HINIDUMA BIO-LINK PROJECT

ANNUAL REPORT

PLAN VIVO

APRIL 2019

THE HINIDUMA BIO-LINK PROJECT:
Reforesting Traditional Home Gardens with Analog Forestry in the Wet Zones of Sri Lanka

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NOMENCLATURE

Abbreviation	Meaning
CBO	Community Based Organisation
CCC	Carbon Consulting Company
DBH	Diameter at Breast Height
ESGT	L'École supérieure des géomètres et topographes, France
FD	Forest Department
Ha	Hectares
PES	Payments for Ecosystem Services
PV	Plan Vivos
PVCs	Plan Vivo Certificates
USD	United States Dollar

EXECUTIVE SUMMARY

The following report summarises the significant activities performed as a part of the Hiniduma Bio-link Project during the period of 1st January 2017 to 31st December 2018.

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 monitoring of actual carbon stock change.

CCC conducted a 100% tree monitoring in 2017 to check the survival rate of the plants after the floods that occurred in the Hiniduma-Kanneliya area that year. Because of floods resulting from a heavy monsoon in 2017, planted trees were affected causing the shortfall of 1,447 (tCO_2) emission reduction and the destruction of 9.8 hectares of planted area. CCC planted 5,000 new saplings (4,000 in 2017 and 1,000 in 2018) as a replacement for the dead trees. Hence, 34 new farmers have joined the programme and provided 9.6 hectares of lands in order to recover the loss of carbon benefits of the project. The total estimated delivery of carbon emission reductions of the project is now 2,220 (tCO_2), while the risk buffer is 392 tCO_2. The re-planting of trees has resulted in slightly higher projected carbon sequestration than the original planted area of the project. CCC will keep the excess amount of carbon credits as a risk buffer to compensate for potential future natural disasters. A 20% sample of tree monitoring was conducted in 2018 and the survival rate was 85%. CCC also conducted land surveys and farmer awareness sessions for newly selected farmers (details outlined in this report).

The following report details the progress of the Hiniduma Bio-link Project in Sri Lanka, which will be submitted to the Plan Vivo Foundation.

1 SUMMARY

Project Overview	
Reporting Period	1st of January 2017 – 31st of December 2018
Geographical areas	Galle District, Southern Province, Sri Lanka
Technical specifications in use	Mixed Species Reforestation

Project Indicators	Historical (2011 – 2016)	Added in the period (2017-2018)	Total
Number of smallholders with PES agreements	30*	34	64
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	8.8**	9.67	18.5
Total PES payments made to participants (USD)	9,423	2,703	12,126
Total sum held in trust for future PES payments (USD)	5,297		
Allocation to Plan Vivo buffer	488	0	488
Unsold Stock at Time of Submission			
2012 Vintage			10
2013 Vintage			981
Total Unsold Stock			1,001
Total Plan Vivo Certificates (PVCs) issued to date			2,767
Plan Vivo Certificates requested for issuance (2017 & 2018 Vintage)			0
Total PVCs issued (including this report)			**2,767**

* Number of smallholders with The PES agreements were 32 up to 2016, but two farmers were resigned the projects in 2017

**The initial planted area was 18.8 hectares in Phase I & II. Since 9.8 hectares of planted area have been lost due to flooding

2 KEY EVENTS, DEVELOPMENTS AND CHALLENGES

2.1 Key Events

CCC conducted the following key events during the aforementioned reporting period.

2.1.1 Flood Donation Campaign

There was an extreme weather condition of flooding and landslides caused by an unexpectedly heavy monsoon in Sri Lanka in May 2017. Some of the farmers engaged with the project were affected by the floods. CCC provided US$ 2,873.67 worth of donations to flood victims in the Hiniduma-Kanneliya area.

Figure 1: CCC Team distributing donations to flood victims

2.1.2 Farmer Training Sessions

CCC selected new farmers to provide 5,000 saplings (4,000 trees in 2017 and 1,000 in 2018) as replacements for dead plants and trees during the floods in May 2017. CCC conducted a Training and Awareness Session for new farmer participants with the

engagement of the Hiniduma Bio-Link Society. Two awareness sessions were held on 20th October 2017 and 19th September 2018 in Neluwa.

The main objective of the sessions was to generate awareness of the project's 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 project including future activities.

Figure 2: Farmer training and awareness session for new participant farmers

2.2 Key Developments

2.2.1 Operational Development

Mapping the Replanted Farmer Lands

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 in 2017. 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 seven patches of replanted farmlands under the Bio-link Project.

Figure 3: Mapping of replanted farmer lands

2.2.2 Organisational Development

2.2.2.1 Project Promotion

CCC is seeking additional stakeholders and funding to continue with the project. Special promotional material was developed to help spread the concept of the project among the corporate sector, including possible investment opportunities.

2.2.2.2 Species-Specific Biomass Equation

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

2.3 Key Challenges

2.3.1 Natural Disasters

The project area was severely affected by an unexpectedly heavy southwest monsoon, causing flooding and landslides towards the end of May 2017. Many families that were living in close proximity to the "*Gin Ganga*" (the river flowing through the Hiniduma area) who are engaged with the project were affected due to floods. Due to this extreme weather condition, plants given through the project were also damaged. After the flooding, a 100% plant survey was conducted to ascertain the actual survival rate.

According to the monitoring results from 2017, the total plant survival rate of the project was found to be 57%. This should ideally be maintained at a level of ≥ 80% survival rate after the third year of planting, as per the project's Technical Specification. CCC planted 4,000 new saplings in 2017 and 1,000 saplings in 2018 in the Neluwa area as replacement for plants destroyed by the floods that occurred during this reporting period and to meet the target survival rate of ≥ 80%.

Figure 4: Damaged plants due to flood

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:	6.85 ha equivalent
2013	The number of producers with registered PES agreements:	15
	The area covered by the project:	Approximately 1.97 ha

Vintage		
2017	The number of producers with registered PES agreements:	31
	The area covered by the project:	Approximately 7.73 ha
2018	The number of producers with registered PES agreements:	3
	The area covered by the project:	Approximately 1.93 ha
2018	**Total number of producers with registered PES agreements (Up to 2018)**	**64**
	The total area covered by the project (Up to 2017)	**18.51 ha**

3.2 Summary of re-calculated total CO_2

The amount of credits generated (tCO_2) and the project area were recalculated based on the 2017 and 2018 monitoring results. The following table shows the initially issued Plan Vivo (PV), planted area and re-calculated PV, and existing project area after 100% plant monitoring in 2017 of 2012 and 2013 vintage.

Table 2: Summary of data in Phase I and Phase II and Recalculated Totals

	PHASE I (2012 VINTAGE)		PHASE II (2013 VINTAGE)		Re- calculated total (Phase I and II)
	Initial Stage	After 2017 and 2018 monitoring	Initial Stage	After 2017 and 2018 monitoring	
Number of farmers	16	15	17	15	**30**
Project area	10.88	6.86	7.81	1.98	**8.84**
Number of trees	8,550	3,545	2,000	1,023	**4,568**
Amount of credits (tCO_2) -After allocation of 15% risk buffer	**1,759**	**741**	**1,008**	**579**	**1,320**
Allocation to Plan Vivo risk buffer	**310**	**130**	**178**	**102**	**233**

Table 3: Summary of the recovery of carbon benefits from the replanting in 2017 and 2018

Total plan vivo certificates (pvcs) issued to date	**2,767**
Shortfall of credits after flooding	**1447**
Number of farmers signed up for the project	**34**
Planted hectares	**9.67**
Number of trees	**5000**
Amount of credits (tCO_2) from replanting - after allocation of 15% risk buffer	**2,220**
Allocation to Plan Vivo risk buffer	**392**
unallocated credit (tCO_2) after replanting	**773*** **

*** **CCC will keep allocate these carbon credits to a voluntary risk buffer to compensate for future potential natural disasters or other unforeseen risks.**

3.3 Casualty Re-Planting

The survival rate of the plants in the project was 42% after the flooding and landslides in the project area as outlined in in Section 3.2, CCC recalculated the number of credits generated and re-evaluated the project area according to the monitoring results. The total issued PV certificate (tCO_2) in 2012 and 2013 vintage were 2,767 (After deduction of 15% risk buffer) in 18.8 hectares of project area. Following the flooding and landslides in 2017, the loss of carbon credits and project area were 1,447 (tCO_2) and 9.9 hectares respectively.

Therefore, CCC planted 5,000 new saplings as replacements for dead trees within the Bio-Link Project, with the support of two sponsors. Phases I and II of the planted lands are located between the Kanneliya Forest Reserve and the Polgahakanda forest patch.

As mentioned in the 2016 Annual Report, CCC was 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. In 2017 and 2018, CCC planted 5,000 saplings as replacements for dead plants in the Neluwa area, which is in between the Kanneliya Forest Reserve and the Singharaja Rainforest as a part of the expansion. Neluwa is 10 Km away from the Hiniduma area and has similar climatic and soil conditions to Hiniduma. CCC selected the Neluwa area following land surveys conducted in 2017 and 2018, and selected 34 farmer lands to plant 5,000 saplings (4,000 in 2017 and 1,000 in 2018). Table 3 outlines new farmer participants for the project and the land area.

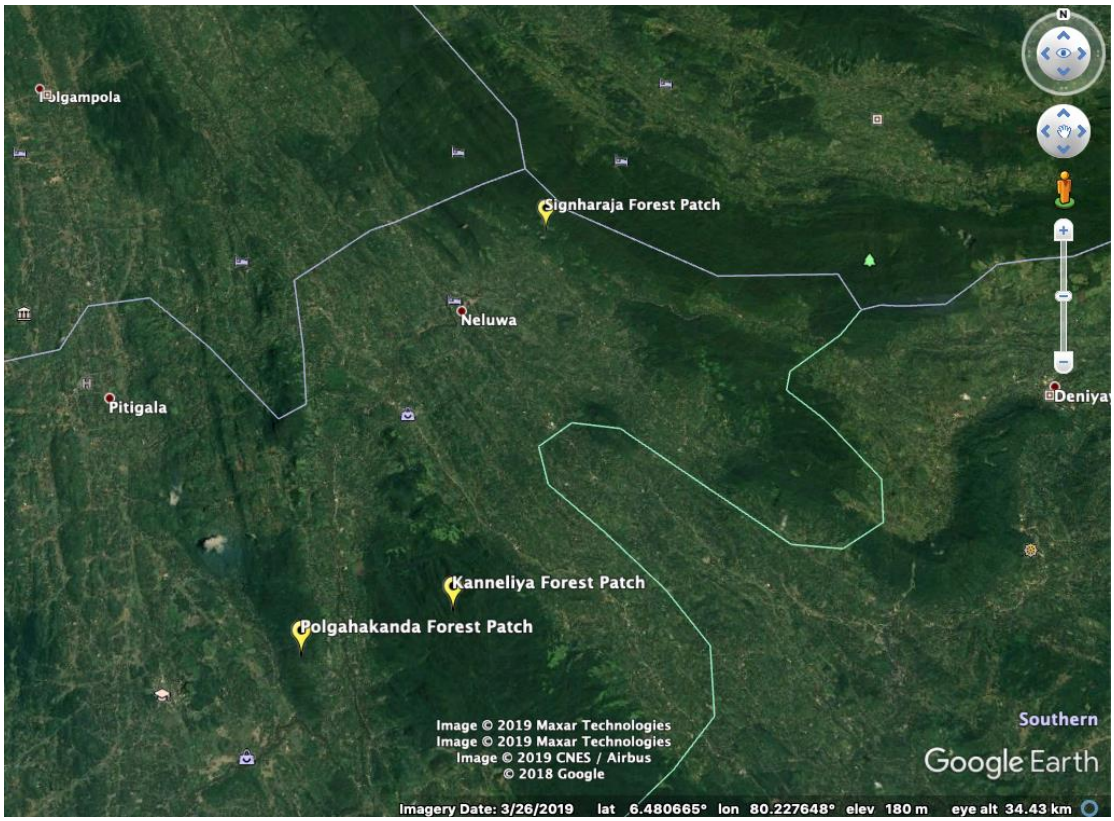

Figure 5 Map of phase I & II panting in between Polgahakanda and Kanneliya forest patch and Phase III planting in between Kanneliya and Signharaja forest patch

Figure 6: A) Land survey, B) Plant sorting and tagging, C) Plant distribution, D) Plant handover to a farmer, E) Planting in a farmer land, F) Signing agreements with new farmers

Table 4: List of farmers who recently joined the project

Farmer number	Producer/ Producer Group name or ID number	Area (ha)	Total number of trees
P3-2017-225-01	G.E Wickramasinghe	0.135	70
P3-2017-225-02	P.Wickramasinghe	0.271	140
P3-2017-225-03	Sriyani Karunarathne	0.077	40
P3-2017-225-04	Piyasena Gamage	0.484	250
P3-2017-225-05	Kusala Sarojani	0.677	350
P3-2017-225-06	Jayasundara	0.619	320
P3-2017-225-07	D.Hemachandra	0.580	300
P3-2017-225-08	R.G. Yasantha Piyal	0.116	60
P3-2017-225-09	Samanjeewa Liyanage	0.155	80
P3-2017-225-10	M.P.G.Samarapala	0.271	140
P3-2017-225-11	Piyarathne Jayawickrana	0.097	50
P3-2017-225-12	Keerthi Gamage	0.387	200
P3-2017-225-13	J.G.Chandana Kumara	0.193	100
P3-2017-225-14	D.P.Paranahewa	0.619	320
P3-2017-225-15	G.K.Sumanathissa	0.193	100
P3-2017-225-16	P.V.Piyadasa	0.290	150
P3-2017-225-17	L.B.Upali	0.193	100
P3-2017-225-18	M.G.C. Senavirathne	0.116	60
P3-2017-225-19	P.L. Anil Liyanage	0.116	60
P3-2017-225-20	P.M.Gunawardana	0.193	100
P3-2017-225-21	Gamini Jayalath	0.155	80
P3-2017-225-22	Jayashri Gunawardana	0.193	100
P3-2017-225-23	D.P. Senanayaka	0.155	80
P3-2017-225-24	B.L.Anura Shanatha	0.097	50
P3-2017-225-25	Y.R.Gunawardana	0.252	130
P3-2017-225-26	D.Matharage	0.116	60
P3-2017-225-27	E.G.Mahinda	0.116	60
P3-2017-225-28	Rasika Hettiarachchi	0.193	100
P3-2017-225-29	G.J.C Ariyasingha	0.290	150
P3-2017-225-30	M.K Senarathna	0.290	150
P3-2017-225-31	B.L.K.S.Kumara	0.097	50
P3-2018-225-01	T.P. Liyanage	0.387	200
P3-2018-225-02	Sumith Dahanayaka Yapa	0.580	300
P3-2018-225-03	Mervyn De Silva	0.967	500
		9.674	**5,000**

3.3 Carbon benefit calculation for the newly planted trees

The carbon benefits of the newly planted 5,000 saplings were calculated based on the technical specification. Since there is no growth model for some plant species of these 5,000 in the TSS, the carbon credits generated from these plants were removed from the total quantification of the carbon emission reduction. This means that the actual carbon sequestration in the planted areas will likely be higher than calculated. In addition, CCC experts managed to identify and select fast-growing species that have high carbon sequestration. The total calculated tonnes of CO_2 after the deduction of the 15% risk buffer is 2,220 (tCO_2) and the risk buffer is 392 tCO_2. The loss of carbon credits of the project was 1,447 (tCO_2) after the flooding and landslides in 2017 which have been reallocated due to planting efforts. Any unallocated carbon will be withheld as a voluntary risk buffer to compensate for any potential future natural disasters or other risks to the project

Table 5: Carbon benefit for the individual tree species

Scientific Name	Number of Plants	Net CO2
Terminalia arjuna	298	235
Pericopsis mooniana	694	247
Madhuca longifolia	217	39
Terminalia bellirica	73	8
Putranjiva zeylanica	127	24
Michelia champaca	140	299
Cleistocalyx nervosum	128	32
Mesua nagassarium	169	46
Dipterocarpus zeylanicus	652	400
Artocarpus altilis	66	141
Garcinia quaesita	350	113
Canarium zeylanicum	6	12
Diospyros oppositifolia	16	3
Vateria copallifera	40	10
Shorea stipulates	18	3
Buchanania axillaris	61	12
Calophyllum bracteatum	8	-
Semecarpus subpeltata	3	1
Cyathocalyx zeylanica	10	2
Shorea cordifolia	8	5
Cullenia ceylanica	7	-
Shorea affinis	15	13

Scientific Name	Number of Plants	Net CO2
Campnosperma zeylanica	7	3
Artocarpus heterophyllus	27	58
Artocarpus nobilis	62	54
Kokoona zeylanica	17	10
Syzygium cumini	46	3
Litsea glutinosa	15	4
Berrya cordifolia	93	61
Corchorus aestuans	10	-
Codariocalyx motorius	32	6
Elaeocarpus serratus	75	49
Annona muricata	377	107
Durio zibethinus	193	-
Garcinia mangostana	163	51
Persea americana	118	61
Psidium guajava	102	6
Nephelium lappaceum	119	51
Mangifera indica	125	49
Citrus reticulata	92	-
Manilkara zapota	47	-
Syzygium aqueum	47	-
Averrhoa carambola	43	2
Citrus madurensis	79	-
Citrus aurantifolia	5	0
	5,000	**2,220**

3.3 Monitoring Plan Vivos

The annual monitoring session of *Plan Vivos* for the Bio-link Project was conducted in August 2017 and September 2018, and involved the CCC team and several students from the Sabaragamuwa University of Sri Lanka.

CCC conducted a 100% monitoring in 2017 because most of the farmer lands were inundated from the floods. Another 20% sample was monitored in 2018 including 4,000 saplings that were newly planted in 2017. The number of saplings initially planted were counted by using the plant maps on each land, where the number of dead plants

were counted accordingly. The Diameter at Breast Height (DBH) and height of the trees were measured to justify species-specific biomass equations. The results were then used to calculate the survival rates and determine the natural regeneration rates for each farmer land.

Figure 7: Monitoring of A) Amarapala's land, B) Wijedasa's land C) Kumaradasa's land, D) Senevirathne's land, E) During the first monitoring of Piyadasa's land, F) During the firdt monitoing of Anura Shantha's land

3.4 Monitoring Overview

Table 6: Summary of the monitoring activities

Parameter	Number of lands visited	Average Survival rate	Number of farmers that did not meet the targets	Corrective action taken
2017				
Plant establishment	32	57%	15	The survival rate of the project is ≥80% after the third year of planting as per the Technical Specification. Farmer payments were deducted based on survival rates. Since the existing farmers were unable to maintain the 80% survival rate due to a natural disaster, CCC planted 4,000 new saplings as a replacement for dead plants in new farmer lands. The plant nursery will be maintained by the CBO of the project. Farmers will be able to buy saplings for low prices and plant the necessary number of trees on the land.
2018				

Parameter	Number of lands visited	Average Survival rate	Number of farmers that did not meet the targets	Corrective action taken
Plant establishment	61	85%	24	CCC planted another 1,000 plants in 2018 as a replacement for dead plants to maintain the survival rate of the project. The 85% survival rate was calculated considering the established and newly planted trees. The farmers in Phase I & II have not replanted on their lands. However, all issued carbon credits have been reallocated through replanting (Table 2).

Farmers Lasika (P3-2011-225-11) and Buddike (P3-2011-225-16) have cleared their lands to cultivate tea (the full list of farmers can be found in Annex 1). Therefore, CCC removed them from the project and the loss of the carbon credits were 77 (tCO_2). Saplings were provided to the new farmers during the replanting session in November 2017, and agreements with new farmers were prepared as a requirement of the project.

Figure 8: Well-grown Duriyan (Durio zibethinus) tree in Amarapala's land [L]; A line of well-grown Hal *(Vateria copallifera*)* trees in Subasena's land [R]

4 SALE OF PLAN VIVO CERTIFICATES

Table 7: 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	1,500		
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	Transfers			
2014	Steenbergs Limited - UK	29		
Markit Serial Number	PV-PVC-LK-100000000001114-01012012-31122012-2429503-2429531-MER-0-A			

Vintage	Name of purchaser/source of funds	Number of Plan Vivo certificates purchased	Price per certificate ($)	Total amount received ($)
2015	ZeroMission AB - Sweden	30		
Markit Serial Number	Transfers			
2015	Geckoella Ltd.	5		
Markit Serial Number	PV-PVC-LK-1000000000001114-01012012-31122012-2429562-2429566-MER-0-A			
2016	ZeroMission AB - Sweden	30		
Markit Serial Number	PV-PVC-LK-1000000000001114-01012012-31122012-2429567-2429596-MER-0-A			
2016	ZeroMission AB - Sweden	37		
Markit Serial Number	Transfers			
2017	ZeroMission AB - Sweden	27		
Markit Serial Number	PV-PVC-LK-1000000000001114-01012013-31122013-2844324-2844350-MER-0-A			
2018	ZeroMission AB - Sweden	10		
Markit Serial Number	PV-PVC-LK-1000000000001114-01012012-31122012-2429634-2429643-MER-0-A			

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

Table 8: Carbon Credit generation summary

Total issuance for sale of 1,759 tonnes of CO_2 (2012 AR) + 1,008 tonnes of CO_2 (2013 AR)	2,767 tonnes of CO_2
Total risk buffer 310 (2012 AR) + 178 (2013 AR)	488 tonnes of CO_2
Total certificate sales to date	1,776 tCO_2
Balance of unsold certificates	991 tCO_2

5 PES UPDATE

5.1 Payments Made to Producers to Date

The payments were provided to farmers engaged in Phase I, II and III of the project according to hitting their monitoring targets. The payment for the new farmers who have planted saplings as casualty replanting will be conducted from December 2018.

Figure 9: Farmer payments

Table 9: Ecosystem payments to date

Farmer No	Producer/ Producer Group name or ID number	Payment Year	Total Payment for the year (Rs.)	Total Payment for the year ($)
P3-2011-225-06	P.P.G. Albert I	January 2017 to December 2018	3,488	20
P3-2011-225-07	P.P.G. Albert II	January 2017 to December 2018	5,472	31
P3-2011-225-08	P.P. Siripala	January 2017 to December 2018	6,264	36
P3-2011-225-09	P.L. Seneviratne	January 2017 to December 2018	5,832	33
P3-2011-225-10	W.A. Sardhasena	January 2017 to December 2018	6,510	37
P3-2011-225-12	H.L. Ananda	January 2017 to December 2018	1,739	10
P3-2011-225-13	Kalu Aiya	January 2017 to December 2018	6,394	37
P3-2011-225-14	S.S.R. Lusina	January 2017 to December 2018	4,957	28

Farmer No	Producer/ Producer Group name or ID number	Payment Year	Total Payment for the year (Rs.)	Total Payment for the year ($)
P3-2011-225-15	Anura Liyanage	January 2017 to December 2018	3,750	21
P3-2011-225-17	Gamini Godakanda	January 2017 to December 2018	7,042	40
P3-2011-225-18	S.A.K. Sunil Jayantha	January 2017 to December 2018	5,802	33
P3-2011-225-19	P.P. Wimalasena	January 2017 to December 2018	1,870	11
P3-2011-225-20	S.G. Amarasinghe	January 2017 to December 2018	7,182	41
P3-2011-225-21	Sarath Jagoda	January 2017 to December 2018	5,522	32
P3-2011-225-22	P.L. Premasiri	January 2017 to December 2018	1,797	10
Phase I Planting				
P1 -2009-225-01	Karunadasa	January 2017 to December 2018	8,096	46
P1 -2009-225-02	Upul Ranaweera	January 2017 to December 2018	13,162	75
P2-1210-225-01	Ajith Niranjan I	January 2017 to December 2018	7,262	42
P2-1210-225-02	Ajith Niranjan II	January 2017 to December 2018	10,803	62
P2-1210-225-04	G.G. Dalapala	January 2017 to December 2018	7,978	46
P2 1210-225-05	G. Weerasinghe	January 2017 to December 2018	32,907	188

Farmer No	Producer/ Producer Group name or ID number	Payment Year	Total Payment for the year (Rs.)	Total Payment for the year ($)
P2-1210-225-07	W.G. Gunasiri	January 2017 to December 2018	6,170	35
P2-1210-225-08	S. H. Subasena	January 2017 to December 2018	47,290	270
P2-1210-225-09	T.P.G Sunil	January 2017 to December 2018	12,928	74
P2-1210-225-10	P. L. Wijedasa	January 2017 to December 2018	37,908	217
P3-2011-225-01	L. Wijesekara	January 2017 to December 2018	17,280	99
P3-2011-225-02	P. L. Jayasena	January 2017 to December 2018	8,208	47
P3-2011-225-03	K. H. Nalin Kumara	January 2017 to December 2018	12,096	69
P3-2011-225-04	P.L. Amarapala	January 2017 to December 2018	25,272	144
P3-2011-225-05	P. L. Kumaradasa	January 2017 to December 2018	7,884	45
P3-2017-225-01	G.E Wickramasinghe	January 2018 to December 2018	2,520	14
P3-2017-225-02	P.Wickramasinghe	January 2018 to December 2019	5,040	29
P3-2017-225-03	Sriyani Karunarathne	January 2018 to December 2020	1,440	8
P3-2017-225-04	Piyasena Gamage	January 2018 to December 2021	9,000	51
P3-2017-225-05	Kusala Sarojani	January 2018 to December 2022	12,600	72

Farmer No	Producer/ Producer Group name or ID number	Payment Year	Total Payment for the year (Rs.)	Total Payment for the year ($)
P3-2017-225-06	Jayasundara	January 2018 to December 2023	11,520	66
P3-2017-225-07	D.Hemachandra	January 2018 to December 2024	10,800	62
P3-2017-225-08	R.G. Yasantha Piyal	January 2018 to December 2025	2,160	12
P3-2017-225-09	Samanjeewa Liyanage	January 2018 to December 2026	2,880	16
P3-2017-225-10	M.P.G.Samarapala	January 2018 to December 2027	5,040	29
P3-2017-225-11	Piyarathne Jayawickrana	January 2018 to December 2028	1,800	10
P3-2017-225-12	Keerthi Gamage	January 2018 to December 2029	7,200	41
P3-2017-225-13	J.G.Chandana Kumara	January 2018 to December 2030	3,600	21
P3-2017-225-14	D.P.Paranahewa	January 2018 to December 2031	11,520	66
P3-2017-225-15	G.K.Sumanathissa	January 2018 to December 2032	3,600	21
P3-2017-225-16	P.V.Piyadasa	January 2018 to December 2033	5,400	31
P3-2017-225-17	L.B.Upali	January 2018 to December 2034	3,600	21
P3-2017-225-18	M.G.C. Senavirathne	January 2018 to December 2035	2,160	12
P3-2017-225-19	Anil	January 2018 to December 2036	2,160	12

Farmer No	Producer/ Producer Group name or ID number	Payment Year	Total Payment for the year (Rs.)	Total Payment for the year ($)
P3-2017-225-20	P.M.Gunawardana	January 2018 to December 2037	3,600	21
P3-2017-225-21	Gamini Jayalath	January 2018 to December 2038	2,880	16
P3-2017-225-22	Jayashri Gunawardana	January 2018 to December 2039	3,600	21
P3-2017-225-23	D.P. Senanayaka	January 2018 to December 2040	2,880	16
P3-2017-225-24	B.L.Anura Shanatha	January 2018 to December 2041	1,800	10
P3-2017-225-25	Y.R.Gunawardana	January 2018 to December 2042	4,680	27
P3-2017-225-26	D.Matharage	January 2018 to December 2043	2,160	12
P3-2017-225-27	E.G.Mahinda	January 2018 to December 2044	2,160	12
P3-2017-225-28	Rasika Hettiarachchi	January 2018 to December 2045	3,600	21
P3-2017-225-29	G.J.C Ariyasingha	January 2018 to December 2046	5,400	31
P3-2017-225-30	M.K Senarathna	January 2018 to December 2047	5,400	31
P3-2017-225-31	B.L.K.S.Kumara	January 2018 to December 2048	1,800	10
P3-2018-225-01	T.P. Liyanage		0	0
P3-2018-225-02	Sumith Dahanayaka Yapa		0	0
P3-2018-225-03	Mervyn De Silva		0	0
Total Payment			**472,862.88**	**2,702.54**

6 ONGOING COMMUNITY PARTICIPATION

CCC conducted Awareness Sessions to ensure effective communication with all participants.

Awareness Session

Training and awareness sessions were conducted for new 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. These sessions contributed towards sourcing new lands for the project and cleared any misconceptions among producers.

Figure 10: 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 2017 to 31st December 2018.

Table 10: Breakdown of operational costs

Expense	Description	Cost (US$)	Cost covered through sale of PVC
Project salaries	Project officer payments	5,375.44	No
Casualty replanting		5,039.48	
Travel	Travel to project site	503.95	Yes
Stationery & other expendables	Accommodation/meals	279.97	Yes
Training/ Awareness session	Farmer training and awareness programmes	447.95	No

Expense	Description	Cost (US$)	Cost covered through sale of PVC
Land surveys	Project development	559.94	No
Farmer payments		2,702.54	No
	Total	**14,909.27**	

8 FUTURE DEVELOPMENT

8.1 Community Based Organisation

The Hiniduma-Kanneliya Bio-link Society started a nursey in 2016 that sells native and endemic trees commercially. CCC bought 70% of saplings for the casualty replanting from this plant nursery that is maintained by the CBO.

Figure 11: Purchasing saplings from Hiniduma-Kanneliya Bio-link plant nursery

8.2 Scaling up

The project team had identified several new Plan VIVOs to further scale up the project into the Neluwa area. CCC is presently conducting discussions with sponsors regarding financial support to plant trees in the Hiniduma Bio-link Project in the following year (2020).

Annex I: Phase I and II Famer-Wise Carbon Benefit Recalculations

		INITIAL STAGE			AFTER MONITORING IN 2017		
Farmer Number	Farmer Name	Area (ha)	Number of trees	Tones CO_2	Area (ha)	Number of trees	Tones CO_2
Phase I							
P1 -2009-225-01	Karunadasa	0.22	671	199	0.218	112	33
P1 -2009-225-02	Upul Ranaweera	0.38	727	179	0.354	183	45
P2-1210-225-01	Ajith Niranjan I	0.23	248	47	0.195	101	19
P2-1210-225-02	Ajith Niranjan II	0.26	255	82	0.290	150	48
P2-1210-225-03	Ariyarathne		112	9			
P2-1210-225-04	G.G Dalapala	0.405	275	59	0.214	111	25
P2 1210-225-05	G. Weerasinghe	2.43	1520	307	0.884	457	92
P2-1210-225-07	W.G. Gunasiri	0.22	206	37	0.166	86	15
P2-1210-225-08	S. H. Subasena	2.63	1642	387	1.271	657	155
P2-1210-225-09	T.P.G Sunil	0.332	276	51	0.347	180	33
P2-1210-225-10	P. L. Wijedasa	1.02	818	235	1.019	527	151
P3-2011-225-01	L. Wijesekara	1.15	600	171	0.464	240	68

		INITIAL STAGE			AFTER MONITORING IN 2017		
Farmer Number	Farmer Name	Area (ha)	Number of trees	Tones CO_2	Area (ha)	Number of trees	Tones CO_2
P3-2011-225-02	P. L. Jayasena (Bandula)	0.405	300	80	0.221	114	30
P3-2011-225-03	K. H. Nalin Kumara	0.405	300	80			
P3-2011-225-04	P.L. Amarapala	0.59	450	108	0.679	351	81
P3-2011-225-05	P. L. Kumaradasa	0.202	150	38	0.212	110	28
Total		10.879	8550	2070	6.859	3545	872
Total CO2 after allocation o 15% buffer stock (Phase I)				1759			741
Phase II							
P3-2011-225-06	P.P.G. Albert I	0.304	57	23	0.094	48	20
P3-2011-225-07	P.P.G. Albert II	0.304	95	68	0.147	76	54
P3-2011-225-08	P.P. Siripala	0.194	87	44	0.168	87	44
P3-2011-225-09	P.L. Seneviratne	0.405	81	46	0.157	81	46
P3-2011-225-10	W.A. Sardhasena	0.405	137	80	0.175	90	53
P3-2011-225-11	Lasika	0.304	153	73	0.000	0	0
P3-2011-225-12	H.L. Ananda	1.012	115	69	0.047	24	15

		INITIAL STAGE			AFTER MONITORING IN 2017		
Farmer Number	Farmer Name	Area (ha)	Number of trees	Tones CO_2	Area (ha)	Number of trees	Tones CO_2
P3-2011-225-13	Kalu Aiya	0.304	111	68	0.172	89	54
P3-2011-225-14	S.S.R. Lusina	0.506	153	98	0.133	69	45
P3-2011-225-15	Anura Liyanage	0.405	124	62	0.101	52	26
P3-2011-225-16	Buddike	0.304	62	18	0.000	0	0
P3-2011-225-17	Gamini Godakanda	0.506	163	120	0.189	98	71
P3-2011-225-18	S.A.K. Sunil Jayantha	0.506	158	97	0.156	81	50
P3-2011-225-19	P.P. Wimalasena	0.202	49	18	0.050	26	11
P3-2011-225-20	S.G. Amarasinghe	1.619	285	206	0.193	100	135
P3-2011-225-21	Sarath Jagoda	0.405	118	65	0.148	77	43
P3-2011-225-22	P.L. Premasiri	0.121	52	32	0.048	25	15
Total		7.806	2000	1185	1.978	1023	681
Total CO_2 with 15% buffer stock (Phase II)				**1,007**			**579**
Total (Phase I and II)		18.7	10550	3255	8.837	4568	1553

		INITIAL STAGE			AFTER MONITORING IN 2017		
Farmer Number	Farmer Name	Area (ha)	Number of trees	Tones CO_2	Area (ha)	Number of trees	Tones CO_2
Total CO_2 with 15% buffer stock (Phase I and II)				2767			1320

Annex II: Phase III Famer-Wise Carbon Benefits Calculation

	Name	Number of Plants	Tones CO_2 (after allocation of 15% buffer stock)
1	G.E Wickramasinghe	70	39
2	P.Wickramasinghe	140	52
3	Sriyani Karunarathne	40	11
4	Piyasena Gamage	250	105
5	Kusala Sarojani	350	106
6	Jayasundara	320	112
7	D.Hemachandra	300	111
8	R.G. Yasantha Piyal	60	21
9	Samanjeewa Liyanage	80	39
10	M.P.G.Samarapala	140	56
11	Piyarathne Jayawickrana	50	13
12	Keerthi Gamage	200	76
13	J.G.Chandana Kumara	100	38

	Name	Number of Plants	Tones CO_2 (after allocation of 15% buffer stock)
14	D.P.Paranahewa	320	161
15	G.K.Sumanathissa	100	46
16	P.V.Piyadasa	150	72
17	L.B.Upali	100	50
18	M.G.A. Senavitathne	60	26
19	P.L. Anil Liyanage	60	38
20	G.M.Gunawardhana	100	53
21	Gamini Jayalath	80	45
22	Jayashri Gunawarhdana	100	45
23	D.P.Senanayaka	80	67
24	B.L.Anura Shanatha	50	36
25	Y.R.Gunawarhana	130	55
26	D.Matharage	60	31
27	E.G.Mahinda	60	29
28	Rasika Hettiarachchi	100	44
29	G.J.C Ariyasingha	150	65
30	M.K Senarathna	150	66
31	B.L.K.S.Kumara	50	24
32	T.P. Liyanage	200	105
33	Sumith Dahanayaka Yapa	300	137
34	Mervyn De Silva	500	245

	Name	Number of Plants	Tones CO_2 (after allocation of 15% buffer stock)
	Total		2220

Annex III: Summary of the Monitoring Results – 2017

Farmer No	Producer/ Producer Group name or ID number	Area (ha)	Total number of Trees	Percentage of area under sampling	Number of Plants Monitored in Sample Plot	Number of dead Plants	Survival rate (%)
Phase II & III Planting							
P3-2011-225-06	P.P.G. Albert I	0.304	57	100%	48	9	85
P3-2011-225-07	P.P.G. Albert II	0.304	95	100%	76	19	80
P3-2011-225-08	P.P. Siripala	0.194	87	100%	87	0	100
P3-2011-225-09	P.L. Seneviratne	0.405	81	100%	81	0	100
P3-2011-225-10	W.A. Sardhasena	0.405	137	100%	90	47	66
P3-2011-225-11	Lasika	0.304	153	100%	0	153	Removed
P3-2011-225-12	H.L. Ananda	1.012	115	100%	24	91	21
P3-2011-225-13	Kalu Aiya	0.304	111	100%	89	22	80
P3-2011-225-14	S.S.R. Lusina	0.506	153	100%	69	84	45
P3-2011-225-15	Anura Liyanage	0.405	124	100%	52	72	42
P3-2011-225-16	Buddike	0.304	62	100%	0	62	Removed
P3-2011-225-17	Gamini Godakanda	0.506	163	100%	98	65	60
P3-2011-225-18	S.A.K. Sunil Jayantha	0.506	158	100%	81	77	51
P3-2011-225-19	P.P. Wimalasena	0.202	49	100%	26	23	53

Farmer No	Producer/ Producer Group name or ID number	Area (ha)	Total number of Trees	Percentage of area under sampling	Number of Plants Monitored in Sample Plot	Number of dead Plants	Survival rate (%)
P3-2011-225-20	S.G. Amarasinghe	1.619	285	100%	100	185	35
P3-2011-225-21	Sarath Jagoda	0.405	118	100%	77	41	65
P3-2011-225-22	P.L. Premasiri	0.121	52	100%	25	27	48
Phase I Planting							
P1 -2009-225-01	Karunadasa	0.404	173	100%	112	61	65
P1 -2009-225-02	Upul Ranaweera	0.404	457	100%	183	274	40
P2-1210-225-01	Ajith Niranjan I	0.455	246	100%	101	145	41
P2-1210-225-02	Ajith Niranjan II	0.455	242	100%	150	92	62
P2-1210-225-04	G.G Dalapala	0.405	277	100%	111	166	40
P2 1210-225-05	G. Weerasinghe	2.43	1,576	100%	457	1119	29
P2-1210-225-07	W.G. Gunasiri	0.425	209	100%	86	123	41
P2-1210-225-08	S. H. Subasena	2.83	1,642	100%	657	985	40
P2-1210-225-09	T.P.G Sunil	0.202	285	100%	180	105	63
P2-1210-225-10	P L Wijedasa	1.62	810	100%	527	284	65
P3-2011-225-01	L.Wijesekara	1.45	600	100%	240	360	40
P3-2011-225-02	P L Jayasena	0.405	300	100%	114	186	38
P3-2011-225-03	K. H. Nalin Kumara	0.405	300	100%	168	132	56
P3-2011-225-04	P.L Amarapala	0.607	450	100%	351	99	78
P3-2011-225-05	P. L Kumaradasa	0.202	150	100%	110	41	73
TOTAL			**9,717**		**4,568**	**5,149**	

Annex IV: Summary of the Monitoring Results – 2018

Farmer No	Producer/ Producer Group Name or Id Number	Area (Ha)	Total Number of Trees Initially Planted	Total Number of Trees (After 2017 Monitoring)	Percentage of Area Under Sampling	Number of Plants Monitored In Sample Plot	Number of Dead Plants	Survival Rate (%)
Phase II Planting								
P3-2011-225-06	P.P.G. Albert I	0.094	57	48	20%	8	1	83
P3-2011-225-07	P.P.G. Albert II	0.147	95	76	20%	11	0	80
P3-2011-225-08	P.P. Siripala	0.168	87	87	20%	14	3	97
P3-2011-225-09	P.L. Seneviratne	0.157	81	81	20%	15	0	100
P3-2011-225-10	W.A. Sardhasena	0.175	137	90	20%	16	2	65
P3-2011-225-12	H.L. Ananda	0.047	115	24	20%	5	0	21
P3-2011-225-13	Kalu Aia	0.172	111	89	20%	15	0	80
P3-2011-225-14	S.S.R. Lusina	0.133	153	69	20%	13	0	45
P3-2011-225-15	Anura Liyanage	0.101	124	52	20%	12	1	41
P3-2011-225-17	Gamini godakanda	0.189	163	98	20%	20	1	59
P3-2011-225-18	S.A.K.Sunil Jayantha	0.156	158	81	20%	15	1	50
P3-2011-225-19	P.P. Wimalasena	0.050	49	26	20%	5	0	53
P3-2011-225-20	S.G. Amarasinghe	0.193	285	100	20%	18	2	34
P3-2011-225-21	Sarath Jagoda	0.148	118	77	20%	15	0	65
P3-2011-225-22	P.L. Premasiri	0.048	52	25	20%	5	0	48
Phase I Planting								
P1 -2009-225-01	Karunadasa	0.218	173	112	20%	22	0	65
P1 -2009-225-02	Upul Ranaweera	0.354	457	183	20%	37	0	40

Farmer No	Producer/ Producer Group Name or Id Number	Area (Ha)	Total Number of Trees Initially Planted	Total Number of Trees (After 2017 Monitoring)	Percentage of Area Under Sampling	Number of Plants Monitored In Sample Plot	Number of Dead Plants	Survival Rate (%)
P2-1210-225-01	Ajith Niranjan I	0.195	246	101	20%	20	0	41
P2-1210-225-02	Ajith Niranjan II	0.290	242	150	20%	30	0	62
P2-1210-225-04	G.G Dalapala	0.214	277	111	20%	20	1	40
P2 1210-225-05	G. Weerasinghe	0.884	1576	457	20%	60	3	29
P2-1210-225-07	W.G. Gunasiri	0.166	209	86	20%	17	0	41
P2-1210-225-08	S. H. Subasena	1.271	1642	657	20%	110	5	40
P2-1210-225-09	T.P.G Sunil	0.347	285	180	20%	36	0	63
P2-1210-225-10	P L Wijedasa	1.019	810	527	20%	105	80	55
P3-2011-225-01	L.Wijesekara	0.464	600	240	20%	45	1	40
P3-2011-225-02	P L Jayasena	0.221	300	114	20%	20	1	38
P3-2011-225-03	K. H. Nalin Kumara	0.325	300	168	20%	30	0	56
P3-2011-225-04	P.L Amarapala	0.679	450	351	20%	60	1	78
P3-2011-225-05	P. L Kumaradasa	0.212	150	110	20%	20	0	73
Phase III Planting								
P3-2017-225-01	G.E Wickramasinghe	0.135	70		20%	14	2	86
P3-2017-225-02	P.Wickramasinghe	0.271	140		20%	28	3	89
P3-2017-225-03	Sriyani Karunarathne	0.077	40		20%	8	1	88
P3-2017-225-04	Piyasena Gamage	0.484	250		20%	50	12	76
P3-2017-225-05	Kusala Sarojani	0.677	350		20%	70	11	84
P3-2017-225-06	Jayasundara	0.619	320		20%	64	6	91
P3-2017-225-07	D.Hemachandra	0.580	300		20%	60	7	88
P3-2017-225-08	R.G. Yasantha Piyal	0.116	60		20%	12	4	67

Farmer No	Producer/ Producer Group Name or Id Number	Area (Ha)	Total Number of Trees Initially Planted	Total Number of Trees (After 2017 Monitoring)	Percentage of Area Under Sampling	Number of Plants Monitored In Sample Plot	Number of Dead Plants	Survival Rate (%)
P3-2017-225-09	Samanjeewa Liyanage	0.155	80		20%	16	1	94
P3-2017-225-10	M.P.G.Samarapala	0.271	140		20%	28	0	100
P3-2017-225-11	Piyarathne Jayawickrana	0.097	50		20%	10	1	90
P3-2017-225-12	Keerthi Gamage	0.387	200		20%	40	5	88
P3-2017-225-13	J.G.Chandana Kumara	0.193	100		20%	20	3	85
P3-2017-225-14	D.P.Paranahewa	0.619	320		20%	64	5	92
P3-2017-225-15	G.K.Sumanathissa	0.193	100		20%	20	1	95
P3-2017-225-16	P.V.Piyadasa	0.290	150		20%	30	4	87
P3-2017-225-17	L.B.Upali	0.193	100		20%	20	1	95
P3-2017-225-18	M.G.C. Senavirathne	0.116	60		20%	12	3	75
P3-2017-225-19	Anil	0.116	60		20%	12	2	83
P3-2017-225-20	P.M.Gunawardana	0.193	100		20%	20	3	85
P3-2017-225-21	Gamini Jayalath	0.155	80		20%	16	0	100
P3-2017-225-22	Jayashri Gunawardana	0.193	100		20%	20	0	100
P3-2017-225-23	D.P. Senanayaka	0.155	80		20%	16	1	94
P3-2017-225-24	B.L.Anura Shanatha	0.097	50		20%	10	2	80
P3-2017-225-25	Y.R.Gunawardana	0.252	130		20%	26	2	92
P3-2017-225-26	D.Matharage	0.116	60		20%	12	4	67
P3-2017-225-27	E.G.Mahinda	0.116	60		20%	12	5	58
P3-2017-225-28	Rasika Hettiarachchi	0.193	100		20%	20	3	85

Farmer No	Producer/ Producer Group Name or Id Number	Area (Ha)	Total Number of Trees Initially Planted	Total Number of Trees (After 2017 Monitoring)	Percentage of Area Under Sampling	Number of Plants Monitored In Sample Plot	Number of Dead Plants	Survival Rate (%)
P3-2017-225-29	G.J.C Ariyasingha	0.290	150		20%	30	1	97
P3-2017-225-30	M.K Senarathna	0.290	150		20%	30	6	80
P3-2017-225-31	B.L.K.S.Kumara	0.097	50		20%	10	1	90
P3-2018-225-01	T.P. Liyanage	0.387	200		-	-	-	100
P3-2018-225-02	Sumith Dahanayaka Yapa	0.580	300		-	-	-	100
P3-2018-225-03	Mervyn De Silva	0.967	500		-	-	-	100

Annexure V: Map of Farmer Lands

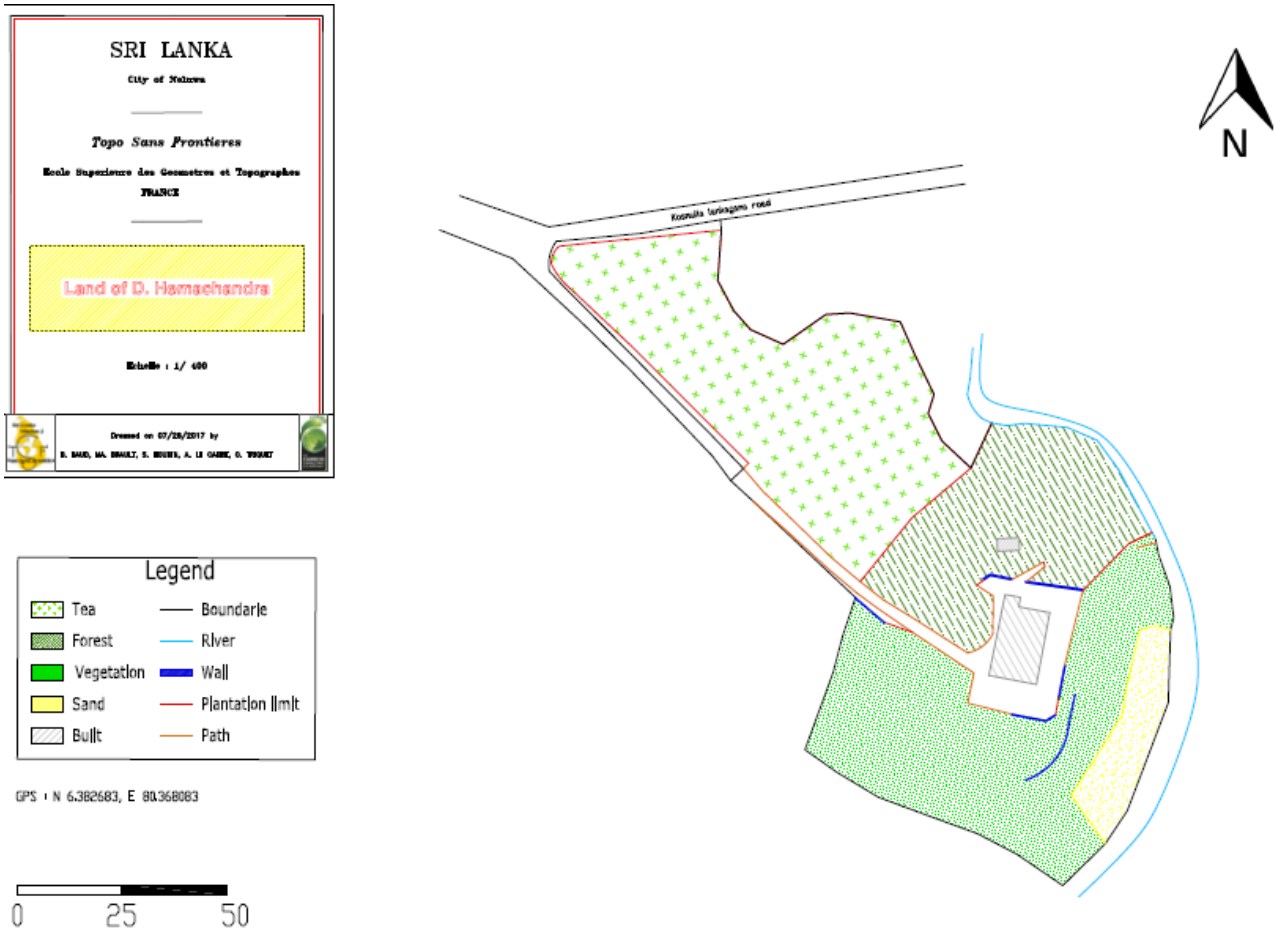

Figure 12: Map of D.Hemachandra's land

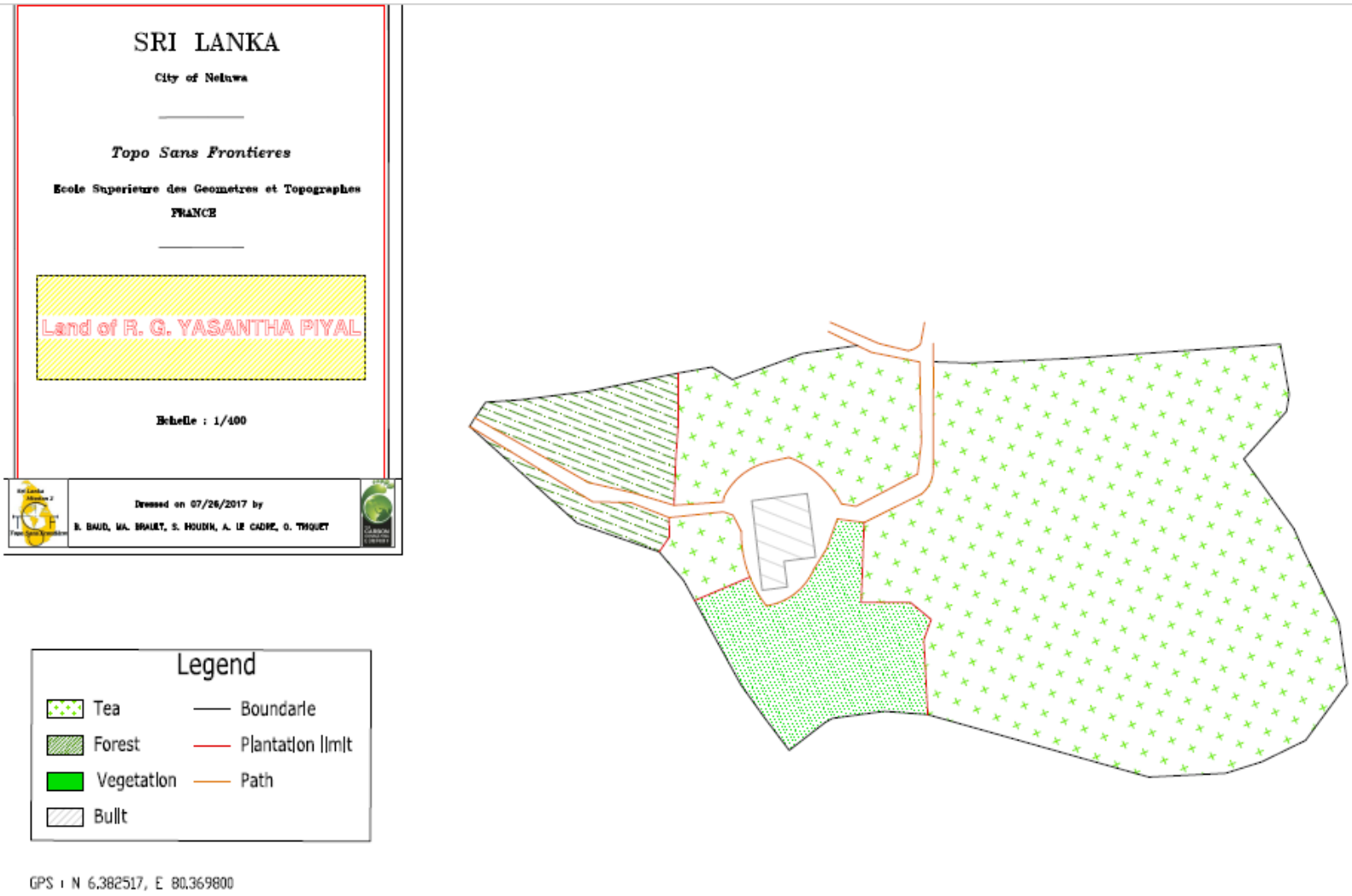

Figure 13: Map of Yasantha Piyal's Land

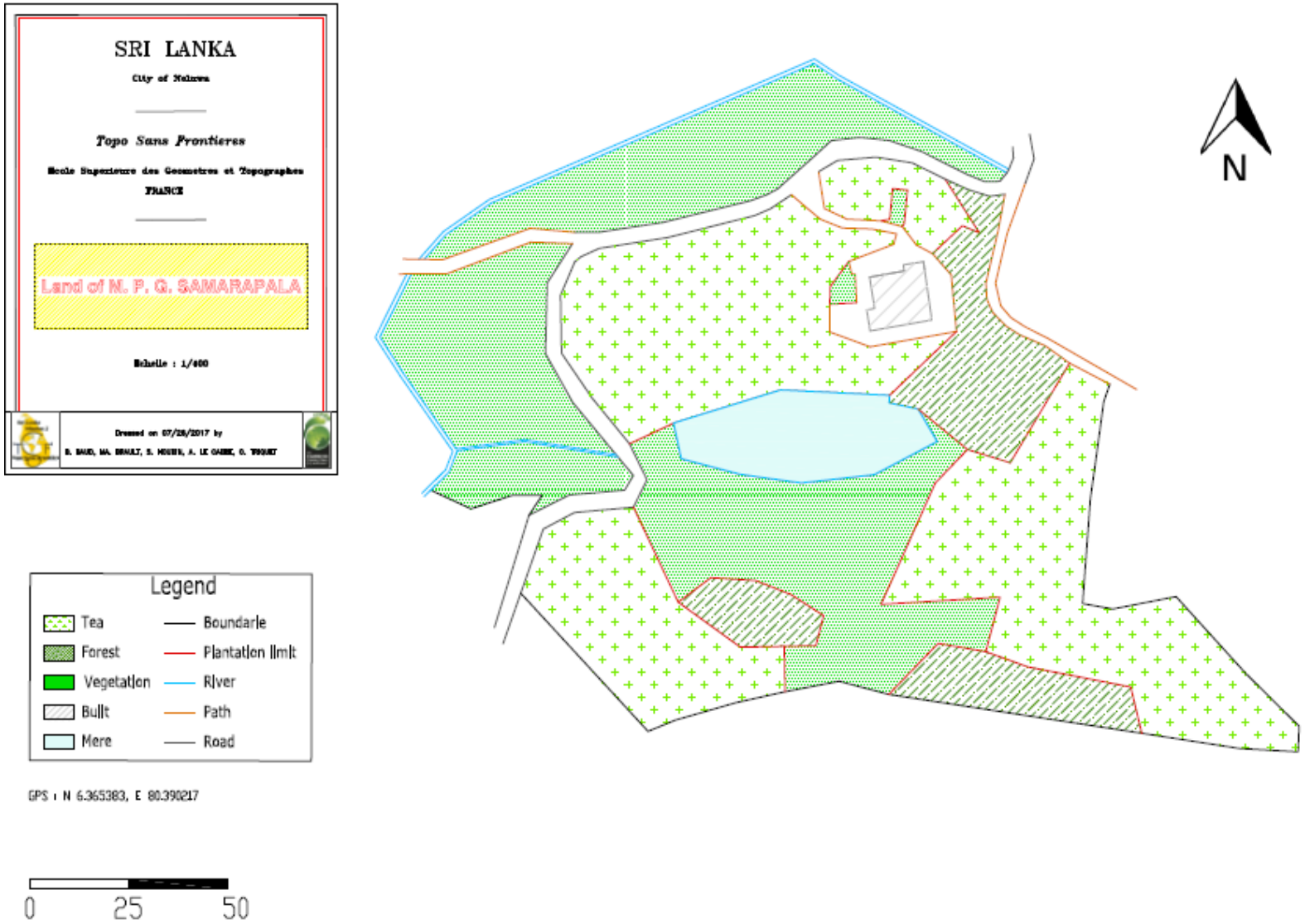

Figure 14: Map of M.P.G.Samarapala's land

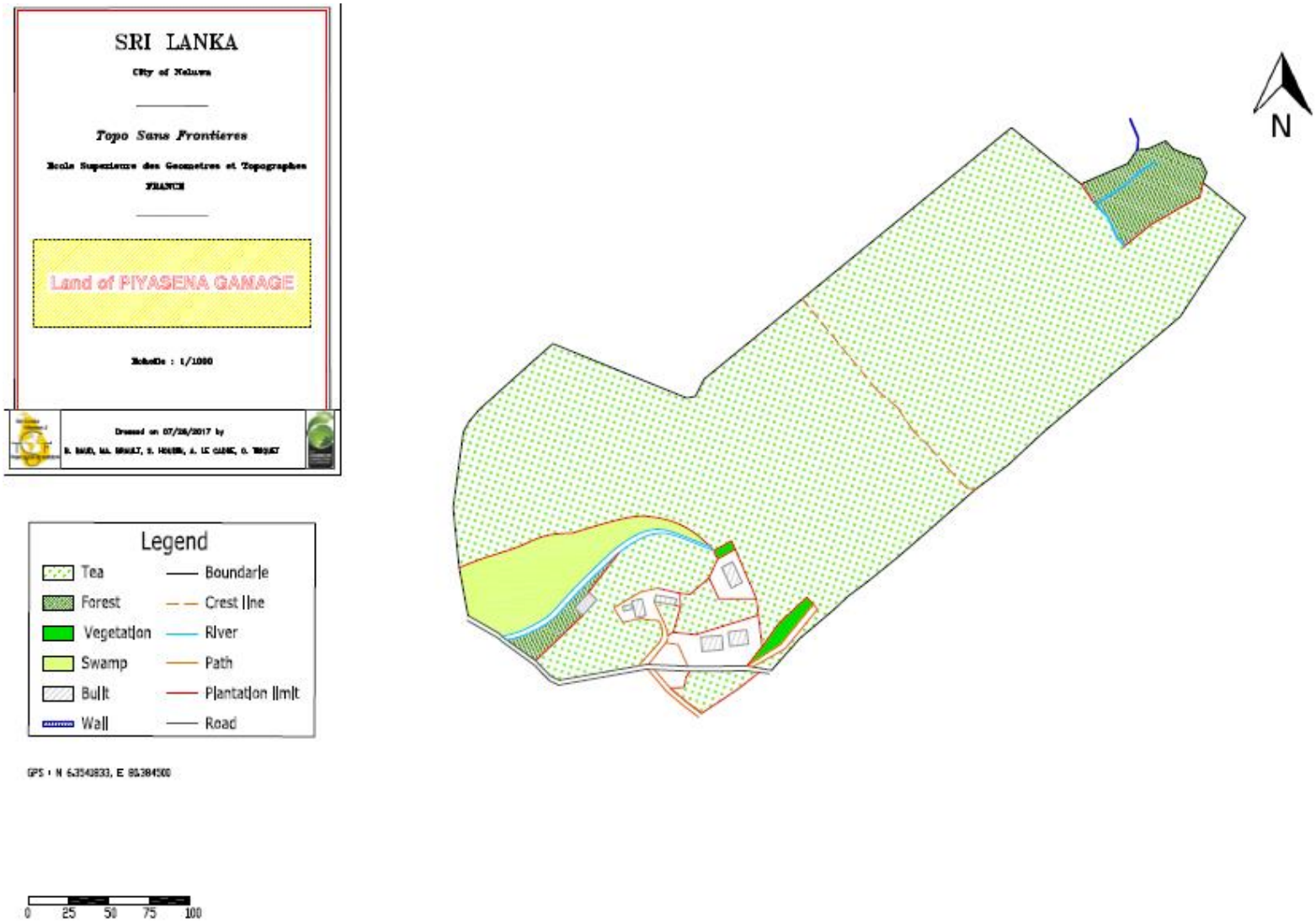

Figure 15: Map of Piyasena Gamage's land

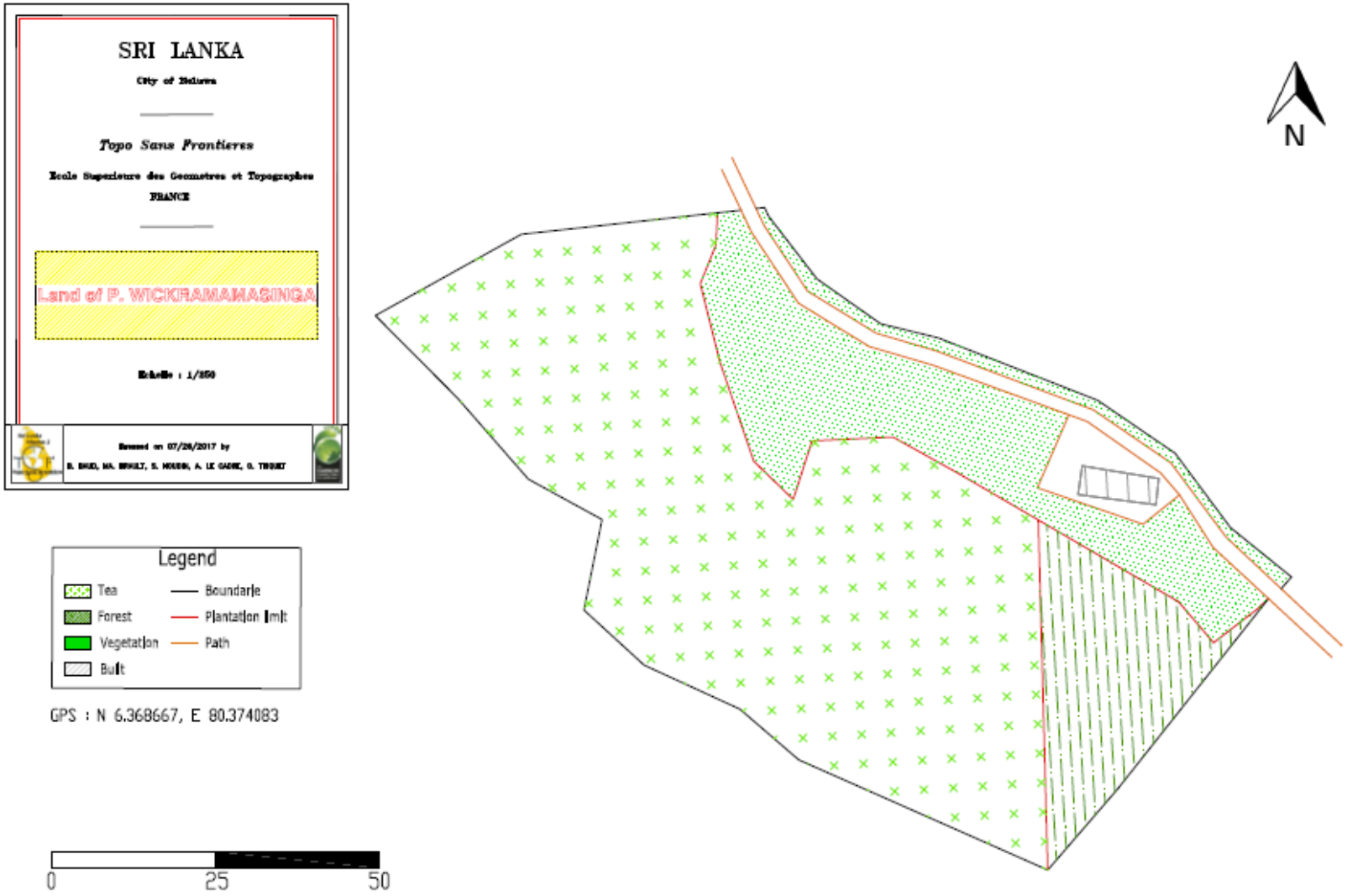

Figure 16: Map of P. Wickramasinghe's land

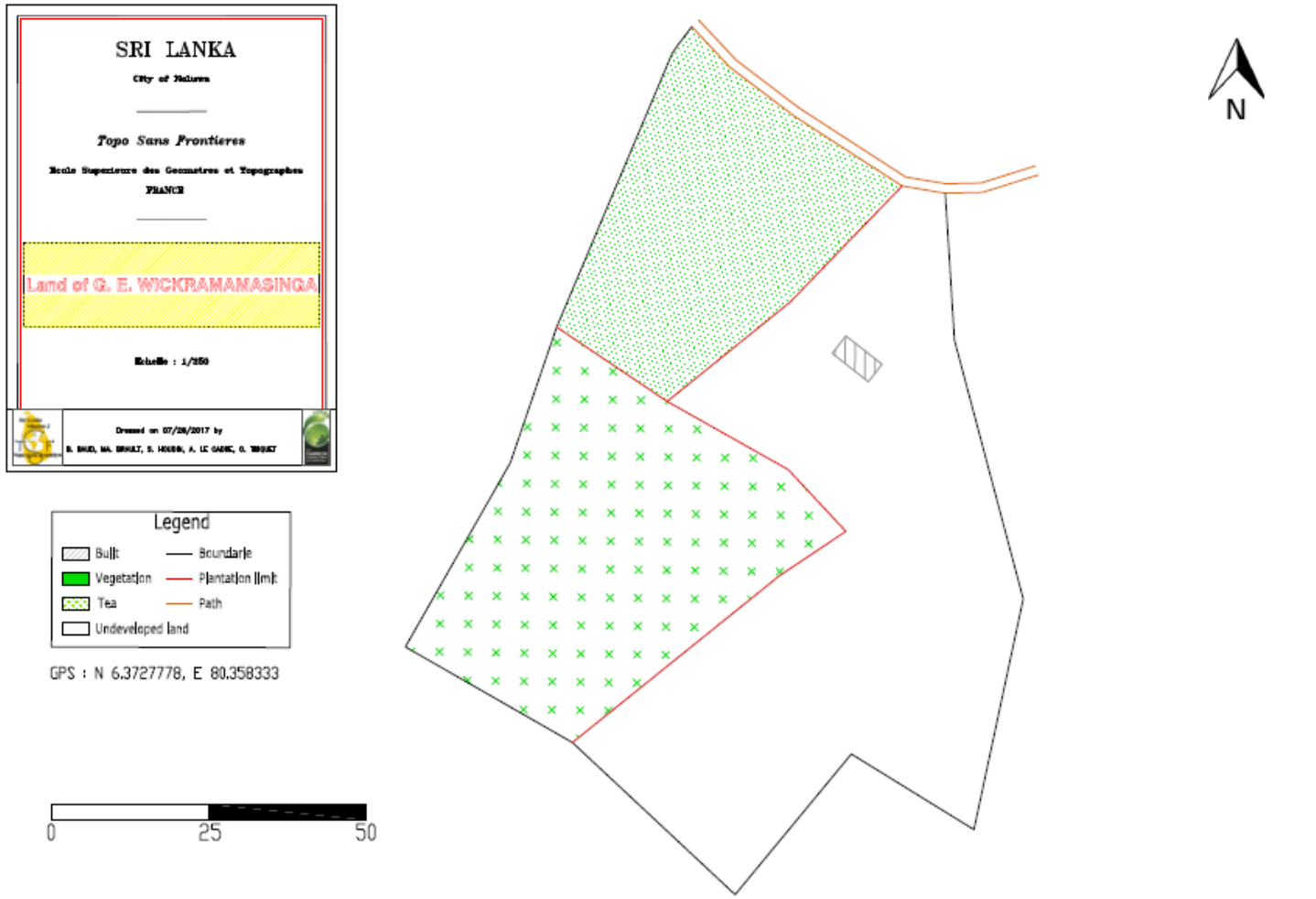

Figure 17: Map of G.E. Wickramasinghe's land

Figure 18: Map of S. Wickramasinghe's land