

MIOMBO COMMUNITY LAND USE

&

CARBON MANAGEMENT

NHAMBITA PILOT PROJECT

INTERIM REPORT

(REPORTING PERIOD 1 August 2004 – 30 April 2005)

CONTRACT No. B7-6200/2002/063-241/MZ

Co-ordinator: The University of Edinburgh, Prof. John Grace

Partners

The University of Edinburgh (U of E)

Edinburgh Centre for Carbon Management Ltd. (ECCM)

Envirotrade Ltd.

Title and location

The "Miombo community land use and carbon management – Nhambita pilot project" is located in the buffer zone of Gorongosa National Park, Sofala, Mozambique.

1. Introduction

The aim of the project remains unchanged, as follows;

- (1) Develop forestry and land use practices in participation with rural communities that promote sustainable rural livelihoods and raises living standards.
- (2) Assess the potential of these activities to generate verifiable carbon emission reductions.

The project is working in communities located inside of the Gorongosa National Park buffer zone, with the initial target group being the Nhambita Community.

The **three main components** of the project are:

- (1) The promotion of sustainable land use in the Nhambita Community area (forest management, agro-forestry and non-timber forest products),
- (2) Research into local and regional carbon baselines and to model the potential for carbon offsets generation through the sustainable land use activities, and
- (3) Capacity building of regional organisations, such as the Gorongosa National Park authority and the Provincial Forestry and Wildlife Departments.

2. Project Progress

Progress has been made in the following categories of project activities:

- 1. Forest Management**
- 2. Timber Utilisation**
- 3. Agroforestry**
- 4. Non Timber Forest Products**
- 5. Regional Carbon & Forest Dynamics Research**
- 6. Carbon Verification**

Activity 1 - Forest Management

1a. Establishment of Community Forest Association

The Community Forest Association has been established and the community fire management group training is ongoing. Particular focus on this issue is during the relevant dry seasons when the fire risk is high.

1b. Training of community forest workers

Three forestry workers completed a course on mango grafting during Year 2, Quarter 1. The farmers who ran the course have prepared grafting materials for the project and grafting began in January 2005 (see Appendix F). Ongoing training of the staff by Gary Goss, consultant is underway.

1c. Forest inventory

The database for the forest inventory has been set up and is ongoing.

1e. Production of seedlings

The nursery has been very productive and seedlings are growing very well. Seed collection is seasonal and is underway at present – a database has been established showing dates for the best collection of different species and a seed bank has been established.

1f. Management Planning

This activity is central to the entire project and is ongoing.

1h. Timber Extraction

Licence applications have been prepared and are currently awaiting a letter from the Park Director. Two separate licences are required (One through the Agriculture Department and one through the Ministry of Tourism).

1i. Replanting and Enrichment Planting

Initial experimental planting of degraded lands of 5000 trees has been undertaken.

1j. Measurement of Permanent Sample Plots (PSPs)

This activity has been ongoing throughout the year.

Activity 2 – Timber Utilisation

2a. Establishment of Community Timber Utilisation Association

The timber utilisation association has been set up and is holding regular meetings; an initial group is receiving training from Gary Goss assisted by ORAM. The carpentry shop is equipped and is producing items for sale and on order (see Appendix F).

2b. Provision of Equipment (sawmill and carpentry)

Workshops are established and equipped for carpentry work; the saw mill is to be delivered in the next few months.

2c. Training of Community Workers

The community workers' training in the use of the tools is ongoing. Community members are being trained in carpentry and crafts, and there is evidence of an increase in capability as a result. There are now 5 carpenters in training; the project is utilising teachers from a local training school near Inchope to train the community carpenters for a few days each month.

2d. Production of Sawn Timber

This will commence as soon as the logging licences are granted and the saw mill is purchased.

2e. Manufacture of Furniture and Other Products

The community are busy producing furniture, some of which will be used to furnish the project buildings at Chitengo Camp. The Gorongosa National Park is currently being refurbished and the authorities have contracted the project to provide the furniture and window frames for the camp.

The community will also be providing the chairs and desks for the newly built school, working in collaboration with GTZ.

Kenya beehives are also to be made and sold. There is currently an order for 5 beehives and, upon the customer being satisfied, an order for 40 more beehives will follow.

2f. Marketing of Products

Timber products are currently being marketed locally. The Gorongosa National Park is currently the main customer and sales of Kenya beehives are taking off. As the Timber Utilisation activity builds its capability and more carpenters are trained and employed, the marketing of products will become more widespread. This activity will be ongoing throughout the remainder of the project and will increase in productivity as the project progresses.

A basket making and weaving group has been established and pottery production is underway (see Appendix F). A stall is to be built by the main road near the junction with the Park Road and a stall will also be located at Chitengo camp so that tourists may purchase the products.

Honey production is underway and the project has found a purchaser for all the honey.

Activity 3 –Agro forestry

3a. Training of Farmers

This training is underway with the direction of extension officers. Year 2 has seen additional farmers becoming interested in the project and their training is also ongoing.

3b. Propagation of Seedlings

This has been ongoing throughout Year 2 of the project.

3c. Intercropping

Pigeon Pea intercropping was begun in November 2004 on some of the mashambas and has taken off well (see Appendix F). Maize and sorghum grown with pigeon pea has proved successful. Agroforesters have been working with the community, training them and showing them how to intercrop successfully. Plan Vivo planting is underway and is almost ready for the first payments.

3d. Improved Fallows

This task is underway, the project and community are currently engaged in experimental planting and designing a programme for expansion of this activity.

3e. Reforestation with Fruit Trees

Many trees have been planted out this year mainly in abandoned Mashambas. Over 1400 mangoes have been successfully grafted and will be available for planting out during Year 3 of the project.

3f. Planting of Riverine Areas

The bank of the stream is currently being stabilised ready for planting. Species have been identified and the areas mapped out.

3g. Participatory Analysis of Results

Analysis of crop yields using taungya or intercropping systems is underway.

3h. Extension of Techniques

This task is underway.

Activity 4 – Non Timber Forest Products (NTFPs)

4a. Training and Provision of Equipment

The carpentry for the first 40 beehives has been done and more material has been ordered to make up some more Kenya beehives. Carpenters are being trained in the construction of the beehives.

4b. Bee Keeping

The beekeeping has begun using Kenya beehives which have been supplied to us by Food for the Hungry (20) with 50 more now being made in the project's workshop. Bees were moved into the first 2 beehives during the first quarter of Year 2. By the end of the second quarter 26 Kenyan beehives were occupied by bees, some swarms moving from the old bark beehives to the new Kenyan beehives. The new hives are expected to enable production of a higher quality honey.

A harvest of 22kg of clear honey and 2kg of beeswax has so far been collected.

4c. Cane Rat Production (and other livestock)

Two cane rats were caught at the beginning of Year 2 but unfortunately one died and the other escaped. A shelter and enclosed area have been constructed for the cane rats; however, the local animals do not seem to take well to captivity. New, larger quarters are currently under construction for the animals, to improve the chances of domesticating them.

The project has diversified and is experimenting with other forms of protein provision to the community; to this end the first 140 guinea fowls, turkeys and ducks have been introduced in a community pyramid project in which the stock will be increased and made available to more and more community members.

4d. Marketing

The community would like to set up a road stall at the T-junction where the park access road meets the main tarmac road. Permission is being obtained at present for this.

4e. Extension

This is currently taking place using consultants and the project team in Mozambique.

Activity 5 – Regional Carbon & Forest Dynamics Research

5b. Training of Community Technicians

This training has been ongoing throughout the year. Meetings and training to undertake the carbon baselines were held with the whole community and the technicians in June 2005.

These training sessions were organised by ECCM with the community technicians on the Plan Vivo system, carbon sequestration and carbon trading and land use systems that would deliver carbon credits.

Training was also given to improve the quality of the mapping. Other topics included payments to farmers, monitoring and registration of the credits.

5c. Biomass Surveys

The Mozambican trainees studying at the University of Edinburgh are currently in Nhambita carrying out a variety of surveys and research including biomass surveys (see Appendices B and E).

5d. Regional Baseline Analysis

The carbon baseline activity was explained to the On-site Project Manager and the Plan Vivo Administrator based in Mozambique. It was envisaged that initially only madembes should be surveyed (although it may be necessary to include future afforestation sites as well). Envirotrade is to provide field staff for this activity.

Data taken from the PSP's will be transferred into a spreadsheet to enable some basic analyses by the end of Year 2.

5e. Carbon Modelling

A carbon model is currently being prepared by students at the University of Edinburgh and is due to be completed by the end of Year 2 of the project.

5f. Production of Technical Specifications

In December 2004 ECCM provided guidance notes for Plan Vivo systems for the 2004/2005 planting season. A consultant (Will Garrett) from ECCM has also recently visited the project site and is currently producing the technical specifications (Appendix B). A target has been set of getting 2-3 technical specifications finalised to be used before the beginning of the next planting season in November 2005.

Activity 6 – Carbon Verification

6a. Establishment of Institutional Structure

This task has begun and ongoing.

6b. Training of Administrative and Technical Personnel

Piet van Zyl, On-site Project Manager, attended a Plan Vivo training workshop during Quarter 1 of Year 2 in Chiapas, Mexico. Participants received three days of workshop training and two days of field visits to communities involved in the Plan Vivo project. This training workshop has undoubtedly benefited the Nhambita project.

During the project site visit by ECCM and the University of Edinburgh in November 2004 both Piet and Dias Fernando Junior (PV Administrator) received a Plan Vivo training session. This session covered all Plan Vivo work that will be required over the next year to ensure that the Plan Vivo standards are met by the 2005-2006 planting season.

It has also been agreed that farmer's would benefit from monitoring each other's planting. This will be implemented over the remaining three years of the project with the technicians taking a lead in the training.

6c. Land Use Planning

The following land use systems are being developed / tested:

- ◇ Taungya
- ◇ Intercropping
- ◇ Boundary planting
- ◇ Homestead planting
- ◇ Fruit orchards
- ◇ Woodlots

The number of carbon credits associated with each of these systems (except intercropping) are still being quantified.

6d. Assessment and Registration of Carbon Assets

The carbon assets are now being registered on the Nhambita Plan Vivo database. This database records details of the carbon sellers, their location, land area and land use system used. The database should be updated to include the baseline once this work has been completed. The date of sale and payment due is also recorded. The database will also record data for survival rates of trees at each monitoring.

6e. Monitoring and Administration of Carbon Assets

ECCM monitored 20 of the mashambas. The results of the monitoring are available in W Garrett Trip Report June 2005 (Appendix B). Ongoing monitoring of carbon assets is the responsibility of the technicians. Monitoring records should be kept in the Nhambita database and Nhambita annual report. Administration of the carbon assets to be controlled through the Nhambita Plan Vivo database which maintains records of all carbon sales and purchases.

3. Additional Information

The University of Edinburgh has been training three Mozambicans this year. Now these trainees have finished the formal course-work and are carrying out field investigations on the rate of carbon accumulation in plants and soils, and on the impact of burning on the biomass. They are expected to continue their association with the project until its completion in 2008. Their input has been invaluable and their research and draft reports are included in Appendices B and E.

The year got off to a slow start as funding was delayed due to the necessary submission of an addendum to contract to redistribute activities and funds after ICRAF withdrew from the project.

Once funding resumed the project quickly caught up with the work plan and Year 2 has been very productive as the images in Appendix F show. The project is now back on track for the beginning of Year 3, the community has begun to see results and as such have started to become more trusting and more involved with making the project a success.

A Consortium Agreement between the project partners was signed during February 2005 (see Appendix C). Also, the Memorandum of Understanding between the Gorongosa National Park and the Project Partners has been agreed upon and signed by all parties concerned (see Appendix C).

One of the project partners, Envirotrade, has made a promotional film to raise awareness of the project and to promote the sales of carbon credits from the Nhambita Community.

Coinciding with the meeting of the G8 leaders in Scotland, the Sunday Times (the UK's premiere Sunday paper) featured the project in a 3-page, full colour article on 3rd July 2005. The article concluded "As I walk away through the bush, I can see it; new trees growing, healthy crops, beehives, the cane-rat enclosure, the pottery, the carpenter's workshop. Best of all, sitting quietly alone, head bent over his books, the schoolmaster Zacarias is planning the next day's lesson."

4. Lessons Learned

There are some remaining problems arising from the requirements of the employment law in Mozambique and the amount of responsibility that the project can shoulder in this respect. The Project Administrator will continue to work together with Envirotrade to resolve this.