

WOODLOT TECHNICAL SPECIFICATIONS

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TREES OF HOPE PROJECT

(A Plan Vivo Carbon Sequestration Project)

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SUMMARY

This technical specification has been developed for use by Plan Vivo projects involving communities participating in Malawi.

Through the Plan Vivo system communities may be able to access carbon finance by land use change activities that involve afforestation and reforestation.

This technical specification sets out the methods that should be used to estimate the carbon benefits from planting and managing woodlots on small holding farms and community land in Malawi. This technical specification also details the management requirements for this system over a long period of time, and the indicators to be used for monitoring the delivery of the carbon benefit.

The technical specification aims to summarise the best available evidence about the environmental benefits associated with the sustainable management of this land use system. Further information and research is welcome and will be incorporated periodically.

This land use system has been developed in consultation with communities and individual farmers in the following districts in Malawi: Neno, Mwanza and Dowa. Other valuable contributions to the development of this system have been received from CHDI staff, national and district government officials and forestry and agricultural extension workers. The inputs have been received through a structured process of meetings and interviews with these key stakeholders between September 2007 and October 2008.

The objective of establishing woodlots is to provide a sustainable source of fuelwood, poles and building materials. In the long term this tree planting system may be used to help re-establish or restore degraded areas of miombo woodland. Additional benefits will include improved water quality, enhanced biodiversity, beekeeping etc. The carbon finance will make a critical difference in allowing for the implementation of this system by providing tree seedlings, increasing capacity in managing this tree planting system and putting in place frequent monitoring to ensure compliance with the technical specification that will create the carbon sink. The most suitable areas for this system are neglected / degraded lands. This system may be more widely adopted on community

land and amongst individuals with slightly larger landholdings (>1 hectare) i.e. those farmers that have sufficient land not to jeopardise their food security by introducing a land use system that cannot be combined with growing other food crops in the long term.

The net carbon benefit of this system above the baseline (with 20% set aside as risk buffer) is calculated to be 59.52 tonnes of carbon per hectare. This is equivalent to 218 tonnes of carbon dioxide per hectare.

ACKNOWLEDGEMENTS:

This work has been undertaken by ECCM as part of the Clinton Hunter Development Initiative in Malawi. It has only been possible because of the financial support received from the Hunter Foundation and the Baugur Group. ECCM wish to acknowledge the contribution made by all the staff of CHDI Malawi, and all the other stakeholders engaged during the participatory planning process used to design and collect data for this technical specification.

1.0

DESCRIPTION OF LAND USE SYSTEM

This system involves the planting of a variety of indigenous and naturalised hard wood tree species on degraded or under-utilised land. The trees planted as part of this system should be managed primarily to meet local needs for woodfuel, building materials, poles and timber. In the long term this system may be used to re-establish miombo woodland and to restore degraded areas of woodland.

1.1

Main tree species

Botanical name	Common name (English)	Range
<i>Khaya anthoteca</i>	African mahogany	Indigenous
<i>Azadirachta indica</i>	Neem	Naturalised
<i>Albizia lebbeck</i>	Siris tree	Naturalised
<i>Azalia quanzensis</i>	Pod mahogany	Indigenous
<i>Senna spectabilis</i>	Cassia	Naturalised
<i>Senna siamea</i>	Pheasant wood	Naturalised
<i>Pterocarpus angolensis</i>	Kiatt tree	Indigenous
<i>Toona ciliata</i>	Australian red cedar	Indigenous

2.0 ECOLOGY

2.1 Altitudinal range.

Botanical name	Altitudinal range
<i>Khaya anthoteca</i>	Will grow up to 1,000 m.a.s.l.
<i>Azadirachta indica</i>	Azadirachta indica is normally found at elevations between sea level and 700 m. It can grow at higher altitudes up to 1500 m, as long as the temperatures remain moderate as it cannot withstand cold or frost
<i>Albizia lebbek</i>	Will grow up to 1,800 m.a.s.l.
<i>Azalia quanzensis</i>	Will grow up to 1,300 m.a.s.l.
<i>Senna spectabilis</i>	Will grow up to 2,000 m.a.s.l.
<i>Senna siamea</i>	Will grow up to 1,600 m.a.s.l.
<i>Pterocarpus angolensis</i>	Will grow at low to medium altitudes up to 2,000 m above sea level.

2.2

Climatic factors

Botanical name	Climatic factors
<i>Khaya anthoteca</i>	<i>Khaya anthoteca</i> requires mean annual temperature between 18 - 28 ⁰ C and mean annual rainfall between 600 ó 1,600 mm.
<i>Azadirachta indica</i>	<i>Azadirachta indica</i> is very drought resistant. Normally it thrives in areas with sub-arid to sub-humid conditions, with an annual rainfall between 400 and 1,200 mm. It can grow in regions with an annual rainfall below 400 mm, but will rely largely on the ground water levels. It is a typical tropical/subtropical tree and exists at annual mean temperatures between 21 - 32 °C. It can tolerate high to very high temperatures. It does not tolerate temperature below 4 °C (leaf shedding and death may ensue).
<i>Albizia lebbeck</i>	<i>Albizia lebbeck</i> prefers annual rainfall of 1,300-1,500 mm and a very dry winter. It is tolerant of long, hot, dry periods and cold winters. Will tolerate annual rainfall between 500 to 2,500 mm. <i>Albizia lebbeck</i> requires mean annual temperature between 19 - 35 ⁰ C.
<i>Azalia quanzensis</i>	Low land thicket or dry woodland, 0 - 1,300m, with rainfall range of between 700mm to 1200mm
<i>Senna spectabilis</i>	Does well in cool conditions (15-25c) and an elevation of up to 2000m. requires a mean rainfall of between 800mm ó 1000mm.
<i>Senna siamea</i>	Grows all over the tropics from sub-humid to semi-humid and even arid zones, 0 ó 1600m.
<i>Pterocarpus angolensis</i>	Very drought tolerant and frost sensitive. Typically annual precipitation in the range 700 ó 2,000 mm is required.

2.3

Habitat requirements.

Botanical name	Habitat requirements
<i>Khaya anthoteca</i>	<i>Khaya anthoteca</i> will grow best on moist, well-drained and deep alluvial soils. Typically it is found along watercourses.
<i>Azadirachta indica</i>	<i>Azadirachta indica</i> can grow in many different types of soil, but it thrives best on well drained deep and sandy soils (pH 6.2-7.0).
<i>Albizia lebbeck</i>	<i>Albizia lebbeck</i> establishes well on fertile, well-drained loamy soils but poorly on heavy clays. Tolerates acidity, alkalinity, heavy and eroded soils, and waterlogged conditions.
<i>Azalia quanzensis</i>	Prefers medium light soils, not waterlogged
<i>Senna spectabilis</i>	Prefers deep, moist sandy or loamy soils and is also draught resistance.
<i>Senna siamea</i>	It prefers a deep, fairly fertile, well drained and neutral or alkaline soils. Does better in a high water table but will tolerate extended drought and a variety of soils.
<i>Pterocarpus angolensis</i>	Prefers well drained soils - very drought tolerant but will thrive on moist sites.

2.4

Growth habit.

Botanical name	Growth habit
<i>Khaya anthoteca</i>	<i>Khaya anthoteca</i> is a fast growing tree species (with a large spreading evergreen crown) which may attain heights of up to 60m under favourable conditions
<i>Azadirachta indica</i>	<i>Azadirachta indica</i> (neem) is a fast-growing tree that can reach 15-20 m (rarely to 35-40 m). It is evergreen but under severe drought conditions it may shed most of its leaves. The branches are wide spread. The fairly dense crown is roundish or oval and may reach a diameter of 15-20 m in old, free-standing trees. The trunk is relatively short, straight and may reach a diameter of 1.2 m
<i>Albizia lebbek</i>	<i>Albizia lebbek</i> can attain heights of 30 m with a dbh of 1m. It is fast growing and responds well to pollarding, coppicing and lopping
<i>Azalia quanzensis</i>	Fairly fast growing when young, later quite slow growing. Semi-deciduous leafy tree, usually to 12m but can reach 35m;
<i>Senna spectabilis</i>	Fast growing in good sites; coppicing. A small rounded deciduous tree generally less than 10m tall. The bole is short and tend to fork near the ground.
<i>Senna siamea</i>	Fast growing; lopping, coppicing. An evergreen tree to 20m, often shrub like. The species is not browsed so it is easily established.
<i>Pterocarpus angolensis</i>	Relatively slow growing deciduous losing leaves during the long dry spell. Is nitrogen fixing and therefore can be treated as an agroforestry tree

3.0

MANAGEMENT OBJECTIVES OF WOODLOT LAND USE SYSTEM

This system is managed for: timber, fuel wood, soil conservation, wind protection and land delimitation. This system may also provide secondary benefits such as improved water quality, beekeeping, increased biodiversity etc.

4.0 COSTS OF IMPLEMENTATION

4.1 Nursery costs

There will be 2,500 seedlings per hectare at a spacing of 2m x 2m. The activities and costs during the setting up of the nursery are:

- Seeds
- Digging and mixing of the soil
- Pot filling, transfer, and topping
- Seed sowing and bed management
- Pricking out and selection/transfer
- Watering and sanitation
- Cost of one wheelbarrow, hoes, spades, machete, shade netting, poles, water, and fuel costs

The total cost of these activities for establishing the seedlings is \$ 493

4.2 Establishment cost

The activities in the establishment phase would include

- Demarcation
- Bush clearing
- Chaining/marketing
- Pitting
- Planting

The total cost for this phase per hectare would be \$214

4.3 Maintenance cost

Operations for year one are grass slashing, spot weeding, firebreaks, uprooting shrubs. The cost per hectare will be \$175 while Year two operations that will include grass slashing, spot weeding, firebreaks maintenance, and uprooting shrubs are estimated to cost \$108. Operations for years 3, 4,

and 5 are maintaining of firebreaks which will cost \$240 per hectare (\$80/year). Other costs would go to buying equipments such as one slasher, one hoe, one machete, a pair of boots, and one overall coat. This will cost \$50. In total, the maintenance cost will be \$575 and the full cost profile is presented below:

Activity	Cost (per hectare of woodlot)
Nursery costs	\$493
Establishment	\$214
Maintenance year 1	\$175
Maintenance year 2	\$108
Maintenance year 3	\$80
Maintenance year 4	\$80
Maintenance year 5	\$80
Operations	\$50
Total	\$1280

5.0 POTENTIAL INCOME

The figures provided for potential income are only intended to be indicative. These figures are based on 2008 market values. Market prices may fluctuate up and down. Yields will be affected both by local environmental conditions and stand management.

Fuelwood. Fuelwood harvesting will occur on a six year rotation, yielding a crop with a value of up to \$1,700 per hectare at each harvest.

Poles. Poles may be harvested between years 8 to 12. Each harvest may yield a crop with a value of up to \$4,600 per hectare.

Timber. Timber may be harvested between years 20 to 50. The value of the timber crop may be as high as \$8,000 per hectare.

Other income may be derived from NTFPø such as beekeeping, medicine etc.

6.0 MANAGEMENT OPERATIONS

6.1 Establishment

All competing vegetation should be removed and the foliage left on site to act as an organic fertilizer, and to conserve soil moisture. Trees should be planted in discreet species blocks (minimum of 20 trees per block).

Tree spacing varies for different tree species:

Botanical name	Planting density
<i>Khaya anthoteca</i>	4x4
<i>Azadirachta indica</i>	2x2
<i>Albizia lebbek</i>	4x4
<i>Azalia quanzensis</i>	4x4
<i>Senna spectabilis</i>	2x2
<i>Senna siamea</i>	2x2
<i>Pterocarpus angolensis</i>	4x4

It is best to plant at the beginning of the wet season to minimize the requirement to water the seedlings. Mulch (rock or organic mulching instead of grass due to termite attack in case organic green material is used from competing vegetation, or interplanting) should be placed around the base of the seedlings to help retain soil moisture whilst also reducing the growth of competing vegetation and adding fertility to the soil.

Note: Intimate mixing of tree species in a woodlot is not recommended since fast growing trees will suppress the slow growing trees and therefore retard their growth rates. Trees should be planted in tree species specific blocks and any trees that already exist on the site should not be cleared but rather planted around with the new trees.

When planting:

- Water seedlings before planting to hold nursery soil together and to assist establishment in case it fails to rain on the day of planting.
- Care should be taken handling plants not to cause damage to shoots, buds or bark.

- Only remove plastic from around root-ball at the time of planting. Care should be taken to remove all the plastic.
- Prune back roots (especially any circular roots) at the time of planting to stimulate new root growth once in the ground.
- Plant to depth of root collar (i.e., for bagged plants, to level of existing nursery soil). Never plant deeper than in nursery leaving no roots exposed.

Ensure that soil is replaced firmly around trees (i.e., well heeled in) and that top soil is filled into the hole first before subsoil.

6.2 Maintenance

The removal of all competing vegetation will be required twice a year for the first three to five years after planting, or until the trees have reached a height of 1.5 - 2 m. Weeding intensity can be reduced to once per year after the fourth year until approximately the sixth year (or once the trees are no longer in competition with weeds).

Prune side branches of timber trees to create clean boles of high value. Offcuts can be used for fuel wood.

No burning is allowed at any time. Any foliage should be worked into the soil. Fire breaks should also be maintained between woodlots and woodlot with cultivated land.

6.3 Thinning and harvest

Year	Thin	Harvesting
<i>Khaya anthoteca</i>	50% at year 12	30
<i>Azadirachta indica</i>	50% at year 5 and a further 50% at year 12	20
<i>Albizia lebbeck</i>	50% at year 10	20
<i>Azalia quanzensis</i>	50% at year 12	40
<i>Senna spectabilis</i>	50% at year 4 and another 50% at	15

	8	
<i>Senna siamea</i>	50% at year 5 and another 50% at 9	15
<i>Pterocarpus angolensis</i>	50% at year 8	50

Table 6.1 Thinning and harvest cycle.

Note: All trees should be re-established after harvest

7.0 DESCRIPTION OF THE ENVIRONMENTAL AND SOCIAL BENEFITS

- Woodlots will provide a local and sustainable source of firewood, poles and timber.
- Reduced pressure on other forest resources (potentially resulting in positive leakage ó see below).
- Income diversification through timber, poles and other NTFPs like beekeeping, medicines, mushrooms etc.
- Soil conservation - particularly the prevention of soil erosion associated with heavy rainfall events and siltation of water courses (climate change adaptation benefit)
- Hydrological benefit ó harvesting of incidental moisture and improved water flows which will help to reduce catastrophic flooding (climate change adaptation benefit)
- Biodiversity benefit ó through the protection of wildlife habitat (birds, bees etc).
- Shading for humans and livestock

8.0 DESCRIPTION OF ADDITIONALITY

A key factor is that the emissions reductions from a project activity or intervention should be additional ó i.e. the intervention would not have occurred in the absence of the carbon derived finance. Additionality can be demonstrated through an analysis of the barriers to the implementation of activities in the absence of intervention. In this case the barriers to the permanent establishment of woodlots that are overcome through the project activity and receipt of carbon finance are:

- Community mobilisation and participation in planning processes.
- Capacity (on improved land use management systems and silviculture).

- Awareness in role of tree planting in climate change management and livelihood improvement.
- Raising seedlings and establishment of various land use systems.
- Seedling distribution
- Opportunity cost of not cultivating land.
- Training to enable long term sustainability of programme through participatory monitoring and evaluation.

As there are no formal means by which communities can access funding to cover these costs, the effect of Plan Vivo carbon finance is strongly additional.

9.0 LEAKAGE ASSESSMENT

Leakage is unintended loss of carbon stocks outside the boundaries of a project resulting directly from the project activity. In the case of establishing woodlots this is most likely to occur where farmers are establishing trees on cultivated land (many of these tree species are not suitable to be grown in combination with other cultivated food crops). If this were to occur it may result in displacement.

The Plan Vivo system requires that potential displacement of activities within the community should be considered and that activities should be planned to minimise the risk of any negative leakage. These actions should include:

- All farmers should be assessed individually to demonstrate that they retain sufficient land to provide food for themselves and their families.
- Signatories to Plan Vivo activities will be contractually obliged not to displace their activities as a result of the tree planting.
- A plan to monitor leakage on specific other woodland areas to ensure leakage is not occurring.
- Formation of community based policing to ensure that leakage resulting from displaced activities does not occur.

Where communities have a satisfactory plan for managing leakage risk resulting from the establishment of woodlots, there should be no assumption of leakage. In all probability the most likely outcome of establishing woodlots is positive leakage as a result of reduced pressure on other forest resources.

10.0 BASELINE CARBON EMISSIONS

The **baseline** refers to carbon sequestered and stored in any existing vegetation (not including food crops) on a site at the time of planting. When calculating the number of Voluntary Emission Reductions (VERs) that a farmer has generated, the baseline carbon stock is subtracted from the carbon sink achieved by the project activity. The procedure used to quantify the **baseline** carbon emissions that would be associated with land management expected in the absence of the establishment of woodlots is set out in *Assessment of Net Carbon Benefit of CHDI Land Use Activities* (ESD, 2008). It is assumed that this system will be used only on neglected land with an estimated carbon baseline of 7.6 tonnes of carbon per hectare in the absence of project activities.

11.0 QUANTIFICATION OF CARBON SINK

The approach used for estimating the long-term carbon benefit of afforestation for Plan Vivo VERs is based on average net increase of carbon storage (sink) in biomass and forest products over a 100 year period relative to the baseline. The carbon sink is calculated separately for each of the technical specifications. A three-staged approach is used:

- Calculate tree growth rates based on tree measurement data captured within the project area
- The carbon uptake of each species is calculated using the CO2FIX-V3 model (Mohren et al 2004).
- These model outputs are then used to build the result for the technical specification based on the numbers of species in each system and the length of rotations.

The procedure used to calculate the potential carbon sink created by woodlots is set out in *Assessment of Net Carbon Benefit of CHDI Land Use Activities* (ESD, 2008). The potential carbon sink created by this land use system (based on long term average carbon storage over 100 years) is calculated to be 82 tonnes of carbon per hectare.

12.0 BUFFER

Twenty percent (20%) of all VERs generated by the project activities are maintained as a risk buffer. Records of all buffer stock should be maintained in the database. It has yet to be decided at what stage the right to trade these VERs will return to the farmer.

13.0 CALCULATION OF CREDITS

For the purposes of quantifying Plan Vivo certificates (carbon offset), the net carbon benefit of each tree planting system in addition to the baseline has been calculated. In accordance with Plan Vivo standards (<http://www.planvivo.org/>) 20% of all the carbon offset (i.e. net carbon benefit) is set aside to be kept as a risk buffer (i.e. non tradable carbon asset). Records of all buffer stock should be maintained in the database. The net carbon benefit, buffer stock and tradable carbon offsets (Plan Vivo certificates) generated by the woodlot land use system (technical specifications) is presented in the table below:

Table: The net carbon benefit and tradable carbon offset for the woodlot land use system

Technical Specification	Sink (tC/ha)	Baseline (tC/ha)	Net benefit (tC/ha)	Buffer (%)	Tradeable (tC/ha)	Tradeable (tCO ₂ /ha)
Woodlot	82	7.60	74.40	20%	59.52	218.24

The figure below shows the long-term average carbon sink over the simulation period (100 years).

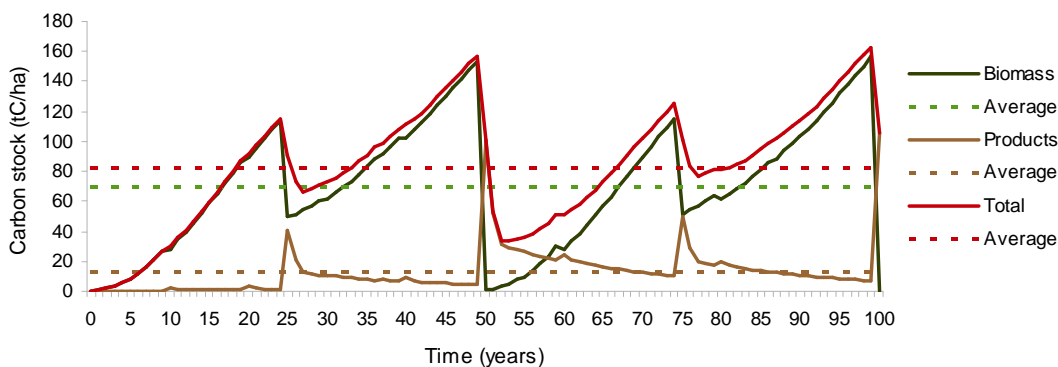


Figure 13.1: Woodlot technical specification carbon sequestration potential over 100 years.

14.0 MONITORING

Monitoring targets for the first 3 years are based on establishment whereby the whole plot must be established by the third year with at least 100% survival of seedlings. Thereafter monitoring targets are based on DBH. The expected DBH at the time of monitoring is based on a predicted mean annual diameter increment on which carbon sequestration estimates are based. Monitoring field data collection templates for years 0 to 3 (establishment-based) and years 4, 7 and 10 (DBH-based) are presented in the appendix.

Year	Monitoring Indicator
0	At least 50% plot established
1	At least 75% plot established
2	Whole plot established with 85% survival.
3	Whole plot established with 100% survival
4	Average DBH not less than 8cm
7	Average DBH not less than 15cm
10	Average DBH not less than 20cm

NOTE: DBH refers to Diameter at Breast Height

15.0 REFERENCES

Berry, N (2008). Carbon modelling for reforestation and afforestation projects. Unpublished but available at ECCM (part of the Camco Group), UK.

Berry, N (2008). Estimating growth characteristics of agroforestry trees. Unpublished but available at ECCM (part of the Camco Group), UK.

Berry, N (2008). Protocol baseline survey for agroforestry projects. Unpublished but available at ECCM (part of the Camco Group), UK.

ESD (2008) Assessment of net carbon benefit of CHDI land use activities in Malawi. Unpublished report available through ESD (Nairobi) (<http://www.esda.co.ke>)

<http://www.planvivo.org/>

<http://www.greenhouse.gov.au/nrm/fieldmeasurement/part02/section4two.html>. Australian Government, Department of the Environment and Heritage Australian Greenhouse Office.

Mohren, F., van Esch, P., Vodde, F., Knippers, T., Schelhaas, M., Nabuurs, G., Masera, O., de Jong, B., Pedroni, L., Vallejo, A., Kanninen, M., Lindner, M., Karjalainen, T., Liski, J., Vilen, T., Palosuo, T. (2004). CO2FIX-V3

World Agroforestry Centre (2004). Agroforestry tree database.

ANNEXES

ANNEX 1: Monitoring field data collection template for Years 0 to 3 (establishment-based indicators)

MONITORING FIELD DATA COLLECTION TEMPLATE FOR YEARS 0 TO 3. FOR TREES OF HOPE CARBON SEQUESTRATION PROJECT.

Identity of producer (name and village)	
Technical specification	
Area (ha) or perimeter (m) of registered plot	
No. of plan vivo	

Expected total number of trees on plot at full establishment	
Year/season of establishment	
Year of monitoring	
Expected min. number of trees on plot at this monitoring	
Number of surviving trees on plot at this monitoring	
<i>General comments and recommendations</i>	
Name of Local Program Monitor	
Date of Monitoring	
Name of approving CHDI Technician	
Date of approval	
Name & organization of approving partner	
Date of approval	

ANNEX 2: Monitoring field data collection template for Years 4, 7 and 10 (DBH- based indicators)

**MONITORING FIELD DATA COLLECTION TEMPLATE FOR YEARS 4, 7 and 10.
FOR TREES OF HOPE CARBON SEQUESTRATION PROJECT.**

Identity of producer (name and village)	
Technical specification	
Area (ha) or perimeter (m) of registered plot	
No. of plan vivo	
Total number of trees on plot at full establishment	
Average DBH (cm) from 20% random sample	

Expected DBH (cm) from plot	
Year/season of establishment	
Year of monitoring	
Expected min. number of trees on plot at this monitoring	
Number of surviving trees on plot at this monitoring	
<i>General comments and recommendations</i>	
Name of Local Program Monitor	
Date of Monitoring	
Name of approving CHDI Technician	
Date of approval	
Name & organization of approving partner	
Date of approval	

NOTE: DBH refers to Diameter at Breast Height