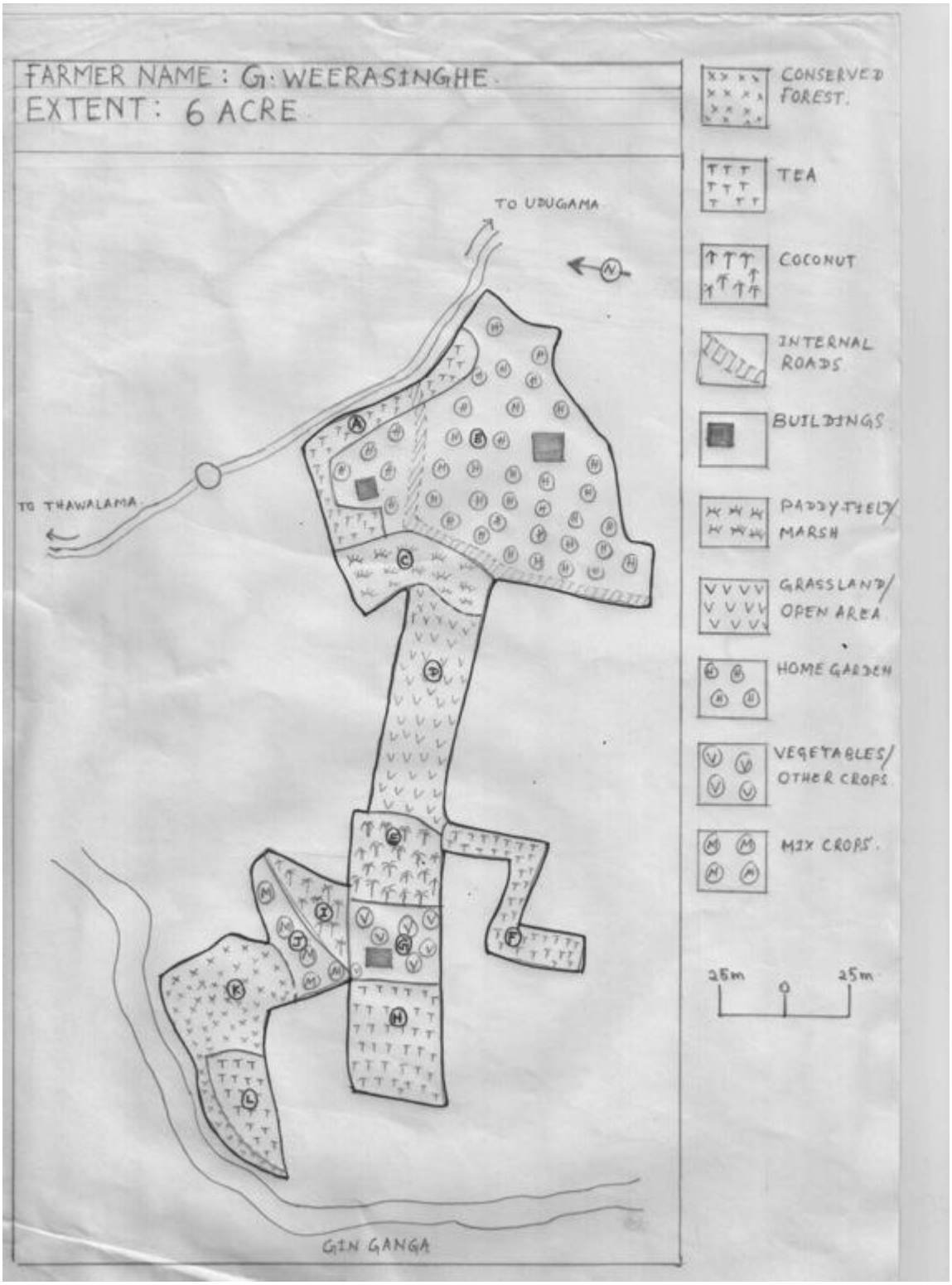
Annex 7. Example forest management plans

Table I 7: Forest management plan for the PDD Phase 01 *Plan Vivo's*

Plot No	Famer	Block	Extent (Area) [ha]	Management units (Land use patterns)	# Grounded new plants
1	Ajith	A	0.101	Stream buffer zone	130
		B	0.202	Tea	66
		C	0.101	Forest area	50
2	Danapala	A	0.271	Tea	107
		B	0.135	Stream buffer zone	170
3	Sunil	C	0.025	Existing as an old tea plantation.	36
		D	0.202	Will be kept as a conserved forest area.	240
4	Gunasiri	A	0.202	Tea	209
5	Wijedasa	A	0.025	Riverine	45
		B	0.101	Tea and some vegetable cultivations	50
		C	0.05	Home garden	17
		D	0.607	Reserved forest	634
		E	0.101	Barren land	31
		F	0.405	Tea	55
6	Weersinghe	B	0.405	Home garden	25
		D	0.101	Grassland	4
		E	0.405	Existing as a coconut land.	450
		G	0.101	Keeping as a cultivating land.	121
		H	0.101	Existing as a Tea land.	11
		I	0.101	Existing as a coconut land with some timber.	192
		J	0.101	Some coconuts, timber trees	125
		K	0.607	Existing as a dense area of trees.	548
7	Subasena	A	0.0505	Home garden	19
		D	0.202	Reserved for the forest land	90
		E	0.202	Abandon paddy field	617

		B	0.303	Scrub forest.	366
		C	0.505	Mahogany forest and reservation.	60
		F	0.405	Rubber plantations	155
		G	0.607	Tea plantation	95
		H	0.202	Stream buffer zone	236
8	Ariyarathne	A	0.414	Home Garden	209
		B	0	Tea	
9	Upul		0.405	Tea, shrub forest and stream buffer zone	391
10	Karunadasa		0.303	Tea and shrub forest	179
11	Lal	A	0.101	Home garden	600
		B	0.405	Tea	
		C	0.911	Shrub land	
12	Bandula	A	0.152	Home garden	300
		B	0.202	tea	
		C	0.051	forest area	
13	Nalin	A	0.304	Tea	300
		B	0.025	Shrub	
		C	0.025	Home garden	
		D	0.025	Forest area	
		E	0.025	Abondant tea	
14	Amarapala	A	0.202	Home garden	450
		B	0.152	tea area	
		C	0.051	Forest area	
15	Kumaradasa	A	0.051	Home garden	150
		B	0.051	Tea	
		C	0.051	Open area	
		D	0.051	Forest area	

Figure 3: Sample *Plan Vivo* of Mr G, Weerasinghe



Annex 8. Land Assessment

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Land Assessment

Location: Pannangala Ref: P.L. Wijedasa

Name of sampler: Piyal Date: 17-12-2010 Page: ..1..... of ...1.....

Regional Information		
Eco zone		Wet zone
Geological formation		Mountain
Drainage pattern		No
Forest type		Tropical rain forest
Natural resources available and distance from land		Gin Ganga Land Boundry
Disaster		Floods
Threats		Wild Animals
Altitude		24-76m
Terrain		Face to East
Topography		Mountain and flat lower port
Surrounding land use	N	Tea Land
	S	Tea Land
	E	Gin Ganga
	W	Ariyarathna's Land

Land information (owner's land details)					
Geo coordination	6^0 15.910' N 80^0 19.188'E				
Total land size	3Ac				
Top 5 land uses	tea	Cocount	Forest	Bare land	Home Garden
Size of section	3/4Ac	0.10Ac	1Ac	1Ac	0.15Ac
Slope	60^0	5^0	60^0	70^0	5^0
Related area on land map (ref #)	1,2,4	6	3	5	1

Form name: LA_NOV09 Last updated: 16th November 2009 Updated by: Julia Frankl

Annex 9. Social Survey

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Socio Economic Record Form

Location: Panangala **Ref:** P.L. Wejedasa

Name of sampler: Piyal **Date:** 2010.12.17 **Page:** ..... of .....

Land ownership details			
Land dweller name	P.L. Wejedasa		
Land address	Panangala West,Panangala		
Land phone number	091-3913835	Email	
Date of Birth	1948.05.31	ID number	481520991v
Ownership status	❑ Fully owned - Yes		
	❑ Joint owned -	If joint owned, who are the other owners?	
	❑ Part owned / part loan repayment	If rented, rental amount per month:	
	❑ Rented	If rented, rental amount per month:	
	❑ Other		
Length of ownership	Jaya Boomi,From desending	Land use	Residential
If not owner, who owns land? (name, address & phone)			
If not residential, what is the residential address and phone?			
Land area	4Ac		

Land dweller family details			
Marital status	Married		
Number of children and ages	3 children- 31 years,28 years and 21 years old		
Other household residents and ages:	Wife-59years old		
Highest level of education level for land dweller	Diploma		
Who is the main income earner on the land?	Both		
What is the average monthly household	40,000-59,999		
What are the main sources of income, what is the monthly contribution, & is it season dependent?	Salary,Tea		
Do you have any loan repayments?	No	If yes, where from & monthly payment?	

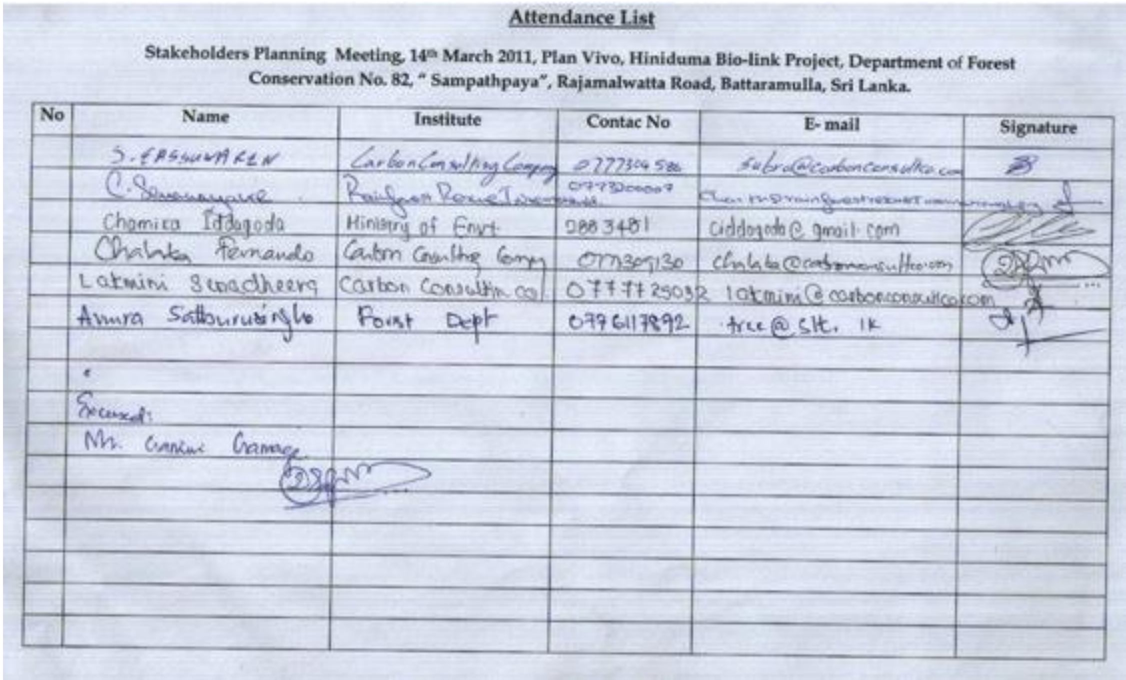
Form name: SE_NOV09 Last updated: 16th November 2009 Updated by: Julia Frankl

Annex 10. Permits and legal documentation

N/A

Annex 11. Evidence of community participation e.g. meeting minutes

Strategic level meeting minutes



Attendance List

Stakeholders Planning Meeting, 14th March 2011, Plan Vivo, Hiniduma Bio-link Project, Department of Forest Conservation No. 82, " Sampathpaya", Rajamalwatta Road, Battaramulla, Sri Lanka.

No	Name	Institute	Contac No	E- mail	Signature
	S. EASWARAN	Carbon Consulting Company	0777304586	subra@carbonconsulting.com	[illegible]
	C. [illegible]	Rainforest Rescue [illegible]	0777300007	[illegible]	[illegible]
	Chamica Iddagoda	Ministry of Envt	2883481	ciddagoda@gmail.com	[illegible]
	Chalaka Fernando	Carbon Consulting Company	0777309130	chalaka@carbonconsulting.com	[illegible]
	Lakmini Senadheera	Carbon Consulting co.	0777729032	lakmini@carbonconsulting.com	[illegible]
	Anura Sathurusinghe	Forest Dept	0776117892	tree@slt.lk	[illegible]
	Excused: Mr. [illegible] Gamage				

Figure 4: Attendance sheet of stakeholders planning meeting in strategic level

Community Participation meetings

Figure 5: Farmer registration: Farmers signing attendance after awareness

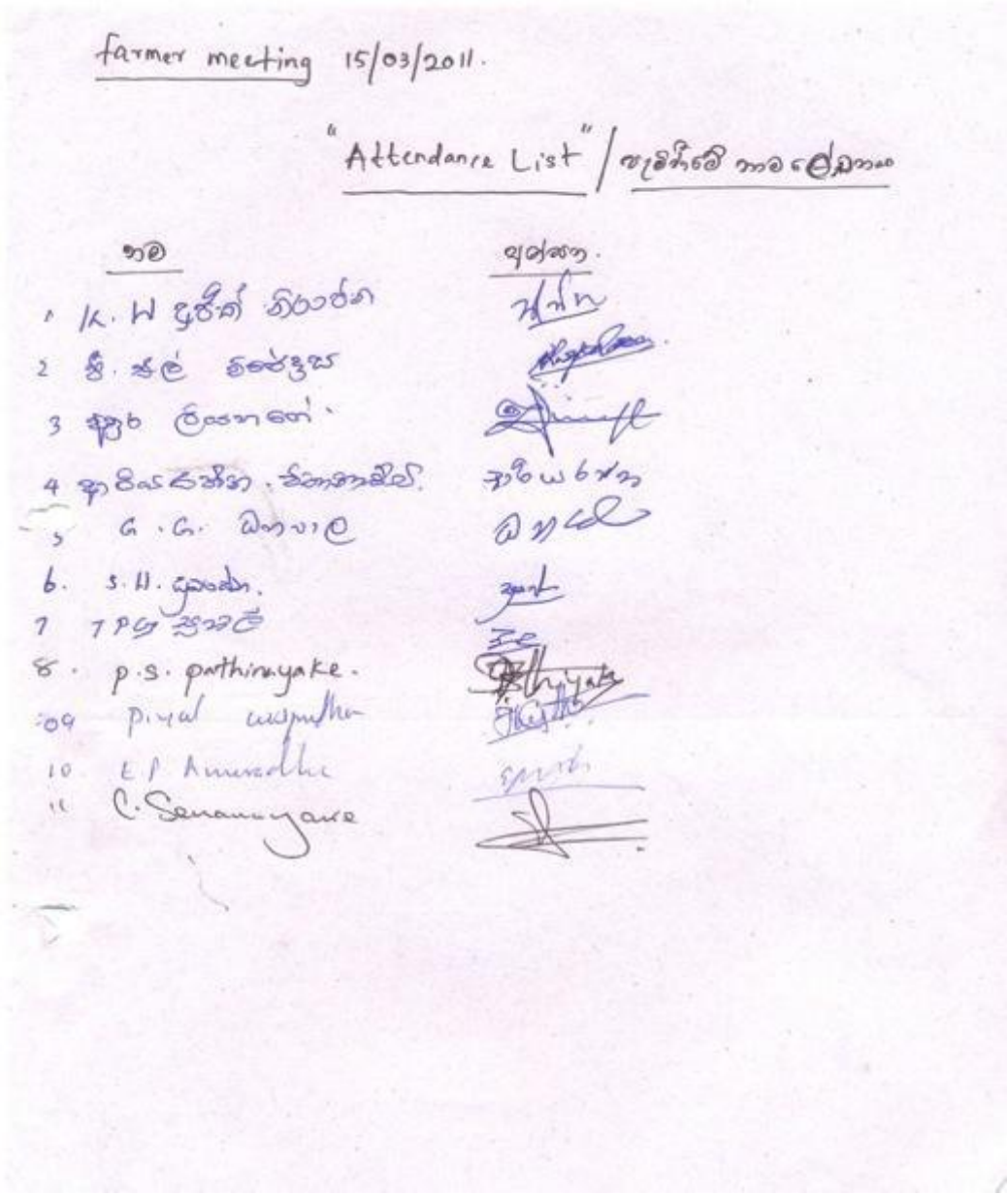


Figure 6: Attendance list of the farmer meeting

Related Documents

Annual Reports

N/A

Verification Reports

N/A