

**Miombo Community Land Use & Carbon Management: Nhambita Pilot Project
(Contract B7-6200/2002/063-241/MZ, August 2003-July 2008)**

Executive Summary

1. This is a summary of the Final Report of an EU pilot project aiming to develop sustainable land use and rural development in the buffer zone of the Gorongosa National Park in Sofala Province, Mozambique, linked to carbon payments. Its duration was five years, from 2003 to 2008. It involved a partnership between *The University of Edinburgh* (the co-ordinators), a project development company, *Envirotrade*, and carbon-forestry experts, *The Edinburgh Centre of Carbon Management*. The Final Report is on the web site (<http://www.miombo.org.uk>), where the project is described and illustrated. When the EU funding came to an end in 2008 the project was largely self-sustaining, as planned, following the lines of the Project Development Document (Final Report, page 21 *et seq.*).

2. The scientific contribution of the University was to establish baselines at the onset of the project, against which the effect of project activities could be assessed. These are described in detail in the Final Report (<http://www.miombo.org.uk/Part2.pdf>), and include (i) surveys of the socio-economic status of the community (ii) inventory of forests and their carbon stocks (iii) measurement of rates of change in land cover, especially the rate of loss of woodland (iv) carbon and nitrogen stocks in soils and (v) a baseline survey of charcoal making, which, combined with slash and burn agriculture, is a major contributor to the loss of woodlands.

3. The main project activities aimed at development were (i) establishing agro-forestry practices on farms where slash and burn agriculture was hitherto the normal practice, including the creation of tree nurseries for providing seedlings (ii) training local people to reduce the loss of woodland by adopting a woodland management regime that includes fire control (iii) developing micro-enterprises including furniture-making, bee-keeping and horticulture.

4. Community members have been encouraged to carry out these activities by utilizing carbon payments coming from external sources. The agro-forestry schemes are organised according to *Technical Specifications* that define the amount of carbon likely to be captured from the atmosphere. Payments to farmers were made on the basis of their achievement of agreed milestones in terms of tree growth and land management. Likewise, the procedures for avoiding deforestation and for conserving the remaining woodland areas are defined against the baseline of the current deforestation rate (at the current rate, there will be no woodland left after 40 years). All of these Technical Specifications may be viewed at <http://www.miombo.org.uk/Part3.pdf>.

5. Carbon revenue has been received from individuals and organisations who seek to offset their carbon emissions. In return, they receive Plan Vivo certificates, each of which represents one tonne of CO₂ plus associated environmental and social benefits (see <http://www.planvivo.org/>). Between December 2005 and July 2007 there were six carbon sales ranging from 5,580 \$ to 300,000 \$, with a total income of 639,374 \$ for 79,658 tonnes of CO₂. Carbon rates have varied widely from 5 to 12 \$ per tonne of CO₂. Most of this is associated with ex-ante payments for land management (avoided deforestation). Two-thirds of revenues are projected to accrue to the local community and payments for in-country services.

6. The carbon payments are made into a Trust Fund, and distributed according to a defined schedule to the individual farmers who will, by growing trees, capture carbon in the form of biomass. Most farmers have joined the scheme, and are replacing slash-and-burn practices

with a sustainable approach based on agro-forestry as defined in the Technical Specifications of the project. Payments to the community have also been made, based on the carbon dioxide emissions that will be avoided by appropriate woodland management, especially by fire control. Some of these payments have been used to enhance community facilities (e.g. school-house, clinic).

7. After five years, there is clear evidence that over 1000 farmers are planting trees, that the trees are surviving (dead trees are replaced) and growing (sequestering carbon) according to the expectation. Records are being kept. Woodlands are being actively managed and fire control measures are in progress. Moreover, a repeat socioeconomic survey (made by visiting households in 2004 and 2008) shows employment has increased from 8.6% to 32%, and that 73% of households raise commercial crops compared to 23% previously. There has also been a development of *social capital*, with a measurable increase in literacy and the development of a business ethos with associated practical skills.

8. The project has attracted widespread attention in Africa and the rest of the world. Coinciding with the meeting of the G8 leaders in Scotland 2005, the *Sunday Times* featured the project in a 3-page, full colour article on 3rd July 2005. The article concluded “As I walk away through the bush, I can see it; new trees growing, healthy crops, beehives, the cane-rat enclosure, the pottery, the carpenter’s workshop. Best of all, sitting quietly alone, head bent over his books, the schoolmaster Zacarias is planning the next day’s lesson.” The Stern Review of the Economics of Climate Change, prepared for the UK government and published in October 2006 featured the project as an exemplar.

9. Carbon projects attract criticism from some environmentalists and enthusiasm from others. Therefore the project partners have sought external evaluation on three occasions, invited site visits wherever practical, and organised an International Conference in 2008 to address all issues. The external evaluations have been positive. The European Union also sought external evaluation following the 2007 Annual Report. That review made a number of technical criticisms and pointed out errors of omission which have been addressed in the Final Report (see page 409-440, Final Report, www.miombo.org.uk).

10. Forestry carbon projects are long term (decades), and so it is important to evaluate risks and to establish long-term monitoring. The Final Report defines the risks and the monitoring requirements. Contracts for monitoring are being negotiated.

11. Payment for ecosystem services is much discussed in theory but this project sought to understand how the theory could be implemented in practice. In particular, what are the risks and what are the conclusions regarding the potential for scaling up to regional or national level? The issues are considered in the Final Report (p 451-458).

12. This has been a *pilot project* in a region of Africa which is still recovering from civil war. Naturally there have been unexpected technical and practical challenges which we have needed to overcome and which sometimes have delayed progress. However, the final overall achievement is consistent with the original project aims; it also plays well to the Mozambican government’s *Action Plan for the Reduction of Absolute Poverty*, and so there is now an incentive to scale up the project to cover other areas of woodland in Mozambique.