Darwin Initiative Main and Post Project Annual Report

Darwin Project Information

Project reference	24 025
Project title	Community reforestation for biodiversity, livelihood diversification and culture
Host country/ies	East Timor (Timor-Leste)
Lead organisation	Charles Sturt University
Partner institution(s)	Group Training Northern Territory
	World Vision Timor-Leste
	RAEBIA
	Australian Landcare International
Darwin grant value	£309,182
Start/end dates of project	1 July 2017 to 30 March 2021
Reporting period (e.g., Apr 2018 – Mar 2019) and number (e.g., Annual Report 1, 2, 3)	1 May 2018 to 30 April 2019 Annual Report 2
Project Leader name	Joanne Millar
Project website/blog/Twitter	https://communityreforestationtimorleste.wordpress.com/
Report author(s) and date	Joanne Millar, Jorge Ramos, Alexandre Sarmento 23 May 2019

1. Project rationale

The project is addressing forest decline, biodiversity loss, land degradation and agricultural livelihoods in Laclubar and Soibada administrative-posts of Manatuto municipality in Timor-Leste (T-L), one of the poorest countries in Southeast Asia (T-L NAPA, 2010). Household income is less than US$1,000 per year or $2.70 per day (Baseline survey 2017). Income is mainly from coffee, palm wine, forest products and labouring so farmers are looking for more options to diversify income to fund children's education, better housing, investment in agriculture and cultural commitments (Baseline survey 2017). Forest decline in Manatuto municipality is affecting populations of endangered species of birds such the Timor Imperial Pigeon (Ducula cineracea) and the Wetar Ground-Dove (Alopecoenas hoedtii) (Birdlife International, 2015). No biodiversity surveys have previously been undertaken in the project area. Community awareness and indigenous knowledge of birds and reptiles is evident but has not been formally researched. The project is facilitating an increase in community led reforestation started in 2011 by Skillset and later on in 2013 by project partner GTNT. The aim is to integrate agroforestry, farmer managed natural regeneration (FMNR), biodiversity conservation and carbon payments through an internationally recognised carbon accreditation scheme. Indigenous knowledge and Timorese customary law (Tara Bandu) will guide project activities to ensure alignment with community values and goals.

Map of Timor-Leste and Manatuto municipality	Location of Laclubar and Soibada in

National Adaptation Programme of Action (NAPA) on Climate Change, (2010). Ministry for Economy and Development and Secretary of State for the Environment.
BirdIife International (2015): http://www.birdlife.org/datazone/species/factsheet/22691794

2.   Project partnerships

The major project partner is Group Training Northern Territory (GTNT) who are responsible for project implementation, and liaison with the local communities and government departments in Timor-Leste. The CSU team comprising the project leader, forest research officer, and social researcher has continued to work closely with the GTNT team in Darwin and Timorese Project Manager based in Dili. We communicate via WhatsApp in a group known as the DI Team, and via email. Skype and phone meetings take place as needed (average once a month). Jorge Ramos, forest research officer made two trips to Timor-Leste in April and September 2018 to facilitate data collection for carbon accreditation. He spent 6 weeks in the field with project staff and had meetings in Dili with government representatives. Joanne Millar and Jennifer Bond spent 2 weeks in country in Sept/October 2018 conducting indepth interviews with farmers.

The annual project meeting was held in Dili from 24-25 September 2018. All partner organisations were present including World Vision TL, RAEBIA (Resilient Agriculture and Economy through Biodiversity in Action), Conservation International, district foresters, and Government Department heads. The representatives engaged in presenting project results, discussing challenges and planning for 2019 (see Annex 4.1 for participant list and meeting notes).

A major development has been the launch of Carbon Offsets Timor-Leste (COTI) by GTNT as an official NGO based in Dili (see https://www.facebook.com/COTI01). The aim of COTI is to scale out reforestation and facilitate carbon credits beyond the Darwin project. A conference was held on January 28th on Community Forest Carbon in Timor-Leste to coincide with the launch. (https://wordpress.com/post/communityreforestationtimorleste.wordpress.com/289). An MOU was signed between the Ministry of Environment and COTI on 25 April 2019.

A current challenge is finding biodiversity research expertise to assist with a more comprehensive fauna survey in the project area. Conservation International (TL) kindly assisted with the first survey in 2018 after the CSU ecologist was unable to travel back to Timor-Leste. However, they do not have the capacity or time to provide further assistance as they are training government staff in biodiversity survey techniques. We have contacted a senior ecologist at the Northern Territory Department of Environment in Darwin who is willing to provide pro-bono advice and on-ground guidance for project field staff to do another survey in November 2019. This partnership may have benefits for long term co-operation between ecology researchers in northern Australia and Timor-Leste where landscapes and vegetation are similar.

3.   Project progress

3.1   Progress in carrying out project Activities

Activities implemented over the last 12 months have focused mainly on Output 1 (Expansion of tree plantations and agroforestry development), Output 3 (Forest carbon certification), Output 4 (Biodiversity research and education) and Output 5 (Livelihood impacts).

1. Expansion of tree plantations and agroforestry development

Activities 1.1/1.2. 140 households (including150 locations) in Soibada and Laclubar signed land ownership declaration forms this year. The forms were endorsed and approved by local authorities and their neighbours testified to the declarations. This is to ensure that there is no potential land ownership conflict particularly in the sites where trees are planted for carbon sequestration. In cases where farmers plant trees but do not own the land, the farmers signed a different form as an agreement between land owners and tree planting farmers. In addition, farmers were trained in how to develop land use maps for each of their plantation sites (see below). Tara Bandu law is continuing from the previous Skillset project. The aim of Tara Bandu is to prohibit animal grazing and sporadic burning of lands. If someone breaches the law, they are fined based on a common agreement reached between land owner and violator and village head.

Activities 1.3-1.5. Eighty households registered their interest in November for planting trees in the 2018-19 season. Twenty four household nurseries grew 50,000 seedlings last year but some died or were too small to plant this year. Four new households started nurseries. On 27th September 2018 before the planting season started, 36 farmers attended a field day organised by Jorge Ramos and the five field staff at the farm of Mr. Peregrino da Cruz. A satellite landscape map showing their tree plantation sites created great interest. Farmers were then divided into small groups and asked to identify eroded areas and where forest fires were more frequent. They also identified remnants of native trees and communal areas that could be planted with trees on laminated maps. Following the group discussion, farmers were asked to rank the forest products and tree species that were most important. They identified Ai-Ru (*E. urophylla*) as key for firewood, construction, processing of palm wine, honey and fencing. They thought Ai-Ru could have potential for planting and habitat. Bamboo was mentioned as one of the species they would like to increase. Sandalwood is also preferred for its high value but is difficult to grow.

The second activity was an exercise in farm planning (land use mapping) as a key component of the carbon certification process. Farmers were given an example of how to sketch their sites (based on printed digital maps the project has produced) and asked how they would like to manage their farms in the present and in the future (egg replant trees or plant crops, establish agroforestry systems or leave the area unused). The activity also gave an indication of potential "project leakage" (i.e. transfer of activities from planting sites to other areas). This is relevant to areas where there are remnants of native trees and opportunities to link vegetation corridors for habitat conservation.

The third activity reinforced tree planting techniques. Farmers were shown the use of "A" frames to improve contour planting in steep slopes. This activity also included a basic exercise on soil Ph tests to improve matching of sites and species and tree survival. During the activity the use of composting, swells and mulch to encourage tree growth and better crop yields were discussed.

During the 2018-19 wet season (December 2018- March 2019), 80 households at Laclubar and Soibada planted 47,000 seedlings of mahogany, casuarina, white teak and sandalwood in 35 existing sites and 46 new sites (total plantation sites is now 136). The total area planted this year has increased by 20 ha or 30% (from 54ha to 74ha). The number of households with tree plantations has increased from 66 to 100 (increase of 34 households or 51%). The survival rate from 2018 plantings is estimated at 85%, a marked improvement on previous years (30-60% survival).

Of the area planted, 30ha are managed as agroforestry systems with food crops and fruit trees grown amongst the timber species. Since the conservation farming training held last year, 50% of farmers have adopted mulching of trees and crops. Terracing is used in food crops but not for timber plantations.

Photos from the farmer training held in September 2018.

2. Establishment of farmer managed natural regeneration (FMNR) in degraded areas

Activities 2.1-2.3 All FMNR training activities were completed in Year 1.

Activities 2.2-2.4. Following the farmer visit to Aileu in December 2017, four farmers elected to trial FMNR techniques on their land. The areas were mapped by the field team in June 2018, ranging from 0.4 ha to 3 ha (total of 5 ha). The sites are different in tree composition with one located in a drier, windier part of the project area where the dominant species is *Eucalyptus alba* (local name is Ai-Bubur). The other 3 sites are located in more humid areas where the dominant species is *Eucalyptus urophylla* (local name is Ai-Ru). They typically harvest the most defective stems (i.e. less straight) for firewood with the remaining stem left standing to be used in the future for construction. One of the farmers (Mr. Martins) mentioned that he allocates at least 1 day per week to managing the site. Other farmers have been less active for lack of time. An issue identified by both farmers is that some neighbours enter their areas to cut their trees and others let animals roam in their sites. They suggested that the local authority (Chef de Suco – Chief of Village) should inform the community of the need to "respect their work and sites". This has been reinforced at community meetings in December 2018 and March 2019. An additional three sites have been added this year but they have not been mapped yet so area unknown. Farmers are keen to host other farmers to show them their work and the benefits of FMNR for tree growth and sustainable harvesting. They pointed out that awareness of FMNR within the community is still needed, although they also mentioned that lack of land, time and interest were limiting factors for not having more farmers practicing FMNR in the project area.

Dry area with *Eucalyptus alba*

Wetter area with *Eucalyptus urophylla*

Peregrino da Cruz demonstrating his pruning technique

Ernesto Martins showing tree coppicing

3. Forest carbon certification

Activities 3.1-3.5. In the last reporting year, the project had to change carbon certifiers from Gold Standard to Plan Vivo. The Gold Standard rules around retrospective plantings changed mid 2018 making our project ineligible. Plan Vivo is geared more to smallholder contexts in developing countries such as East Timor so they agreed to mentor the project through the application process. A Project Idea Note (PIN) was submitted to Plan Vivo in December 2018 and approved in January 2019 to continue with development of the Project Design Document (PDD). The carbon project has been given the name "Halo Verde Timor: Community Forest Carbon". This means "Making Timor Green" in Tetun. The stated goals are similar to the Darwin Fund project viz 1) Reforestation of at least 120 Hectares by 2021 with potential for expansion in area and number of participants and 2) Attain certification of the carbon benefits generated by reforestation activities conducted by farmers, while improving biodiversity in the area and livelihoods of the community.

The PIN document can be accessed at the following location:

www.planvivo.org/docs/Halo-Verde-Timor-Leste-PIN_Published.pdf

A lot of field work has been undertaken in the last year towards data collection for carbon calculations and modelling. Jorge Ramos and Alex Sarmento have guided field staff in refining mapping of 152 plantation sites, identifying eligible areas for baseline estimates, tree survival counting, and tree growth measurements. The Project Design Document is now completed with a carbon baseline scenario and estimate of total benefits for all carbon pools as tCO_2 per year. The PDD will be submitted at end of May and will be available; on request. The next steps are for PV to review the PDD; followed by external auditing in Timor-Leste. The process is expected to take between 4-5 months.

4. Biodiversity information that informs forest management, education and policy

Activities 4.1-4.3. The first biodiversity survey was conducted from May 29th to 4th June 2018 as part of a training program organised by Conservation International for staff of the Department of Protected Areas and our field staff. No animal ethics was required. Three of the tree plantation sites were surveyed for small mammals, reptiles and birds. Methods used included mesh trap, Sherman trap, pitfall traps, visual and bird calls. Four reptile species, 2 mouse species including one not previously described and 24 bird species were identified. All birds found in the survey are classified as of Least Concern (IUCN Red List Categories) except the Black-banded Flycatcher (Ficedula timorensis) classified as Near Threatened and found in Antonio Marubi's farm. This site contains some large remnants of native vegetation. See methods and results attached as Annex 4.2.

See story and photos at
https://wordpress.com/post/communityreforestationtimorleste.wordpress.com/224

A more comprehensive fauna survey is planned for November/December 2019.

Activities 4.4-4.5. Drs Jennifer Bond and Joanne Millar visited the Laclubar Junior High School to show photos of some of the birds and reptiles found in the tree plantations to Class 3 students. We showed them most of the birds found in the survey and all were recognised by the students. The near threatened Black-banded Flycatcher was seen by students but not often. They also identified occasionally seeing the Timor Green Pidgeon which is Endangered species in Timor-Leste but not found in the survey. A data-projector was donated to the school (non-Darwin funds) with several nature documentaries to encourage interest in biodiversity conservation.

See blog story at
https://wordpress.com/post/communityreforestationtimorleste.wordpress.com/263

Development of biodiversity information materials and community workshops will occur once a more comprehensive survey is conducted in late 2019.

5. Livelihoods impacts determined

Activity 5.2 The baseline household survey report was distributed to partners in June 2018 (see report attached as Annex 4.3). The results were presented at the ASAA conference in Sydney in July 2018 (see abstract at Annex 4.6). Some of the findings are being used in a draft journal paper to be submitted to *Forests, Trees and Livelihoods* journal

Activity 5.4-5.6. From 27th September to 1st October 2018, Drs Jennifer Bond and Joanne Millar with the help of two female translators conducted in-depth interviews with 10 households involved in the tree project (including 6 women) and 10 households not in the project (including 8 women). We also interviewed 4 village heads and 5 people involved in community groups. The aim was to understand more about their everyday tasks and priorities, their perspectives on the tree project, involvement in other income generating or community groups and future aspirations. The findings have been used in the Project Design Document, and to develop case studies.

See blog story on at

https://wordpress.com/post/communityreforestationtimorleste.wordpress.com/271

3.2 Progress towards project Outputs

Please note that the logical framework has been revised and changes approved in November 2018. Hence the output indicators mentioned here are from the revised framework not the original framework. Please refer to the Annex 2 and Annex 4.4B attached.

Output 1 Expansion of tree plantations and agroforestry development

1.1: Area Planted. The total target plantation area has been revised down to 120 Hectares (ha) including 20 ha under an agroforestry system by end of Yr 4 (see Annex 4.7 change request form for explanation). The baseline area in 2017 was 41ha, it reached 57ha in 2018 and has increased in the last year by another 20ha so total area is now 74ha (based on accurate GPS/GIS mapping-see Output 3). We anticipate the area will keep increasing by 20ha over the next two years, resulting in close to 120ha by end of Year 4. The area under agroforestry is now 30ha so has surpassed the output indicator of 20ha. Using GPS and GIS methods is reliable for calculating land areas.

1.2: Tree Survival Rate. The 70% tree survival rate indicator has been surpassed with 85% survival achieved after the first year of new planting in 2017. This is verified using the following methods. Each farmer has completed a template table of how many trees have survived according to species and year planted. The data is submitted to the project team for desk review which include checks and verification against the old data base of the previous tree survival counting. If it exceeds the number of trees planted, the area is subject to verification by the project team. In addition, the project team will randomly select 10% of all sites in each village for full counting of trees on selected sites to verify the accuracy of farmers' survival counting. The allowable count discrepancy between farmers and field team for a given site is +/- 5%. If the discrepancy is outside this range then the farmer has to re-count trees together with the field team. This method is the most reliable and will continue to be used for verification of output indicator.

1.3: Number of Households. There are now 100 households participating in tree plantations so the target of 120 households should be reached by end of Year 4. Any further increase will depend on the interest and willingness of new households to participate. Farmer registration and planting records are the best means of verification/

1.4: Changes in income or food security. Any increase in household income or food security from agroforestry products will be determined in the final household survey by end of Year 4.

Output 2 Establishment of farmer managed natural regeneration (FMNR) in degraded areas

2.1: Area under FMNR. Five hectares of land is being managed under FMNR so the target of 15ha is yet to be reached. This will depend on interest of other farmers to adopt the FMNR techniques once they see a benefit. Mapping will continue to measure additional areas.

2.2: This indicator deleted as FMNR does not change forest cover, but may change density which is difficult to measure accurately. To overcome this hurdle, we are conducting tree regeneration counts along transects.

2.3: Change in farmer skills. FMNR farmers will be interviewed in Year 4 to determine changes in farmer's forest management skills and sustainable harvesting. Field observations have shown that all four farmers are carrying out pruning correctly.

Output 3 Forest carbon certification

3.1: Implementation of yearly carbon measurements. Carbon estimates have been made for baseline scenario, retrospective plantings and carbon pool projections to 2040. Two separate sampling campaigns were used to estimate carbon measurements. One for carbon in the baseline; by sampling 64 plots in eligible sites (degraded areas) and another to establish tree growth to date, by sampling 54 plots in planted project sites. In both cases stratified sampling aiming for a 90% probability with a 20% error was applied. We adopted an approved PV methodology and model to estimate carbon benefits of the project. The model, called "SHAMBA" (small-holder agriculture mitigation and baseline assessment) was used to calculate **tCO2/Ha** as an average at year 30 (see Table 1 below). The key inputs in the model were the carbon stock estimated in the baseline and from planted areas; growth rate, tree stocking and wood density extracted from the Global wood density database. Shamba (https://shambatool.wordpress.com/outputs/) uses the RothC model to estimate soil carbon.

Table 1 Carbon modelling results (tCO2/ha)

Intervention type	Net tCO2
Tree plantings	13195
Soil management	4428
Total	17623 (238/ha)

3.2: Project Idea Note (PIN) submitted to Plan Vivo by Dec 2018. PIN submitted in December 2018. Copy available at

http://www.planvivo.org/docs/Halo-Verde-Timor-Leste-PIN_Published.pdf

3.3: Project Design Document (PDD) submitted to Plan Vivo by June 2019. The PDD has been completed and will be submitted at end of May 2019. Available on request

3.4: Carbon auditing and certification is achieved before end of 2019. PDD review will take 3 months so auditing may occur in September. Delays may occur if additional information is required by Plan Vivo or the auditor.

3.5: Carbon sales achieved by end of Year 4. Achieving this milestone will depend on the carbon certification process and finding buyers in the market. Plan Vivo have assured us there are many buyers in the international market and we have interest from potential Australian buyers.

Output 4 Biodiversity information that informs forest management, education and policy

4.1: Baseline fauna information collected. First survey was conducted in May/June 2018 with limited data collected due to limited expertise and time available (see Annex 4.2). A more comprehensive fauna survey is planned for November/December 2019 over larger areas of plantation and native forests.

4.2: 70% increase in biodiversity information that contributes to government and NGO policies. We have some biodiversity information but need a more comprehensive database before any contribution can be made to government policies. We are confident of achieving this output as there is little information on biodiversity in the area at present.

4.3: Information on indigenous knowledge and customary beliefs in fauna and flora interactions. Completed in baseline household survey (see Annex 4.3) and reported in first Annual Report.

4.4: 70% increase in community interest in biodiversity conservation over 4 years. To be measured in final household survey in Year 4. More school education activities planned for 2020 after second fauna survey is completed with evaluation sessions. We are confident of achieving this output as there is little information on biodiversity in the area at present.

Output 5 Livelihoods impacts determined

5.1: 50% increase in livelihood benefits from tree plantations by end of Yr 4. Indepth, qualitative interviews conducted in October 2018 with 10 households (6 women, 4 men) involved in tree plantations confirmed results of the 2017 baseline household survey that income from GTNT tree payments supplements household expenditure and is an investment for the children's future. Below are some quotes;

Woman from Manelima (36 years old) whose mother decided to join the project because her father had died, and they needed additional income. She said the trees will give benefits into the future and it is important to continue to plant trees. *"You can plant a carrot and it will grow and you will eat it and then it is gone, but trees are for the kids' future"*

Woman from Laclubar (54 years old) thinks the value of her land will increase with trees on it. *"The project is good - when we look after the trees, we can get money from the trees. When we cut the trees we can make tables, chairs, house."*

However, most respondents also talked about the challenges to tree growing with livestock damaging trees, lack of water, poor soil quality, insect attack and limited income due to young plantations.

The final household survey will determine if there has been a 50% increase in livelihood benefits for those households involved in tree planting. Achieving this target is likely for those households with older and larger plantations as they receive higher payments. Households with newer plantings may not realise livelihood benefits within the timeframe of the project. Community benefits may arise once carbon payments start as a % of carbon income will be dedicated to a benefit sharing fund for community purposes.

5.2: 20% increase in participant household income from carbon credits by end of Yr 4 and 15% increase in household income or food security from agroforestry products by Year 4. Yet to be determined in the final household survey in Year 4. We are confident that household income will increase by 20% from carbon income as more trees are being planted. Income from agroforestry products is less certain due to seasonal and market factors.

5.3: 50% increase in women's participation in project activities by end of Yr 4. Meeting and planting day records show that women's participation in the project has increased by 30% since 2017. Indepth interviews with women in 2018 showed that women are less involved in decision making regarding tree plantations but are involved in expenditure decisions.

5.4: 30% of non-participating families interested in and/or able to adopt reforestation on their land. There has been an increase in the number of households registering with the project and planting trees this year (35 new households). This equates to 3.5% of total non-participating families in participating sucos in Laclubar and Soibada. This interest was generated by word of mouth from field staff, community meetings and distribution of leaflets inviting participation. Indepth interviews with 10 non-participating households (8 women, 2 men) in 2018 revealed that

most of the non-project women were interested in joining except a couple of households that were too busy with a shop or trade. The final household survey will measure non-participating household interest and ability to adopt reforestation.

3.3 Progress towards the project Outcome

The Outcome Statement is "Biodiversity and livelihoods are enhanced through expansion of community reforestation that integrates agroforestry systems, farmer managed natural regeneration, biodiversity conservation, carbon payments and customary law."

In the last reporting period we have made some significant steps towards the project outcome indicators as follows;

0.1. Successful reforestation and FMNR: Doubling the number of trees planted and 30% increase in the area planted from baseline of 54ha to 71ha (two-thirds of target 120ha reached). Tree survival rates improved from 50% to 85% as a result of farmer training and field staff follow up. FMNR sites have increased from 4 to 7 sites. Enhanced farmer capacity in land use mapping, site selection and preparation, tree planting and management, and FMNR. Farmer interest in growing more biodiverse native tree and food species. This outcome indicator is highly likely to be achieved by end of the project.

0.2. Carbon accreditation and payments: Project Idea Note approved by Plan Vivo. Data collection and carbon modelling completed. Project Design Document completed and to be submitted to Plan Vivo by end of May 2019. This outcome indicator is likely to be achieved by end of the project.

0.3. 20% increase in household income from carbon sales: Yet to be achieved pending successful carbon accreditation and sales. We expect household income will increase with the number and growth of trees planted but this depends on carbon pricing and market volatility during the project period, hence the indicator of 20% increase is deliberately conservative. This outcome indicator is likely to be achieved by end of the project.

0.4 50% increase in women's participation and satisfaction: There has been an increase in women attending project meetings and tree plantings. The household survey and indepth interviews show a high level of satisfaction with project activities and perceived benefits, including income for household expenditure. This outcome indicator is likely to be achieved by end of the project.

0.5. 70% increase in biodiversity information and community interest: Some baseline information collected on fauna in Laclubar but a more comprehensive survey is required to meet this indicator. Community interest expected to increase with availability of information on fauna species and numbers. This outcome indicator is highly likely to be achieved by end of the project.

All the outcome indicators are still adequate for measuring the overall project outcome, and the means of verification are proving reliable. Approved modifications have been made to the logic framework.

3.4 Monitoring of assumptions

Outcome Assumptions

1. Free satellite imagery is available for project area.

Comment: Satellite imagery is accessed freely via the Spatial Analysis Unit at Charles Sturt University.

2. Adequate safeguards are in place to ensure longevity of transactions.

Comment: Still holds. Safeguards are addressed in the Project Design Document and discussed during stakeholder consultations.

3. Information is available to determine reliable socio-economic indicators to build a baseline.

Comment: Still holds. Baseline information is fairly general but enough to compare changes over time and avoid confusing farmers or expecting data they cannot provide.

4. Women are motivated and have time to participate.

Comment: Still holds. Women are participating in meetings, tree planting and tree management. Interviews in 2018 showed that most women are motivated to be involved. However, they are constrained by household duties, off farm jobs and cultural expectations. The project will need to keep encouraging and facilitating participation by tailoring events around women's availability and giving them a stronger role in project activities.

5. Baseline data on the presence of birds, small mammals, reptiles and amphibians is established in **Yr 2** and expanded upon in the subsequent years.

Comment: Still holds. Year 1 baseline information was not enough so another survey will be conducted in Year 2.

Output Assumptions

1.1 Natural disasters and livestock will not impact the project.

Comment: Still holds. There were some landslides in the project area in 2018 but tree plantations were not damaged.

1.2 The tree species selected are appropriate and weeds controlled.

Comment: Still holds. Tree species selected are fast growing and have the most potential for carbon and timber production. Some evidence of Mahogany borer which will need to be controlled and minimised by encouraging more diverse species planting. Weed control emphasised during farmer training and monitored regularly by field staff

1.3 Farmers have land and are physically able to participate.

Comment: Still holds. Most farmers have land and family members who can look after trees. Those households without land can establish nurseries and plant trees in their house plots or rent land or labour from other farmers.

1.4 Farmers have access to markets and include nutritious fruit and nuts in their family's diet. Comment: Still holds. There are local markets in each suco with a wide variety of foods grown and sold. Regional and town markets require transport and there is more competition. The 2017 baseline survey showed respondents had a wide variety of fruits, tubers and nuts in their home gardens for consumption.

2.1 Community members motivated to changing old land management practices such as slash and burning.

Comment: Still holds. Conservation farming training slowly changing traditional practices.

2.2 Free satellite imagery is available for project area (Still holds. It is freely available)

2.3 Farmers committed to good management practices. (Still holds. Tree survival rate has improved and farmers are more awareness of management requirements)

3.1 Project staff, students and farmers willing to collaborate in forest carbon monitoring. (Still holds. Collaboration very good so far).

3.2 PDD is satisfactory (Still holds. To be determined after submission to Plan Vivo).

3.3 Safeguards regarding transaction costs, land tenure and accountability are in place. (Still holds. Addressed in PDD).

3.4 Market conditions for carbon purchases exists and demand will continue. (Still holds. To be determined).

4.1 Community gives permission for biodiversity research in their plantations. (Still holds. Three farmers allowed biodiversity research to be carried out in 2018. Not anticipated to be a problem with expansion of research to more plantation sites in 2019).

4.2 Species can be readily identified including threatened species. (Still holds. Low risk as experts are involved).

4.3 Community members are willing to share customary beliefs and local knowledge. (Still holds. Community was willing to share knowledge in 2017 baseline survey and school sessions).

4.4. Villagers and the schools actively participate in biodiversity education events. (Still holds. Students and teachers have been very enthusiastic.)

5.1 Information is available to determine reliable socio-economic indicators to build a baseline (Low risk)

5.2 Women are motivated and have time to participate. (Still holds. Medium risk)

5.3 Farmer to farmer exchange is facilitated well with non-participating farmers. (Still holds. Need to engage wider network of farmers over time).

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

Higher level impacts on biodiversity conservation and human development/wellbeing have yet to emerge.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

The project has contributed to the following Global Goals for Sustainable Development in the last 12 months:

1. **No poverty** through income generation and community livelihood diversification**.**

Evidence of annual household income generation from GTNT tree payments from 2017 baseline survey ranging from US$40 to $2,000, average US$293 or 80c per day. Respondents said they spent this income on food (rice, oil), school items, household items, building materials, seed/fertiliser, livestock, cultural events (lia) or giving cash to relatives (see Annex 4.3 survey report attached). This represents supplementary income at this stage so not a huge contribution to poverty reduction. However, we anticipate that income will increase with carbon credit sales in coming years. In terms of livelihood diversification, the 2017 household survey and indepth interviews with 20 households in 2018 revealed that families grow a diverse range of crops for consumption and sale, and make most income from coffee and palm wine. Several women interviewed were involved in savings schemes, and two groups made handicrafts for sale in Dili or Australia. Future aspirations centred on making sure their children were able to finish school and perhaps go to University. There were limited ideas on how to further diversify enterprises or livelihoods with several examples of schemes that had failed. The project will encourage households to invest future carbon income in savings schemes, children's education and/or building enterprises that can reduce poverty. We will evaluate changes in the final household survey.

2. **Zero hunger** by introducing agroforestry systems (consumption and income) and promotion of organic soil fertility building activities.

Farmers have continued to plant trees for timber and shade for coffee trees (see section 3.2). Training in 2018 focussed on understanding soil pH, soil fertility, contouring and mulching (see section 3.1). Income from GTNT tree payments is used for purchasing staple food items, and buying food crop inputs so indirectly contributing to zero hunger.

3. **Quality education** through capacity building of local community members in natural resources management, biodiversity conservation, forest inventory and carbon monitoring.

Over the last year, the project has conducted further staff training in forestry inventory, land use mapping and biodiversity research methods. Farmers were trained in land use mapping and tree management (see section 3.1).

4. **Gender equality** by encouraging female participation and roles in the project.

The project has encouraged equal gender participation by inviting all household members to meetings and to register for tree planting. Women have become more involved in tree planting and management.

5. **Climate action** by reducing deforestation and associated emissions from increased carbon stocks through reforestation.

An additional 17ha has been planted this year which will increase the carbon stocks and contribute to carbon emission reduction.

6.   Life on Land by reversing soil erosion and degradation and reducing deforestation and biodiversity losses.

Continued expansion of tree plantations by 17ha, and three more sites for FMNR.

5. Project support to the Conventions, Treaties or Agreements

The Ministry of Commerce, Industry and Environment – National Directorate for Biodiversity Protection and Restoration (MCIA–NDBPR) is the focal point for the CBD in Timor-Leste. An MOU has recently been signed between COTI and the Department of Environment regarding support for Plan Vivo carbon accreditation. Some progress has been made towards supporting the following strategic goals of the CBD as follows;

CBD SG A: Farmer involvement in natural regeneration techniques, agroforestry, carbon incentives and biodiversity research will increase awareness of the value of reforestation across communities, local government and national organisations. [100 participating farmers are practicing reforestation and four farmers are practicing FMNR with increased knowledge and capacity to manage plantations sustainably as evidenced by 85% tree survival rate. Village heads, district and national government staff attended annual project meeting and launch of COTI].

CBD SG B: Pressure on forest and soil will be reduced by adoption of sustainable forestry and agricultural practices. [Forest plantations now cover 71ha with conservation farming being practiced in 4 out of 6 sucos]

CBD SG C: Biodiversity status will be improved through better knowledge of species and habitat requirements. [No contribution yet]

CBD SG D: Communities will benefit from healthier ecosystems, carbon income and climate change adaptation. [No major contribution yet]

CBD SG E: Local, indigenous and gender sensitive group training and mentoring will build long term confidence in land management and biodiversity conservation. [Farmer and staff confidence in land management has increased following training in 2018, as evidenced by increased tree planting and survival rates, better site selection and interest in native species]

6. Project support to poverty alleviation

The project is working to alleviate poverty by establishing a long term carbon market and sustainable agroforestry systems for subsistence households in Laclubar and Soibada of Manatuto municipality. The baseline household survey in 2017 and indepth interviews in 2018 revealed that GTNT tree payments are already contributing towards paying for school expenses, staple food items, agricultural inputs and building materials (see Annex 4.3 survey report). Carbon payments will continue to provide income for food security, education and livelihood diversification (see PDD). We anticipate more household progress towards poverty alleviation by Yr 4 in the form of more secure savings, and greater confidence in investing in enterprises and their children's future.

7.   Project support to gender equality issues

The project aims to encourage equal participation and benefit sharing of men and women in farmer training, project planning, implementation and evaluation. In the last 12 months, women have participated in all meetings, tree planting and tree management training activities (see sections 3.2 and 3.3). We are conscious of working sensitively within the cultural context to achieve direct gender equality impacts such as capacity building in tree selection and management, carbon income management and enterprise development. A gender sensitive approach has been used over the last year with the following outputs;

1.   Establishment of a project steering group and four farmer groups with equal gender representation (see PDD).

2.   Ensuring equal opportunities for women and men to attend farmer training via invitations and holding training in the middle of the day when children are at school.

3.   Conducting indepth interviews with 14 women to understand more about their everyday tasks and priorities, their perspectives on the tree project, involvement in other income generating activities, community groups and future aspirations.

8.   Monitoring and evaluation

Monitoring and evaluation of Outputs 1, 2 and 3 is based on forest inventory, GIS mapping, on-ground assessment and carbon modelling methods as shown in the M&E plan for carbon accreditation at Annex 4.5. These methods are required by international standards set for attaining carbon accreditation and monitoring of standards (see PDD). In the last year, Jorge Ramos (forest research officer) has worked closely with field staff to establish the baseline carbon scenario from biomass and soil measurements, and predict carbon accumulation over a 40 year period. Improvements were made to fine tune monitoring methods. The main monitoring adjustment has been implementation of a tree survival assessment method conducted by farmers followed by field verification by the field team. A monitoring procedure for fire exclusion and ground cover will be implemented in 2020. An independent auditor will review and verify carbon estimations later in the year.

GTNT keep a database of trees planted, survival rates and farmer payments. A simple data base with checks to verify tree count inconsistencies is in place. A template that will allow better record keeping is being prepared for migration from Excel spreadsheets to Access.

Biodiversity monitoring methods used in 2018 were technically sound and useful for training purposes but the area and fauna species was limited due to lack of labour and time. An ecology expert is assisting with developing a more comprehensive survey design for implementation in November/December 2019. More biodiversity education events and materials are needed before we can evaluate knowledge or interest outputs and impacts.

Livelihood impacts were monitored over the last year using largely qualitative indicators (as distinct from mainly quantitative indicators used in the household survey in 2017 which gave a broad baseline overview). Indepth interviews allowed us to explore women's perceptions, challenges and aspirations in the context of their household situation and the project. We were able to find out that non-participating households were genuinely interested in planting trees, and why. Qualitative data also revealed reasons for failure of production or community groups to persist, or why some savings schemes had been successful. These qualitative stories will be used to plan how the project can best influence gender equality and livelihood impacts from activities and outputs. In the coming year we will use focus groups and more indepth interviews to monitor and evaluate outputs 4 and 5.

9.   Lessons learnt

What worked well: Excellent technical guidance from Jorge Ramos (forest research officer) and the dedication of project staff in Timor-Leste has enabled necessary data to be collated for the carbon accreditation application process. Plan Vivo Foundation have been very encouraging and helpful in guiding the development of the PIN and PDD. Relationships with national government departments have improved as more information has been shared about the opportunities for Timor-Leste to benefit from the international carbon market. The biodiversity training and initial survey using expertise from Conservation International was highly appreciated. The farmer training and mentoring in forest and land management has improved tree survival. GTNT have encouraged 34 additional farmers to join the program and increased the number of tree nurseries to growing more tree seedlings. The project now has a strong forest and carbon monitoring and evaluation system set up for long term carbon measurements.

What didn't work well: There have been some challenges including reconciliation between the number of trees planted and tree survival results, which suggests there is room for improvement with record-keeping. The expectation is that the introduction of a modified database will improve data storage, retrieval and analysis. The delay in securing a carbon accreditation institution was unfortunate but resulted in a better outcome and enabled more time to collate the necessary data

for carbon modelling. Finding available biodiversity technical expertise in Timor-Leste and Australia has been difficult due to changing staff and capacity or time restrictions. However, we will engage Dr Graeme Gillespie from NT Department of Environment for the next survey.

If you had to do it again, what would you do differently or recommend to others: Plan Vivo Foundation are well suited to smallholder carbon projects and are very helpful with guiding the process, so we would recommend this institution to other carbon projects. Biodiversity research capacity on particular species is lacking in Timor-Leste so we recommend sourcing expertise from elsewhere to train and build capacity of local researchers until such time they can carry out independent, quality research.

10.   Actions taken in response to previous reviews (if applicable)

The issues raised in last year's annual report were discussed with partners at the annual project meeting in Dili in September 2018. The joint response was sent to the Darwin Initiative with the half year report in October (see Annex 4.4A). Actions on items 3 and 5 for this annual report are detailed here, along with assurances about timeframe for carbon sales from the award letter.

Item 3: Reasons for change in target reforestation area

The initial estimate of 300ha of viable trees for carbon needs to be revised down to 120ha based on a couple of villages dropping out of the original GTNT project and more accurate GPS mapping showing low tree survival in some areas. The number of households needs to be revised down from 210 to 120 based on the reduced viable land area. The original estimate of 40ha under FMNR revised down to 15ha based on farmer interest over smaller areas than initially envisaged.

Item 5: Sustainability and legacy if carbon sales are not achieved by end of project

The establishment of COTI as the local NGO will ensure continuity of the carbon project beyond the Darwin project. Until carbon credits are sold, COTI and GTNT will continue to pay farmers for trees planted by raising funds in Australia. This will provide continuity in farmer income and contribute to achieving the Darwin project outputs and outcome.

Assurances regarding timeframe for carbon sales

The timeframe for carbon accreditation and carbon sales has been extended due to changing to the Plan Vivo Certification Scheme as explained in the Change Request Form attached as Annex 4.4B. We are now aiming for accreditation by end of 2019 and carbon sales by end of Year 4 (June 2021).

11.   Other comments on progress not covered elsewhere

The project has developed a Risk Management strategy as part of the PDD (see Annex 4.8 attached). The majority of the risk and mitigation actions listed were identified by stakeholders during recent consultation meetings. To deal with present and emerging risks, the project is introducing a risk register administered by the project manager aiming to create a single place where risks can be documented, tracked and prioritised for mitigation.

12.   Sustainability and legacy

The project profile has increased in Timor-Leste with the launch of COTI (see story on wordpress site) and broader stakeholder representation at the annual project meeting in September (see Annex 4.1). Government agencies are becoming more familiar with the project through regular meetings with COTI and a revised MOU with the Department of Environment. COTI has been invited by relevant government agencies such as Department of Forestry and Secretary of State for Environment to attend meetings and workshops and to share information about the project funded by DI. European Union and AusAid have also sent their consultants to speak to COTI staff in Dili about the project. European Union staff invited COTI to deliver a presentation on the on-going carbon certification process and to provide updates on overall implementation of the project. AusAid, is currently providing technical assistance by providing an Australian

International Volunteer to help the project develop Project Design Document (PDD) for submission to Plan Vivo.

The project is also represented at National Working Group on Climate Change upon invitation by the government. The Project Manager attends the meeting regularly. COTI held a national workshop in January 2019 on Community Forest Carbon. The workshop was covered by two leading national television networks, national radio stations and newspapers. Footage of interview between Project Manager and RTTL (Radio Televisão de Timor-Leste) is available upon request. The capacity of COTI staff in understanding the carbon accreditation process has increased. At a local level, 34 more farmers have joined the program to plant trees for carbon, timber and food crops. Their capacity to manage plantations will increase with further training, mentoring and farmer to farmer learning. More households are expected to start tree plantations the coming years, and COTI plan to expand beyond Laclubar and Soibada area once carbon certification is attained.

The project website has been linked to the Australian Embassy, COTI and Peskiza Akadémika Timor-Leste Facebook sites. Regular stories and useful information are posted on the project's website at https://wordpress.com/view/communityreforestationtimorleste.wordpress.com

The following statistics from the website show the number of views per country from 2018 and 2019 to date. There were a total of 143 visitors in 2018 and 37 visitors so far in 2019 from 27 countries. Views per visitor averages from 1.5 to 2.0. Most views are from visitors in Australia and Timor-Leste, followed by USA, Indonesia, UK and Colombia.

2018	No of views	2019	No of views
Australia	150	Australia	96
Timor-Leste	66	Timor-Leste	59
United States	17	United States	14
Indonesia	13	Indonesia	13
United Kingdom	10	Colombia	12
Denmark	7	United Kingdom	8
Colombia	5	Denmark	7
Bhutan	4	Singapore	7
Italy	3	Hong Kong	6
China	3	Italy	4
Hong Kong	3	Bhutan	4
Philippines	2	China	3
Vietnam	2	New Zealand	3
Netherlands	2	Philippines	2
Taiwan	1	Ethiopia	2
Sri Lanka	1	Canada	2
Gibraltar	1	Malta	2
Portugal	1	Bangladesh	2
Singapore	1	Gibraltar	1
Ethiopia	1	Netherlands	1
Canada	1	India	1
New Zealand	1	Belgium	1
Germany	1	Slovakia	1
Total	**296**		**249**

The Project Idea Note (PIN) has been shared on the Plan Vivo website at

http://www.planvivo.org/docs/Halo-Verde-Timor-Leste-PIN_Published.pdf

A paper was presented at the Asian Studies Association Conference in Sydney in June 2019, titled "Agrarian and landscape transformation in Timor-Leste from agroforestry development" (see Abstract at Annex 4.6). Powerpoint presentation available on request. Abstracts have also been submitted and accepted to the following conferences (see Annex 4.6);

- Timor-Leste Studies Association conference, Liceu Campus, Universidade Nacional Timor Lorosa'e (UNTL), Dili, Timor-Leste, 27 – 28 June 2019

- International Society for the Study of the Commons conference, Peru, 1-5 July 2019.

The exit strategy is still valid with several key commitments completed in the last 12 months to ensure a sustained legacy;

1. GTNT has formed COTI, a local NGO with a Board of Directors, a Manager and two administrative staff. COTI will manage the carbon certification and payments process in Laclubar and Soibada, with potential to scale out to other districts. COTI will seek funding from other sources to sustain the program into the future.

2. GTNT has developed a business model for community based carbon credit development and sales in Laclubar and Soibada.

3. GTNT and COTI have provided information and guidance to relevant government departments on carbon certification, community involvement in reforestation and policy recommendations.

Additional steps needed to ensure sustained technical, ecological and social support include;

1. Biodiversity research expertise to be sourced from recently trained government staff, Conservation International and Australian agencies.

2. Social research expertise to be sourced from local Universities and NGOs

3. A monitoring plan for soil management monitoring has been drafted. Expected to be implemented in coming months.

4. A database to track planting performance and carbon credit sales and funds' disbursement (i.e. payment to farmers) will be established by COTI

5. Other recommendations from PV and the external auditor will improve the exit strategy

13. Darwin identity

The main avenue for publicising the Darwin Initiative and UK government departments involved has been the project website at www.communityreforestationtimorleste.wordpress.com. It is linked back to the Darwin Initiative Facebook site. Information from the website on referrers show that visitors have found find the site via google, yahoo, twitter, raebia.org, ILWS/CSU, and COTI facebook sites. Articles have been published in the May 2018 ILWS newsletter and the February 2019 Darwin Initiative newsletter which were both circulated to partner and project team members (see Annex 4.7). The Darwin Initiative logo was used and promoted at the Annual Project Meeting meeting, in the household survey report and the ASAA presentation in Sydney last June.

Although the Darwin funding for this project is part of a larger program run by GTNT and COTI, the project activities are always recognised and promoted as a distinct project aimed at securing carbon certification, expanding reforestation, building capacity and improving livelihoods. The Darwin Initiative was previously known within the Department of Environment and Protected Areas Unit due to a previous Darwin project. It is more widely known now amongst environmental and agricultural NGOs, and the Ministry of Agriculture and Forestry as a result of this project.

14. Project expenditure (to be submitted by 31 May 2019)

Please expand and complete Table 1. If all receipts have not yet been received, please provide indicative figures and clearly mark them as Draft. The Actual claim form will be taken as the final accounting for funds.

Table 1: Project expenditure during the reporting period (1 April 2018 – 31 March 2019)

Project spend (indicative) since last annual report	2018/19 Grant (£)	2018/19 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)		0		
TOTAL				

Highlight any agreed changes to the budget and **fully** explain any variation in expenditure where this is +/- 10% of the budget. Have these changes been discussed with and approved by Darwin?

Annex 1: Report of progress and achievements against REVISED Logical Framework for Financial Year 2018-2019

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
Impact Biodiversity and livelihoods are enhanced from community reforestation that integrates agroforestry systems, farmer managed natural regeneration, biodiversity conservation, carbon payments and customary law.		Impacts on biodiversity conservation and human development/wellbeing have yet to emerge	████████████
Outcome *Biodiversity and livelihoods are enhanced from community reforestation that integrates agroforestry systems, farmer managed natural regeneration, biodiversity conservation, carbon payments and customary law.*	0.1 120 Hectares successfully reforested via planting and farmer managed natural regeneration by end of Yr 4 0.2 Carbon certification by end of 2019 and payments achieved by end of Yr 4 0.3 20% increase in household income of project participants from carbon sales by end of Yr 4 compared to the baseline in Yr 1 0.4 50% increase in women's participation and satisfaction in all activities by end of Yr 4 against baseline of Yr 1. 0.5. 70% increase in biodiversity information and community interest in biodiversity conservation over 4 years.	0.1 Another 20 hectares planted. FMNR effectively implemented over 5ha (4 sites) with 3 more sites started. Total area now 74ha. Forest inventory and mapping completed. Farmers trained. Nurseries expanded. 0.2 Carbon certification documents prepared for submission to Plan Vivo. No certification or payments yet 0.3 No increase in household income from carbon sales yet. 0.4 30% increase in womens participation in project activities. Baseline satisfaction recorded from indepth interviews. 0.5 Some fauna information and community knowledge recorded.	Additional 20ha and 50,000 trees to be planted out. PDD to be submitted to Plan Vivo and audit/verification carried out by independent auditor. Carbon certification achieved and credits issued for sale. Household income from trees recorded. Case studies on womens participation and experiences to be developed. Comprehensive baseline fauna survey to be carried out late 2019. School and community biodiversity education events to be held in 2019-20
Output 1. Expansion of tree plantations and agroforestry development	1.1 120 Hectares (ha) planted including 20 ha under an agroforestry system by end of Yr 4. 1.2 70% tree survival rate achieved after 1st year of new planting establishment 1.3 120 households participating in tree planting and maintenance with Tara Bandu in place by end of Yr 4	1.1 20ha planted this year with 47,000 seedlings. 30ha already under agroforestry system (see section 3.2). Indicators revised and appropriate. 1.2 85% tree survival rate achieved in last reporting period (see section 3.2). 1.3 Another 34 households joined the program bringing total to 100. 36 farmers attended training in tree planting and management (see section 3.1).	

	1.4 15% increase in household income or food security from agroforestry products by end of Yr 4	1.4 Yet to be measured	
Activity 1.1 Community agreement on land use with regards to proposed activities is formalised through a Tara Bandu ceremony.		Community agreements between GTNT and individual farmers on carbon offset payments were made in 2018 and updated in 2019. 140 households (including150 locations) in Soibada and Laclubar signed land ownership declaration forms this year. Individual land use maps have been developed (see section 3.1). Taru Bandu law retained from previous project and ceremony.	Land use maps and carbon agreements may be updated as required by Plan Vivo.
Activity 1.2 Registration of project participants for both planting and FMNR activities		80 households registered their interest in November for planting trees in the 2018-19 season. Another three sites were added to existing four FMNR sites (see section 3.1)	We expect an additional 20 farmers will start planting trees in next year.
Activity 1.3 Training of participants in tree propagation, planting and tree/fruit management.		Another four households were trained in tree propagation and nursery management. 36 households attended one day training on site selection for tree species, planting methods and management techniques (section 3.1).	Follow up of all planting sites to monitor survival rates, insect or disease problems. Further training for all participants in silviculture.
Activity 1.4 Identification of sites, species selection for both reforestation and agroforestry systems, propagation of seedlings and tree nursery expansion, site preparation, planting etc.		80 households at Laclubar and Soibada planted 47,000 seedlings of mahogany, casuarina, white teak and sandalwood in 35 existing sites and 46 new sites (total plantation sites is now 136).(see section 3.1)	Additional 20ha will be planted in next period
Activity 1.5 Monitoring of new plantings on a quarterly basis		New tree plantings were closely monitored for survival rates this year, showing improvement from 60% to 85% (section 3.2)	New and existing plantations will be monitored every quarter as requirement of Plan Vivo carbon certification.
Output 2. Establishment of farmer managed natural regeneration (FMNR) in eroded areas	2.1 15 ha of low fertility land undergoing FMNR by end of Yr 4. 2.3 50% improvement in farmer's forest management skills including sustainable harvesting by end of Yr 4	Five ha being effectively managed using FMNR techniques. Another 3 sites added this year (see section 3.1). Indicator still appropriate. Evidence of improved farmer FMNR skills (see section 3.1) but yet to be formally evaluated.	
Activity 2.1. Farmer tour to World Vision FMNR sites to talk directly to local farmers and WVI staff and see how FMNR is done.		Completed in previous year (see 2017-18 Annual Report)	

Activity 2.2. Identification of project FMNR sites and establishment of a land use baseline through field assessments and map production.		Four sites identified and mapped covering 5ha. Another 3 sites added but not mapped yet. Condition and pruning techniques assessed (see section 3.1)	Additional 3 sites to be mapped.
Activity 2.3 Delivery of workshops in Laclubar and Soibada on FMNR techniques, which will include pruning, terracing, fertility building, mulching, tree thinning and basic silvicultural management.		Completed in previous year (see 2017-18 Annual Report)	
Activity 2.4 Monitoring of FMNR on a yearly basis through field inspections and regeneration surveys.		Field inspections carried out in September 2018 and February 2019	All FMNR sites will be assessed for condition and changes noted. Farmers will be interviewed.
Output 3. Forest carbon certification	3.1 Implementation of yearly carbon measurements. 3.2 Project Idea Note (PIN) submitted to Plan Vivo by Dec 2018 3.3 Project Design Document (PDD) submitted to Plan Vivo by June 2019 3.4 Carbon auditing and certification is achieved before end of 2019. 3.5 Carbon sales achieved by end of Year	Forest carbon measurements completed for baseline and growth scenarios (see section 3.1). Indicator appropriate as requirement of Plan Vivo certification. PIN submitted on time and approved (available at Plan Vivo website- see section 3.1) PDD completed and will be submitted by June 2019. Yet to be achieved. Yet to be achieved.	
Activity 3.1. Completion of a carbon project plan.		Completed (see previous Annual Report).	
Activity 3.2. Procurement of free satellite imagery with suitable resolution and analysis to generate digital maps (also used in Outputs 1 and 2)		Completed	
Activity 3.3 Formalisation of contract arrangements pertaining to carbon rights with farmers.		Completed. Agreements signed by farmers in previous reporting period	May need to be updated once carbon certification is achieved.
Activity 3.4 Design of a carbon baseline ('without project" scenario) to estimate changes in carbon stocks and emission reductions due to project activities		Completed (see PDD)	
Activity 3.5 Design of community grievance and communication strategies with project participants and relevant stakeholders		Completed in previous reporting period and included in PDD	

Activity 3.6 Formal local stakeholder consultation as per selected certification methodology		Completed in previous reporting period.	
Activity 3.7 Submission of information and documents for project compliance checks conducted by the certifier (pre-feasibility assessment)		PIN submitted and approved. PDD completed	PDD to be submitted.
Activity 3.8 Third party audit and issuance of carbon credits		Yet to be achieved	
Activity 3.9 Forest carbon monitoring as part of monitoring of new plantings and regeneration on a yearly basis		Completed (see section 3.1 and 3.2)	Will continue as per Plan Vivo certification requirements.
Output 4. Biodiversity information that informs forest management, education and policy.	4.1 Baseline information on birds, bats, amphibians and reptiles (including endangered species) within study sites is collected in the first year. 4.2 70% increase in biodiversity information compared to pre project that contributes to government and NGO policies. 4.3 Information on indigenous knowledge and customary beliefs in fauna and flora interactions compiled by end of Year 2. 4.4 70% increase in community interest in biodiversity conservation over 3 years.	Preliminary fauna survey conducted in 2018 (see section 3.1) and Annex 4.2 Yet to be achieved Completed in Year 1 with baseline household survey (see Annex 4.3) Yet to be achieved	
Activity 4.1 Gain animal ethics approval through CSU and permit through T-L Ministry of Agriculture, Forests and Fisheries to undertake survey work		Not needed	
Activity 4.2 Development of a community knowledge exchange program regarding biodiversity		To be developed based on 2019 biodiversity survey results	
Activity 4.3 Annual sampling of reforestation and control sites for birds, bats, reptiles and amphibians with community members		Completed in June 2018 (see Annex 4.2)	More comprehensive baseline survey to be conducted in 2019 (see section 3.2)

Activity 4.4 Development of materials – posters and brochures for use in school visits and community workshops		Yet to be achieved based on 2019 survey results.	Materials to be developed based on survey findings.
Activity 4.5 School visits, community workshops and gender-sensitive discussions with adult women		Visit to Laclubar Junior High School in October 2018 to show survey findings (see section 3.1)	Primary schools to be visited in Laclubar Soibada, Manelima and Funar in next reporting period. Government and private secondary school to be visited.
Activity 4.6 Meet with TL government officials to advise outputs of community biodiversity surveys and make policy recommendations		First biodiversity survey results presented at Annual Project Meeting in September 2018 to government officials (see Annex 4.1)	Second biodiversity results will be presented at Annual Project Meeting and visits to relevant government departments.
Output 5. Livelihoods impacts determined	5.1 50% increase in family wellbeing and satisfaction from reforestation by end of Yr 4	Yet to be determined	
	5.2 40% increase in household income from agroforestry and carbon credits by end of Yr 4	Yet to be determined	
	5.3 50% increase in women's participation and benefits in all activities by end of Yr 4.	30% increase in womens participation in meetings and tree plantings? Some benefits determined (see section 3.2) but indicator yet to be determined fully.	
	5.4 35% of non-participating families interested in adopting reforestation and FMNR on their land.	35 new households joined program this year. Eight non-participating farmers interviewed were interested in adopting reforestation. Less interest in FMNR (see section 3.2)	
Activity 5.1 Recruitment of a female field officer for Soibada to encourage other female participation. Mentoring, if required to be provided by the current female field officer based in Laclubar		Municipality administration appointed two male officers despite our request. Not enough budget to fund another person so unable to recruit female field officer in Soibada.	
Activity 5.2 Completion of socio-economic baseline survey focusing on income and perceived well-being		Completed in previous reporting period (see report Annex 4.3)	
Activity 5.3 Annual household surveys to assess project performance against the socio-economic baseline		Did not conduct household survey due to delay in carbon certification. Little change in income or diversification expected.	Annual household survey will be conducted in 2020.
Activity 5.4 Indepth interviews with case study farmers (including women) to develop extension material on what works and doesn't work		Yet to be achieved as impacts yet to emerge.	Case studies will be developed.

Activity 5.5 Indepth interviews with women to determine benefits and limitations for them	Completed indepth interviews in October 2019 (see section 3.1). Information used in PDD.	
Activity 5.6 Semi-structured interviews with non-participating farmers in the same villages to determine spread of influence and impacts	Interviews conducted in October 2019 (see section 3.1 and 3.2).	
Activity 5.7 Focus group interviews to gauge community attitudes to environmental and social change, including the effectiveness of integrating carbon markets and customary law.		To be conducted in 2020/21

Annex 2: Project's revised logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Biodiversity and livelihoods are enhanced from community reforestation that integrates agroforestry systems, farmer managed natural regeneration, biodiversity conservation, carbon payments and customary law.			
Outcome: (Max 30 words) Biodiversity and livelihoods are enhanced through expansion of community reforestation that integrates agroforestry systems, farmer managed natural regeneration, biodiversity conservation, carbon payments and customary law.	0.1 120 Hectares successfully reforested via planting and farmer managed natural regeneration by end of Yr 4 0.2 Carbon certification by end of 2019 and payments achieved by end of Yr 4 0.3 20% increase in household income of project participants from carbon sales by end of Yr 4 compared to the baseline in Yr 1 0.4 50% increase in women's participation and satisfaction in all activities by end of Yr 4 against baseline of Yr 1. 0.5. 70% increase in biodiversity information and community interest in biodiversity conservation over 4 years.	0.1 Forest inventory reports and Remote sensing/GIS and Photo points 0.2 Plan Vivo accreditation certificate and carbon payments 0.3 Household surveys, case study interviews and carbon sales. 0.4 Attendance records and indepth interviews with women. 0.5 Annual biodiversity survey reports and household surveys.	0.1 Free satellite imagery is available for project area 0.2 Adequate safeguards are in place to ensure longevity of transactions. 0.3 Information is available to determine reliable socio-economic indicators to build a baseline 0.4 Women are motivated and have time to participate. 0.5 Baseline data on the presence of birds, bats, reptiles and amphibians is established in Yr 1 and expanded upon in the subsequent years.
Outputs: **1.** Expansion of tree plantations and agroforestry development	1.1. 120 Hectares (ha) planted including 20 ha under an agroforestry system by end of Yr 4. 1.2. 70% tree survival rate achieved after 1st year of new planting establishment 1.3 120 households participating in tree planting and maintenance with *Tara Bandu* in place by end of Yr 4 1.4 15% increase in household income or food security from agroforestry products by end of Yr 4	1.1 Land use classification before project (baseline) and after project using GIS data, project database and ground assessment. 1.2 Annual tree and survival counts 1.3 Participants register and field observations. 1.4 Household surveys and case study interviews.	1.1 Natural disasters and livestock will not impact the project 1.2 The tree species selected are appropriate and weeds controlled 1.3 Farmers have land and are physically able to participate. 1.4 Farmers have access to markets and include nutritious fruit and nuts in their family's diet.

2. Establishment of farmer managed natural regeneration (FMNR) in eroded areas	2.1 15 ha of low fertility land undergoing FMNR by end of Yr 4. 2.3 50% improvement in farmer's forest management skills including sustainable harvesting by end of Yr 4	2.1/2.2 Remote sensing/GIS and photo point/forest condition reports. 2.3 Training evaluations and field observations	2.1 Community members motivated to changing old land management practices such as slash and burning 2.2 Free satellite imagery is available for project area 2.3 Farmers committed to good management practices.
3. Forest carbon certification	3.1 Implementation of yearly carbon measurements. 3.2 Project Idea Note (PIN) submitted to Plan Vivo by Dec 2018 3.3 Project Design Document (PDD) submitted to Plan Vivo by June 2019 3.4 Carbon auditing and certification is achieved before end of 2019. 3.5 Carbon sales achieved by end of Year	3.1 Forest carbon monitoring through installation of sampling plots. 3.2 PIN completed and submitted. 3.3 PDD completed and submitted. 3.4 Number of carbon certificates validated by third party and audit report 3.5 Register of carbon sales.	3.1 Project staff, students and farmers willing to collaborate in forest carbon monitoring. 3.2 PDD is satisfactory 3.3 Safeguards regarding transaction costs, land tenure and accountability are in place. 3.4 Market conditions for carbon purchases exists and demand will continue.
4. Biodiversity information that informs forest management, education and policy.	4.1 Baseline information on birds, bats, amphibians and reptiles (including endangered species) within study sites is collected in the first year. 4.2 70% increase in biodiversity information compared to pre project that contributes to government and NGO policies. 4.3 Information on indigenous knowledge and customary beliefs in fauna and flora interactions compiled by end of Year 2. 4.4 70% increase in community interest in biodiversity conservation over 4 years.	4.1 Baseline inventory of frogs, bats, birds, reptiles and insects in sample sites of planted and regenerated areas. 4.2. Annual biodiversity surveys and stakeholder workshop. 4.3 Indepth interviews with community members. 4.4 Household surveys and evaluation of school education sessions.	4.1 Community gives permission for biodiversity research in their plantations. 4.2 Species can be readily identified including threatened species. 4.3 Community members are willing to share customary beliefs and local knowledge. 4.4. Villagers and the schools actively participate in biodiversity education events.
5. Livelihoods impacts determined	5.4 50% increase in livelihood benefits from tree plantations by end of Yr 4 5.5 20% increase in participant household income from carbon credits by end of Yr 4 and 15% increase in household	5.1 Household surveys and case study interviews. 5.2 Carbon sales records and household surveys.	5.1 Information is available to determine reliable socio-economic indicators to build a baseline 5.2 Women are motivated and have time to participate.

| | | income or food security from agroforestry products by Year 4.

5.6 50% increase in women's participation in project activities by end of Yr 4.

5.7 30% of non-participating families interested in and/or able to adopt reforestation on their land. | 5.3 Attendance records and indepth interviews with women.

5.4 Semi-structured interviews with non-participating farmers. | 5.3 Farmer to farmer exchange is facilitated well with non-participating farmers. |

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

Output 1. Expansion of tree plantations and agroforestry development

 1.1   Community agreement on land use with regards to proposed activities is formalised through a Tara Bandu ceremony
 1.2   Registration of project participants for both planting and FMNR activities.
 1.3   Training of participants in tree propagation, planting and tree/fruit management.
 1.4   Identification of sites, species selection for both reforestation and agroforestry systems, propagation of seedlings and tree nursery expansion, site preparation, planting etc.
 1.5   Monitoring of new plantings on a quarterly basis.

Output 2. Establishment of farmer managed natural regeneration (FMNR) in degraded areas

 2.1 Farmer tour to World Vision FMNR sites to talk directly to local farmers and WVI staff and see how FMNR is done.
 2.2 Identification of project FMNR sites and establishment of a land use baseline through field assessments and map production.
 2.3 Delivery of workshops in Laclubar and Soibada on FMNR techniques, which will include pruning, terracing, fertility building, mulching, tree thinning and basic silvicultural management.
 2.4 Monitoring of FMNR on a yearly basis through field inspections and regeneration surveys.

Output 3. Forest carbon certification

 3.1   Completion of a carbon project plan.
 3.2   Procurement of free satellite imagery with suitable resolution and analysis to generate digital maps (also used in Outputs 1 and 2)
 3.3   Formalisation of contract arrangements pertaining to carbon rights with farmers.
 3.4   Design of a carbon baseline ('without project" scenario) to estimate changes in carbon stocks and emission reductions due to project activities
 3.5   Design of community grievance and communication strategies with project participants and relevant stakeholders
 3.6   Formal local stakeholder consultation as per selected certification methodology
 3.7   Submission of information and documents for project compliance checks conducted by the certifier (pre-feasibility assessment)
 3.8   Third party audit and issuance of carbon credits
 3.9   Forest carbon monitoring as part of monitoring of new plantings and regeneration on a yearly basis.

Output 4. Biodiversity information that informs forest management, education and policy.

4.1 Gain animal ethics approval through CSU and permit through T-L Ministry of Agriculture, Forests and Fisheries to undertake survey work

4.2 Development of a community knowledge exchange program regarding biodiversity

4.3 Annual sampling of reforestation and control sites for birds, bats, reptiles and amphibians with community members

4.4 Development of materials – posters and brochures for use in school visits and community workshops

4,5 School visits, community workshops and gender-sensitive discussions with adult women

4.6 Meet with TL government officials to advise outputs of community biodiversity surveys and make policy recommendations

Output 5. Livelihoods impacts determined

5.1 Recruitment of a female field officer for Soibada to encourage other female participation. Mentoring, if required to be provided by the current female field officer based in Laclubar

5.2 Completion of socio-economic baseline survey focusing on income and perceived well-being

5.3 Annual household surveys to assess project performance against the socio-economic baseline

5.4 Indepth interviews with case study farmers (including women) to develop extension material on what works and doesn't work

5.5 Indepth interviews with women to determine benefits and limitations for them

5.6 Semi-structured interviews with non-participating farmers in the same villages to determine spread of influence and impacts

5.7 Focus group interviews to gauge community attitudes to environmental and social change, including the effectiveness of integrating carbon markets and customary law.

Annex 3: Standard Measures

Table 1   Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 total	Total planned during the project
6A	Forest inventory training	1 woman 4 men	Timorese	5 head	5 head			4 sessions
6B	Forest inventory training	1 woman 4 men	Timorese	3 weeks	3 weeks			10 weeks
7	Forest Inventory Manual			1				2
6A	FMNR training	7 women, 14 men	Timorese	21 head	4 head			30 head
6B	FMNR training	7 women, 14 men	Timorese	2 days	1 day			6 days
6A	Conservation farming training	8 women 17 men	Timorese	25				60
6B	Conservation farming training	8 women 17 men	Timorese	2 days				12
6A	Farmer training in land use mapping and tree management	Men and Women	Timorese		36			100
6B	Farmer training in land use mapping and tree management	Men and Women			1 day			4 days
7	FMNR poster Satellite landscape map				1 1 1			1 2 1
10	Fauna and flora survey methods guide (ppt)				1			1
11A	Journal papers published							1
11B	Journal papers submitted							1
12A	Annual household survey databases to be **established** and handed over to the host country			1	1			3

12A	Carbon modelling database				1		1
13A	Fauna and flora reference collections to be **established** and handed over to the host country(ies)			1			3
14A	Annual project meeting COTI launch				2		4
14B	ASAA conference				1		3
20	Estimated value (£'s) of physical assets (motorbikes, tree nursery equipment, forest inventory equipment) to be handed over to host country(ies)						6000
21	Project Steering Committee COTI				2		1
22	Number of permanent field plots and sites to be established during the project and continued after Darwin funding has ceased			66	130		200
23	Value of resources raised from other sources (ALI) for project work						280

Table 2   Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)

Annex 4 Onwards – supplementary material

Annex 4.1: Minutes of Project Annual Meeting 24-25 September 2018, CRS Office Dili.

Objectives

1. Review project achievements against output/outcome indicators
2. Discuss lessons learnt, challenges and solutions
3. Prepare detailed workplans and budgets for each project component for 2018/2019

Present: Monday 24th September

- Alex Sarmento (GTNT Project Manager)
- Maria Da Silva (Laclubar Field Officer)
- Guido Diamentino (Laclubar Field Officer)
- Vincente Pereira (Manelima Field Officer)
- Domingos Batista (Soibada Field Officer
- Pedro da Costa (Soibada Field Officer)
- Joanne Millar (Project Leader, CSU)
- Jorge Ramos (Forestry officer, CSU)
- Jennifer Bond (Social researcher, CSU)
- Brooke Hyatt (GTNT)
- Sergio Barreto (Conservation International)
- Marinao and Mateus Maia (RAEBIA)
- Jesuinho Gusmão (World Vision TL)
- Adelino Rojario (Head of Department of Reforestation, Soil and Water conservation. National Directorate of Forestry and Watershed Management)
- Luis Belo (National Directorate of Climate Change)
- France de Costa (Dept of Environment)
- Lino Carvalho- Suco head Laclubar
- Agostino (Environment officer, Manatuto District)
- Augustus (Forest Guard, Soibada)

Project overview

Joanne Millar gave a summary of the project including the five components and the outcome and output indicators. (copy of presentation available on request)

Carbon monitoring and accreditation process to date

Jorge Ramos explained Forest Carbon Standards (including Plan Vivo), and how carbon projects are developed. The role of Monitoring, Reporting and Verification was explained. Mapping progress was shown including Base Maps, FMNR areas, Gaps to be removed and Final Inventory requirements. Requirements for the Plan Vivo documentation were also explained. (copy of presentation on request)

Discussion: Concerns expressed by Luis from NDCC about how funds will be guaranteed to reach the community? Alex explained that COTI will manage the carbon certification process and carbon payments to farmers including a management fee. COTI will have to seek additional funding for ongoing staff employment and project management. Adelino made the point that regardless of carbon payments, it is good to plant trees anyway.

Biodiversity research from first survey

Sergio Barreto presented the aims of the CEPF program to train government staff in biodiversity research, and carry out Rapid Assessments of 3 Protected Areas including a management plan for Lake Maurei. He described the methodology used for the Laclubar survey training. Findings included 24 bird species, 2 mice species and 4 reptile species. One of the mice species is undescribed and has been sent to the National Museum.

Question- it was noted that district environment/forestry staff were not included so request was made for them to also be included in biodiversity survey training.

Baseline household survey results

Jennifer Bond presented the findings of a household survey conducted in Laclubar and Soibada in October 2017. Forty project households were interviewed out of total of 60 families. (copy of presentation available on request)

Discussion: Equity of participation and expansion- most farmers who have planted successfully are from Orlalan which has the biggest population and is close to the GTNT base (Maria's house). How can we involve farmers from broader area?

Alex- a brochure was distributed in all six sucos with call for expression of interest to a) have a nursery or b) plant trees in 2019. However, families need to have enough labour to ensure capacity to look after trees and ensure survival. Land has to be in similar condition for the last 10 years to avoid cutting forest to plant trees. Ten new nurseries have been established and around 12 new farmers will plant trees in 2019.

For those households without land or enough labour, we need to find alternative benefits (eg joining savings scheme, handicraft production etc).

We will need to expand area and number of households over time whilst intensifying production from coffee, spices, sweet yam etc.

Lino- the household survey results do represent reality in the area.

Farmer managed natural regeneration

Jes Gusmao showed plans to expand FMNR in Timor-Leste including challenges. Currently 45ha in Aileu.

Discussion: Four farmers in Laclubar have volunteered to use FMNR techniques. An assessment will be conducted on this trip. We need to determine how relevant FMNR is to farmers in our project.

REDD+ may be introduced to TL via a JICA proposal in order to access the Green Climate Fund.

Tuesday 25th September (project team only)

Planning

Biodiversity research

•   Need to survey bats and frogs in Laclubar
•   Need to do survey in Soibada, comparing plantation areas to natural forest
•   Sergio suggested Pedro Pinto from Protected Area Dept for bats.
•   Azibedo Rivero from Conservation Flora and Fauna may be able to assist with frogs.
•   In the meantime, field staff have offered to take photos of anything they see.
•   Need to ask Trudiann Dale regarding further CI involvement.

Agroforestry and conservation farming
•   Farmers have been trained so up to them to adopt practices now
•   Raebia can give advice on as needs basis
•   Mateus requested that we look after Tara Bandu regulations for Batara and Manelima.

Tree plantation expansion and carbon certification
•   Targets were revised (120ha planted including 20 ha under agroforestry plus 15ha under FMNR).
•   100 households
•   Carbon certification reached by end of 2019 and payments by end of Year 4 (July 2021)
•   New timeline established for PlanVivo document submission (see workplan).

Livelihood and gender impact information
•   Jen presented outline of information we need to understand gendered roles and aspirations in relation the project and livelihoods
•   Need to explore other development schemes including savings groups, production groups, community groups, services etc.
•   Need to understand land tenure situation and conflicts

Annex 4.2   Fauna survey report by Conservation International (attached)

Annex 4.3   Baseline household survey report 2018 (attached)

Annex 4.4A   Project 24025 AR1R response, 31 October 2018

Activity level reporting

1.   Land use agreements should be a priority

Farmers signed an agreement with GTNT in April 2018 outlining the rights and responsibilities of both parties in relation to land ownership, land use, tree management and receiving tree payments. As a requirement of Plan Vivo, farmers are currently drawing up land use maps which will form the basis of an agreement with Plan Vivo in 2019.

2.   No reported activities towards securing carbon buyers

In the next six months we will develop a marketing plan to attract carbon buyers once the PDD has been verified and certificates are being prepared. Plan Vivo has a solid group of buyers interested in smallholder projects. They are also applying to join the International Carbon Reduction and Offset Alliance (ICROA, a conglomerate of carbon reduction and offset providers that will increase the field of potential buyers.

Output level reporting

1.   Comment more clearly on cultural aspects

We are learning more about cultural and gender considerations from recent in-depth interviews with women and men. For example, time spent on household and garden activities can restrict available labour for managing tree plantations. Some women earn income from making 'tais' traditional woven cloth or knitting bags and headbands. Several farmers talked about the importance of 'Tara Bandu' laws to ensure livestock do not stray into plantations and for spiritual and administrative leaders to penalise under the agreed laws. The baseline household survey described cultural significance of bird calls but we need to do more indepth interviews to explore significance of mammals, frogs, and reptiles.

2.   Assurances regarding timeframe for carbon sales

The timeframe for carbon accreditation and carbon sales has been extended due to changing to Plan Vivo Certification Scheme as explained in the Change Request Forms. We are now aiming for accreditation by end of 2019 and carbon sales by end of Year 4 (June 2021). See change requests.

Outcome level reporting

1.   Reasons for change in target reforestation area

The initial estimate of 300ha of viable trees for carbon needs to be revised down to 120ha based on a couple of villages dropping out of the original GTNT project and more accurate GPS mapping showing low tree survival in some areas. The number of households needs to be revised down from 210 to 120 based on the reduced viable land area and slow increase in number of households able to plant and manage trees. Original estimate of 40ha under FMNR revised down to 15ha based on farmer interest over smaller areas than initially envisaged.

2.   Baseline information has been recorded for carbon measurements and livelihoods (see household survey report attached).

Monitoring and Evaluation

1.   How output 5 (Livelihood impacts) will be monitored

We have changed some of the wording of output 5 indicators to make them more specific and measurable based on recent household interviews. eg 50% increase in livelihood benefits (instead of satisfaction and wellbeing) from tree plantations by end of Yr 4. And 30% of non-participating families interested in and able to adopt reforestation on their land. Monitoring of output 5 involves completion of household surveys, in-depth interviews and focus groups and documenting the findings. Case studies will be developed to highlight livelihood impacts (positive or negative) arising from the project, across a range of households.
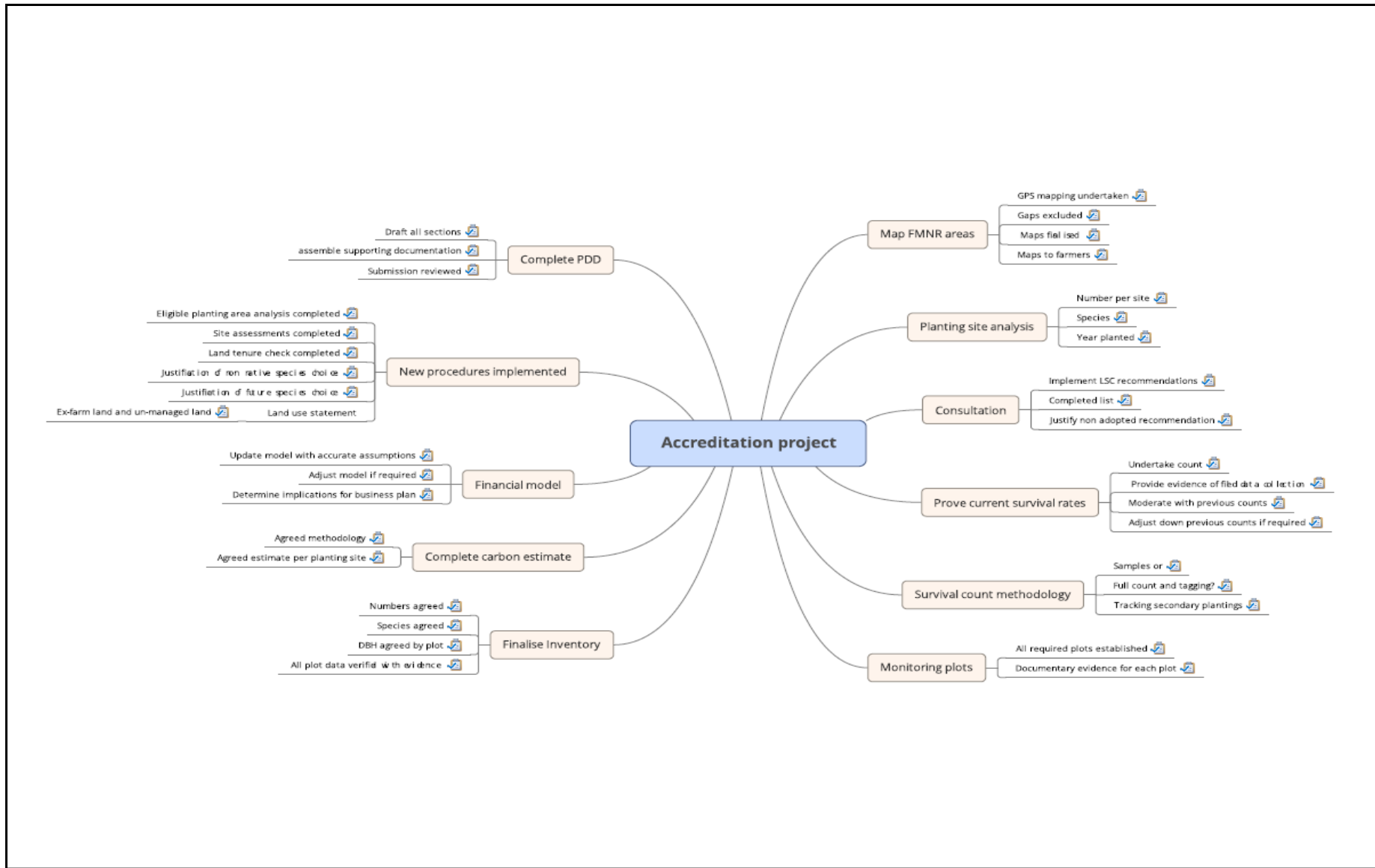
2.   Disaggregating income streams from carbon and agroforestry

We have disaggregated the two income sources as follows "20% increase in household income of project participants from carbon sales by end of Yr 4 compared to the baseline in Yr 1" and "15% increase in household income or food security from agroforestry products by end of Yr 4."

3.   Revising logframe

We have revised the logframe and submitted it with change request form (**Annex 4.4B attached**) .

Annex 4.5   Monitoring and evaluation plan for carbon accreditation

Annex 4.6   **Conference Abstracts**

ABSTRACT FROM ASIAN STUDIES ASSOCIATION OF AUSTRALIA CONFERENCE,
1-3 July 2018, University of Sydney, Sydney.

Agrarian and landscape transformation in Timor-Leste from agroforestry development

Authors: Joanne Millar, Jennifer Bond, Alex Sarmento, Jorge Ramos

Timor-Leste is one of the poorest countries in Southeast Asia with more than 80% of its population reliant on subsistence agriculture. Centuries of colonial resource exploitation caused substantial forest degradation. High population growth estimated at 3.2% per year has increased demand for agricultural land and wood, leading to annual deforestation rates of 2.18%. This paper examines the agrarian and landscape transformation taking place from agroforestry development using a case study from Laclubar and Soibada subdistricts. Results from a survey of 43 households in October 2017 showed that some farmers are willing to invest labour in planting and managing trees if they can get a short to medium term return from fruit, coffee and management incentive payments. Longer term income from timber and carbon credits is attractive for investing in children's education. However, households still rely heavily on natural forest resources which need to be sustainably managed in harmony with agroforestry plantations.

ABSTRACT FOR TIMOR-LESTE STUDIES ASSOCIATION CONFERENCE
Dili, Timor-Leste, 27-30 June 2019

Author/Presenter: Alexandre Sarmento, Fundação Carbon Offset Timor (COTI)

Paper Title: Community forest carbon schemes in Timor-Leste: 20 years on.

The level of forest degradation in Timor-Leste is alarmingly high due to continuous demand for firewood and traditional shifting agriculture practices of slash and burn. The rate was high during the Indonesian 24-year military occupation but continued unabated after the country's independence in 1999. The increasing human population has also exacerbated the situation. Although community reforestation programs in Timor-Leste have been going on since independence most of these programs failed or weren't sustainable due to the lack of financial incentives and immediate benefits provided to the communities. Forest carbon credit sales have potential to break the vicious cycle of unsustainable tree planting programs. Forest carbon credit sale can provide immediate economic benefits to rural farmers enabling them not only to plant trees but ensure their long-term survival. This proposed paper explores lessons learned and best practices from implementing a community forest carbon program in Laclubar and Soibada

ABSTRACT FOR IASC CONFERENCE, July 1-5 2019

Facilitating transition from degraded commons to reforested land and better livelihoods using voluntary carbon schemes: Lessons from Timor-Leste.

Theme: Institutions and actions for the protection of the commons in the 21st Century

Authors:

Jorge Ramos, Forest Carbon Research Officer, Charles Sturt University, Australia. jramos@csu.edu.au

Joanne Millar, Senior Research Fellow, Charles Sturt University, Australia. jmillar@csu.edu.au

Alexandre Sarmento, Project Manager, GTNT Carbon offsets Project, Timor-Leste. alexsarmento2009@googlemail.com

Keywords: Timor-Leste, voluntary carbon certification, community reforestation, collective action, rural livelihoods

This paper explores the potential role of global voluntary carbon schemes in facilitating transition from degraded commons to community led reforestation in Timor-Leste. We examine the institutional, societal and environmental conditions that enable and challenge collective action by farmers, community organisations and project developers in meeting carbon certification standards.

In Timor-Leste, natural resources are traditionally governed under local customary laws and institutions (Batterbury et al. 2015). During the Indonesian occupation (1975-1999), villages were displaced and forest destroyed causing land degradation (McWilliam et al. 2011). Since independence in 2000, some farmers have reclaimed their ancestral land under customary ownership. Conflicts continue over land ownership and livestock invasion but are usually resolved by customary laws (Batterbury et al. 2015). Farmers practice shifting cultivation to grow crops but the intense wet season combined with increased deforestation leads to soil erosion. Reforestation initiatives to address land degradation have shown initial success with planting. However, the effectiveness of these projects often declines from lack of financial support beyond completion (Lasco and Cardinoza, 2007).

A longer term option is to link smallholder reforestation with voluntary carbon schemes via carbon certification (Neef and Thomas 2009). A project was established in 2011 with Australian non-government support to facilitate tree planting in central Timor-Leste for the carbon market. The UK Darwin Initiative Fund is also supporting the project. A key factor facilitating farmers to plant trees for carbon certification has been local credibility of the project manager who has ancestral roots, enabling strong community support. Customary laws and traditions are built into agreements between the project administrator and farmers, stakeholder consultations and grievance mechanisms. Australian staff are training local staff and farmers in carbon monitoring, reporting and verification.

However, there are challenges for farmers to engage in global voluntary carbon schemes in Timor-Leste. Whilst there is plenty of land for reforestation, some areas are too far away to enable good management and tree survival. Scale is therefore limited, making transaction costs high for non-profit organisations. Eligibility requirements under certification standards are complicated by notions of project 'additionality'. Changes to carbon standards reflecting the evolution of global initiatives such as the Paris Agreement are also hurdles. Farmers are realising environmental and income benefits already from reforested areas. Joining the voluntary carbon market will strengthen their capacity to manage trees for future generations.

Batterbury, S.P.J. Palmer, L., Reuter, T. Amaral de Carvalho, D., Kehi, B. and Cullen, A. (2015). Land access and livelihoods in post-conflict Timor-Leste: no magic bullets. International Journal of the Commons. Vol. 9, 2. pp. 619–647

Lasco, R.D. and Cardinoza, M. (2007). Baseline Carbon Stocks Assessment and Projection of Future Carbon Benefits of a Carbon Sequestration Project in East Timor. Mitigation and Adaptation Strategies for Global Change. Vol 12, 2, pp. 243–257.

McWilliam, A. and Traube, E. G. (eds) (2011). Land and Life in Timor-Leste: Ethnographic Essays. Canberra, Australia: ANU E Press.

Neef, A. and Thomas, D. (2009). Rewarding the upland poor for saving the commons? Evidence from Southeast Asia. International Journal of the Commons. Vol. 3, 1. pp. 1–15

Annex 4.7   Article from Darwin Newsletter, February 2019

Champion farmer talking to Lac farmers, Credit: Alex Sarmento

Local partners fill the gaps in community reforestation efforts in Timor Leste

Timor-Leste is still one of the poorest countries in Southeast Asia. People and the environment are recovering from decades of colonial occupation, war and deforestation. A Darwin project led by Charles Sturt University in Australia is supporting community led reforestation by integrating agroforestry, farmer managed natural regeneration (FMNR), biodiversity conservation and carbon payments through an internationally recognised carbon accreditation scheme. Two communities in central Timor Leste have been planting trees since 2012 with an Australian NGO (Group Training Northern Territory) but required new expertise to achieve the integration of new techniques.

We invited local partner organisations World Vision Timor Leste and RAEBIA (Resilient Agriculture and Economy through Biodiversity in Action) to assist with farmer and field staff training and provide follow up support where required. World Vision pioneered the technique of FMNR in Timor Leste where pruning and mulching are used to regenerate native forests for sustainable use. Jess Gusmao from World Vision firstly introduced FMNR to our project farmers on site followed by a bus trip to another district where farmers had been practicing FMNR for several years. Four farmers are now trialling the technique on their natural forest areas with regular monitoring by our field staff.

> "
> They generously gave their time to do a bird, reptile and small mammal survey, and found an unidentified rodent species!
> "

We were fortunate to learn that RAEBIA had introduced conservation farming techniques in two of our six project villages. Mateus Maia kindly provided background information on the two villages and conducted field days for the other four villages to learn about terracing, soil conservation, horticulture and saving seeds. Farmers now know which families they can go to for advice and assistance with learning these new techniques.

A new partner, Conservation International, joined our project last year after we learnt they were conducting biodiversity research training and needed suitable sites. They generously gave their time to do a bird, reptile and small mammal survey, and found an unidentified rodent species! Our field staff gained valuable understanding and skills in wildlife research techniques for future surveys. We will continue to work with our local partners. They have made a real difference to farmer learning, field staff capacity and on-ground impacts.

For more information on project 24-025 please click here.

Article from CSU-ILWS newsletter, May 2018

Adjuncts

Jorge Ramos

Institute adjunct Jorge Ramos describes the work he is doing to help two communities in a remote part of Timor-Leste reforest degraded land and earn an income from the sale of carbon credits accordingly as "very rewarding."

What is especially rewarding for Jorge is to see the difference that a major injection of funds (via an ILWS managed project) has made to an initial project and the two communities involved.

Local small landholders in the Laclubar and Soibada sub districts of the Manatuto district in central Timor-Leste began planting trees – more than 100,000 so far - in 2011 from donations and with the assistance from 2015 of a not-for-profit organisation based in Darwin, GTNT.

"GTNT has been helping the communities with their schools and trees but was relying on donations," explains Jorge, a forestry researcher and consultant who had done some analysis for the initial reforestation project. There was an opportunity last year to link Dr Joanne Millar and CSU with the project developer, GTNT, and put in a project application to the Darwin Initiative Fund."

The application was successful and the integrated research project - **Community reforestation for biodiversity and livelihood diversification in Timor-Leste** (2017-2021), Millar, J. UK Darwin Initiative Fund ($528,703) got underway mid last year.

"The essence of the project is for the landholders to plant trees, get paid for the carbon fixed by the trees, and improve their livelihoods – making the project sustainable in the long term," says Jorge who has been employed by the Institute on a part-time basis to manage the forestry and carbon components of the project. (The social research components are being undertaken by Dr Joanne Millar and Dr Jennifer Bond with the biodiversity component being undertaken by Conservation International, an NGO.)

Above. Jorge Ramos (right) with a local farmer at one of the project sites

"The local communities were very keen to expand the project and get more landholders involved. "The funding we have received has allowed that to happen. We are now implementing and expanding the project and have started the process of getting accreditation from an international standard for carbon."

Timor-Leste is one of the poorest countries in South-East Asia with more than 80% of its population reliant on subsistence agriculture. A decline in agricultural productivity from slash and burn practices has forced farmers to clear additional forest remnants and shift agricultural activities to new areas. Deforestation and land degradation in Laclubar and Soibada has resulted in biodiversity loss, soil erosion and proliferation of invasive species.

This project is expected to be a case study on how to achieve the dual aims of reforesting degraded land and alleviating farmer poverty. More than 94 families involved in tree planting activities and tree nursery production have benefited from the project so far. By 2020 the total number of households involved in the project is expected to reach 210.

"The project has had the opportunity to accelerate activities since we've had that financial injection last year," says Jorge.

Activities to date include:
• The appointment of five field

officers who have been trained in forest inventory methods, mapping of planted areas and field data collection
• Stakeholders consultation meetings – with the local communities to identify how they wanted to expand the project, as well as with government and NGO partners in the project (Raebia, a local NGO, and World Vision International) in Dili
• Social surveys conducted by Dr Joanne Millar and Dr Jennifer Bond
• Training with farmers on natural forest regeneration techniques and conservation farming
• Establishment of a monitoring program to measure trees and carbon
• Identification of tree species suitable for the project
• Land Use Cover analysis undertaken by Deanna Duffy and Gail Fuller from CSU's Spatial Data Analysis Network (SPAN)

"It feels great to see this project grow and develop," says Jorge. "I've always been interested in community forestry, and have been involved in similar activities in Colombia and Cambodia so this project is a continuation of that work.

"We were always trying to achieve certification and get more people involved and now we are one step closer to these goals. It's good to see the community involved. I think that is fantastic. It is very rewarding."

Originally from Colombia, Jorge has had many jobs that reflect his main areas of interest, namely:
• Identification of livelihoods opportunities for rural communities
• GHG emission reduction estimations
• Implementation of climate change adaptation and mitigation strategies
• Bioenergy project planning and sustainability analysis
• Forest field data collection and analysis

After obtaining his Bachelor of Forest Engineering from Tolima University, Ibague, Colombia, Jorge worked as a program manager for the Food and Agriculture Organization (FAO) of the United Nations in southern Colom-

Annex 4.8 Risk Management Strategy

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	No
Do not include claim forms or other communications with this report.	