



CLINTON DEVELOPMENT INITIATIVE

# Trees of Hope Plan Vivo Annual Report

January 2019 – December 2020

## 1.0 Background

The effects of climate change lead to decreasing food and water security, soil productivity, crop yields, forest cover, and biodiversity, all of which disproportionately affect smallholder farmers. These issues are further exacerbated by rampant deforestation and poor land management. As a result, these environmental changes are threatening the livelihoods for the majority of Malawians, who depend on subsistence agriculture.

The Clinton Development Initiative (CDI) established the Trees of Hope Project in 2007 in the Dowa and Neno districts of Malawi to reverse deforestation, mitigate the harmful effects of climate change, and bolster a self-sustaining marketplace by making tree farming profitable and attractive for smallholder farmers. The Trees of Hope project coordinated community led efforts in climate change mitigation and adaptation through agroforestry and reforestation activities, reducing the local community's vulnerability to climate change through benefits derived from tree-based land use systems, while also providing farmers with increased income from the sale of Plan Vivo carbon credits.

Trees of Hope is a certified Payment for Ecosystem Services (PES) project. Plan Vivo supports communities in managing their natural resources by quantifying ecosystem services. Through the Trees of Hope project, rural farmers in Malawi decide how they can best address threats to their local ecosystems by choosing one of five land-use systems that addresses threats to their local ecosystem. These systems represent responsible land management strategies that benefit the environment by reducing soil erosion and increasing soil fertility.

The following report presents a general state of the project during the indicated reporting period including events and challenges that occurred during the reporting period.

Trees of Hope farmers continued their operations in 2019 but things changed in 2020 when the country was hit by Covid-19. In the year 2019, we brought in a consultant and enumerators to help with data collection for all the farmers that were supposed to get their payment. We sent them out to both Neno and Dowa districts where they worked hand in hand with Local Program Monitors to collect data. It was then noted that most farmers were still caring for their trees and some farmers who were getting their last payments, thanked the program for faithfully following the payment procedure that was signed in the agreement. It was also an encouragement to other farmers that are still benefiting from PES to continue to take care of their trees as they have hope that they will also be able to get all their payments. We were encouraged by farmers in Neno that were still making money out of fruit sales (Mango and tangerines) from the project trees. We hope that most fruit trees are going to survive and farmers will still be getting some additional incomes from them.

Trees of Hope program activities were affected by COVID-19 in the year 2020. Malawi had no registered cases of Covid-19 until April 2, when the President confirmed that 3 individuals who had travelled to India had tested positive. From that time to the 1st of June, Malawi had registered 393 confirmed covid-19 cases in the country with 51 recoveries and 4 deaths. Looking at how the poverty levels are in Malawi, we feared that if the virus continued to spread, the country may not be able to contain it. There were less than 20 ventilators in April in the whole country of more than 18 million people. The places where the virus was spreading faster were Blantyre, Lilongwe, Mzuzu, Dedza, Kasungu, Nkhatabay, Chikwawa, Nkhotakota, Zomba, Nsanje, Mwanza, Mzuzu, Mulanje, Mangochi, Chitipa and Karonga. These districts are none of our Trees project districts, but we anticipated that Dowa and Neno were going to be affected as Mwanza is close to Neno and Dowa is close to Lilongwe.

There are several challenges that were occurring and that we anticipated to encounter due to the pandemic. One of the major challenges that was very evident is the fact that people were still living with absolute normalcy, regardless of how the virus had affected the world at large and there was less information regarding COVID-19 going to the communities we serve. Below are other challenges faced:

- Malawians value handshakes (especially those living in the rural areas). It is therefore hard for people to stop shaking hands when they meet. As a solution to this, we planned to aggressively use behavioral change approaches like media intervention. i.e. radio messaging posters and flyers.
- Some farming communities do not have access to clean water, let alone soap. Washing hands frequently may not be possible. We planned to provide soap, washing basins and buckets at 25 aggregation centers that CDI has ties to.
- At meals, most people living in the rural areas wash their hands in the same basin. This is a norm that can be hard to break. We planned to again utilize media interventions, cell phone messages and training to bring awareness.
- During a Communal gathering including funerals, a cultural adherence requires substantial group gatherings which contradicts the health requirement to reduce transmission of the virus. This was planned to be addressed during trainings by Ministry of Health.

## The Response

CDI started working with the Ministry of Health and other partners working on combating the virus. The support was focused on bringing awareness to covid-19 and stop the spread to the farming communities we work with which would also benefit other farming communities at large. CDI Malawi put together the following activities to mitigate the spread of the virus in its farming communities:

- Production of radio messages for community radio stations. Over 4 million people were reached every day through Clinton Foundation sponsored radio messages on covid-19. Dowa district was one of the audiences that was targeted through the messages
- Production and dissemination of posters and flyers from the Ministry of Health. CDI printed Gov of Malawi sanctioned posters and flyers with the Clinton Foundation logo, and placed them at the aggregation centers, schools, churches and warehouses in CDI communities. A total of 3,000 flyers and posters with information on covid-19 were printed and shared with our farming communities, giving them access to accurate information that they were lacking.
- Engagement with Health workers to go out and train cooperative and Farmer Marketing Group leaders on covid-19 preventive hygiene measures. 168 leaders of farmer groups were trained on Covid-19. They in turn trained their group members. We estimate to have reached out to over 4,000 farmers through these trainings.
- Procurement and advocacy on the use of soap, buckets and basins at the aggregation centers.
- Development of a market strategy to help farmers safely sell their produce as the harvest has begun.
- Deployment of Farmforce to send out covid-19 messages to 126 hub farmers from the 8 districts (which included Dowa district) that CDI works with in Malawi.
- Enlistment of Chiweto Bulk SMS platform to automatically send Covid-19 messages to 45 cooperative leaders. At least 6,000 farmers are getting the messages from the leaders every week.

## Program Challenges as a Result of Covid-19

- Communication and work were migrated to digital platforms wherever possible, but in-person and in-field events were cancelled. This made it impossible for our staff to go out and meet farmers and check if they were carrying out any of the project activities.
- Since the government had restricted the number of people gathering at one place, it was also not possible for CDI to bring in enumerators and have them go out and conduct data collection exercise as it is required for farmers to get their payments.
- CDI did not manage to bring in enumerators for data collection as a result, farmers lost hope of getting their payment. Some of them kept on calling and coming to CDI offices to follow up on payment while some believed that their money was misused, and the project had come to an end.

Table 1: Summary

Project indicators	Historical (2010-2018)	Added/ Issued this period (2019 - 2020)	Total
No. smallholder households with PES agreements	852	0	852
No. community groups with PES agreements (where applicable) by Dec 2017	24	0	24
Approximate number of households (or individuals) in these community groups	10	0	10
Area under management (ha) where PES agreements are in place	272 ha and 6,602.4 100 meter units	0	272 ha and 6,602.4 100 meter units
Total PES payments made to participants (USD)	\$405,438.87 USD and €22,706.13	0	\$405,438.87
Total sum held in trust for future PES payments (USD)	\$22,007.41USD	-\$11,286.98USD	\$10,720.43 USD

Plan Vivo Certificates (PVCs) issued	82,901		82,901
Allocation to Plan Vivo buffer to date (tCO2)	20,725		20,725
Unsold Stock at time of submission (PVC)	0	0	0
Vintage 2015 (after reported transfers/retirements)		0	0
<b>Plan Vivo Certificates (PVCs) requested for issuance this reporting period</b>			

## Summary Statistics

Reporting Period 1<sup>st</sup> January, 2019 – 31<sup>st</sup> December, 2020

Technical Specifications in Use	1. Woodlot 2. Boundary Planting (BP) 3. Dispersed Systematic Inter-Planting (DSI) 4. Citrus Orchard 5. Mango Orchard
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## Payment for Ecosystem Services (PES) Agreements in Numbers

	Total PES Agreements for Project	Agreements from Current Reporting Period	Agreements for New Certificate Issuance
<i>Individual Smallholders</i>	852 farmers	0	0
<i>Farmer Groups</i>	24 farmer groups	0	0
<b>TOTAL</b>	876 farmers and groups	0	0

*\*It is important to note that the current issuance request is based on the verification and re-evaluation of the underlying carbon potentials. Due to overly conservative initial estimations of carbon potentials, the project is now able to update these values in line with the audit results. Farmers' payments and the database where annual milestones are to be met, have all been updated based on these new potentials. Farmer payments during this period were halted due to the audit, review of carbon potentials, and re-adjusting farmer payments. Farmers were paid in 2018, which will be reflected in the 2018 AR for Plan Vivo.*

## 2.0 Key Developments in the Project

### 2.1 Climate Change Impacts

Climate change continue to affect Malawi through increased temperatures, erratic rainfall patterns and drought. This is attributed to the continued population growth, and loss of trees and forest as the demand for wood fuels, and the need to secure land for farming. In the year 2020, Malawian farmers were hopeful for better yields as the rainfall pattern was better than the previous years and crops did very well in their gardens. It was until harvest that most of our farming communities were affected by Covid-19. The yields were high, but market prices were not competitive as borders were closed, making it almost impossible to export any commodity out of the country. This had a huge effect on our farming communities as some ended up selling their crops at unfavorable prices.

CDI provided some market linkages to soya farmers which helped project farmers to sell their soybeans at competitive prices. We had African Improved Foods Ltd. from Rwanda that bought over 1,500 Metric Tons of soybean from our project farmers, including Dowa farmers, at a price that was higher than the government's minimum price. We also negotiated prices with local buyers i.e. Sunseed Oil Ltd., Export Trading Group and Agriculture Commodity Exchange. This provided farmers access to markets offering them premium prices, that they would otherwise not be able to have. We had some Trees of Hope project farmers that are part of the Farmer Marketing Groups that we work with, delivering their commodities and benefiting from the premium prices that the market offered.

## 2.2 Pest & Disease Control for Fruit and non-Fruit trees

Despite the effects of COVID-19, we remained in touch with Local Program Monitors who were giving us updates from the field. We did not have any report on pests and diseases that attacked Trees. It seems that farmers have gotten used to managing their tree plantations. It is also worth noting that most trees that were affected by pests and diseases were fruit trees from Neno district and all Neno farmers received their final payments last year and they were no longer in constant communication with us.

### Farmers Bank Accounts

All farmer accounts are up to date. We had conversations with the bank to keep farmers accounts active as we have been having problems with having them activated each time we wanted to pay farmers. We realized that most farmers only use their accounts to receive money from the project. We also encouraged farmers to have other additional sources of income and develop a savings culture i.e. keeping their money in the bank as it is safe and secure. Some of the project farmers have joined the CDI soya farming communities and are growing soybeans and collectively aggregating and selling with CDI farmer groups. We hope that this will help them to boost their incomes and encourage them to keep their monies in the bank as this is what our project farmers are encouraged to do.

## 2.3 Payment for Ecosystem Services (PES)

Trees of Hope is yet to make payments to individual producers and community groups. The delay in making payments came because of the travel restrictions that came with Covid-19. It is hard to determine how many farmers have met their monitoring targets that would allow them to be paid. We have 230 farmers from 2010 and 78 farmers from 2013, a total of **308 farmers** that need to be paid. This will be the final payment that 2010 farmers will be getting as they have reached their last year of payment while for 2013 farmers, it will be their 7<sup>th</sup> year, they will remain with one more payment which will be made in 2023. The 2010 farmers will be the 3<sup>rd</sup> group of farmers to be graduated from the project. The payments continue to encourage farmers on PES to continue to care for their trees as they are assured that they will receive their payment until the 10<sup>th</sup> year so long as they keep on meeting their monitoring targets.

As we stand, all Neno farmers have graduated from the program as they have all received their final payment last year. We had farmers that claimed to have not been paid despite being part of the project, but we realized that their claims were untrue as they were never part of the project. We figured out from Local Program Monitors that some of these farmers were just interested in the project and started growing trees with the hope that they will be included in the project and they were disappointed that it never happened. We also had farmers that were not paid because they did not meet their monitoring targets. These farmers were communicated of the need for them to meet their monitoring target for their payment to be released. We saw a change as farmers became active again, caring for their trees, which resulted in them getting their final payment.

## 2.4 Monitoring and Evaluation

Normally we bring in Malawi government Forestry Officers and enumerators to go out and conduct monitoring exercise at farmers' fields. Again, due to the impact of Covid-19 on program activities, monitoring was never done in the year 2020. This is because of the number of enumerators that we need to bring to carry out the exercise and normally this exercise cannot be done without involving farmers. It would be risky to go out and meet with farmers to conduct the exercise.

If we were to consider the way farmers performed from previous years in order to decide to pay them, Dowa farmers' performance has been very good as far as meeting their monitoring targets unlike Neno farmers. We had problems with Neno farmers especially those growing fruit trees but with Dowa, very few farmers failed to

meet their monitoring targets from the time the project started. Basing on this, we can review if any of the farmers that is due for payment ever failed to meet their monitoring target. We may hold payment for any farmer that has ever failed to meet their monitoring target so that we do a physical check on their plantation before payment. But for any of the farmers that has never failed to meet their monitoring target, we can go ahead and make the payment.

Despite the failed field visits and monitoring of program activities, we remained in touch with Dowa LPMs who kept us updated on farmers concerns. From what LPMs shared, most farmers believed that they will never be paid again as they did not see our presence in the field. Some farmers asked LPMs to visit our offices to make sure we are still operational but due to us moving from working from the office to working from home, we did not encourage them to come at our offices. We kept on assuring farmers through LPMs, that once Covid-19 transmission is minimized, we will prioritize the monitoring exercise to enable them payment. This was well received but some farmers but there are other farmers that to date are still asking for their payment.

## 2.5 Refresher Trainings

Trainings did not happen again in the year, but most farmers are now conversant on how they should care for their trees and manage nurseries. The only training that happened was on Macadamia nuts trees. Some farmers are growing these trees which will be an additional source of income to the farming communities CDI works with. We have a total of 770 seedlings that have been planted, covering 9.6 hectares. We're currently running this as a pilot project and we hope to extend it to Trees farmers that have graduated from the project if deemed successful.

## 2.6 Profile of Producers, Recruitment and Project Size

Due to the lack of our presence in the field, Trees of Hope did not recruit any new farmers. We continued to work with CDI farming communities to expand tree growing in the other districts of Malawi where Trees of Hope is not operating. The Macadamia nuts project is one of the projects that we are carrying out to encourage farmers to grow trees. We hope that farmers will continue to see the importance of growing trees not just for cash but also for all the other benefits that comes from trees. This has been the message that we have been delivering to farmers, especially those that received their final payments.

## 3.0 Key Challenges the Project Faces

### 3.1 Climate Change

We did not record any climate change challenges that farmers faced in the past year. LPMs kept on assuring us that trees were well taken care of and that they are still surviving. We will confirm about these once things normalize again. But as Malawi in general, the country had timely onset of rains and generally normal cumulative amounts across the country. This means we hardly experienced prolonged dry spells and floods and most farmers had bumper yields in the 2019/2020 season. The only drawback was that the market was badly affected by covid-19, resulting to farmers selling their produce at lower prices than they had anticipated.

### 3.2 Delays in Payments to Farmers

Trees of Hope has delayed farmer payments again because of covid-19. Monitoring was not done, making it difficult for the project to pay farmers. We had hoped the virus will eventually go and we will be able to carry out the exercise but as it is, it will take time before we start carrying out our activities normally.

### 3.3 Farmers Abandoning their Fields

Since farmers got paid last year, we have not had any incident of them abandoning their fields. Actually, the payment encouraged them to continue to care for their trees. We just need to keep on encouraging those that received their final payments not to cut down the trees as they will be faced with the same climate change problems they had before they started growing them. We hope that the years farmers have spent with the project have transformed their mindset on the value of tree.

## 4.0 Project & Participant Overview

Producers in the program are engaged in one or more of the five land-use systems described in the table below. For more information please explore the Trees of Hope technical specification documents on the Plan Vivo website. The graphic below explains the environmental and potential income generating benefits of each of the land use systems.

Producers registered with the program, each with a single *plan vivo*, are either individual households or communal groups. Producers can opt for more than one land use system and this is common among individual producers, while communal groups are typically engaged in woodlot land use system. Table 5 below shows producers and community groups with registered PES agreements. These numbers have changed slightly since the last report as two farmers have consistently not met their targets.

*Table 3: Profile of Producers with Registered PES Agreements*

STATISTIC	VALUE
Total Number of Producers	876
Number of Community Groups	24
Number of Individual Producers	852

The total area coverage for the project is shown in Table 6 below, broken down by system, in addition to the total carbon sequestered by the land use systems.

*Table 4: Area Coverage for the Land-Use Systems*

LAND-USE SYSTEM	UNITS	AREA COVERAGE & CARBON TOTALS
Project Area	Woodlot	102.5
	DSI	154
	Mango	4.33
	Citrus	11.79
	100 meter units	6,602.4
Total tCO <sub>2</sub>		<b>82,900.94</b>

## 5.0 Carbon Recalculation

As noted above, a revision of the carbon potentials with the auditors and verifying body has taken place. Below is a summary of the changes that occurred broken down by land use system.

Table 5: Updated Carbon Potentials

Technical Specification	Net benefits		
	Subtracting Baseline (tCO2/ha)	Contribution to PV Buffer (20%) (tCO2/ha)	Tradeable (80%) (tCO2/ha)
Woodlots	181.2984	36.2597	145.0387
Boundary Planting	212.8167	42.5633	170.2534
B. Planting (per 100m)	10.6408	2.1282	8.5127
Dispersed Interplanting	87.2276	17.4455	69.7821
Mango Trees	103.3753	20.6751	82.7003
Citrus Trees	67.1537	13.4307	53.7229

## 5.0 Sales & Issuances of Plan Vivo Certificates

### Issuance Summary

<p><b>Issuance One and Two (2010 Vintage)</b></p> <p>Total Number of Beneficiaries: 294            Certificates Issued for Issuance One: 20,000            Certificates Issued for Issuance Two: 2,550            Number of Farmers: 277            Number of Community Groups: 17</p> <p><b>Issuance Three (2013 Vintage)</b></p> <p>Total Number of Beneficiaries: 205            Certificates Issued: 20,000            Number of Farmers: 201            Number of Community Groups: 4</p>	<p><b>Issuance Four (2014 Vintage)</b></p> <p>Total Number of Beneficiaries: 376            Certificates Issued: 36,852            Number of Farmers: 373            Number of Community Groups: 3</p> <p><b>Issuance 5 (2016 Vintage)</b></p> <p>Impact: All beneficiaries            Certificates Requested: 3,499            Rationale: Carbon Re-calculation</p>
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Table 6: Sales Summary

Date	Buyer	No. of PVCs
Feb-16	ZeroMissionAB -160	1000
Jul-16	ZeroMissionAB -176 (replaced #175)	5169
Sep-16	COTAP - 6	588
Sep-16	United Bank of Carbon	840
Feb-17	ZeroMissionAB	1426
<b>Total</b>		<b>9,023</b>

## 6.0 Summary of Monitoring Results

The current monitoring targets for farmers getting their payment this year are based on farmers meeting the required diameter at breast height of 8cm to 15 cm depending on the year they joined the project. For 2013 farmers, the requirement is 8cm whilst 10cm for 2010 farmers. The project does not experience serious challenges to the monitoring process because it has over the years built enough community-based capacity for this exercise through involvement of LPMs based in the communities.

*Table 7: Summary of Reasons for Target Failure and Recommended Corrective Actions*

NUMBER	REASON FOR TARGET FAILURE	RECOMMENDED CORRECTIVE ACTIONS
1	Drought, where young seedlings perish due to water stress	<ul style="list-style-type: none"> <li>• Digging planting holes of the recommended size for adequate water capture.</li> <li>• Use of compost manure to enhance water retention within the rooting zone of the tree.</li> <li>• Early planting to take advantage of the full rainy season.</li> <li>• Introducing tree species that are more tolerant to drought.</li> </ul>
2	Termite attack, which kills young seedlings	<ul style="list-style-type: none"> <li>• Application of inorganic termiticides.</li> <li>• Use of organic termiticides like <i>Tephrosia vogelii</i> extracts.</li> <li>• Keeping grass mulch clear of the tree base.</li> </ul>
3	Late planting	<ul style="list-style-type: none"> <li>• Early land preparation for tree plots to avoid competition for the limited labour with arable crops later in the season.</li> <li>• Timely establishment of nurseries to have seedlings ready for planting at the beginning of the rainy season.</li> </ul>
4	Fire	<ul style="list-style-type: none"> <li>• Clear brush during dry seasons.</li> <li>• In particularly prone regions, plant “fire breaks” of trees not particularly susceptible to burning.</li> </ul>
5	Planted less than the target number of trees	<ul style="list-style-type: none"> <li>• Early land preparation to avoid crisis planting</li> <li>• Establishment of enough seedlings for the planned planting</li> </ul>
6	Passing on plot ownership to next of kin	<ul style="list-style-type: none"> <li>• Criteria for who qualifies as a next of kin should be drafted by LPMs and farmers to avoid selection of unsuitable next of kins</li> </ul>

	2007 (ha)	100 meter segments	tCO2
woodlot	29.59	0	4,291.70
DSI	12.31	0	842.96
BP	0	202.23	1,721.51
Mango	0	0	0.00
citrus	0	0	0.00
total hectares	41.9	202.23	0.00
total carbon	0	0	6,856.17
total value	0	0	30,167.13
Individuals	42	0	0.00
Groups	11	0	0.00
Total	53	0	0.00

	2008 (ha)	100 meter segments	tCO2
woodlot	27.2116	0	3,946.74
DSI	25	0	1,744.55
BP	0	581.25	4,947.97
Mango	3.47	0	286.97
citrus	9.8	0	526.49
total hectares	65.4816	581.25	0.00
total carbon	0	0	11,452.71
total value	0	0	50,391.94
Individuals	159	0	0.00
Groups	8	0	0.00
TOTAL	167	0	0.00

	2009 (ha)	100 meter segments	tCO2
woodlot	19.05	0	2,767.20
DSI	16.36	0	1,125.58
BP	0	1371.08	11,671.51
Mango	0.86	0	71.12
citrus	1.99	0	106.91
total hectares	38.26	1371.08	0.00
total carbon	0	0	15,742.32
total value	0	0	69,266.21
Individuals	169	0	0.00
Groups	1	0	0.00
Total	170	0	0.00

	2010 (ha)	100 meter segments	tCO2
woodlot	14.0408	0	2,036.46
DSI	50.305	0	3,499.55
BP	0	2088.41	17,777.88
Mango	0	0	0.00
citrus	0	0	0.00
total hectares	64.3458	2088.41	0.00
total carbon	0	0	23,313.89
total value	0	0	102,581.12
Individuals	226	0	0.00
groups	4	0	0.00
Total	230	0	0.00

	2011 (ha)	100 meter segments	tCO2
woodlot	6.2028	0	899.65
DSI	21.72	0	1,515.67
BP	0	632.88	5,387.48
Mango	0	0	0.00
citrus	0	0	0.00
total hectares	27.9228	632.88	0.00
total carbon	0	0	7,802.79
total value	0	0	34,332.29
Individuals	78	0	0.00
Groups	0	0	0.00
Total	78	0	0.00

	2012 (ha)	100 meter segments	tCO2
woodlot	1.0408	0	150.96
DSI	4.77	0	332.86
BP	0	652.62	5,555.52
Mango	0	0	0.00
citrus	0	0	0.00
total hectares	5.8108	652.62	0.00
total carbon	0	0	6,039.34
total value	0	0	26,573.08
Individuals	68	0	0.00
Groups	0	0	0.00
Total	68	0	0.00

	2013 (ha)	100 meter segments	tCO2
woodlot	4.1516	0	602.14
DSI	12.725	0	887.98
BP	0	669.75	5,701.34
Mango	0	0	0.00
citrus	0	0	0.00
total hectares	16.8766	669.75	0.00
total carbon	0	0	7,191.46
total value	0	0	31,642.43
Individuals	78	0	0.00
Groups	0	0	0.00
Total	78	0	0.00

	2014 (ha)	100 meter segments	tCO2
woodlot	1.2	0	179.11
DSI	10.25	0	731.13
BP	0	404.22	3,592.02
Mango	0	0	0.00
citrus	0	0	0.00
total hectares	11.45	404.22	0.00
total carbon	0	0	4,502.26
total value	0	0	19,809.92
Individuals	32	0	0.00
Groups	0	0	0.00
total	32	0	0.00

SUMMARY BY LAND USE SYSTEM									
Woodlot		DSI		Mango		Citrus		BP	
hectares	102.49	hectares	153.44	hectare	4.33	hectares	11.79	100m segments	6,602.44
tCO2	14,873.95	tCO2	10,680.27	tCO2	358.09	tCO2	633.39	tCO2	56,355.23

GENERAL SUMMARY	
Total farmers	852
Total groups	24
Total participants	876
Total hectares	272.05
100 m segments	6,602.44
PV Buffer Contribution	20,725.23
Total saleable tCO <sub>2</sub>	<b>82,900.94</b>
Issuances to date	79,402.00
Available for issuance	<b>3,498.94</b>

## 7.0 Breakdown of Operational Costs

Expense		
Personnel		
	Total Personnel	<u>\$4,753</u>
Program and COGS		
	Total Program and COGS	<u>\$0.00</u>
Office		
	Total Office	<u>\$1,000</u>
Travel		
	Total Travel	<u>\$0.00</u>
	<b>Total Expense</b>	<u><b>\$5,753</b></u>

Appendices

Appendix I: PES Agreement Form

**CLINTON DEVELOPMENT INITIATIVE**

**TREES OF HOPE PROJECT**

**LILONGWE, MALAWI**

**PAYMENT FOR ECOLOGICAL SERVICES AGREEMENT**

**THIS AGREEMENT** (the “**Agreement**”) is made this \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_ between the **Clinton Development Initiative (“CDI”)**, an initiative of the Clinton Foundation, located off Chayamba Road on Kambuku Street, Area 43/2/24, Private Bag 68, Lilongwe, Malawi, hereinafter referred to as the “**Project Manager.**”

**AND**

\_\_\_\_\_ of Village Head \_\_\_\_\_  
\_\_\_\_\_, Group Village \_\_\_\_\_ Head Traditional \_\_\_\_\_  
\_\_\_\_\_ Authority in \_\_\_\_\_ district, hereinafter referred to as the “**Producer,**” which shall admit and include their respective successors in title and/or assignees.

**WHEREAS** the Clinton Foundation is a not-for-profit organization which operates CDI in Malawi to support the government in rural development, environmental rehabilitation and livelihood improvement, and runs the Trees of Hope Project, a Plan Vivo-certified project, to coordinate sales of carbon certificates;

**AND WHEREAS** the Producer is the owner of the piece of land described in Appendix I;

**AND WHEREAS** the Producer has agreed to produce the estimated volume of carbon credits by planting, using and maintaining the land herein described under the land use system(s) shown in Appendix II, Table A;

**AND WHEREAS** CDI has agreed to coordinate sales of carbon certificates generated by the Producer by way of the Carbon Emission Reduction Process under the Trees of Hope Project at the price and conditions herein appearing below, and based on meeting the monitoring targets annually as outlined in Appendix II, Table B;

**AND WHEREAS** both parties are committed to reforestation of rural Malawi through the promotion of tree species to improve the environment, the food security of rural communities and a source of income aside from traditional staple crop agriculture;

**NOW THEREFORE** it is agreed that the purpose of this Agreement is to provide terms and conditions between the parties for the sale of carbon under the Carbon Emission Reduction Process pursuant to the Plan Vivo project. It applies to all sites registered by the Producer with the Trees of Hope Project for the provision of carbon sales.

## **1. Producer shall:**

a. *Meet monitoring targets.* Meet monitoring targets, as outlined in Appendix II, Table B, over the first ten year period of growth as set under the Plan Vivo standard.

b. *Maintain land use system.* Maintain the specified land use system(s) for 50 years (the “**carbon crediting period**”) as described below:

- i. Maintenance of the land use system is defined for the first ten years of tree growth by Appendix II Table B, and thereafter as at least 90% survival of mature trees past the ten year monitoring period and until the end of the 50 year carbon crediting period. Additional details regarding management of the tree systems are outlined in the technical specification documents on the Plan Vivo website.
- ii. All payments, based on the projected carbon to be sequestered over the 50 year crediting period, are calculated to be paid out over a ten year period as shown in Appendix I.
- iii. After ten years, Producer shall be held self-accountable for the survival of the trees.

c. *Rectify problem areas.* If Producer fails to meet monitoring targets, Producer shall be placed on probation and shall have one calendar year (12 months) to rectify problem areas, starting at the date of failure to meet set targets, during which time payment shall be withheld.

- i. If the Producer has not yet taken steps to rectify the problem areas by the second year of being on probation, further payment may be withheld and the Producer will be evaluated by CDI to determine whether or not he or she will remain in the program.
- ii. If the reason for tree-loss is deemed unacceptable by CDI, Producer shall be permanently removed from the Trees of Hope project, and shall forfeit all future payments.

## **2. CDI shall:**

a. *Pay agreed purchase price.* CDI shall pay the agreed purchase price per ton at the rate described in Appendix I, after verification that monitoring targets as specified in Table B and described below have been met.

- i. Monitoring shall take place during the years specified in Table B: Data will be collected by CDI field officers for each Producer. Thereafter, monitoring by CDI field staff shall stop. Details of the monitoring process are outlined in the Project Design Document on the Plan Vivo website.

b. *Pay in instalments.* CDI shall pay total amount due to Producer (see Appendix I) via instalments as detailed in Appendix II, Table B, following verification that corresponding monitoring targets have been met. Payment conditions are as follows:

- i. CDI works with First Merchant Bank of Malawi (“**FMB**”) to issue bank account cards to all producers under the Trees of Hope project. CDI submits annual payment summaries to FMB, which will distribute the funds into Producer’s account if annual monitoring targets are met.
- ii. If Producer fails to meet monitoring targets, payments shall be suspended, at which point the Producer will have one calendar year (12 months) to rectify problem areas, starting at the date of failure to meet set targets.
  1. Payment may be withheld for up to two (2) one-year payment periods (or 24 months) if Producer fails to rectify problem areas to meet monitoring targets by the end of their two year probation period. At that point, CDI will determine, based on the reason for tree-life loss, whether or not the Producer will remain in the project or if the Agreement shall terminate.
  2. If the reason for tree-loss is deemed unacceptable, Producer shall be permanently removed from the Trees of Hope project, and shall forfeit all future payments.

3. **Jointly, the Parties agree to the following:** *Risk Buffer.* The Producer agrees to allocate 20% of his/her total carbon sequestered into a risk buffer maintained by Project Manager (the remaining 80% shall be the basis for Producer’s payments, or the saleable carbon). In extreme cases of tree-loss by any given Producer, the risk buffer will ensure that if any losses are incurred, the total sequestered carbon in aggregate for the project can remain stable.

4. **Term/Termination.** The term of this Agreement shall commence on \_\_\_\_\_ and shall continue for an initial term of ten (10) years, provided however that (i) either party may terminate this Agreement if the other party fails to perform its obligations hereunder and such failure to perform is not cured within thirty (30) days or (ii) in accordance with \_\_\_\_\_ sections



## Producer Identity and Carbon Credits Profile

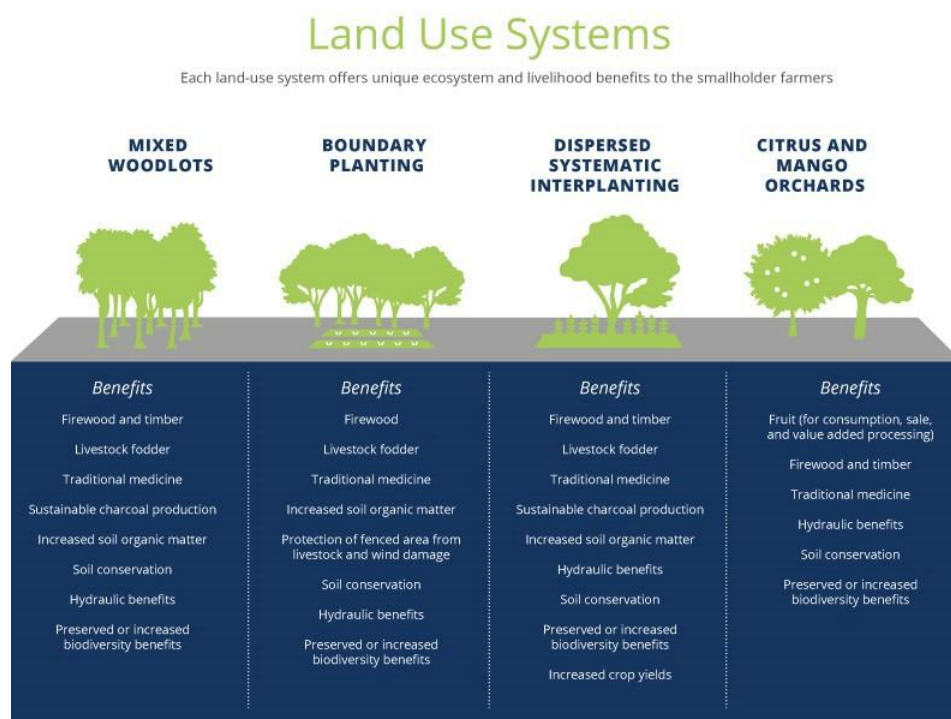
This form was computerized in 2016.

1.	Name of Producer (Individual/Group and key point of contact)	
2.	Group Village Head	
3.	Traditional Authority	
4.	Project site (location)	
5.	Producer's Government ID number.	
6.	Total estimated size to be planted (Appendix II Table A)	
7.	Total carbon credits issued (tCO <sub>2</sub> e for all land use systems implemented in the Producers field(s))	
8.	tCO <sub>2</sub> withheld as buffer (20% of total)	
9.	Total saleable tCO <sub>2</sub> e	
10.	Total tCO <sub>2</sub> e bought to date	
11.	Total unsold tCO <sub>2</sub> e to date	
12.	Price per tCO <sub>2</sub> e (euro)	
13.	Total amount (Euro and Kwacha) to be paid to the Producer for carbon sold over 10 year period	

## Appendix II: Training Module Components

NUMBER	MODULE	BRIEF CONTENT AND RATIONALE
1	Climate change and rural livelihoods	Covers definition, causes and illustration of climate change effects with local indicators and its impact on rural livelihoods.
2	Climate change adaptation and mitigation	Presents possible strategies for avoiding further dangerous climate change and mechanisms to learn to live with the present effects. The role of trees in climate change management is discussed.
3	Trees of Hope Project: An Overview	Presents the objectives of the project and other building blocks of the program as a vehicle available to the communities to address climate change and safeguard and improve livelihoods.
4	The Plan Vivo System	Covers all tenets of the Plan Vivo system touching on all aspects from definition of a plan vivo to payment of carbon finance.
5	The concept of carbon trading	Introduces the new paradigm of carbon trading and carbon markets by defining the product to be produced by them as producers and outlining requirements of the market.
6	Tree nursery establishment and management	Looks at nursery techniques including choice of site, fencing, seed pre-treatment, media preparation, pot filling, sowing, development of root stocks, grafting, budding, root pruning, pest and disease management and hardening off.
7	Establishment and management	Covers selection of site, pegging and marking according to the technical specification, pitting, planting, mulching, pest and disease management, fire breaks, thinning and pruning.
8	Field monitoring	This outlines monitoring indicators and specifies what data are to be collected, highlighting the target for each monitoring period.
9	Receipt of carbon finance	Covers mainly the dividing criteria between eligibility and non-eligibility for receipt of carbon finance depending on monitoring results. Also covers issues about farmer payment procedures.
10	Group dynamics	Looks at advantages of working in groups, group formation, group leadership, team building, motivation and trust building.

## Appendix III: Land Use System for Trees of Hope and Infographic



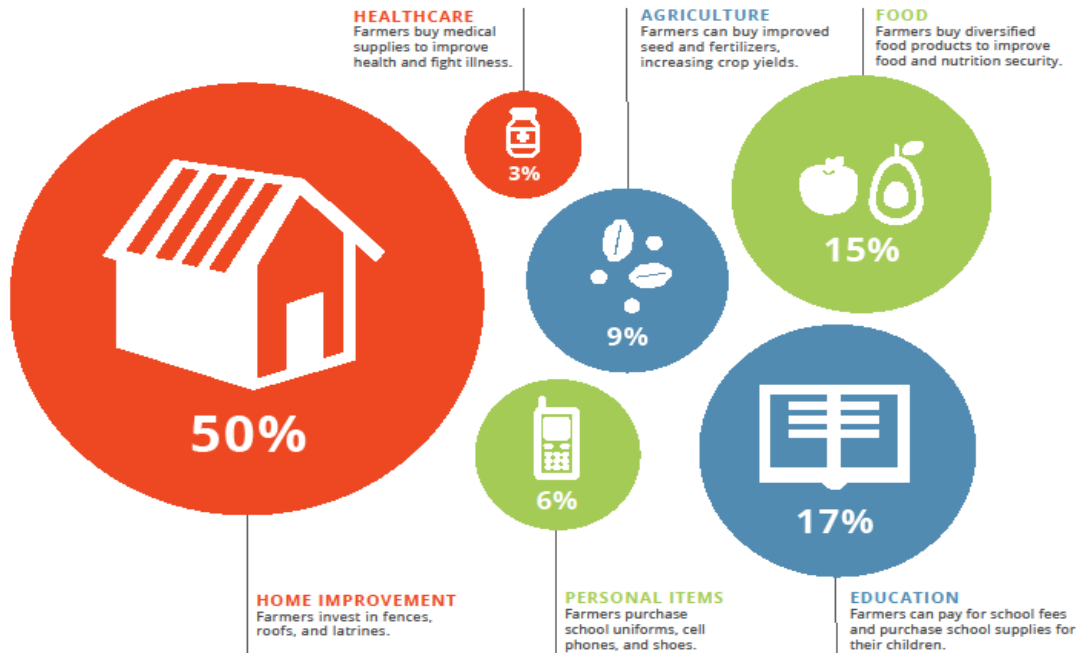
Land Use System	Description	Density/Spacing
<b>Woodlots</b>	This system involves the establishment of indigenous and/or naturalized tree species on a plot of land in a systematic manner.	2,500 trees per hectare
<b>DSI (Dispersed Systematic Inter-Planting)</b>	This systems involved inter-planting trees with arable crops to improve soil fertility over time through the addition of degradable organic matter to the soil and biological nitrogen fixation.	200 trees per hectare
<b>Boundary Planting (BP)</b>	This system involved the linear planting around amenities. It is commonly used around producers farms for boundary demarcation, but can also be used to protect fields from livestock damage	3 meters within rows (or 33.33 trees per 100 meter segment)
<b>Citrus Orchard</b>	This system involves the planting of high-value citrus varieties produced from local seedling rootstock through bud-grafting. These improved varieties not only produce high value fruit, but also reach fruiting age in 4 years, much earlier than local varieties.	400 trees per hectare
<b>Mango Orchards</b>	This system involves the planting of high-value mango varieties produced through grafting improved scion varieties on to local rootstock. These improved varieties produce less fibrous, more fleshy fruits, that reach fruiting age in 3-5 years, much earlier than local varieties.	200 trees per hectare

## Appendix IV: How Farmers Benefit from Carbon Finance (2015)



### How Farmers Benefit From Carbon Finance

Carbon finance directly benefits smallholder farmers' quality of life, improving their purchasing power and increasing access to goods and services. Farmers spend their carbon certificate income in the following ways:



## Appendix V: Land Use System Chart

Land use system	Approved Tree Species	Check for Farmer Use	Planting density per hectare	Total Area to plant (ha/m)	Number of trees to be planted	Plot location (GPS)	Rotation and Harvesting period
<b>Woodlot</b>	<i>S. siamea</i> , <i>S. spectabilis</i> and <i>A. polyacantha</i> .		2500				<b>20 years</b>
<b>Dispersed Systematic Inter-planting (DSI)</b>	<i>Faidhelbia albida</i> , <i>Acacia polyacantha</i> .		200				<b>To be thinned progressively to 25 trees/ha at Year 50</b>
<b>Boundary planting</b>	<i>A. polyacantha</i> , <i>S. spectabilis</i>		34 trees/ 100m				<b>25 years</b>
<b>Mango orchard</b>	<i>Mangifera indica</i>		200				<b>50 years</b>
<b>Citrus orchard</b>	<i>Citrus sinensis</i>		400				<b>50 years</b>

## Appendix VI: Monitoring and Payment Protocol

<b>Monitoring period</b>	<b>Monitoring target to be met</b>	<b>Percentage (%) of total payment due</b>	<b>Number of payments</b>
<b>Year 1</b>	<b>50%</b> of plot established	20 %	<b>1</b>
<b>Year 2</b>	<b>75%</b> of plot established	20 %	<b>1</b>
<b>Year 3</b>	Whole plot established with stand survival not less than <b>85%</b>	20 %	<b>1</b>
<b>Year 4</b>	Whole plot established with at least <b>90%</b> survival.	10 %	<b>1</b>
<b>Year 5</b>	Average DBH not less than 4cm	10 %	<b>1</b>
<b>Year 7</b>	Average DBH not less than 8cm	10 %	<b>1</b>
<b>Year 10</b>	Average DBH not less than 15cm	10 %	<b>1</b>

## Appendix VII: Historical Sales Chart

DATE	PURCHASER	PVC	PRICE/PVC	Currency	Total	TOTAL USD
<b>Reported in 2013 Annual Report</b>						
	ZeroMission AB	1600				
	United Bank of Carbon	550				
	AECOM	600				
	COzero PTY Ltd	100				
	ZeroMissionAB - 46	6000				
Apr-13	ZeroMissionAB - 55	1999				
Jul-13	ZeroMissionAB - 55	1200				
Feb-13	COTAP - 1	468				
Dec-13	COTAP - 2	282				
<b>subtotal</b>		<b>12,799</b>				
<b>Reported in 2014 Annual Report</b>						
Jan-14	ZeroMissionAB -73	800				
Apr-14	ZeroMissionAB	300				
Apr-14	ZeroMissionAB	10000				
May-14	ZeroMissionAB	700				
Jun-14	COTAP - 3	524				
Jun-14	ZeroMissionAB	1500				
Aug-14	ZeroMissionAB	450				
Nov-14	ZeroMissionAB	1287				
<b>subtotal</b>		<b>15,561</b>				
<b>Reported in 2015 Annual Report</b>						
Feb-15	COTAP - 4	705				
Nov-15	COTAP - 5	229				
Jan-15	ZeroMissionAB -125	1500				
Feb-15	ZeroMissionAB -128	1000				
Jan-15	ZeroMissionAB -129	1100				
Apr-15	ZeroMissionAB -133	500				
Aug-15	ZeroMissionAB -140	34325				
Sep-15	ZeroMissionAB -149	1660				
Dec-15	ZeroMissionAB -158	1000				
<b>subtotal</b>		<b>42,019</b>				
<b>Reported in 2016 Annual Report</b>						
Feb-16	ZeroMissionAB -160	1000				
Jul-16	ZeroMissionAB -176 (replaced #175)	5169				
Sep-16	COTAP - 6	588				
Dec-16	United Bank of Carbon	840				
Dec-16	ZeroMissionAB	1426				
<b>subtotal</b>		<b>9,023</b>				
<b>TOTAL</b>		<b>79,402</b>				<b>\$ 530,411.09</b>