

Nhambita Community Carbon Project Annual Report 2007



Project highlights for 2007

- Over 70% of the N'hambita community are now involved in project activities. In 2006-7, over 500 new farmers joined the project, and approximately 1000 ha of new land will be managed for project activities. As of April 2007, 8000 ha of land was under forest management as part of project activities. By June 2007, there should be 500,000 trees planted as part of project activities.
- The Mozambique Carbon Livelihoods Trust was launched in 2007 to service Plan Vivo projects in Mozambique. It was formed with the assistance of WWF Mozambique who will have a permanent representative on the board. The fund currently has over USD100 000 in future payments to farmers and the community fund on its books.
- The project has successfully traded carbon with a variety of clients during this year at favourable prices that have brought real benefits to the Mozambique community. Details of these trades and the value of the transactions are contained in the report.
- The training programme of extension officers has taken off this year and four courses have been completed at Nhambita where community technicians have been trained for this and other Plan Vivo Projects.
- The project has received significant recognition this year having been cited in the Stern Report and in a WWF publication as a best practice LULUCF project of its type.
- The project received a highly favourable external evaluation report from the external evaluators invited by the University of Edinburgh to appraise the project.
- The success of the project has been instrumental in WWF Mozambique entering into a partnership to roll out the Plan Vivo and Envirotrade Carbon Livelihoods model to two more conservation areas in Mozambique. These initiatives are under way and are attracting considerable market interest.
- This year a project database has been created by ECCM, which is a positive step for the project as it increases the traceability of the carbon from the producer to the purchaser. Will Garrett from ECCM and Joanne Pennie have trained local staff to use it, and a follow up in early 2008 by ECCM will complete the process.

- New satellite imagery of the area was acquired (SPOT and MODIS), and this has enabled us to prepare a forest map and estimate deforestation rates.
- A paper summarising the carbon stocks and biodiversity at abandoned machambas in N'hambita is now in the journal Forest Ecology and Management.
- The learning outcomes of this pilot study so far are being used to guide the roll-out of this work to other areas. In 2007 Envirotrade launched a new project at Cheringoma in the buffer zone of the Marrameu Reserve, as a joint initiative with Zambezi Delta land-use Project. Envirotrade also launched a project in the Quirimbas National Park in Northern Mozambique.
- John Grace presented an overview of the project by invitation of the British Ecological Society at its Annual Meeting in Glasgow.
(<http://www.miombo.org.uk/BESJohnGrace07.pdf>)
- In his association with the Global Canopy Programme, John Grace commented on, and signed, the draft Forests Now declaration (www.ForestsNow.org), which calls upon national governments to "Ensure that carbon emissions from deforestation and the protection of standing trees are included in all national and international carbon markets". The declaration was released on Sept 12th 2007, and received publicity in advance of the UN Climate Change meeting in Bali, December 2007.

Overview of Activities and Outputs

1. Forest management

1a Establishment of community forest association

This was achieved early in the life of the project (i.e. registering the community association, obtaining the "Duat" and legalising the community's claim to the land and its products). We have a set of documents that describes the registration of the N'hambita Community with ORAM (Organizacao Rural de Ajuda Mutua, Rural Organisation for Mutual Help). The Forestry Association operates within the Community Association, and incorporates a forest users' forum, dealing with diverse matters ranging from fire control, the sawmill and the carpentry shop.

1b Training of community forestry workers

Community forest workers will be given training in aspects of miombo forest management, including the selection of tree species, collection of seed, planting and maintenance of seedlings, planting and maintenance of trees and forest mensuration and inventory techniques. Community forest workers will input to the forest management planning process and be encouraged to cultivate a sense of community ownership throughout the project area.




Illustration 1: Fire control in the community forest area.

This has been ongoing since the start of the project; much of the effort in the current year has been put into fire control, as it has become evident that this is one of the most critical aspects of the work (without fire control, the carbon stocks are in jeopardy). In the coming year attention will be placed in management of area A on the appendix satellite image).

1c Forest inventory

Forest inventory work has been on-going since 2004 in connection with the evaluation of carbon stocks, and the inventory report is appended to this document. We found 164 woody species. The 21 most significant (in terms of biomass) species in the sample plots collectively account for over three quarters of the total biomass and include the defining species of miombo woodland. Some rare and valuable species were found. Satellite remote sensing has been used to measure the area of forest, and thus to estimate the total biomass and total carbon stocks available.

1d Community forest nursery establishment

Early problems of irrigation were solved by the installation of a bore hole. The first nursery worked very well, and now two others have been established. The nursery workers include females although in general, for cultural reasons, they do not constitute the bulk of the work-force.

1e Production of seedlings

The current model, as outlined in 1d, can be replicated wherever seedlings are needed. Workers have been trained to collect the seeds of preferred species on a regular annual cycle, and so far there have been no signs of poor germination. Schools have been involved in tree planting around school houses and two schools have their own micro-nurseries.

1f Management planning

Management planning of the forest area is in the hands of a very experienced Mozambican forester employed by Envirotrade, Eng. Antonio Serra, formerly of Centro de Experimentação Florestal, Maputo. He does much of the strategic planning and organises the workforce, guided by the document Draft Forest Management Policy for N'hambita Regulado (Appendix 1). In the coming year he will prepare a management plan for fire control in area A (see satellite map)

1g Establishment of Permanent Sample Plots (PSPs)

Fifteen PSPs of one-hectare each were established in randomly stratified locations within the main land cover types that had been identified in the initial survey of land cover based on LANDSAT imagery (Spadevecchia et al. 2004). These PSPs are geo-referenced. All woody plants with a stem diameter ≥ 5 cm were recorded and mapped, and their diameters at 1.3 m above the ground ('diameter at breast height', dbh) were measured in 2004, 2005, 2006, 2007. By 2007, all trees were tagged with a metal

label bearing a serial number which can withstand fire (when a tree is completely destroyed by fire, the tag can be recovered from the ash and recorded). By early 2007, some individual trees were additionally instrumented with metal girth bands and vernier gauges for precision-measurement of growth, although by late 2007 it became evident that the gauges do not always withstand fire.

1h Timber extraction

Approximately 87 m³ of dead logs were extracted from the woodlands and taken to the carpentry shop. New authorisation from the Agriculture Department was obtained to collect dead logs. About 21 m³ of dead logs from different species were collected and turned into about 9 m³ of planks. The community received authorisation from the Forest Department to cut 20 m³ of Pau Preto, 30 m³ of Panga Panga, 25 m³ of Umbila and 25 m³ of Umbaua. After the community has paid the tax on the above species, they are allowed to cut the authorised amount.

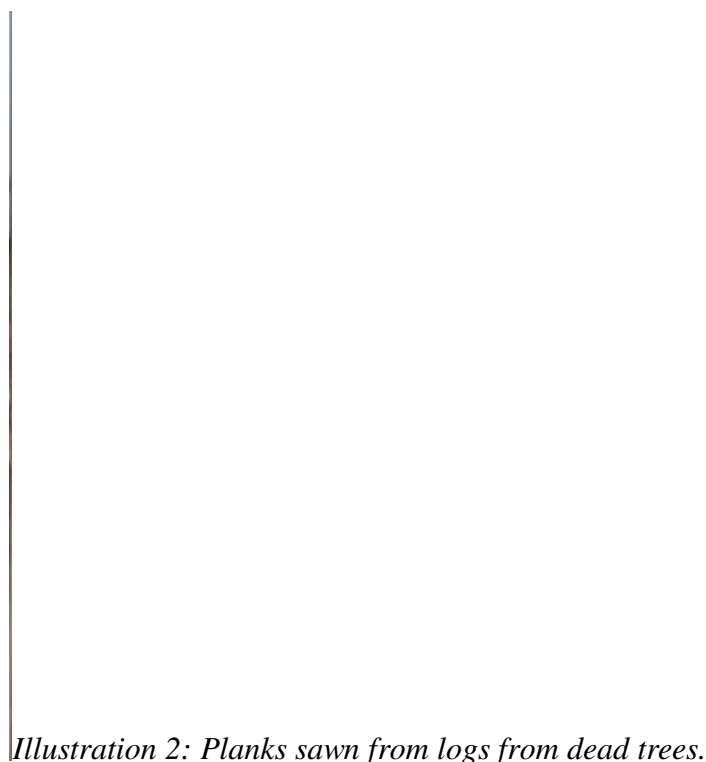


Illustration 2: Planks sawn from logs from dead trees.

1i Replanting and enrichment planting

Replanting and enrichment planting are in the Policy document although this has not been required so far; however, the Management Plan states the principles as follows. The rehabilitation or reforestation of denuded forest is to be undertaken in blocks or strips in a systematic manner

according to a pre-set plan. It must be linked to the sale of carbon thereby giving the incentive to the community to undertake such a venture. By implication, the species selected must be chosen, in addition to other reasons, for their potential for carbon fixing.

The sites for reforestation may require a different approach according to the scale of denudation; heavily deforested sites will require pioneer species to be planted prior to more valuable species being re-introduced. Those sites that still maintain some tree growth could be enriched with selected species from the area that will add value to the future forest in terms of lumber, fruits or medicine. In order to jump start the process of getting the young saplings out of the fire danger height (suffrutex height), the advantage of truncheons or cuttings will not be overlooked. These selected species could be pre-struck in the nursery or planted directly into the field, with the probability of a reduced strike rate. Planting spacing will be 5 – 10 meters apart thus delivering a population of 100 – 200 trees per hectare. In the case of having to re-establish a tree stand totally with the use of pioneer species, one will need to increase the initial population.

1j Measurement of PSPs

This is covered in 1g above, and results are in the inventory report (Appendix 2 on Page 47). Systematic observations of fauna have not been done, although the floristic data have been used to calculate the Shannon Index of biodiversity.

Activity 2. Timber Utilisation

2a Establishment of community timber utilisation association

The community business is well established, and the workshop has the capability to convert fallen timber into a variety of goods, ranging from utility items (beds, stools, chairs, beehives, coffins, doors and shutters) to high quality products such as tables made from attractive woods finished to a high standard. The refurbishment of the Gorongosa National Park continues to generate orders for custom made cabinets and other furniture.

2b Provision of equipment (saw mill and carpentry)

The saw mill which was purchased quite early on in the life of the project continues to give good service. Basic tools were initially a problem as those purchased locally were of low quality; it was necessary to purchase second hand tools of high quality in South Africa instead. These have given good service. Accounts of the saw mill show a useful surplus.

2c Training of community workers

Training has been successful, as can be judged from the standard of the products. The project was able to recruit a trained and apprenticed carpenter from the Maforga Project (which trains craftsmen and artisans) who manages the micro-business. Improvements will continue to be made, and new recruits to the carpentry trade are being taken on, so training is on-going.

2d Production of sawn timber

The basic principles of air-drying are now well understood by the carpentry shop; sales of planked timber have been made, but most of the output has been in finished goods. In 2006/7 About 38 m³ of sawn timber was produced.

2e Manufacture of furniture and other products

The project has developed a range of products and their design continues to be improved as new skills, materials and tools become available. The original emphasis was on durability, but with the assistance of consultants and visitors to the project, improvements in design and ergonomics are being effected. The Maforga Project near Chimoio has played an important role in assisting in this process.




Illustration 3: High value table for export to South Africa.

2f Marketing of products

Furniture and beehives were sold to Gorongosa National Park, the Agriculture Department in Manica and Sofala, and various customers in Gorongosa and Beira. Vegetables were sold at the markets in Gorongosa, Chimoio and recently Gorongosa National Park. In February 2007 the first five of twelve (high value) special tables from the community carpentry were exported to South Africa.

The list of items manufactured and sold in the reporting period is as follows: doors, door frames, special chairs, normal chairs, windows, beds, bee hives, cages, tables, sink unit, towel holder, cabata, safe, stools, room divider, ironing table, dressing tables, carpentry table, coffins, cupboard, wardrobe, chest of drawers.

Activity 3. Agroforestry

The first group of farmers who planted during the season 2005 to 2006 have been paid their first instalment and are now due for their second instalments. The group who planted during 2006 to 2007 are due to be paid their first instalment in the next two months.

The community technicians did a first monitoring report, but they need to go back for another inspection. Some of the machambas have been burned and we are waiting for more rain during the season to see how many trees really survived or will recover.

The first group planted about 36.96 hectare, 2986 trees up to now planted and 2045 survived, a survival percentage of 71.05%. The second group planted about 66.15 hectare, 3004 trees up to now planted and 2188 survived, a survival percentage of 73.15%.

Each farmer has his own monitoring sheet or report. We also have records of some of the machambas where we started to compare each year harvesting results.

3a Training of farmers

Over 70% of the N'hambita community are now involved in project activities. In 2006 / 7, over 500 new farmers joined the project, and approximately 1000 ha of new land will be managed for project activities.

3b Propagation of seedlings

Two models of local (village) seedling production units have been trialled at Mucombeze Ponte and Mucombeze 1. In one, the contract for the

Illustration 4: New nursery at Mucombeze.

annual production of 40,000 seedlings has been awarded to a team of six people who produce the seedlings according to a strict protocol and schedule. In the other, the contract is with an individual who then subcontracts a team of seven. In both cases, they collect the seeds, obtain the soil, sow the seeds in 4 inch pots under shade and provide irrigation. Seedlings are sold at the four-leaf stage (3 months from sowing) at 16 US cents each. The annual income from this is about 1000 US dollars, exceeding the 400 dollars that can be made by producing charcoal.

3c Intercropping

The project has a "Training Mashamba" that has very successfully demonstrated the impact of inter cropping and extension support has been effective in spreading these techniques throughout the project area.

3d Improved fallows

This activity is central to the work of the project and extension support to farmers in introducing additional crops and techniques is aimed at the fallow cycle and soil nutrition. Evidence of the changes that have resulted can be found in the improved yields from existing crops (maize and sorghum) and the considerable expansion of "new" crops like "pigeon

pea". This is being achieved through agroforestry techniques using recognised species.

3e Reforestation with fruit trees

The project has imported and sourced high quality grafting material for the nurseries. The community has secured additional charitable funding to import six species of high value fruit trees from South Africa and orchards to supply grafting materials are being planted at each nursery. This will ensure that the nurseries are supplied with the necessary grafting material to grow large numbers of higher value fruit trees in the future. This is part of the sustainability strategy for these micro-businesses.



Illustration 5: Bananas, sugar cane and vegetables planted on river banks.

3f Planting of riverine areas

Extensive planting of the river banks has taken place and banana production has been significantly increased by the introduction of other cultivars and new techniques. During last year's rainy season when the lowlands were inundated, those areas which had been rehabilitated were able to escape damage from the flooding.

3g Participatory analysis of results

This has happened through the "Escola da mashamba" which is an important hub in the project. The area is planted with demonstration plots which include crops, trees, orchards, vegetables and other plantings. This area is used for extension support training, for teaching and demonstration and produces products that provide another income stream for the community fund. The micro-credit scheme to supply drip-irrigation units is also linked to the school and all farmers who purchase these systems come and work and are trained in the school. These plots are monitored and studied by our staff and yields and techniques are monitored with lessons learned being incorporated into extension support. Specific demonstrations of techniques to deal with erosion and flooding are present at the school.

3h Extension of techniques



Illustration 6: Community members in training at the "Escola da Mashamba"

The community extension programme is conducted in close collaboration with the Department of Agriculture and involves ongoing interaction with the community at different levels to encourage the uptake of new techniques and technology. The community extension officers are trained in the project at courses conducted by the project staff under the guidance of Eng. Serra. The project has developed a training syllabus and suitable training material and successful trainees are equipped with the skills to provide low level extension support in the community. These individuals are provided with bicycles and form part of the project staff embedded in the community. Training Program: This year we had three training courses of community technicians on the Plan Vivo package. Each training course was over 4 days and included theoretical sections and field practice.

(They have been trained on the GPS, mapping of machambas, etc. The systems the farmers are going to use, etc.)

September 2007: There were 17 community technicians on the first course; Nhambita (5), Mucombeze(8) and Cheringoma (4) (Malissane, Tito Mabassa, Chico Catrusa, Ernesto Tembo, Paulo Jose, Alberto Taboi, Afonso Matimate, Timoteo Francisco, Pedro Lupanga, Ibraimo Fibione, Frage Sabonete, Pedrito Bizoque, Joao Eduardo, Manuel Francisco, Ricardo Niquisse, Mauricio Manuel, and Martinho Domingos)

October 2007: 5 community technicians from Mucombeze (3) and Cheringoma (2) (Elias Samo, Lucas Charles, Carlitos Nhamudera, Felizardo Boera, Benate Meque)

November 2007 : 4 community technicians from Marromeu (2) and Cheringoma (2) (Elias Samo, Alberto Chibante, Timoteo Raice and Jose Luis)

They all receive a diploma for completing the courses successfully.

Activity 4. Non-Timber Forest Products

4a Training and provision of equipment

Individuals take part in training activities and are selected based on discussions in the community identifying those people with particular interest and capacity, for example people who already practice bee keeping will be targets for hive management training. Training is ongoing involving small groups of around 10 people.

4b Bee keeping



We have introduced the Kenyan bar top bee hive, an improved model which means honey can be harvested without the destruction of the hive. It is used in the community bee-keeping association (of over 70 members, and 295 hives, in N'hambita, Munhanganha, Bue Maria and Pungwe. Beekeeping is becoming an increasingly more secure investment as fires are reduced throughout the project area. The implementation of new technology has meant that 'clean' honey can be sold on the wider market. In September 2007, the project was visited by Michael Schmolke, one of Africa's most well-known apiarists. He and his son gave advice to

the project and ran a training course. However, some people persist with 'old style' hives, made from totally bark-ringing mature Marula trees (*Sclerocarya birrea*) which then die.

Hives are usually placed high in the canopy, so that they withstand burning. Each hive contains several hundreds of thousands of bees. During one three-month period for which records are available, about 260 kg of honey was produced from which 220 kg was purchased by a merchant for sale in town. Comb-honey is likely to be the most lucrative. African bees are harder-to-manage than European bees, although they are the same species. Apiculture is often challenging, especially as people look after their bees as a 'spare time' activity and probably underproduce through lack of attention to the habits of the bees. Only a few of the bee-keepers are women, although women are supposed to be good with bees. To assist management of the hives, smoke generators are being manufactured in the metalwork shop next to the carpentry shop.

4c Protein production

Cane rats proved to be too delicate and resistant to domestication and suffered high mortality rates when bred in captivity, and so domesticated Guinea Fowl have been used instead. A householder is provided with 50 fertile eggs which are hatched by hens (but hens cannot be the mainstay of meat production because they are prone to disease). Once they are raised, eggs produced are 'paid back' to the community and given to another household, to disseminate the process.

4d Marketing

The community has secured the de-mining of the abandoned church at the entrance to the village. Currently a budget is being sought for the rehabilitation of the building for use as a shop to sell the NTFPs and all other produce from the project. The shop is well placed to attract custom from people travelling to the Gorongosa National Park. It will provide a much needed outlet for producers, craftsmen and women in the community.

4e Extension

Dissemination has occurred through links with government and non-government agencies. At district level, agricultural interests have been involved since the beginning of the project. We have been collaborating on tree dissemination in other areas considered to be a priority by the district government. We provided them with seedlings of *Jatropha* and *Macadamia* to be planted in Gorongosa village and at Gorongosa Mountain. Another example of collaboration is training, especially in Plan Vivo and nursery procedures. In return, they assisted the community with advice and seeds of sorghumas well as pineapple seedlings. Collaboration with the Health Department has occurred in training and provision of

basic equipment. The Education Department has been involved in advising the Community Association, and have helped to involve schools. The idea is that each school will have at least one Plan Vivo system, supporting the government plan of "one student one tree".

We also have two schools in our bee keeping programme. Apart from this, and in collaboration also with WWF, we are doing some Environment Education. As a result of the experience, the government is negotiating with other institutions to disseminate environmental education to other schools in the Gorongosa buffer zone. Provincial Government Departments. The Head of the Forestry Department and the Head of the Land Department have visited the project. It was decided to exchange seeds and jointly participate in training on nursery issues.

Authorization to collect dead logs has been obtained and this year the forest department agreed to give a logging licence. At national level, the Envirotrade team travelled to Maputo to visit the Minister of Environment, also the focal point on Climate Change, the national directorate of Land, Forest and Wildlife, the National directorate of Extension Services (these two from Ministry of Agriculture), and senior staff from Eduardo Mondlane University.



Illustration 7: Visit by the Mozambique Minister of Environment

Other institutions with whom discussions and collaborations have been undertaken are: the agriculture research centre in Manica province with whom we collaborate on seed collection, training on fruit tree grafting and *Jatropha* diseases and pests. We have had important discussions with the

Gorongosa National Park authority, supporting and advising the community, including negotiations to define conservation areas.

Activity 5. Regional carbon management research

5a Literature review

The literature review on the carbon stocks and fluxes for savannas in general was published by Professor J Grace et al. (2006) and for miombo in particular the University of Edinburgh reviewed the literature for the recent publication (Williams et al. 2007).

5b Training of community technicians

This is no longer the role of ICRAF, but was taken over by Envirotrade and by the University of Edinburgh. An elite group of community workers have been trained to measure the trees in the PSPs.

5c Biomass surveys

Biomass surveys will be carried out to quantify the standing carbon stock of different land use systems in the project area and the rate of accumulation of carbon by these systems. Biomass surveys will measure biomass in various carbon pools such as timber, foliage, roots, soil carbon etc. The design of surveys will ensure carbon pools expected to change will be measured.

We have found that the carbon stocks in the biomass vary between the vegetation types from less than 10 tC ha⁻¹ in machambas to over 40 tC ha⁻¹ in riverine vegetation. The average for 87 plots is 21 tC ha⁻¹ above ground with a further 5 tC ha⁻¹ estimated to be below-ground biomass and another 18–140 tC ha⁻¹ in the first 30 cm of the soil, as organic matter. These values are consistent with data reported by Williams et al. (2007b) in a synthesis study for the whole of Africa. Interpolating their graph we obtain biomass carbon stocks of 35 tC ha⁻¹ and soil carbon stocks of 80 tC ha⁻¹. Another estimate may be made from Frost (1996) who related biomass of miombo woodland to annual rainfall. From his regression equation, taking the annual rainfall as the 1990-2005 average (749 mm/annum) we get a biomass of 30 tC ha⁻¹. The methodology and further results are described in the appended inventory report.

5d Regional baseline analysis

The potential carbon offset produced by any land use is always measured in comparison to a baseline case – the amount of carbon which would have been accumulated or stored if no project activity was implemented. For activities which aim to conserve carbon stocks through the avoidance

of deforestation the baseline involves an analysis of how the rate of deforestation would have proceeded in the future.

The project will use methodologies developed by the DFID (UK Department for International Development) funded CLIMAFOR project in Mexico to construct regional baselines for deforestation (see Methodologies). This method involves an analysis of the relation between historical land use trends in the region and socio-economic factors. The end result is a baseline matrix that gives the predicted deforestation rate for a combination of predisposing and driving factors (for example distance to towns and type of land use).

For carbon uptake on machambas where trees are planted, the biomass carbon at the outset is effectively zero, so it is sufficient to measure the trees, and to calculate the carbon from the equation developed by [Casey Ryan, henceforth we call this the Casey equation: $y = 0.0267d^{2.5996}$; where d , diameter at 1.3 m above the ground, is measured in cm, and the biomass y is in kg C. When various forms of agroforestry such as intercropping are practised it will be necessary to measure soil carbon at 2-5-year intervals, to estimate the C accumulation rate.

We have calculated the current deforestation rate of the whole area from SPOT images from 1999 to 2007. The value varies over the region as a whole, but the overall deforestation rate is 1.63% per year.

5e Carbon modelling

Existing models are not appropriate as they do not address the processes at an appropriate scale, and are usually over-developed in some respects and insufficiently developed in other respects. The model needs to be able to simulate the response of miombo to changes in fire pressure, and to the likely increases in harvesting (fuel wood, charcoal) which will happen in the 'without project' case. Here we outline the general principle and give a preliminary result. It also needs to be able to take into account 'story-lines' about possible economic development in Africa (Alcamo et al. 2006).

The carbon balance on a per year basis, Δ , expressed as tonnes of carbon per hectare per year, can be represented as: $\Delta = P_n - F_r - F_f$

Where P_n is the net primary productivity which, to a first approximation, is a linear function of rainfall (Frost 1996), and different for 'managed' systems on machambas where N-fixation has a stimulatory effect; F_r is the decomposition rate of the organic matter produced, attributable to the respiration of microbial organisms, and normally a function of moisture and temperature; F_f is the flux of carbon lost through fire. This latter term is the most important to be able to model, and to understand its

dependency on socioeconomic factors. It includes a number of terms which depend on human activity as follows: $F_f = f(h_e, h_f, h_c \dots)$

Where h_e , h_f and h_c are human influences represent encroachment, fuel usage and charcoal making respectively. These are dependent on the human population, but in different ways: h_e and h_f depend on local population density but h_c depends on the demand for charcoal, which previously was low but is currently increasing (Mangue 2000, Brouwer and Falcao 2004, Millenium Ecosystem Assessment 2005). This increase in demand comes from townspeople. It is also dependent on distance from town and distance from the road. Here we include a preliminary result to show the modelling idea (Fig 1).

It should be possible to estimate the rate at which the carbon stocks would disappear in the absence of a project. This preliminary model, not surprisingly, shows great sensitivity to human population size.

5f Production of technical specifications

The technical specifications are typically 3-5 page documents describing the way to achieve carbon sequestration by tree planting or forest protection. Those we have developed so far are as follows:

- Boundary planting
- Dispersed interplanting - Gliricidia
- Dispersed interplanting - Faidherbia
- Fruit orchard - Cashew
- Fruit orchard - Mango
- Homestead planting
- Woodlot

An important further technical specification is 'avoided deforestation', which is in the final stages of preparation as this report is being written (Appendix 4 of the Woodland Inventory report). The technical specifications may be consulted at

<http://www.geos.ed.ac.uk/miombo/Documents.html>. A list of tree species can be found at:

<http://www.geos.ed.ac.uk/miombo/MiomboTreeSpecies.pdf>. By far the greatest take-up by farmers has been boundary planting. This is the least interventionist and presumably reflects caution on the part of the farmer; it is expected that as confidence increases so the take-up of other technical specifications will occur.

Payments for the estimated carbon sequestration are spread over seven years: 30 % immediately after planting, then 70% spread over six years.

Activity 6. Carbon verification

6a Establishment of institutional structure

Note that in the case of Mexico, the trust fund is now a self financing organisation. The Mozambique Carbon Livelihoods Trust (MCLT), hereafter called 'the Trust Fund' will become fully operational in late 2007, with the aim of ensuring that the proceeds of carbon offset sales are safeguarded. An organogram is given below to show how the trust fund will work (Fig 2).

The Trust Fund will be controlled by a committee which will include the following: a nominee of the N'hambita Community Association, a nominee of Envirotrade Lda and a nominee of WWF. The planned structure and modus operandi are similar to the one which successfully controls funds for the Scolel Te project in Mexico. A bank account has been opened with monies being administered by the Mozambican finance company Contabil. The fund has a balance of USD 92,613.00. The MCLT Trust Fund is distinct from the community fund, which is a bank account which farmers pay into, providing community activities which have included contributions to the schoolhouse and clinic.

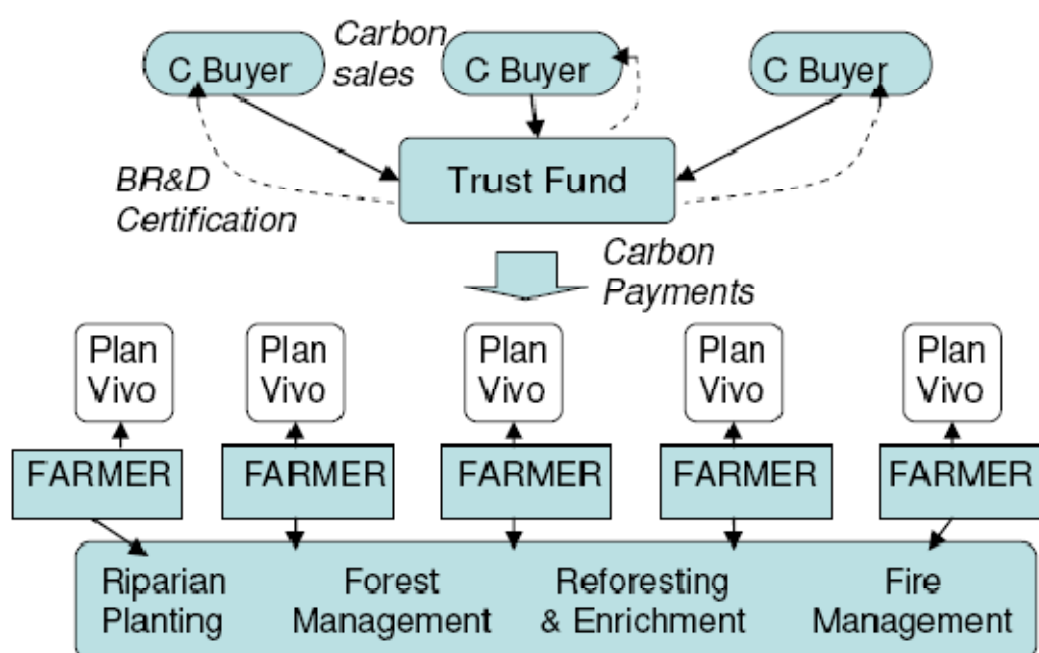


Fig 1. Operation of carbon payments according to the Plan Vivo system. Each farmer has an individual Plan Vivo which is an agreement to plant the land according to technical specifications, guidelines, procedures and standards. Adoption of the Plan by a farmer triggers payment from the Trust Fund. Those who buy carbon receive certification from BioClimate Research and Development (<http://www.brdt.org/>). Verification services are available through independent companies such as Smartwood. Schedule of payments to farmers for tree planting goes as follows:

immediately after planting, 30% of payment, then 12% per year for five years, then a final payment of 10% in the seventh year. Thereafter, the trees are established and yielding sufficient benefits to dissuade the farmer from reverting to slash and burn.

Payments for avoided deforestation through fire control go direct to the community fund not to the Trust Fund. Payments for avoided deforestation through fire control will first go into the Trust Fund and the community and members of the community will earn it through their success doing fire control, etc. Depend of the success rate, part of the funds will then go to the community fund but part of the funds will goes to individual community members or groups taking part or who directly gets involve with fire control and forest management.

6b Training of administrative and technical personnel

Working with the Provincial Forestry and Wildlife Department in this way has the advantage of providing access to trained technicians and links to other communities in the region. Project staff will work with trust fund staff on each of the following activities. Staff are already trained in basic office techniques and in the use of Plan Vivo. There is, however, a need to further develop skills and to link appropriately with Provincial agencies which may assist in aspects of forest protection.

6c Land use planning

The plans exist, and details of all of them have been entered into the Plan Vivo data base. Security of the data base is fundamental to the long term success of the project, and the data will be backed up to a secure server.

6d Assessment and registration of carbon assets

Currently the land use plans are assessed by the project managers, filed as a hard copy and entered into the Plan Vivo database. In future, the trust funds will participate in the process of approval so that the process is transparent and can be seen to be fair.

6e Monitoring and administration of carbon assets

Monitoring of carbon assets over future years and decades will be as follows:

Level 1, ground survey by farmers and the Trust. Farmers will record the survivorship and growth rates of the trees they have planted, some data on survivorship is needed for storage on the central data base, at the level of the management unit. Permanent sample plots will also be recorded on the ground, as an indication of any changes in the baseline. Level 2, periodic ground monitoring by an independent outside agency. It is not cost effective to do this often, as it incurs a high price, and so it should be done only to settle disputes that occur in the carbon trading activities, and when satellite sensors are changed. Level 3, satellite

survey using MODIS and SPOT data. This enables the woodland carbon stocks and the extent of fires and burned area to be monitored. It becomes highly cost effective when several carbon projects are in progress in the same region, and it enables the observation of project leakage (survey areas nearby and regional deforestation rate). It will enable fire monitoring and it will detect changes in the vegetation cover from year to year (examples of these products are shown in this report).

Biomass survey

The activity has produced an inventory report which contains the required information to be able to make estimates of the carbon stocks of large areas (thousands of hectares) and to make more exact determinations of carbon stocks in specific parcels of land selected for management. The basic information is shown in Table 1.

Table 1 Statistical summary of the five land cover types. (\pm) refers to the standard deviation, but variables are not normally distributed so this is only an approximate indication of the variability.

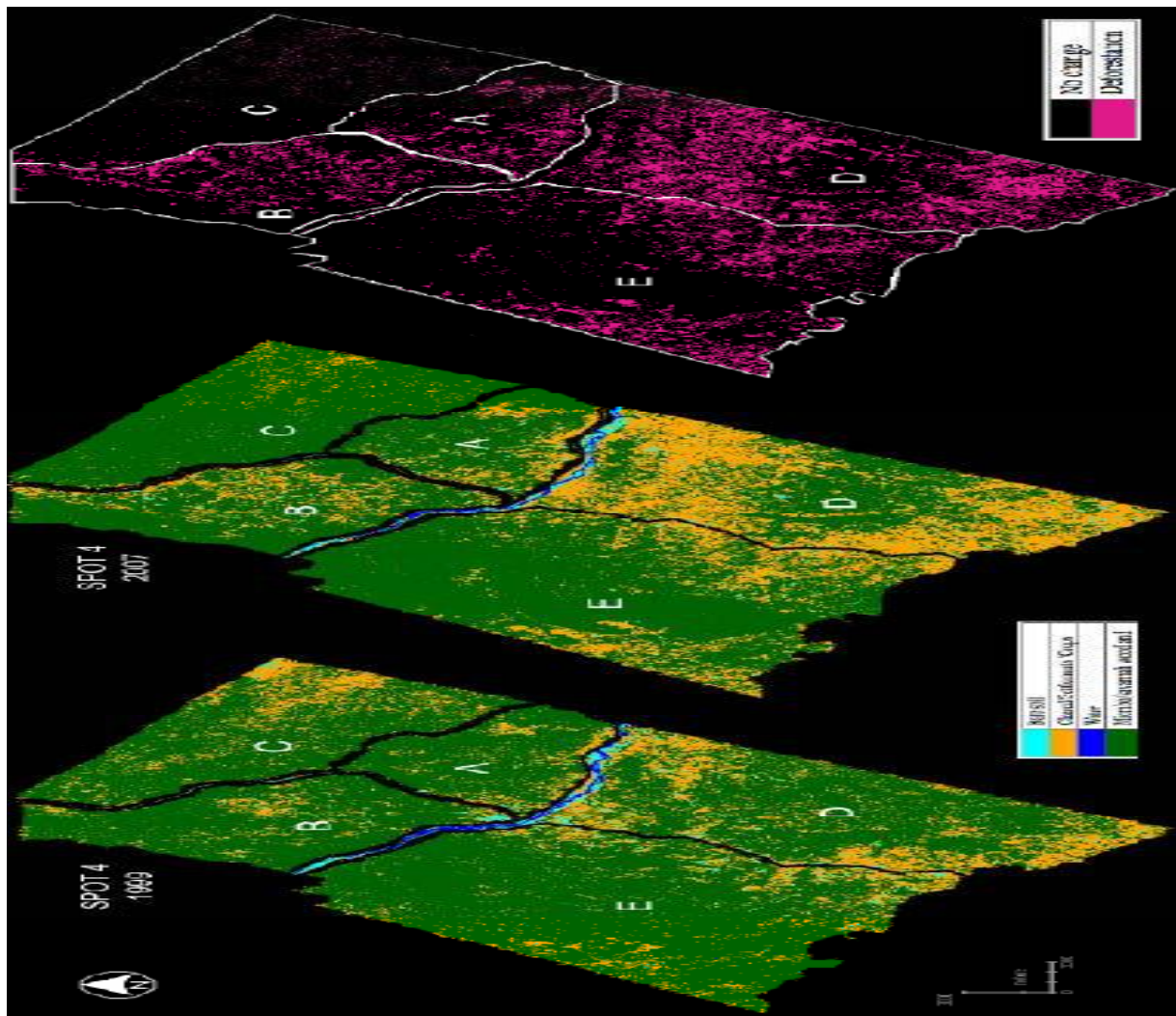
	Riverine forest	Tropical woodland	Savanna	Secondary woodland	Machamba
Trees/ha	421 \pm 167	406 \pm 253	386 \pm 275	561 \pm 255	38
Basal area (m ² /ha)	13.8 \pm 3.3	10.0 \pm 3.2	5.8 \pm 3.9	8.0 \pm 2.0	2.4
Above-ground biomass mean (tC/ha)	47 \pm 18	27 \pm 13	14 \pm 10	13 \pm 9	8
Above-ground biomass median (tC/ha)	43	24	12	14	8
Max. dbh (cm)	92	64	61	38	70
Shannon index	2.2 \pm 0.5	2.0 \pm 0.4	1.2 \pm 0.5	2.1 \pm 0.6	N/A
Sum of plot area (ha)	2.1	10.1	3.8	8.6	1
Number of plots	6	26	10	17	1

These estimates are made from the equation developed for the local woodlands by Casey Ryan, who carried out destructive harvests of individual trees. The equation supplants those we have been using on a provisional basis, which came from other researchers in different parts of Africa (Williams et al 2007). These data may be compared with the literature survey of Williams et al (2007b): for the latitude of N'hambita (19 oS) the biomass is 30 tC/ha. Another estimate may be made from Frost (1996) who related biomass of miombo woodland to annual rainfall.

From his regression equation, taking the annual rainfall as the 1990-2005 average (749 mm/annum) we get a biomass of 30

Remote sensing of forest/non-forest

The SPOT imagery shows the state of the woodland cover in 1999 and 2007, over a region of some 60,000 ha. The imagery does not enable us to unequivocally differentiate the different woodland types, so here we have lumped them all together. The deforestation rate in this period (1999-2007) in the region as a whole is 1.63 % per year, and in the managed area A it is 1.06 % per year (Table **). This may be contrasted with the figures over the period 1991-2000 obtained by our researcher using LANDSAT imagery in nearly the same area (Wallentin 2006). In this earlier period the regional deforestation rate was estimated as 0.15 % per year at the regional level, and 0.03 % per year in the N'hlabita area. Comparison with national deforestation rates declared by Mozambique and other miombo-containing countries may also be made from official figures made available by FAO (2007b): Mozambique 0.3 %, Angola 0.2 %, Tanzania 1.0 %, Zambia 0.9 % and Zimbabwe 1.5 %. The increase in rate is believed to be caused by a population increase leading to a higher requirement for machambas, and by an enhanced demand for charcoal.



SPOT 4 images of the project area, showing different land cover types in 1999 and 2007. Zones are: A, corresponding to N'hambita, Bue Maria and Posta Da Pungwe; B, containing Pavua and M'Bulawa; C, a buffer zone only sparsely inhabited, and south of the river Pungue; D Mucombeze. The scene contains an additional area E, part Mucombeze and part Pinganganga (the latter falls into Manica province). The right hand panel plots the areas which have been deforested, with a spatial resolution of 20 metres.

Table 4. Woodland cover in 1999 and 2007, and the average annual loss in that period, obtained from the analysis of SPOT imagery

	Total area (ha)	Woodland cover 1999 (ha)	Woodland cover 2007 (ha)	Annual loss of woodland (%)
A	6378	5385	4927	0.87
B	9538	8512	7674	1.09
C	1214	9706	11538	-1.09
9				
D	1566	11035	7333	2.95

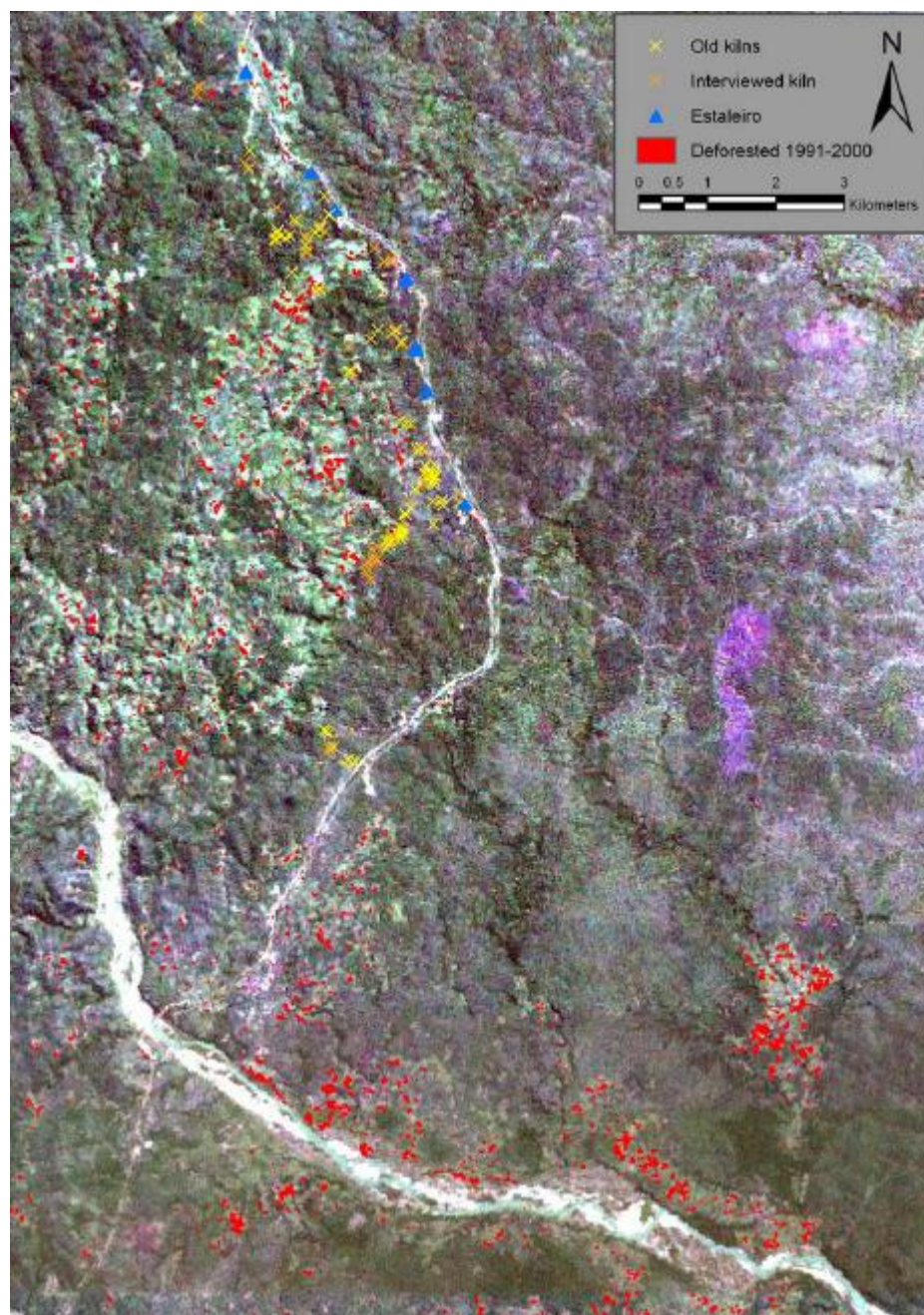
	9			
E	2402	24020	19539	0.76
	0			

Investigation of charcoal making

We focussed this year on an investigation of the activity of charcoal burners, as they have been identified as the primary agents for deforestation (Herd 2007). It deals with the basic processes, and the socioeconomic aspects.

Charcoal manufacture, showing structure of the kiln, building of the kiln, the aftermath, and the selling of charcoal at the roadside (Herd 2007).

Production of charcoal is a time consuming process and is poorly regulated or not regulated at all; it is also inefficient and destroys some of the best woodland (Fig 7). 1 kg of charcoal is obtained from 5.7 kg of wood (kiln conversion efficiency is 17.6 %). Based on annual production rates an average of 1559 tonnes are produced from an estimated 35 hectares of cleared miombo woodland. The study revealed that charcoal production was principally occurring within a strip 2 km wide to the west of the EN-1, and is one of the main land use activities contributing towards land use change in the area (Fig 8). For those involved in the activity it is an important livelihood strategy accounting for 74 % and 59 % of annual incomes for males and females respectively. In spite of this, 95 % of the producers fell below the US\$ 1 poverty line, indicating that current production strategies are not capable of pulling people out of poverty. Sustainable charcoal production built upon community participation in the community has therefore been seen as a way to address these issues and the results from this study suggest that it is feasible given the known growth rates and a concession area of approximately 2585 ha. As a follow up to this study the suitability of the concession area proposed by the producers should be assessed through an inventory and written into a management plan for sustainable charcoal production.



Location of charcoal kilns and deforested areas 1991-2000 (Herd 2007).

Technical Specifications

A new technical specification has been produced for planting *Faidherbia albida*. This is a tree which can be used very successfully in agroforestry systems, because it sheds its leaves during the wet season. It also produces fruits which can be eaten, flowers which provide bee fodder, and it also can be used as live hedges.

A new technical specification for avoided deforestation is also currently being written, and will include methods for calculating carbon benefits of forest protection and will discuss the practical considerations for forests.

5.6 Calculations for financial sustainability

Following the mid-project meeting in Mozambique, Richard Tipper (ECCM) worked with the Envirotrade Team to develop financial projections for the development of the project.

The main consideration for planning beyond the end of the current EU project is to understand how the project can reach a point where it is self-sustaining in terms of carbon finance. Our understanding is that the intention is to scale-up the project over the next 4 years to become a financially viable programme, based mainly on carbon finance.

The key factors in achieving financial sustainability are:

the volume of sales of carbon certificate that the project is able to achieve and the value of VERs the fixed costs of the core project team and "base camp" infrastructure the feasibility of bringing new areas of miombo woodland under management the amount of carbon that the project is required to retain as a "risk buffer" by the Plan Vivo system the extent to which micro-businesses established by the project become self-financing (and operationally independent).

These factors are still under discussion within the project team. However, based on an assumption that annual project operational costs for establishing sustainable Miombo management (through a combination of agroforestry, sustainable woodland management, restoration and fire protection), at scale of operations of 8,000 to 15,000 hectares will be approximately \$900,000 per year, we estimate that the project will need to raise annual sales of VERs to around 600,000 tCO₂ at \$7 per tonne (after sales commission) to become financially self-sustaining. ECCM believes that this is a reasonable basis for planning, given the growth in demand in the voluntary carbon market. Indeed there appears to be a reasonable prospect for prices of Plan Vivo VERs rising above \$8 per tCO₂ over the next year, or more if the sale of carbon in this case can be

coupled to the notion of conservation of biodiversity through avoided deforestation.

The table below shows how the sales of carbon credits could be developed over the next 4 years to reach this point. It should be stressed that these financial projections are still subject to discussion and require more detailed examination over the next 6 months.

Table 2. Financial plan for upscaling of the pilot project- first estimates. We assume in these calculations that the 'without project' scenario would lead to complete removal of woody vegetation within 50 years, and we further assume that the areas brought under management would retain their current carbon content which we assumed to be 30 t/ha. Note that prices are on a per CO₂ basis rather than a per carbon basis. CO₂ is 12/44 carbon. Note also that the price-trend of carbon is uncertain.

	Sale s of VERs	Price of VERs	Reve nue from sales	Area broug ht under mgt	Project operational costs		Plan Vivo Certification Cost		Payments to community funds & farmers	
Year	t CO ₂	\$ / t CO ₂	\$	appro x ha	\$ / t CO ₂	\$	\$ / t CO ₂	\$	\$ / t CO ₂	Total \$
2006	25,0 00	5	125,0 00	227	2.5	62,5 00	0.25	6,25 0	2.25	56,25 0
2007	50,0 00	6	300,0 00	455	2.4	120, 000	0.25	12,5 00	3.35	167,5 00
2008	100, 000	6	600,0 00	909	2.2	220, 000	0.24	24,0 00	3.56	356,0 00
2009	300, 000	7	2,100 ,000	2727	1.8	540, 000	0.23	69,0 00	4.97	1,491 ,000
2010	550, 000	7	3,850 ,000	5000	1.7	935, 000	0.15	82,5 00	5.15	2,832 ,500

The required area for this growth rate is available as the entire N'hambita regulado has approximately 35,000 ha of which much is well-stocked (miombo and combretum woodland, 10-30 t biomass C ha⁻¹), collectively containing about 1 million tonnes of biomass carbon, which is equivalent to about 3.5 million tonnes of CO₂.

Carbon Sales for 2007

N'hambita Project Development Plan

Carbon Sales						Overhead Charges and Central Operational Costs								To Activities		
						Commission to Agent if one is involve										
						To Envirottrade UK for Cost				To BR&D Certif for Cost		To Envirottrade LDA for cost				
Sale	Year	T CO2	\$ / t CO2	Total \$	\$ / t CO2	\$	\$ / t CO2	\$	\$ / t CO2	\$	\$ / t CO2	\$	\$ / t CO2	Total \$		
CAA2	01/01/07	2006 to 2007	30,000	10	300,000	3.00	90,000	2.00	60,000	0.27	8,100	1.50	45,000	3.23	96,900	
Man Group	01/03/2007	2007 to 2008	7,000	12	84,000	0.20	1,400	2.00	14,000	0.27	1,890	1.50	10,500	8.03	56,210	
Zero Mission	20/06/2007	2007 to 2008	13,542	7	94,794	-	-	2.00	27,084	0.27	3,656	1.50	20,313	3.23	43,741	
Live Earth	25/06/2007	2007 to 2008	3,000	10	30,000	-	-	2.00	6,000	0.27	810	1.50	4,500	6.23	18,690	
Maroon5	30/12/07	2007 to 2008	4,500	10	45,000	-	-	2.00	9,000	0.27	1,215	1.50	6,750	6.23	28,035	
Amy Power	18/07/07	2007 to 2008	88	13	1,144	-	-	2.00	176	0.40	35	1.50	132	9.10	801	
David Michaelson	18/12/07	2007 to 2008	7	13	85	-	-	2.00	13	0.40	3	1.50	10	9.10	59	
A Schnurrenburger	07/05/07	2007 to 2008	8	13	104	-	-	2.00	16	0.40	3	1.50	12	9.10	73	
John Greiner	09/02/07	2007 to 2008	3	13	39	-	-	2.00	6	0.40	1	1.50	5	9.10	27	
Robert Harley	25/01/07	2007 to 2008	4	13	52	-	-	2.00	8	0.40	2	1.5	6	9.10		
Graham Fraser	19/01/07	2007 to 2008	2	13	26	-	-	2.00	4	0.40	1	1.50	3	9.10		
					-	-	-	-	-	-	-	-	-	-	-	
					58,154	555,244		91,400		116,307		15,716		87,230		244,536

Quarterly Reports submitted by the Mozambique Project Management team.

First Quarter 2006/2007 Progress Report

Project Title	Nhambita Community Carbon
Report Author	Piet van Zyl
Reporting Period	November 1 st 2006 – January 31 st 2007

1. Introduction (Description of highlights and issues of the second-quarter of the fourth year. Descriptions of any systems or mechanisms established that contribute to project goals and objectives. Description of any data generated.)

During the report period special attention was given to process of mapping machambas to new farms, paying first and second instalments and preparing to send trees out to the new season plantation. The annual inventory was concluded.

One of the groups (CAA) who bought carbon credits from Envirotrade, visited the project in December 2006.

During the report period were intensified contacts and meetings with community association in order to help them on the planning, accountability and activities monitoring and supervision. So, four meetings took place during the quarter.

The last month of this quarter was reserved for holiday for almost all the staff with exception of the nursery group and part of the technicians who were involved on the mapping, payment and on the preparation of tree distribution.

Visits by different groups and meetings during this quarter:

1. On 9th of November a group of 5 community associations from Matondo (Cheringoma district) and 2 GTZ facilitates visited the project area for exchanging experience with Nhambita community association and with the project on natural resource management, community involvement and income generation activities.
2. On the 10th Philip Powell (Director Envirotrade) arrived in Nhambita to visit the project on his routine of monitoring and supervision and participating on the meeting with the other project partners.
3. On the 14th the project team had a meeting with the local government representative (presidente da localidade), traditional leader (regulo) and community association to strengthen the collaboration and define common strategy to manage natural resource and for community development. On the meeting was consensual that each of these parts has an important role on

persuading people to be involved on activities that contribute to sustainable use of the resource and for community development.

4. From 19th to 23rd the project partners (EU, University of Edinburgh, ECCM, and Envirotrade) and consultants visited the project including evaluation meetings where reports from each partner were presented and discussed. Some important recommendations made in relation to the project sustainability and to the necessity to accelerate the trust fund.
5. From 18th to 23rd December a group of 15 people from CAA visited the project. Apart from visiting all the project activities they planted about 120 trees, participated on the improving water sources and coexisted with community.

More will follow in the report.

2. Project Outputs

a. Outputs previously reported

1. Progress of school – The school was concluded, furnished and inaugurated. All the classes are attended on the new classrooms.

In the report for the period of 1st November 2006 to 30th January 2007.

b. Outputs reported this period (November 2006– January 2007)

Community/farmer training	During this period training was concentrate on the plan vivo systems, plantation and tree management. The training involved community association members, technicians and all the farms involved on the project. The training sections were done in all 6 settlements to guarantee maximum participation.
Set up administration system/database	1. For monitoring, we still use the carbon offset calculator and normal excel spreadsheets. We are still waiting for the database from ECCM.
PV planning, species, management, area of planting, drawing PV's (100 for year 1)	1. About 120 new farms joined the PV and their areas were mapped. There is in progress mappings and evaluation to those farms already joined the PV and who wants to add other systems to their machambas.
First carbon offsets - Planting of first 62 Mashambas – Future Forest	<ol style="list-style-type: none"> 1. The second instalment was paid to all first farms. 2. The first instalment was paid to the 307 farms joined last season.

<p>Second and third carbon offsets sales planted 307 Mashambas of different systems, forest enriching planting, maintaining of forest, etc. – for ;</p> <ol style="list-style-type: none"> 1. Creative Artists Agency of America, 25,000 tons of CO₂ = 6,818.1817 tons of carbon– direct by Envirotrade. 2. BioClimate Research and Development, 1116 tons of CO₂ = 304.36 tons of carbon – through ECCM. 	<p>1. New contracts to farmers who wants to add system are under preparation and also new contracts to new farmers who want to join plan vivo and plant tree's.</p>
Administer carbon payments.	Waiting for database.
Fire management	<p>1. A fire management plan is under preparation and expected to be finalized and adopted next quarter. This plan will includes action for prevention and for fighting with community involvement.</p>
Organise charcoal usage community group.	<p>1. About 70 charcoal producers were listed and pa proposal for sustainable charcoal production is under preparation with participation of community association and the producers. The idea is to prepare and submit to the government a sustainable charcoal production which includes 5 000 to 10 000 ha of forest concession, improvement of all the production process and management strategy.</p>
Seed collection	<p>1. During the report period were collected a total of 180 Kg of seeds. This is a continuous activity.</p>
Trees produced	<p>1. During the report period very few trees were produced taking in account that is the time to send out the seedlings and concentrate to maintain the existing seedlings on the nursery. However the nursery still produced about 8 000 seedlings of indigenous species and about 30 000 of <i>Jatropha</i>.</p>
Nursery training	<p>1. Attention was given to training on fruit tree grafting specifically to mango.</p>
Setting up administrative systems in Sofala province.	<p>Training in progress to the new Community Association team including financial management, planning process and accountability.</p>
Renovation of offices in Chitengo	<p>1. We are still waiting for an answer from the Park about compensations on the work already done on the buildings in the Park if they want to take it over before the project comes to an end. The cost for the buildings already been presented to them.</p>

Plan Vivo training	<p>As mentioned above, training on the systems and tree planting and managing was given to the technicians, community association and farms. To the technicians, details on the technical specifications and calculation were also given.</p> <p>The next training already planned will focus on the monitoring system and on the plan vivo database.</p>
Establish fund account	As discussed on the partners' meeting the trust fund is high priority, we already started by opening a bank account with details close to be finished. Statutory arrangement was also initiated.
Sustainable forest management, usage, timber utilisation processing	<ol style="list-style-type: none"> 1. Application for licence was already submitted to Forest Department and the licence is expected by the end of April. 2. However authorization to collect dead logs was already given by the District Agriculture Department. 3. The project collected about 18 m³ of dead logs sawed to about 8 m³ of planks.
Carpentry	<ol style="list-style-type: none"> 1. Different Furniture and beehives were produced giving a total of about 4 000 USD. 2. Additionally were made 4 coffins equivalent to about 200 USD given for free to the community members.
Bee keeping	<ol style="list-style-type: none"> 1. 50 beehives were produced during the period report giving a total of 300 beehives already produced. 2. Monitoring and training beekeepers are in the progress. 3. The fact that the most of the Kenyan top bar bee hives and even quite a lot of the traditional bee hives been cleaned by criminals will leave a negative grow on the bee keeping.
Community census	<ol style="list-style-type: none"> 1. The data are already still under processing.
Handcraft production	<ol style="list-style-type: none"> 1. Community association already submitted a letter to District Administrator to ask for his help on influencing a specialized company working with the government to come and check the existence of land mines at the old school.
Vegetables and Agro forestry Extension	<ol style="list-style-type: none"> 1. About 400 m² planted. 2. Land cleaning and preparation for the next garden season were the main activities during the report period.

PSP'S	<ol style="list-style-type: none"> 1. Annual inventory was done and completed in all 15 PSP's. 2. The technical staffs continue to monitor and collect monthly data from the plots which are conveyed to the University of Edinburgh.
Weather Station	Regular download is done every 40 days.
Medical post and other services	<p>During the report period were attended 1,135 people of about 62% were children. The main diseases are malaria with about 50% and diarrhoea with 22%.</p> <p>Over the same period some activities took place in order to provide clean water. Two water pumps were established using very simple and practical technology. One of these pumps was made in collaboration with the CAA group. The plan is to make more pumps in order to reduce diarrhoea and other related water diseases.</p>

C. Value added outputs reported this period
1. The medical post is still under construction in collaboration with community members. It takes time, but we must keep in mind, the whole building process is done with a limited budget and staff employed by the community.

d. How activities and outputs have contributed to objectives.
1. The visit of the CAA group went quite well and a positive picture went out from what is going on in N'hambita and in the project

3. Financial Summary (€)	
<p>TOTAL Spent May 2003 to 31st July 2003 – Before project officially opened € 8,646.75 – Envirotrade co-finance</p> <p>TOTAL Spent for 1st Year – 1 Aug 2003 to 31st Jul 2004 € 179,453.86 – EU funding cost. € 30,517.57 – Envirotrade co-finance € 209,971.43 – Total cost.</p> <p>TOTAL Spent for 2nd Year – 1 Aug 2004 to 31st Jul 2005 € 187,002.60 – EU funding cost. € 9,660.17 – Envirotrade co-finance € 196,662.77 – Total cost.</p> <p>TOTAL Spent for 3rd Year – 1 Aug 2005 to 31st Jul 2006 € 251,598.32 – EU funding cost. € 32,875.72 – Envirotrade co-finance € 284,474.04 – Total cost.</p>	<p>TOTAL Partner Budget For 1st Year (Aug 03 to 31st Jul 2004) € 184,402.53</p> <p>TOTAL Partner Budget For 2nd Year (Aug 04 to 31st Jul 2005) € 313,790.50</p> <p>TOTAL Partner Budget For 3rd Year (Aug 05 to 31st Jul 2006) € 288,198.78</p>

<p>TOTAL Spent first 3 Years – 1 Aug 2003 to 31st Jul 2006</p> <p>€ 618,054.78 – EU funding cost. €</p> <p>73,053.46 – Envirotrade co-finance</p> <p>€ 691,108.24 – Total cost.</p> <p>TOTAL Spent 1st Quarter 4th Year – 1 Aug 2006 to 31st Oct 2006</p> <p>€ 69,036.14 – EU funding cost. €</p> <p>9,826.44 – Envirotrade co-finance</p> <p>€ 78,862.58 – Total cost.</p> <p>TOTAL Spent 2nd Quarter 4th Year – 1 Nov 2006 to 31st Jan 2007</p> <p>€ 75,605.79 – EU funding cost. €</p> <p>4,409.07 – Envirotrade co-finance</p> <p>€ 78,950.30 – Total cost.</p> <p>Total Spend to date 1st August 2003 to 31st Jan 07</p> <p>€ 762,696.71 – EU funding cost. €</p> <p>87,288.97 – Envirotrade co-finance</p> <p>€ 849,985.68 – Total cost.</p> <p>Total Spend to date by all partners from before project started 1st May 2003 to 31st Oct 06</p> <p>€ 762,696.71 – EU funding cost. €</p> <p>87,288.97 – Envirotrade co-finance</p> <p>€ 8,646.75 – Envirotrade co-finance – Before 01/08/03 from 01/05/03 to 31/07/03</p> <p>€ 858,632.43 – Total cost all partners.</p>	<p>TOTAL Partner Budget For 3 Years (Aug 03 to 31st Jul 2006)</p> <p>€ 786,391.81</p> <p>TOTAL Partner Budget For 4th Year, 1st Quarter (Aug 06 to 31st Oct 2006)</p> <p>€ 85,520.80</p> <p>TOTAL Partner Budget For 4th Year, 2nd Quarter (Nov 06 to 31st Jan 2007)</p> <p>€ 85,520.80</p> <p>TOTAL Partner Budget For 3 Years + 1st & 2nd Quarter of Year 4 (Aug 03 to 31st Jan 2007)</p> <p>€ 957,433.41</p>
<p>Spend this reporting period (1st November 2006 – 31st Jan 2007)</p> <p>€ 75,605.79 – EU funding cost. €</p> <p>4,409.07 – Envirotrade co-finance</p> <p>€ 78,862.58 – Total cost.</p>	<p>Partner Budget for reporting period (1st November 2006 – 31st Jan 2007)</p> <p>€ 85,520.80</p>
<p>Explanation (shortfall/overspend)</p> <p>1. Nothing to report.</p>	

Second Quarter 2006/2007 Progress Report

Project Title	Nhambita Carbon
Report Author	Piet van Zyl
Reporting Period	February 1 st 2007 – April 31 st 2007

1. Introduction (Description of highlights and issues of the third-quarter of the fourth year. Descriptions of any systems or mechanisms established that contribute to project goals and objectives. Description of any data generated.)

During the report period special attention was given to training on Plan Vivo systems and tree planting and maintenance followed by tree distribution to farms in all Nhambita settlements.

Visits by different groups and meetings during this quarter:

6. On 8th February Community Association members were trained on Plan Vivo systems and tree planting and maintenance
7. From 20th to 21st February Antonio Serra , invited by ECCM, participated in Dar Es Salaam on the workshop “Carbon Finance and the Eastern ARC Mountain Forest” where the Nhambita Community Project experience was presented.
8. On 26th February Antonio Serra had a meeting in Beira with National Director of Energy to discuss possibilities to establish a press to process Jatropha oil by the local community
9. On 2nd Philip Powell arrived in Nhambita to visit the project on his routine of monitoring and supervision and participation on the meeting WWF, Eduardo Mondlane University and others.
10. On 5th Will Garret arrived to discuss and develop a new monitoring form for the farmers and discuss the Plan vivo database
11. On 8th Phillip Powell and project team had meeting with WWF Mozambique coordinator (Dr. Helena Motta) and WWF Marromeu project team to discuss Envirotrade participation
12. On 10th Helena Motta accompanied with WWF Marromeu Project Team and two members of WWF Netherland visited the project including machambas and a meeting with farms and Community Association
13. From 12th to 14th Phillip, Piet and Antonio went to Cabo Delgado to visit Quirimbas National Park (QNP) and discuss with QNP authorities, local government and WWF QNP team about Envirotrade participation
14. On 13th the first five of twelve special tables from community carpentry were exported to South Africa
15. On 14th Phillip, Piet and Antonio had a meeting with Lidia Brito and Falcao from Eduardo Mondlane University to discuss alternatives of cooperation specifically on research programmes
16. From 21st to 23th Alistair and Antonio visited Marromeu and Cheringoma to

meet and discuss with WWF team, local government (Administrator and Distrital Director), and local leaders about Envirotrade participation on WWF Marromeu project and to select target community to start.

17. On 27th project team had a meeting with Community Association to discuss proceedings about newcomers and charcoal production from these newcomers in Pungue
18. A group of 4 leaded by Hakan Lobjo from a Forestry school in Sweden visited the project.
19. On 4th President of WWF Germany accompanied by WWF Mozambique team visited the project
20. From 24th to 25th April Antonio participated in Maputo in workshop “Early lessons from implementation of climate change adaptation projects in South Eastern Africa” organized by IISD. Invited by the workshop organizer, Antonio presented the Nhambita Community Project experience.
21. On 30th of May, Antonio went to Zambia to participate on the sub-regional workshop “Lessons and way forward with sustainable forest management”

More will follow in the report.

2. Project Outputs

a. Outputs previously reported

In the report for the period of 1st February 2007 to 30th April 2007.

b. Outputs reported this period

Community/farmer training	During this period training continued on the plan vivo systems, plantation and tree management involved on the project. This was done in all settlements during process of tree distribution.
Set up administration system/database	New monitoring form and the Plan Vivo database was discussed with Will Garret. He is developing the data base and hopefully it will be ready for use in the near future.
PV planning, species, management, area of planting, drawing PV's (100 for year 1)	2. About 510 new Plan Vivo joined and planted about 60.000 trees of different species during the report period.
First carbon offsets - Planting of first 62 Mashambas – Future Forest	1. Meetings with these farmers been held and planning in process with the farmers to add more systems.

<p>Second and third carbon offset sales planted 307 Mashambas of different systems, forest enriching planting, maintaining of forest, etc. – for ;</p> <p>3. Creative Artists Agency of America, 25,000 tons of CO₂ = 6,818.1817 tons of carbon– direct by Envirotrade.</p> <p>4. BioClimate Research and Development, 1116 tons of CO₂ = 304.36 tons of carbon – through ECCM.</p>	<p>2. Meetings continue to take place with these farmers and planning with the farmers in progress to do more systems on their machambas. Like mentioned before, more machambas already been planted as the 307.</p>
Fire management	<p>During the report period project team and community association were selecting and recruiting the fire break team. Those people will be trained on fire management before starting to open the fire brakes.</p>
Organise charcoal usage community group.	<p>2. Negotiation started to demarcate and start with the forest inventory and management plan.</p> <p>3. Preparation for charcoal survey evolving Msc student Alastair from University of Edinburg in progress.</p>
Seed collection	<p>2. During the report period were collected a total of 13 Kg of seeds. This is a continuous activity.</p>
Trees produced	<p>2. During report period nursery was concentrated on preparing for the coming production time and maintain the existent tree stock. About 2.500 trees been produced during this period.</p>
Nursery training	<p>Attention was given to training (review) on the nursery activities as a way to prepare them for the new season.</p>
Setting up administrative systems in Sofala province.	<p>Plan for training the interest groups in financial accountability and business is under preparation.</p>
Plan Vivo training	<p>Training on the systems and tree planting and managing continued as tree distribution was doing covering all farms involved on the Plan Vivo.</p>
Establish fund account	<p>Trust Fund Account at last had been opened and check book been received on the 2nd of April 2007. 100 USD been placed in account to open it.</p>

Sustainable forest management, usage, timber utilisation processing	<ol style="list-style-type: none"> 4. New authorization to collect dead logs was issued by Agriculture authorities. As mentioned on the previous report application for licence was applied to Forest Department. 5. During report period about 21 m³ of dead logs from different species were collected and sowed giving about 9 m³ of planks. 6. The community received the green light to cut 20 m³ Pau Preto, 30 m³ Panga Panga, 25 m³ Umbila and 25 m³ Umbaua. Once the community paid the tax on the above species, they are aloud to cut above amount.
Carpentry	<ol style="list-style-type: none"> 2. Different furniture and beehives were produced with the value of about 4 784 USD. 3. Additionally were made 2 coffins equivalent to about 100 USD given for free to the community members.
Bee keeping	<ol style="list-style-type: none"> 1. During 3 last months was produced and recorded about 260 Kg of honey from which 220 was purchased by a middleman member who sold in town. 2. Monitoring and training beekeepers are in the progress.
Handcraft production	<ol style="list-style-type: none"> 4. Some of community is busy with wood craft and the mats for construction of buildings. 5. The community wrote the letter to Gorongosa National Park Authority and they are waiting for an answer for help on clearing the landmines around the school.
Vegetables and Agro forestry Extension	<ol style="list-style-type: none"> 2. About 1.600 m² was planted with different vegetables. 3. Maize harvested is under process and at this stage the harvested looks very promising against the previous years, most probably because of the pigeon pea (soil improvement) 4. Sorghum harvesting in progress.
PSP'S	The technical staffs continue to monitor and collect monthly data from the plots which are conveyed to the University of Edinburgh.
Weather Station	Regular downloading is done every 40 days.
Medical post and other services	<ol style="list-style-type: none"> 3. During the report period were attended 1,668 people of about 27% were children. The main diseases are malaria with about 22% and diarrhoea with 15%. 4. The medical post is nearly finished.

C. Value added outputs reported this period

2. Increasing on the honey production even where they had problems by losing a lot of their bees because of theft, the honey flow looks promising as a result of the improved beehives.
3. Training and more regular assistance to the bee farmers, could contribute for a higher income and the same would apply by protecting the area against bush fire.
4. The yield of the maize, sorghum from demonstration plot (machamba) is also increasing as a result of the agro forestry system. It could contribute to convince people about advantages of this system.
5. When tree planting started almost all farms were interested in only one system but with the last tree distribution we had many farmers who requested to have more systems.

d. How activities and outputs have contributed to objectives.

Now that the most farmers starting to do more than one system per farmer, it is already contributing to reach our target in terms of number of trees or areas planted as well as increasing income per family and contribute to poverty alleviation.

3. Financial Summary (€)

TOTAL Spent May 2003 to 31 st July 2003 – Before project officially opened € 8,646.75 – Envirotrade co-finance	
TOTAL Spent for 1st Year – 1 Aug 2003 to 31 st Jul 2004 € 179,453.86 – EU funding cost. € 30,517.57 – Envirotrade co-finance € 209,971.43 – Total cost.	TOTAL Partner Budget For 1 st Year (Aug 03 to 31 st Jul 2004) € 184,402.53
TOTAL Spent for 2nd Year – 1 Aug 2004 to 31 st Jul 2005 € 187,002.60 – EU funding cost. € 9,660.17 – Envirotrade co-finance € 196,662.77 – Total cost.	TOTAL Partner Budget For 2 nd Year (Aug 04 to 31 st Jul 2005) € 313,790.50
TOTAL Spent for 3rd Year – 1 Aug 2005 to 31 st Jul 2006 € 251,598.32 – EU funding cost. € 32,875.72 – Envirotrade co-finance € 284,474.04 – Total cost.	TOTAL Partner Budget For 3 rd Year (Aug 05 to 31 st Jul 2006) € 288,198.78
TOTAL Spent first 3 Years – 1 Aug 2003 to 31 st Jul 2006 € 618,054.78 – EU funding cost. € 73,053.46 – Envirotrade co-finance € 691,108.24 – Total cost.	TOTAL Partner Budget For 3 Years (Aug 03 to 31 st Jul 2006) € 786,391.81
TOTAL Spent 1 st Quarter 4th Year – 1 Aug 2006 to 31 st Oct 2006 € 69,036.14 – EU funding cost. € 9,826.44 – Envirotrade co-finance € 78,862.58 – Total cost.	TOTAL Partner Budget For 4 th Year, 1 st Quarter (Aug 06 to 31 st Oct 2006)

<p>TOTAL Spent 2nd Quarter 4th Year – 1 Nov 2006 to 31st Jan 2007</p> <p>€ 75,605.79 – EU funding cost. €</p> <p>4,409.07 – Envirotrade co-finance</p> <p>€ 78,950.30 – Total cost.</p> <p>TOTAL Spent 3rd Quarter 4th Year – 1 Feb 2007 to 30th April 2007</p> <p>€ 76,448.49 – EU funding cost. €</p> <p>7,229.39 – Envirotrade co-finance</p> <p>€ 83,341.59 – Total cost.</p> <p>Total Spend to date 1st August 2003 to 30th April 07</p> <p>€ 839,145.20 – EU funding cost. €</p> <p>94,518.36 – Envirotrade co-finance</p> <p>€ 8,646.75 – Envirotrade co-finance – Before 01/08/03 from 01/05/03 to 31/07/03</p> <p>€ 942,310.31 – Total cost all partners.</p>	<p>€ 85,520.80</p> <p>TOTAL Partner Budget For 4th Year, 2nd Quarter (Nov 06 to 31st Jan 2007)</p> <p>€ 85,520.80</p> <p>TOTAL Partner Budget For 3 Years + 1st + 2nd & 3rd Quarter of Year 4 (Aug 03 to 30th April 2007)</p> <p>€ 85,520.80</p> <p>TOTAL Partner Budget For 3 Years + 1st + 2nd & 3rd Quarter of Year 4 (Aug 03 to 30th April 2007)</p> <p>€ 1,042,295.20</p>
<p>Spend this reporting period (1st February 2007 – 30th April 2007)</p> <p>€ 76,448.49 – EU funding cost. €</p> <p>7,229.39 – Envirotrade co-finance</p> <p>€ 83,341.59 – Total cost.</p>	<p>Partner Budget for reporting period (1st February 2007 – 30th April 2007)</p> <p>€ 85,520.80</p>
<p>Explanation (shortfall/overspend)</p> <ol style="list-style-type: none"> 2. Message down below is for record purpose only, the University know about the problem. 3. At end of or during 3rd quarter in the 4th year, we realized that the University wrongly paid out even expenses Envirotrade booked under their own expenses lines, not to claim back. Will discuss in more detail in the 4th and last quarter of year 4. 	

Third Quarter 2006/2007 Progress Report

Miombo-N'hambita Quarterly Progress Report - ENVIROTRADE

Project Title	Nhambita Carbon
Report Author	Piet van Zyl
Reporting Period	May 1 st 2007 – July 31 st 2007

1. Introduction (Description of highlights and issues of the fourth-quarter of the fourth year. Descriptions of any systems or mechanisms established that contribute to project goals and objectives. Description of any data generated.)

During the report period special attention was given to training on Plan Vivo systems and on preparation to a new season. Negotiations with other communities in order to expand the experience and nursery training where other activities developed during the report period.

Visits by different groups and meetings during this quarter:

2. From May 2nd to 4th Antonio Serra attended workshop in Zambia: "Lessons and way forward with sustainable forest management in Central and West Africa". On this meeting Antonio Serra was invited to present the Nhambita experience
3. May 7th to 11th, Phillip, Piet, Casey and Serra went to Cabo Delgado for exploratory study at Quirimbas National Park and meetings with local authorities
4. May 14th the project team and Phillip had a meeting with Gorongosa District Administrator and the District Director of Agriculture to discuss issues of charcoal inside the buffer zone. At this meeting was an agreement that the government will work with Envirotrade and Community Association to stop any charcoal production inside the buffer zone
5. May 17th, a meeting with WWF staff to discuss and start the environment education program on the schools
6. After meeting with the Administrator, the project team had a meeting with other project workers and community members to discuss charcoal production
7. May 23rd, project team presented the project and annual report to all the District Agriculture staff in Gorongosa
8. May 29th Project team had a meeting with Nhamatanda District Director of Agriculture, his representative in Mucombeze (South of Pungue river), local Community Association and community authorities (regulo and fumos) to discuss ways to work and expand the Nhambita experience
9. June 1st to 4th Serra and Taquidir went to Cabo Delgado to meet the nursery leaders, visit all community nurseries and discuss ways to strengthen them through the carbon project. Meeting with Incaju (government entity responsible to foment planting of cashew nut trees and responsible for the main nursery in Macomia)
10. June 12th to 14th a total of 40 students and 4 teachers from 3 local schools visited the project, specially the nursery, following the agreement to establish

small school nurseries.

11. On 20th a group of 12 farms and vegetable gardens visited two horticulture associations in Nhamatanda district for exchange experience.
12. On 27th project team visited Mucombeze community to select areas to establish two nurseries. Discussions about modalities of the nurseries were discussed with the two groups
13. On 4th July a group of 15 people representing three community nurseries (one in Mbulawa and 2 in Mocumbeze) visited the project to be trained about nursery establishment and management
14. On July 13th a group of 16 people including 12 community members from Cudzo (neighbouring community) and 4 technicians from FAO and district agriculture department paid a visit for exchanging experience once they are at beginning of community based natural resource management founded by FAO
15. On July 19th meeting with community association and local leaders to discuss fire management program was held by the project
16. From July 26th to 28th a group of 20 people from Cheringoma including traditional leaders, community association leaders and local government representative paid a visit for exchanging experience

More will follow in the report.

2. Project Outputs

a. Outputs previously reported

In the report for the period of 1st May 2007 to 30th July 2007.

b. Outputs reported this period

Community/farmer training	During this period training continued on the plan vivo system, plantation and tree management was given to community association and the technician from Mucombeze.
Set up administration system/database	Still waiting for the new data base to be sent by Will Garret. Project team develop a monitoring form to be used by community technicians during monitoring and farm training.
PV planning, species, management, area of planting, drawing PV's (100 for year 1)	Monitoring machambas in progress
1 st Group Sales First carbon offsets - Planting of first 62 Mashambas – Future Forest. 1. 1 st Sale – Future Forest, 9,008.18 tons of CO ₂ = 2,456.78 tons of carbon.	2. 1 st + 2 nd Payments are done. 3. More of these farmers started to do more than one system. 4. Will inspect their fields when the raining season starts and their 3 rd payment will be done by or after the 15 th of December 2007.

<p>2nd Group Sales.</p> <p>Second and third carbon offsets sales planted 307 Mashambas of different systems, forest enriching planting, maintaining of forest, etc. – for ;</p> <p>4. 2nd Sale - Creative Artists Agency of America, 25,000 tons of CO₂ = 6,818.1817 tons of carbon– direct by Envirotrade.</p> <p>5. 3rd Sale - Bio Climate Research and Development, 1116 tons of CO₂ = 304.36 tons of carbon – through ECCM.</p>	<p>7. 1st Payments been done.</p> <p>8. When raining season started, they will receive their 2nd payment by or after the 15th of December 2007.</p> <p>9. Some of these farmers also planning to do more systems.</p> <p>10. More money been paid out to staff opened the fire breaks for the two seasons and some expenses on fuel, travel, etc, for fire fighting.</p>
<p>3rd Group Sales.</p> <p>6. 4th Sale – CAA – 30,000 tons of CO₂ = 8,181.81 tons of carbon – Through an agent</p> <p>7. 5th Sale – MAN Group, 7,000 tons of CO₂ = 1,909.09 tons of carbon – Through an agent.</p> <p>8. 6th U&W Zero Mission, 13,542 tons of CO₂ = 3,693.27 tons of carbon – Through an agent.</p> <p>9. 7th Sale – Live Earth C/O John Rego, 3,000 tons of CO₂ = 818.18 tons of carbon – Through an agent.</p>	<p>1. The most of this mashambas been planted and they will receive their payments by or after the 15th of December 2007 after the rain started and they been inspected</p> <p>2. Like mentioned before, more machambas already been planted as the 307 farmers mentioned before and more farmers getting mapped and some are doing more than one system.</p> <p>3. Total CO₂ sold up to date = 79,658 tons CO₂ = 21,724.91 tons carbon.</p> <p>4. Total value of CO₂ been sold up to now = 639,374.00 USD</p> <p>5. Amount paid out to farmers over the period of two payments = 29,324.73 USD.</p>
Fire management	Opening fire breaks and meetings with leaders and groups of community to persuade them to avoid bush fires and be involved on prevention in progress.
Organise charcoal usage community group.	4. Project for inventory and management plan elaborated in collaboration with community and ADEL (Local Development Agency) .and submitted to FAO was approved and waiting for formal issues to start. This inventory and management plan in conjunction with work done by Msc student, Alistair from University of Edinburg will help on the sustainable charcoal production program.
Seed collection	During the report period was collected a total of 36 Kg of seeds. This is a continuous activity.
Trees produced	5. During report period nursery was concentrated on preparing for the coming

	<p>production time and maintain the existent tree stock. During this period there was only 9.541 trees produced. More trees will be produced during the next few months.</p> <p>6. The plan is to do about 200,000 trees in N'hambita, Mbulawa and Mucombese.</p>
Nurseries	<p>5. Attention was given to training of three groups of people from Mbulawa and Mucombeze who are to establish three community nurseries. Trained three groups of school kids and teachers to establish nurseries.</p> <p>6. Good quality trees been bought from nurseries in South Africa, to be planted in fruit orchards in N'hambita and later to use root stock. 900 Mango, 2200 citrus. These trees are already in Mozambique.</p> <p>7. 1200 Avocados are still South Africa.</p> <p>8. 2500 Cashew seedlings been bought, still need to collect. From a nursery in Mozambique.</p>
Setting up administrative systems in Sofala province.	Plan for training the interest groups in financial accountability and business is under preparation.
Plan Vivo training	Training of new community technicians.
Establish fund account	<p>9. Trust Fund Account is already opened and 92,613.00 USD is been paid into the account on the 16th of July 2007.</p> <p>10. Final stages of setting up of trust fund now in process.</p>
Sustainable forest management, usage, timber utilisation processing	1. During this report period about 26 m ³ of dead logs from different species were collected and sawed. It came out on about 11 m ³ of planks.
Carpentry	<p>3. More furniture and beehives were produced with the value of about 4 046 USD.</p> <p>4. Additional, made 12 coffins which was given for free to the community members.</p>

Bee keeping	<ol style="list-style-type: none"> 1. Of the 200 bee hives currently in N'hambita, 92 have bees in. 2. The season looks very promising and the fire control in this area definitely has a positive effect on the bees. 3. The previous season of honey harvested gave about 215 litres from Kenya top bar hives. At 4 USD / litre it came to about 860.00 USD. 4. From traditional beehives another 220 litre at 2 USD / litre is 440.00 USD. 5. Keep in mind the most beehives been cleaned by thieves.
Handcraft production	<ol style="list-style-type: none"> 1. The old church/school where future handcraft shopping will be is now cleared from land mines. 2. It was done in collaboration with the community and Gorongosa National Park authority. 3. Preparation and planning to rehabilitate the building are now in process.
Vegetables and Agro forestry Extension	<ol style="list-style-type: none"> 1. Harvested already 11 bags which is about 600 Kg of Sorghum. 2. Harvesting of tomatoes, onions and other vegetables are in progress. There is already an agreement between the community and Gorongosa National Park to buy part of the production. Other part is sold in Gorongosa town
PSP'S	The technical staff continues to monitor and collect monthly data from the plots which is conveyed to the University of Edinburgh.
Weather Station	Regular download is done every 40 days.
2 nd School building in Community	The community with the help of GTZ in process of planning the 2 nd school, hopefully they could start in the new season.
Medical post and other services	<ol style="list-style-type: none"> 3. During the report period were attended 2,471 people of about 27% were children. The main diseases are malaria with about 15% and diarrhoea with 13%. 4. The last phase of doing the electrical part will now take place and to equip it with furniture. 5. CAA donate mosquito nets for the community, will arrive sometime in August.

C. Value added outputs reported this period

11. Three community nurseries under establishment in Mucombeze (two) and Mbulawa (one)
12. The enthusiasm demonstrated by communities in Cheringoma and Mucombeze encourages the expansion of Nhambita experience to other areas.
13. 40 more drip systems been bought, will help with the tree's and members of the community will start their own vegetable gardens. They will pay part of the systems back and the money received back will buy more systems.

d. How activities and outputs have contributed to objectives.

3. Expansion of the project as one of the objective on replicating Nhambita experience to other communities and areas.
4. Another project started in the Cheringoma area, Zambezi delta the beginning of May and three nurseries established. By the end of July more than 40,000 pots with seedlings were produced.
5. The project in the Quirimba National Park also started, one nursery is established.

3. Financial Summary (€)

TOTAL Spent May 2003 to 31st July 2003 – Before project officially opened
€ 8,646.75 – Envirotrade co-finance

TOTAL Spent for 1st Year – 1 Aug 2003 to 31st Jul 2004
€ 179,453.86 – EU funding cost. €
30,517.57 – Envirotrade co-finance
€ 209,971.43 – Total cost.

TOTAL Spent for 2nd Year – 1 Aug 2004 to 31st Jul 2005
€ 187,002.60 – EU funding cost. €
9,660.17 – Envirotrade co-finance
€ 196,662.77 – Total cost.

TOTAL Spent for 3rd Year – 1 Aug 2005 to 31st Jul 2006
€ 251,598.32 – EU funding cost. €
32,875.72 – Envirotrade co-finance
€ 284,474.04 – Total cost.

TOTAL Spent first 3 Years – 1 Aug 2003 to 31st Jul 2006
€ 618,054.78 – EU funding cost. €
73,053.46 – Envirotrade co-finance
€ 691,108.24 – Total cost.

TOTAL Spent 1st Quarter 4th Year – 1 Aug 2006 to 31st Oct 2006

TOTAL Partner Budget For 1st Year (Aug 03 to 31st Jul 2004)
€ 184,402.53

TOTAL Partner Budget For 2nd Year (Aug 04 to 31st Jul 2005)
€ 313,790.50

TOTAL Partner Budget For 3rd Year (Aug 05 to 31st Jul 2006)
€ 288,198.78

TOTAL Partner Budget For 3 Years (Aug 03 to 31st Jul 2006)
€ 786,391.81

TOTAL Partner Budget For 4th Year, 1st

<p>€ 69,036.14 – EU funding cost. €</p> <p>9,826.44 – Envirotrade co-finance</p> <p>€ 78,862.58 – Total cost.</p>	<p>Quarter (Aug 06 to 31st Oct 2006)</p> <p>€ 85,520.80</p>
<p>TOTAL Spent 2nd Quarter 4th Year – 1 Nov 2006 to 31st Jan 2007</p> <p>€ 75,605.79 – EU funding cost. €</p> <p>4,409.07 – Envirotrade co-finance</p> <p>€ 78,950.30 – Total cost.</p>	<p>TOTAL Partner Budget For 4th Year, 2nd Quarter (Nov 06 to 31st Jan 2007)</p> <p>€ 85,520.80</p>
<p>TOTAL Spent 3rd Quarter 4th Year – 1 Feb 2007 to 30th April 2007</p> <p>€ 76,448.49 – EU funding cost. €</p> <p>7,229.39 – Envirotrade co-finance</p> <p>€ 83,341.59 – Total cost.</p>	<p>TOTAL Partner Budget For 4th Year, 3rd Quarter (Feb 07 to 30th April 2007)</p> <p>€ 85,520.80</p>
<p>Total Spent to date 1st August 2003 to 30th April 07</p> <p>€ 839,145.20 – EU funding cost. €</p> <p>94,518.36 – Envirotrade co-finance</p> <p>€ 933,663.56 – Total cost.</p>	<p>TOTAL Partner Budget For 3 Years + 1st + 2nd & 3rd Quarter of Year 4 (Aug 03 to 30th April 2007)</p> <p>€ 1,042,295.20</p>
<p>After the 4th quarter of the 4th year financial reports went through to the University of Edinburgh, I realized that I never changed the expenses sheet for the new budgets. Therefore the new figure down below is what went through to be claimed and is budget for.</p>	<p>TOTAL Partner Budget For 4th Year, 1st Quarter (Aug 06 to 31st Oct 2006)</p> <p>€ 80,751.36</p>
<p>TOTAL Spent 1st Quarter 4th Year – 1 Aug 2006 to 31st Oct 2006</p> <p>€ 78,862.58 – EU funding cost. €</p> <p>.00 – Envirotrade co-finance</p> <p>€ 78,862.58 – Total cost.</p>	<p>TOTAL Partner Budget For 4th Year, 2nd Quarter (Nov 06 to 31st Jan 2007)</p> <p>€ 80,751.36</p>
	<p>TOTAL Partner Budget For 4th Year, 3rd Quarter</p>

<p>TOTAL Spent 2nd Quarter 4th Year – 1 Nov 2006 to 31st Jan 2007</p> <p>€ 78,950.30 – EU funding cost.</p> <p>€ .00 – Envirotrade co-finance</p> <p>€ 78,950.30 – Total cost.</p> <p>TOTAL Spent 3rd Quarter 4th Year – 1 Feb 2007 to 30th April 2007</p> <p>€ 76,448.49 – EU funding cost. €</p> <p>7,229.39 – Envirotrade co-finance</p> <p>€ 83,341.59 – Total cost.</p> <p>TOTAL Spent 4th Quarter 4th Year – 1 May 2007 to 31st July 2007</p> <p>€ 77,666.57 – EU funding cost. €</p> <p>406.87 – Envirotrade co-finance</p> <p>€ 77,682.81 – Total cost.</p> <p>TOTAL Spent 4th Year – 1 Aug 2006 to 31st July 2007</p> <p>€ 312,992.99 – EU funding cost. €</p> <p>7,636.26 – Envirotrade co-finance</p> <p>€ 320,628.78 – Total cost.</p> <p>Total Spent to date 1st August 2003 to 31st July 07</p> <p>€ 931,047.77 – EU funding cost. €</p> <p>80,689.72 – Envirotrade co-finance</p> <p>€ 1,011,737.00 – Total cost.</p> <p>Total Spent to date by all partners from before project started 1st May 2003 to 30th April 07</p> <p>€ 931,047.77 – EU funding cost. €</p> <p>80,689.72 – Envirotrade co-finance</p> <p>€ 8,646.75 – Envirotrade co-finance – Before 01/08/03 from 01/05/03 to 31/07/03</p> <p>€ 1,020,383.70 – Total cost all partners.</p>	<p>(Feb 07 to 30th April 2007</p> <p>€ 80,751.36</p> <p>TOTAL Partner Budget For 4th Year, 4th Quarter</p> <p>(May 07 to 31st July 2007</p> <p>€ 80,222.99</p> <p>TOTAL Partner Budget For 4th Year, (Aug 06 to 31st July 2007</p> <p>€ 322,477.08</p> <p>TOTAL Partner Budget For 4 Years (Aug 03 to 31st July 2007)</p> <p>€ 1,108,868.80</p>
<p>Spend this reporting period (1 May 2007 to 31st July 2007)</p> <p>€ 77,666.57 – EU funding cost. €</p> <p>406.87 – Envirotrade co-finance</p> <p>€ 77,682.81 – Total cost.</p>	<p>Partner Budget for reporting period (1 May 2007 to 31st July 2007)</p> <p>€ 80,222.99</p>
<p>Explanation (shortfall/overspend)</p> <ul style="list-style-type: none"> • The notes, budgets and expenses in blue is the amounts used by the University to pay Envirotrade out and as mentioned in previous report, Envirotrade been paid out wrongly for the 1st two quarters of the 4th year. • I overlooked to change the expense and budget with the latest figures, therefore we over booked in some budget lines. • In some of the budget lines Envirotrade will have a little bit less money to spend. 	

Fourth Quarter 2006/2007 Progress Report

Miombo-N'hambita Quarterly Progress Report - ENVIROTRADE

Project Title	Nhambita Carbon
Report Author	Piet van Zyl
Reporting Period	November 1 st 2006 – January 31 st 2007

1. Introduction (Description of highlights and issues of the second-quarter of the fourth year. Descriptions of any systems or mechanisms established that contribute to project goals and objectives. Description of any data generated.)

During the report period special attention was given to process of mapping machambas to new farms, paying first and second instalments and preparing to send trees out to the new season plantation. The annual inventory was concluded.

One of the groups (CAA) who bought carbon credits from Envirotrade, visited the project in December 2006.

During the report period were intensified contacts and meetings with community association in order to help them on the planning, accountability and activities monitoring and supervision. So, four meetings took place during the quarter.

The last month of this quarter was reserved for holiday for almost all the staff with exception of the nursery group and part of the technicians who were involved on the mapping, payment and on the preparation of tree distribution.

Visits by different groups and meetings during this quarter:

22. On 9th of November a group of 5 community associations from Matondo (Cheringoma district) and 2 GTZ facilitates visited the project area for exchanging experience with Nhambita community association and with the project on natural resource management, community involvement and income generation activities.
23. On the 10th Phillip arrived in Nhambita to visit the project on his routine of monitoring and supervision and participating on the meeting with the other project partners.
24. On the 14th the project team had a meeting with the local government representative (presidente da localidade), traditional leader (regulo) and community association to strengthen the collaboration and define common strategy to manage natural resource and for community development. On the meeting was consensual that each of these parts has an important role on persuading people to be involved on activities that contribute to sustainable use

of the resource and for community development.

25. From 19th to 23rd the project partners (EU, University of Edinburgh, ECCM, and Envirotrade) and consultants visited the project including evaluation meetings where reports from each partner were presented and discussed. Some important recommendations made in relation to the project sustainability and to the necessity to accelerate the trust fund.

26. From 18th to 23rd December a group of 15 people from CAA visited the project. Apart from visiting all the project activities they planted about 120 trees, participated on the improving water sources and coexisted with community.

More will follow in the report.

2. Project Outputs

a. Outputs previously reported

- Progress of school – The school was concluded, furnished and inaugurated. All the classes are attended on the new classrooms.

In the report for the period of 1st November 2006 to 30th January 2007.

b. Outputs reported this period (November 2006– January 2007)

Community/farmer training	During this period training was concentrate on the plan vivo systems, plantation and tree management. The training involved community association members, technicians and all the farms involved on the project. The training sections were done in all 6 settlements to guarantee maximum participation.
Set up administration system/database	5. For monitoring, we still use the carbon offset calculator and normal excel spreadsheets. We are still waiting for the database from ECCM.
PV planning, species, management, area of planting, drawing PV's (100 for year 1)	but 120 new farms joined the PV and their areas re mapped. There is in progress mappings and luation to those farms already joined the PV and o wants to add other systems to their machambas.
First carbon offsets - Planting of first 62 Mashambas – Future Forest	11. The second instalment was paid to all first farms. 12. The first instalment was paid to the 307 farms joined last season.

<p>Second and third carbon offsets sales planted 307 Mashambas of different systems, forest enriching planting, maintaining of forest, etc. – for ;</p> <p>Creative Artists Agency of America, 25,000 tons of CO₂ = 6,818.1817 tons of carbon– direct by Envirotrade.</p> <p>BioClimate Research and Development, 1116 tons of CO₂ = 304.36 tons of carbon – through ECCM.</p>	<p>1. New contracts to farmers who wants to add system are under preparation and also new contracts to new farmers who want to join plan vivo and plant tree's.</p>
Administer carbon payments.	Waiting for database.
Fire management	A fire management plan is under preparation and expected to be finalized and adopted next quarter. This plan will includes action for prevention and for fighting with community involvement.
Organise charcoal usage community group.	6. About 70 charcoal producers were listed and pa proposal for sustainable charcoal production is under preparation with participation of community association and the producers. The idea is to prepare and submit to the government a sustainable charcoal production which includes 5 000 to 10 000 ha of forest concession, improvement of all the production process and management strategy.
Seed collection	g the report period were collected a total of 180 Kg ls. This is a continuous activity.
Trees produced	3. During the report period very few trees were produced taking in account that is the time to send out the seedlings and concentrate to maintain the existing seedlings on the nursery. However the nursery still produced about 8 000 seedlings of indigenous species and about 30 000 of Jatropha.
Nursery training	2. Attention was given to training on fruit tree grafting specifically to mango.
Setting up administrative systems in Sofala province.	Training in progress to the new Community Association team including financial management, planning process and accountability.
Renovation of offices in Chitengo	2. We are still waiting for an answer from the Park about compensations on the work already done on the buildings in the Park if they want to take it over before the project comes to an end. The cost for the buildings already been presented to them.

Plan Vivo training	<p>As mentioned above, training on the systems and tree planting and managing was given to the technicians, community association and farms. To the technicians, details on the technical specifications and calculation were also given.</p> <p>The next training already planned will focus on the monitoring system and on the plan vivo database.</p>
Establish fund account	As discussed on the partners' meeting the trust fund is high priority, we already started by opening a bank account with details close to be finished. Statutory arrangement was also initiated.
Sustainable forest management, usage, timber utilisation processing	<p>6. Application for licence was already submitted to Forest Department and the licence is expected by the end of April.</p> <p>7. However authorization to collect dead logs was already given by the District Agriculture Department.</p> <p>8. The project collected about 18 m³ of dead logs sawed to about 8 m³ of planks.</p>
Carpentry	<p>7. Different Furniture and beehives were produced giving a total of about 4 000 USD.</p> <p>8. Additionally were made 4 coffins equivalent to about 200 USD given for free to the community members.</p>
Bee keeping	<p>10. 50 beehives were produced during the period report giving a total of 300 beehives already produced.</p> <p>11. Monitoring and training beekeepers are in the progress.</p> <p>12. The fact that the most of the Kenian top bar bee hives and even quite a lot of the traditional bee hives been cleaned by criminals will leave a negative grow on the bee keeping.</p>
Community census	3. The data are already still under processing.
Handcraft production	6. Community association already submitted a letter to District Administrator to ask for his help on influencing a specialized company working with the government to come and check the existence of land mines at the old school.
Vegetables and Agro forestry Extension	<p>2. About 400 m² planted.</p> <p>3. Land cleaning and preparation for the next garden season were the main activities during the report period.</p>

PSP'S	<p>5. Annual inventory was done and completed in all 15 PSP's.</p> <p>6. The technical staffs continue to monitor and collect monthly data from the plots which are conveyed to the University of Edinburgh.</p>
Weather Station	Regular download is done every 40 days.
Medical post and other services	<p>During the report period were attended 1,135 people of about 62% were children. The main diseases are malaria with about 50% and diarrhoea with 22%.</p> <p>Over the same period some activities took place in order to provide clean water. Two water pumps were established using very simple and practical technology. One of these pumps was made in collaboration with the CAA group. The plan is to make more pumps in order to reduce diarrhoea and other related water diseases.</p>

C. Value added outputs reported this period
<p>17. The medical post is still under construction in collaboration with community members. It takes time, but we must keep in mind, the whole building process is done with a limited budget and staff employed by the community..</p>

d. How activities and outputs have contributed to objectives.
<p>7. The visit of the CAA group went quite well and a positive picture went out from what is going on in N'hambita and in the project</p>

3. Financial Summary (€)	
<p>TOTAL Spent May 2003 to 31st July 2003 – Before project officially opened € 8,646.75 – Envirotrade co-finance</p> <p>TOTAL Spent for 1st Year – 1 Aug 2003 to 31st Jul 2004 € 179,453.86 – EU funding cost. € 30,517.57 – Envirotrade co-finance € 209,971.43 – Total cost.</p> <p>TOTAL Spent for 2nd Year – 1 Aug 2004 to 31st Jul 2005 € 187,002.60 – EU funding cost. € 9,660.17 – Envirotrade co-finance € 196,662.77 – Total cost.</p> <p>TOTAL Spent for 3rd Year – 1 Aug 2005 to 31st Jul 2006 € 251,598.32 – EU funding cost. € 32,875.72 – Envirotrade co-finance € 284,474.04 – Total cost.</p>	<p>TOTAL Partner Budget For 1st Year (Aug 03 to 31st Jul 2004) € 184,402.53</p> <p>TOTAL Partner Budget For 2nd Year (Aug 04 to 31st Jul 2005) € 313,790.50</p> <p>TOTAL Partner Budget For 3rd Year (Aug 05 to 31st Jul 2006) € 288,198.78</p>

<p>TOTAL Spent first 3 Years – 1 Aug 2003 to 31st Jul 2006</p> <p>€ 618,054.78 – EU funding cost. €</p> <p>73,053.46 – Envirotrade co-finance</p> <p>€ 691,108.24 – Total cost.</p> <p>TOTAL Spent 1st Quarter 4th Year – 1 Aug 2006 to 31st Oct 2006</p> <p>€ 69,036.14 – EU funding cost. €</p> <p>9,826.44 – Envirotrade co-finance</p> <p>€ 78,862.58 – Total cost.</p> <p>TOTAL Spent 2nd Quarter 4th Year – 1 Nov 2006 to 31st Jan 2007</p> <p>€ 75,605.79 – EU funding cost. €</p> <p>4,409.07 – Envirotrade co-finance</p> <p>€ 78,950.30 – Total cost.</p> <p>Total Spend to date 1st August 2003 to 31st Jan 07</p> <p>€ 762,696.71 – EU funding cost. €</p> <p>87,288.97 – Envirotrade co-finance</p> <p>€ 849,985.68 – Total cost.</p> <p>Total Spend to date by all partners from before project started 1st May 2003 to 31st Oct 06</p> <p>€ 762,696.71 – EU funding cost. €</p> <p>87,288.97 – Envirotrade co-finance</p> <p>€ 8,646.75 – Envirotrade co-finance – Before 01/08/03 from 01/05/03 to 31/07/03</p> <p>€ 858,632.43 – Total cost all partners.</p>	<p>TOTAL Partner Budget For 3 Years (Aug 03 to 31st Jul 2006)</p> <p>€ 786,391.81</p> <p>TOTAL Partner Budget For 4th Year, 1st Quarter (Aug 06 to 31st Oct 2006)</p> <p>€ 85,520.80</p> <p>TOTAL Partner Budget For 4th Year, 2nd Quarter (Nov 06 to 31st Jan 2007)</p> <p>€ 85,520.80</p> <p>TOTAL Partner Budget For 3 Years + 1st & 2nd Quarter of Year 4 (Aug 03 to 31st Jan 2007)</p> <p>€ 957,433.41</p>
<p>Spend this reporting period (1st November 2006 – 31st Jan 2007)</p> <p>€ 75,605.79 – EU funding cost. €</p> <p>4,409.07 – Envirotrade co-finance</p> <p>€ 78,862.58 – Total cost.</p>	<p>Partner Budget for reporting period (1st November 2006 – 31st Jan 2007)</p> <p>€ 85,520.80</p>
<p>Explanation (shortfall/overspend)</p> <p>5. Nothing to report.</p>	