2013- 2014 Plan Vivo Annual Report

CommuniTree Carbon Program

Previously the Limay Community Carbon Project

Submitted by Taking Root: Brooke van Mossel-Forrester, David Baumann and Kahlil Baker

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ENRACINE TAKING ROOT

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1. Report summary

The following Annual Report to the Plan Vivo Foundation reports upon the progress of Taking Root's CommuniTree Carbon Program (previously the Limay Community Carbon Project) from 1 October 2013 – 30 September 2014.

Summary

Table 1: Program summary

Reporting period: 1 October 2013 - 30 September 2014	
Technical specifications in use:	Mixed Species Forest Plantation Boundary Planting Silvopastoral Planting
Areas under management	
New areas allocated to past years	19.89 ha eq.*
New area allocated to 2014 Certificate issuance	222.55 ha eq.
Total areas put under management since last report (2014 vintage)	**242.44 ha eq.**
Areas under management (total for program)	**866.03 ha eq.**
Smallholders with plan vivos and PES agreements	
Smallholders with existing *plan vivos* who added new land	10
New smallholders with PES agreements	52
Total smallholders with PES agreements (2014 vintage)	**62**
Smallholders with *plan vivos* and PES agreements (total for program)	**280**
PES and community fund payments	
Payments made to communities to date (total for program)	USD $532,834.77
Payments to community fund (total for program)	
Plan Vivo Certificates and Saleable tCO_2	
Saleable tCO_2 from 2014 vintage allocated to losses from previous years	5,893
Submission for Certificate Issuance for new areas (2014 vintage)	65,941
Plan Vivo Certificates issued to date (total for program)	**256,604**

**Equivalent hectares (ha eq.) have been calculated based on the tCO_2e sequestered in the original Mixed Species Forest Plantation technical specification. See Appendix 1 for more details.*

2. Key events, developments and challenges

Key events

Site visit from Plan Vivo

Taking Root was pleased to have a visit this year from Plan Vivo Director, Christopher Stephenson. He visited the reforestation program first hand, joining the team in key meetings with program stakeholders, including meetings with project funder the interchurch organization for development cooperation (ICCO), and development partner Catholic Relief Services (CRS). It was a successful and rewarding visit.

Key developments

Passing the millionth tree mark

At least 50 new smallholders joined the program in 2014 to plant more than 300,000 new trees, bringing the CommuniTree Carbon Program to well over a million trees planted since 2010! Many thanks to our partners and supporters for helping make this happen.

Program expansion to new area

To accommodate for the continued demand for Taking Root's carbon offsets, the organization expanded its CommuniTree Carbon Program boundary to include the neighbouring municipality of Somoto. Located to the north of the original program area, Somoto is very similar to San Juan de Limay in terms of climate and culture.

Above: Inauguration of the new program in Somoto with technician team from San Juan de Limay, new staff from Somoto, and municipal representatives.

This was the second program expansion, and required conducting a new carbon baseline of the added area. Additionally, a team of technicians was responsible for recruiting farmers within this new region to participate in the program. With this expansion, the staff and organizers were able to leverage existing experience and knowledge from Limay, bringing Limay farmers and technicians to present to new farmers in Somoto. This significantly increased the appreciation and approval of the program. See Section 8 for more details on the workshops. Read about the expansion: http://www.takingroot.org/2013/11/project-expansion-somoto-nicaragua/

Updated Technical Specifications and PDD

With this new program boundary, updates were made to Taking Root's technical specifications and PDD documents. Four key changes were made:

1) The name of the program was updated from the Limay Community Carbon Project to the CommuniTree Carbon Program, as the program is no longer located only in Limay.

2) Upon adding Somoto to the program, new project baseline, stratification and mapping were conducted. This new data and other socio-economic data about Somoto was integrated throughout the documents. The baseline results for Somoto were slightly lower than they were in Limay. However, to be conservative and for simplicity, the baseline was kept the same as Limay. All carbon numbers remained unchanged.

3) The process of how monitoring is recorded was updated to reflect the use of the Smallholder Carbon Project Information Management System (SCPIMS). No change was made to what data is monitored or how the monitoring is conducted. However, data is now entered directly into the SCPIMS to facilitate analysis, rather than entering the monitoring results into data sheets, as was done previously.

4) The tense of the language used in the documents was updated to reflect that the program is currently in progress, rather than in development for the future.

No material changes in terms of carbon, applicability conditions or silviculture management were made to the documentation.

All documents can be downloaded via: http://www.planvivo.org/projects/registeredprojects/communitree-carbon/

Testing sustainable forest products

In 2014 Taking Root set up a pilot forest products processing facility and began testing out the processes for making two new products: green charcoal and a furniture. The idea of cutting down trees as a way to promote reforestation might sound a little contradictory. Yet, by only purchasing trees from smallholders who selectively harvest forest products within a framework that promotes massive reforestation creates a positive price signal that further incentivizes farmers to keep trees on their farms. Therefore, Taking Root is creating additional financial incentives for farmers to keep trees on their farms by buying trees from the smallholders, building a forest products processing facility, and creating a market for their trees.

Above: Taking Root's carpenter creates a children's bed using the sustainably harvested boards processed in the pilot sawmill at the Limay office.

In the case of Taking Root, the sale of *ex-ante* carbon offsets from our program provides the organization with money to pay farmers over a 10-year period. However, because these payments are for a finite time period, new long-term incentives are required so that every hectare of forested land provides its opportunity cost (i.e. the forested land provides at least the same amount of benefits as the alternative land-use option available).

The objectives of the pilot forest products processing facility are: 1) serve as a demonstration site for the community, showing that there is a market for sustainably grown trees; and 2) gain experience in developing forest product markets and progressively reach the scale required for the hundreds of thousands of trees planted every year. In the upcoming few years, these plantations will require thinnings, providing farmers with small diameter trees. Taking Root needs to be ready to process this wood into value added products. Since last February, the team has been doing exactly this, and the tiny facility can't keep up with demand.

Read more here: http://www.takingroot.org/2014/04/building-a-sawmill-where-there-are-no-trees/

Furniture exposition

Taking Root staff recently participated in a small and medium sized enterprise (SME) furniture exposition, showcasing some of the furniture and crafts made from smallholder-grown small-diameter wood (pictured to the right). Taking Root has been invited to another workshop next year in Germany through the German International Development Agency (GIZ).

Taking Root paper published in Energy for Sustainable Development journal

A paper by Taking Root's Executive Director, Kahlil Baker, was recently published in *Energy for Sustainable Development, The Journal of the International Energy Initiative*. Entitled "The use of fuelwood market segmentation and product differentiation to assess opportunities and value: A Nicaraguan case study," the paper was written as part of Baker's PHD research at the University of British Columbia. The study's findings on the forest product markets in Nicaragua are directly applicable to the CommuniTree Carbon Program, as the program leads the way in making sustainable forestry a viable land use option.

The objective of the paper is to evaluate the role of market segmentation and product differentiation within the fuelwood industry and how it affects both market opportunities and value. This is illustrated using a case study of the largest fuelwood consuming cottage industry in the department of Madríz, Nicaragua, where part of the CommuniTree Carbon Program is now located.

This study highlights the existence of product differentiation within the fuelwood market and the potential of identifying niche markets to help fuelwood producers increase their income. Although traditionally assumed to be a commodity, different fuelwood consumers value different characteristics and attributes in fuelwood and are willing to pay different prices based on this differentiation. Taking this into account is important for determining market value. The study concludes that such considerations should be considered when evaluating market opportunities and value within fuelwood markets, particularly in a developing country context.

Such research is also very valuable on a global level, furthering our ability to apply agroforestry within local development projects and climate change mitigation worldwide.

View a summary of the paper via: http://www.sciencedirect.com/science/article/pii/S0973082613000884

Technological developments

Measuring socio-economic impacts

The benefits of a carbon program go far beyond its carbon impact. Thus, being able to quantify and report on a program's socio-economic impact gives these important indicators real, measurable value. With this in mind, Taking Root has recently integrated many detailed socio-economic impact indicators into its Smallholder Carbon Project Information Management System (SCPIMS). This now allows the team to quantify many of the additional benefits of the program that were previously identified, but which weren't clearly supported with hard numbers. This evidence is increasingly in demand by the industry, and this advancement with the SCPIMS further positions Taking Root as a leader in this field.

These socio-economic impact indicators also allow Taking Root to be more aware of indicators that were previously untracked, allowing for improvement. For example, the program's gender impact is now an area that can be measured and further developed going forward because there is a reference point against which to compare.

The task of creating an impact indicator reporting system with the SCPIMS has three main benefits: 1) stakeholders place much value in this information, thus this technology allows these benefits to be quantified and valued; 2) reporting progress and impact indicators are now automated, saving much time for the team moving forward; and 3) Taking Root hopes to eventually make this technology available to other project developers who work with smallholders, increasing the overall value of their work.

A sample impact indicator report can be downloaded here:
http://www.takingroot.org/wp-content/uploads/impact_indicators/Project_contribution_example.pdf

New SCPIMS automated reporting tool used for Plan Vivo Annual Report

With the automation of report generation, Taking Root can now easily produce the tables required for the Plan Vivo Annual Report, including the tables included in this 2013-2014 report. This advancement to the SCPIMS ensures the reliability of the data and allows for huge timesavings in creating these tables going forward.

Jiffy Pellet pilot project findings

The Jiffy Pellet pilot project that was started in 2013 is now wrapping up. The most significant findings, however, were that the Jiffy Pellets that were tested unfortunately did not retain enough moisture to keep seedlings alive throughout the dry season. This resulted in the mortality of all the 1,000 seedlings tested.

The pilot project was conducted as part of a Montreal graduate student's master's thesis, which evaluated the costs of switching to the Jiffy Pellet technology in terms of material costs, labour distribution, and climate impact from purchase to planting. Taking Root recognizes that this particular method is not suitable for its program, so continues to look at ways to improve the nurseries and their economic and climate impacts.

Expanding the CommuniTree approach

Taking Root has recently begun providing consulting services to Catholic Relief Services (CRS), the official international humanitarian agency of the Catholic community in the United States. Taking Root staff members in Montreal and Nicaragua are supporting CRS in establishing forest carbon programs under the CommuniTree model in Guatemala and new locations in Nicaragua. This includes providing the Technical Specifications and Project Design Documents, as well as licencing the SCPIMS. Learn more about CRS: http://crs.org

This consulting work, while indirectly related to the CommuniTree Carbon Program, helps further Taking Root's mission by increasing the presence of community-based reforestation activities in other areas. The organization's goal with this work is to spread its successful program model and provide the SCPIMS as an essential tool for other project developers.

Cost-sharing partnership with ICCO

Taking Root is pleased to have developed a cost-sharing partnership with the interchurch organization for development cooperation (ICCO), based in the Netherlands. With ICCO's support, Taking Root can share more of the program costs with APRODEIN, its operational partner in Nicaragua, improving the financial sustainability of the CommuniTree Carbon Program. Learn more about ICCO: http://www.icco-international.com/int

Organizational developments

Changes to Board of Directors

In August 2014, Taking Root recruited two new board members to its Board of Directors, with the aim of expanding its Canadian Business Development and garnering academic support for the organization from Canadian institutions. Taking Root welcomes Nicole Lefebvre, MBA, a business development, marketing strategy, and management consultant and entrepreneur with a passion for ethical and ecological initiatives. The organization also welcomes Jérôme Dupras, PhD, a professor at the Université du Québec à Outaouais, and a musician with Les Cowboys Fringants, a popular rock music group within Quebec, Canada.

Read their full bios here: http://www.takingroot.org/about-us/board-of-directors/

Key challenges

Facing unusual drought in the region

This year, the Americas were severely hit by one of the worst droughts in recent history, devastating agricultural crops for farmers from California to Brazil. Understandably, this has also created a challenge for the CommuniTree Carbon Program.

Above left: Smallholder Eriberta Matute Martinez, of el Guaylo community, watering his nursery. Above right: Smallholder Bernarda Meneses and her family help plant seedlings on the farm of smallholder Maura Hurtado, in the community of Mateares.

A delayed and irregular rainy season in northern Nicaragua postponed most of the planting until late July. Severe drought in May and June led to the loss of many of the small seedlings planted and a generally delayed planting season. This resulted in monitoring results that were below expectations (see Section 6 for details). As usual, all mortality is being replanted, ensuring that the program reaches 100% of the planted area.

Agricultural crops are very vulnerable to unexpected drought and floods, and this year's unusually late and unpredictable rainy season were very devastating for farmers in Limay. Fortunately, the CommuniTree Carbon Program ensures an alternate source of income for smallholders that is countercyclical to the agricultural season, helping to minimize the financial impact of crop loss.

Once tree plantations are established, such as those planted in previous years, the trees quickly become very resilient to irregular weather patterns. Under the care of the farmers, they will continue to thrive, ensuring a stable income for smallholders for an entire decade in the form of ecosystem service payments. As the different tree species reach maturity, smallholders can selectively harvest them at any time of year, providing employment and income when it is most needed.

Future developments

Further development of forest processing facility

In the coming year, Taking Root will continue the development of its forest processing facility. It aims to produce green charcoal on a larger scale, and prepare its facility to handle larger volumes of small diameter wood coming from the plantation thinnings.


Above left: Taking Root staff produces green charcoal with a low-tech oven. Above right: Operations Director, Elvin Castellon, tests out the pilot sawmill.

This work will further minimize the local perception that trees have no value, thus encouraging more smallholders to grow trees on their farms. Additionally, this will create purpose for the smaller trees that must be thinned out as part of the CommuniTree Program in order to allow for the stand to grow bigger. These small trees typically have no market value, so by creating this demonstration site to show the community that this can be done, the program has added value to these small trees. With this experience, the Taking Root team will be better equipped to process, market and sell increasing volumes of wood to local markets.

3. Activities, total program size and participation

Current land-use activities

Taking Root continues to implement the Mixed Species Forest Plantation, Boundary Planting and Silvopastoral Planting technical specifications. All technical specifications can be downloaded via the Plan Vivo website: http://www.planvivo.org/projects/registeredprojects/communitree-carbon/

Mixed Species Forest Plantation

Land-use activities for 2014 vintage focused mainly on the Mixed Species Forest Plantation. This technical specification involves planting and intensively managing multi-purposed mixed species forest plantations on participating smallholders' land. All of the species selected are native to the region and are chosen in consultation with local smallholder groups and professional foresters.

Boundary Planting

This technical specification was added in 2011 as a pilot project and has since been successful. Otherwise known as living fences, boundary planting is a way of introducing a variety of tree species along a property line in order to replace fencing over time, as opposed to building and maintaining fences made of timber. While sequestering carbon dioxide, this system helps diversify income, build long-lasting fences, and produce highly prized lumber in the long run.

Silvopastoral Planting

Added in 2012, the Silvopastoral technical specification acknowledges the need for cattle pastures by integrating trees and improved pasture with livestock. The trees improve pasture productivity, provide shade, and produce timber, forage and fruit products for the farmers. The short rotation nitrogen-fixing species is harvested at a young age, providing building posts while fertilizing the soil. This silvopastoral planting design sequesters carbon dioxide, provides ecosystem services in the short run, and sustainably-produced highly prized timber in the long run. Additionally, the system helps improve the pasture below the trees and adds biomass to the soil.

Total participation and program size

Table 2: Summary of total participation and program size to date (all vintages)

Total smallholders with registered PES agreements	280 smallholders	
Total area reforested	866.03 ha eq.*	
Technical specifications used	**Area covered**	**Equivalent hectares***
Mixed Species Forest Plantation (original)	100.92 ha	100.92 ha eq.
Boundary Planting (original)	34.80 km	28.54 ha eq.
Mixed Species Forest Plantation	514.52 ha	520.43 ha eq.
Boundary Planting	130.22 km	94.40 ha eq.
Silvopastoral Planting	187.96 ha	121.73 ha eq.

**The equivalent hectares (ha eq.) have been calculated based on the tCO_2e sequestered in the original Mixed Species Forest Plantation technical specification. See Appendix 1 for more details.*

4. Submission for Plan Vivo Certificate Issuance

Recruitment of new smallholders

Due to the expansion into the new municipality of Somoto, there was no challenge recruiting new producers to join the program, and there is a great deal of land that has the potential to be reforested.

Community technicians successfully recruited new participants from 17 new communities to meet current demand for Plan Vivo Certificates, bringing the project to a total of 59 participating communities. The following is a list of the 17 new communities:

1. Aguas Calientes
2. El Capulin
3. Casco Urbano (Somoto)
4. Cuatro Esquinas
5. El Cascabel
6. El Guayabo
7. El Limon (Somoto)
8. La Naranjo
9. El Pegon
10. Hermanos Martinez
11. La Carbonera
12. Las Chacaras
13. Los Cedros
14. Los Chapetones
15. Los Colorados
16. Motuse
17. Santa Rosa

Land changes

In 2014, 19.89 net ha eq. (or 5,893 tCO_2) from previous years was lost, and 5 producers from previous years left the program completely. The following are the main causes:

1. Smallholders leaving the program for economic or migration reasons (e.g.. to work in another country);
2. Smallholders abandoning or moving areas because the soil composition is insufficient for adequate tree growth (soil is too dry or too wet); and
3. Smallholders finding it economically advantageous to change technical specifications (e.g. a smallholder found that the boundary planting method would be better for his overall farm management system than silvopastoral).

Appendix 2 provides complete details on land changes in 2014.

Program sales and allocations

Table 3: Program CO_2 sales and allocations for the 2014 vintage

Total volume of CO_2 forward sold	65,941 tCO_2
Total sales for vintage to date	
Average certificate price	
% of sale price to reach communities as PES	60%
Price to community fund per offset	
Number of smallholders allocated to buyers	62
Total area represented by Certificates requested	222.55 ha eq.
Technical specifications applied	Mixed Species Forest Plantation Boundary Planting Silvopastoral Planting

5. Sale of Plan Vivo Certificates

Carbon sales

The following table summarizes the distribution of Plan Vivo Certificates sold to date by vintage. For a detailed list of carbon sales to date, see Appendix 3.

Table 4: Summary of carbon sales to date

Vintage	Certificates purchased	Average certificate price (USD)	Total received (USD)
2010	12,342		
2011	33,684		
2012	66,207		
2013	78,430		
2014	65,941		
TOTAL	**256,604**		

6. Monitoring Results

Summary of 2014 results for 2014 plan vivos

In July-October 2014 Taking Root conducted 2014 monitoring of all new plan vivos (2014 vintage). Table 5 below is a summary of these 2014 results. A detailed monitoring report is available in Appendix 4, appended to this document.

Table 5: Summary of 2014 monitoring results for 2014 plan vivos

Vintage	2014
Area of land meeting monitoring targets (ha eq.)	186.19
Area monitored (ha eq.)	240.49
Percentage of monitored land meeting monitoring targets	77%
Area not monitored in time for report (ha eq.)	1.95

Summary of 2013 results for 2010-2012 plan vivos

Due to the continuous growth of the CommuniTree Carbon Program, the amount of time required to monitor 10% of every parcel planted has greatly increased. For this reason, Taking Root's 2013 Annual Report included only monitoring results for new plan vivos at that time (2013 vintage). The monitoring results for 2010-2013 were recorded in late 2013 and are now reported below. A detailed monitoring report is available in Appendix 4, appended to this document.

The 2010 monitoring are low for the following reason: the results are based on basal area per hectare as opposed to all other years that are based on trees planted per hectare. Events from previous years resulted in high mortality in land planted in 2010. While these areas have been fully reforested, growth is slightly delayed resulting in low monitoring success rates for that year.

Table 6: Summary of 2013 monitoring results for 2010-2012 plan vivos

Vintage	2010	2011	2012
Area of land meeting monitoring targets (ha eq.)	8.78	99.33	200.6
Area monitored (ha eq.)	24.32	103.95	229.00
Percentage of land meeting monitoring targets	36%	96%	88%
Area not monitored in time for report (ha eq.)	-	1.20	1.50

Addressing unsuccessful monitoring results

2014 monitoring results are below expectations; however, considering the area experienced the worst drought in recent history, Taking Root is pleased with the incredible dedication of its team to achieve a relatively high success rate. In addition, efforts have been put in place to improve operations and management so as to increase producer knowledge and support. As always, every failed monitoring result will either be replanted or replaced at Taking Root's expense. The outcome of these efforts will be verified in the coming months and reported in the next report.

7. PES update

Total payments for ecosystem services made

Table 7 below provides a summary of the payments for ecosystem services (PES) made to date. These figures have been updated since the previous report to reflect land changes for previous vintages in 2014. Details PES are found in Appendix 5, appended to this document.

Table 7: PES summary – total payments made

Payment year	PES paid (USD)
2010	$1,226.59
2011	$9,199.84
2012	$57,248.27
2013	$103,366.94
2014	$86,499.03
TOTAL	**$257,540.68**

Total advance payments made

In the first year of planting, Taking Root provides all new smallholders with additional advance payments for planting needs. These payments are deducted from future payments at a rate that mirrors the PES schedule. (See section 11.3 of Technical Specification – Mixed Species Forest Plantation for the complete PES schedule.) The following table summarizes advance payments to date, updated to reflect any land changes from previous vintages in 2014.

Table 8: Smallholder advance payments for program establishment and material

Vintage (calendar year)	Advance payments (USD)
2010	$3,792.78
2011	$19,417.20
2012	$44,282.47
2013	$52,751.26
2014 (1 Jan. – 30 Sept.)	$32,254.63
TOTAL	**$152,498.34**

Other payments to the community

Other costs covered by the community fund to date include nursery expenses, fuel-efficient cookstoves, and grafted fruit trees.

Table 9: Other payments to the community to date

Vintage (calendar year)	Other payments made (USD)
2010	n/a
2011	$14,220.82
2012	$33,288.19
2013	$44,290.74
2014 (1 Jan. – 30 Sept.)	$30,996.00
TOTAL	**$122,795.75**

8. Ongoing community participation

Increasing community understanding

Alongside existing community participation methods (such as planting manuals, community consultation, community-led training, etc.), Taking Root has conducted technician training to help the Nicaragua team better communicate three key points about the program to smallholders. The aim is to help technicians better inform the community. The key points relate to: source of program financing, the link between the program and climate change, and the idea of developing a future market for forest products.

To ensure the information is being conveyed properly, smallholders are later asked to answer questions about these three topics to see if they understood. As technicians are responsible for specific smallholders, this test allows the operations officer to evaluate the success of each technician's communications.

Producer exchange workshops

With the expansion of the CommuniTree Carbon Program, the team took advantage of the knowledge and outcomes of participating producers from Limay and conducted producer exchange workshops for new participants in Somoto. Limay producers came to Somoto to explain the project in their own words, and some producers from Somoto went to Limay to see how the program worked firsthand. This was very successful.

Community education workshops

Above left: A workshop in the community of Comayagua demonstrates the best practices for pruning to program participants. Above right: A workshop led by Taking Root's community technician Leonardo Silva Pino in the community of El Morcillo explains the local environmental laws to program participants.

To support the new families joining the project, Taking Root staff has hosted quite a number of information sessions to explain the various activities taking place throughout the year. This was a great opportunity for the farmers to meet one another and learn important details about starting their nurseries and preparing their land. Workshop themes included pruning and clearing around trees, information on the local environmental laws, and more.

Presenting the local forest law

The National Forest Development Fund of Nicaragua (FONADEFO), a local funder of the CommuniTree Program, requested the implementation of community workshops specifically on the local forest laws. These workshops are led by Taking Root staff, Leonardo Silva Pino, who is an excellent teacher and public speaker. He speaks with the

community about the forest laws using a popular-education approach, relating to the farmers on a personal level. This approach makes these often complex laws much more tangible for farmers, and has made the workshops very successful.

Reoccurring participation methods

Taking Root continues to use the following methods to communicate with community participants throughout the year:

Planting manuals

Taking Root uses planting manuals, which serve as a valuable resource for technicians and smallholders.

Community consultation

On an annual basis, technicians meet with leaders and community members within each new community to present the program and its many benefits. The technicians are able to address any concerns that the community may have, and gain their trust.

Community-led training

During planting, technicians work closely with farmers to make sure that they understand the procedures and, when the technicians are confident in the participants, they move to the next group. As a consequence, the community members involved in the training and reforestation activities are themselves equipped with the knowledge and experience required to train other program participants, creating an 'exponential training curve'.

Radio announcements

Announcements on the public radio are made informing the region about the importance of reforestation and the locally available program.

9. Breakdown of organizational costs

Organizational expenses and revenue

The following table provides an overview of all organizational and operational expenses and revenue in Canadian Dollars from 1 October 2013 – 30 September 2014. This includes both Canadian and Nicaraguan teams.

Table 10: Organizational expenses and revenue in CAD for reporting period

	1 Oct - 31 Dec 2013	1 Jan-30 Sept 2014	Reporting period total
Revenue			
Carbon offset sales (trees and offsets)			
Other (consulting, other services, operations revenue)			
Grants			
Total revenue			
Expenses			
Human resources (Canada & APRODEIN)			
Transport & vehicles			
Administration			
Operations			
Community Fund			
Marketing/Sales			
Financial fees*			
Total Expenses			
Net income			

** This includes USD/CAD exchange rate fluctuations.*

Appendix 1: Equivalent hectare calculation

"Equivalent hectares" involves using the tonnes CO_2 sequestered per hectare of the original Mixed Species Forest Plantation technical specification as the base unit in order to compare across the other specifications. The following table explains the equivalents per specification compared to the base unit.

Table 11: Equivalent hectares per technical specifications

Technical specification	Tonnes CO_2 sequestered per unit	Equivalent hectares per tonnage
Mixed Species Forest Plantation (original)	296.3 t/ha	1 ha = 1 ha eq.
Boundary Planting (original)	243.0 t/km	1 km = 0.82 ha eq.
Mixed Species Forest Plantation	299.7 t/ha	1 ha = 1.01 ha eq.
Boundary Planting	214.8 t/km	1 km = 0.72 ha eq.
Silvopastoral	191.9 t/ha	1 ha = 0.65 ha eq.

Appendix 2: Land changes in 2014

The following table details land changes (losses and gains) in 2014 of previous vintages, listed by parcel. Note that 5 unique producers are no longer in the program, which is indicated by ".99" at the end of their Plan Vivo numbers. 2014 certificates were allocated to make up for the net loss. Areas marked as a negative indicate gained land. *NOTE: Due to rounding in the table below, the data does not add up to the total ha. eq., varying by about 0.14 ha eq.*

Table 12: Losses from previous vintages replaced in 2014

PV Number	Vintage	Full Name	Cause of change / loss	Parcel Number	Tech Spec	Original area (ha eq.)*	Change in area (ha eq.)*	Area remaining (ha eq.)*	Original tCO_2 of parcel	Change in tCO_2	Remaining tCO_2
10.1.005.99	2010		Removed in May 2014 because of unproductivity	10.1.005. 10.1.01	Mixed Species	0.87	0.87	0.00	258	258	0
10.1.005.99	2010		Removed in May 2014 because of unproductivity	10.1.005. 10.1.02	Mixed Species	0.63	0.63	0.00	187	187	0
10.1.003.99	2010		Removed in May 2014 because of unproductivity	10.1.003. 10.1.01	Mixed Species	3.40	3.40	0.00	1007	1007	0
10.1.004.99	2010		Removed in May 2014 because of unproductivity	10.1.004. 10.1.01	Mixed Species	0.89	0.89	0.00	265	265	0
10.1.015	2010		Upward revision of area in Oct 2014	10.1.015. 10.1.01	Mixed Species	1.08	-0.37	1.44	319	-109	428
10.1.015	2010		Removed in May 2014 because of unproductivity	10.1.015. 10.1.02	Mixed Species	1.59	1.59	0.00	471	471	0
10.1.015	2011		Removed in May 2014 because of unproductivity	10.1.015. 11.1.01	Mixed Species	0.65	0.65	0.00	193	193	0
11.1.006	2011		Area was merged with 11.1.006.11.1.01	11.1.006. 11.1.01	Mixed Species	0.96	-0.09	1.05	284	-26	310
11.1.006	2011		Area was merged with 11.1.006.11.1.02 in Oct 2014	11.1.006. 11.1.02	Mixed Species	0.06	0.06	0.00	18	18	0
11.1.023	2011		Area revised in Oct 2014	11.1.023. 11.1.01	Mixed Species	1.19	0.68	0.51	353	201	151
11.1.042.99	2011			11.1.042. 11.1.01	Mixed Species	1.18	1.18	1.18	0.00	350	350

PV Number	Vintage	Full Name	Cause of change / loss	Parcel Number	Tech Spec	Original area (ha eq.)*	Change in area (ha eq.)*	Area remaining (ha eq.)*	Original tCO_2 of parcel	Change in tCO_2	Remaining tCO_2
11.1.047	2011		Removed in Oct 2014	11.1.047. 11.2.01	Boundary Planting (original)	0.31	0.31	0.00	92	92	0
11.1.047	2011		Removed in Oct 2014	11.1.047. 11.2.02	Boundary Planting (original)	0.22	0.22	0.00	66	66	0
11.1.047	2011		Removed in Oct 2014	11.1.047. 11.2.03	Boundary Planting (original)	0.46	0.46	0.00	136	136	0
12.1.051	2012		Upward revision of area in January 2014	12.1.051. 12.4.01	Mixed Species	6.00	-0.51	6.50	1777	-150	1927
12.1.009	2012		Adjusted land area in Oct 2014	12.1.009. 12.4.01	Mixed Species	1.04	0.16	0.88	309	48	261
13.1.021.99	2013		Producer Removed in Oct 2014. Leaving Project	13.1.021. 13.3.01	Silvopastoral	5.06	5.06	0.00	1500	1500	0
13.1.028	2013		Removed Oct 2014. Too small for project. Under .1 Hectares	13.1.028. 13.4.01	Mixed Species	0.06	0.06	0.00	17	17	0
13.1.089	2013		This parcel was lost in a fire in May 2014	13.1.089. 13.4.01	Mixed Species	2.38	1.72	0.66	704	509	195
13.1.021.99	2013		Producer Removed in Oct 2014. Leaving Project	13.1.021. 13.5.04	Boundary Planting	0.10	0.10	0.00	30	30	0
13.1.021.99	2013		Producer Removed in Oct 2014. Leaving Project	13.1.021. 13.5.02	Boundary Planting	0.13	0.13	0.00	38	38	0
13.1.021.99	2013		Producer Removed in Oct 2014. Leaving Project	13.1.021. 13.5.03	Boundary Planting	0.22	0.22	0.00	64	64	0
13.1.021.99	2013		Producer Removed in Oct 2014. Leaving Project	13.1.021. 13.5.01	Boundary Planting	0.09	0.09	0.00	27	27	0
13.1.021.99	2013		Producer Removed in Oct 2014. Leaving Project	13.1.021. 13.4.01	Mixed Species	2.51	2.51	0.00	744	744	0
Total land changes in 2014							**19.89 ha eq.**				**5,893 tCO_2**

Appendix 3: Detailed carbon sales to date

The following table provides a detailed list of Plan Vivo Certificates sold to date by vintage.

Table 13: Carbon sales to date

Vintage	Name of purchaser	Certificates purchased	Price/certificate (USD)	Total received (USD)
2010	C-Level	650		
2010	Carbon Advice Group	95		
2010	Carbon Finance Intel	50		
2010	Prima Klima	11,009		
2010	Taking Root	538		
2010	**TOTAL**	**12,342**		
2011	C-Level	850		
2011	C-Level	1,350		
2011	MyClimate	3,000		
2011	Prima Klima	20,950		
2011	Prima Klima	5,300		
2011	Taking Root	1,234		
2011	ZeroMission	1,000		
2011	**TOTAL**	**33,684**		
2012	C-Level	1,400		
2012	COTAP	359		
2012	MyClimate	10,000		
2012	Prima Klima	30,000		
2012	Taking Root	549		
2012	ZeroMission	20,000		
2012	ZeroMission	3,899		
2012	**TOTAL**	**66,207**		
2013	C-Level	1,500		
2013	CeroCO2	414		
2013	COTAP	457		
2013	COTAP	158		

Vintage	Name of purchaser	Certificates purchased	Price/certificate (USD)	Total received (USD)
2013	MyClimate	13,000		
2013	Prima Klima	21,181		
2013	Taking Root	1,324		
2013	Tree-Nation	609		
2013	Tree-Nation	170		
2013	Tree-Nation	111		
2013	Tree-Nation	230		
2013	Tree-Nation	91		
2013	ZeroMission	32,000		
2013	ZeroMission	4,979		
2013	ZeroMission	2,207		
2013	**TOTAL**	**78,430**		
2014	C-Level	1,000		
2014	COTAP	460		
2014	MyClimate	10,000		
2014	Prima Klima	5,000		
2014	Taking Root (Inventory)	23,936		
2014	Taking Root (Retail)	545		
2014	ZeroMission	25,000		
2014	**TOTAL**	**65,941**		
All years	**GRAND TOTAL**	**256,604**		

ENRACINE TAKING ROOT

About Taking Root

Taking Root is a non-profit organization based in Montreal (Canada) that develops social reforestation projects in collaboration with small-scale farmers in Nicaragua. Its activities are funded through the sale of third-party verified carbon offsets to businesses and individuals around the world. Founded in 2007, Taking Root's mission is to use reforestation as a tool to restore ecosystems, improve livelihoods, and tackle climate change. It follows the Plan Vivo standard, a holistic reforestation framework that emphasizes community participation, using native tree species and protecting critical watersheds.

Contact us

Taking Root / EnRacine
6863 rue St-Hubert, # 208
Montreal QC
Canada H2S 2M7
T +1 514 358-8478
E info@takingroot.org
W www.takingroot.org