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The Lubombo Project

<http://www.up.ac.za/centre-environmental-studies/research.php>

The Mathenjwa Community, to the North of the KwaZulu-Natal Province of South Africa, has lived in isolation from mainstream economy for quite some time. Local economies in the Usuthu Gorge area and surrounding land are mostly dependent on small scale subsistence farming and are highly dependent on natural resources for day to day survival. Agro-ecological conditions, characterized by a drought-prone climate and poor soils, make farming difficult and highly susceptible to climate change effects. Low literacy and poor access to markets and infrastructure generate abject poverty. Consequently, a significant part of the population experiences chronic food shortage. Yet, the area supports a range of touristic, eco-touristic and cultural opportunities such as game reserves, archaeological remains, scenic beauty and community-based tourism, but also large unprotected pristine areas, the target of both conservationists and developers. The area being part of the Lubombo Transfrontier Conservation area, there is a need to develop innovative, biodiversity- and heritage-friendly agricultural practices which can lead to the coexistence of conservation and development objectives. CIRAD and the Centre for Environmental Studies (CFES) at the University of Pretoria are working in this area to develop practical answers such as valuing ecosystem services, promoting landscape heterogeneity and diversifying farming enterprises and to contribute to the formulation of adequate policy from national to local level.

Project Justification

Recent scientific findings have shown that landscapes where people and nature meet are important for nature conservation. One category of such landscapes are Transfrontier Conservation Areas (TFCAs), defined as "Areas or component of large ecological regions that straddle the boundaries of two or more countries, encompassing one or more protected areas as well as multiple resource use areas". TFCAs and other "soft conservation" approaches have been instrumental in recent years to address the challenge of combining biodiversity conservation and rural development, too often perceived as two unrelated questions addressed in spatially separated areas, typically protected land on the one hand and village land on the other hand. The present project addresses this challenge by 1) enhancing the efficiency of biodiversity conservation; 2) local economic development and in particular poverty reduction through increased livelihood opportunities; 3) integrating these two objectives of improving biodiversity and livelihood opportunities. We achieve this by the combination of four approaches:

- 1) **Multi-functional landscapes** are rural lands that can provide multiple services, such as the availability of agricultural land and different natural resources, protected areas, free use commonages, traditional or recreation sites, etc. Private sector stakeholders (e.g. lodges, sport and cultural tourism) often contribute to multi-functionality, which can be seen as a way towards sustainable development because it involves the promotion of more ecological and societal desirable functions of agriculture than merely the production of food or fibre.
- 2) **Ecoagriculture** aims to achieve biodiversity conservation and agricultural production goals at the same time and in the same landscape thus promoting multi-functionality. Ecoagriculture mosaics may include land units as diverse as agroforestry, conservation agriculture, protected areas, buffer zones, hedges, wetlands, natural vegetation and plantation forestry.

- 3) The concept of **ecosystem services** insists that ecosystems are actually useful to humanity, contrarily to the old idea that nature is only for beauty. The payment of (or rewarding for) ecosystem services takes this further in implying that if such services exist, they are not there for free, unless we accept that they may someday disappear, and even that sometimes, they are there because somebody takes custody of them. Paying those who are responsible for such services would thus make sure that they are taken care of and would actually link conservation and development objectives: if somebody makes money through nature conservation, more conservation means more development.
- 4) **Landscape labelling** is a mechanism of payment for ecosystem services guaranteed by an independent auditing process which can generate added-value to locally-produced goods and services while preserving local knowledge, culture and environment.

The Lubombo TFCA (LTFCA; involving Moçambique, South Africa and Swaziland) includes five separate areas, jointly managed under the Trilateral Lubombo TFCA Committee. Three reserves are under formal conservation: Ndumo Game Reserve and Tembe Elephant Park (both in South Africa) as well as the Futi Conservation Corridor (Moçambique). However, the present project focuses on the people inhabiting the Usuthu-Gorge area in South Africa. This area lies within the Maputaland-Podoland-Albany high endemism biodiversity hotspot, earmarked as a high priority conservation region. The Peace Parks Foundation (with support from the three respective governments) has launched several initiatives to improve the management of the LTFCA. However, little has been done so far for the support of local farmers.

The ecoagriculture alternative (landscape combining agricultural production and biodiversity conservation) and the labelling mechanism (adding value to locally produced goods and so indirectly paying for environmental services) proposed by the project follow the recommendations of the Biodiversity Programme of UNEP's Regional Office for Africa to enhance conservation of biodiversity and ecosystems inside and outside the Protected Areas. It is also in line with the UNEP-supported Africa eco-labelling initiative. Our project promotes sustainable food production, water availability, energy availability as well as the improvement of household income.

Present Project Partners:

- The Centre for Environmental Studies (CFES) at the University of Pretoria
- The trilateral Lubombo TFCA Committee who oversees the LTFCA following the intergovernmental agreement.
- The Usuthu Gorge Community Committee, representing the Mathenjwa community.
- The Wildlands Conservation Trust, a NGO aimed at sustainable rural resource development and who has assisted the Mathenjwa community to establish the Usuthu Gorge Community Conservation Area (CCA).
- Ezemvelo-KZN Wildlife, the provincial conservation authority that is helping the local community to train managers for the CCA as well as with a supply of game animals.
- AGRISETA, approached for community training.
- UNEP (United Nations Environment Programme; approached for funding).
- CIRAD (French Agricultural Research Centre for International Development) through seconded staff at the University of Pretoria and back-up from headquarters in Montpellier (France).
- At the university level there is contact and collaboration between the three countries and an inter-University memorandum of understanding with respect to work in the LTFCA has been signed between the University of Pretoria, the University Eduardo Mondlane (Maputo, Moçambique) and the University of Swaziland.
- Development agencies (e.g. GTZ) having a proven record of work in the area will be approached as well as companies involved in marketing labelled products. Preliminary contacts have been established with Woolworths Holdings in South Africa. More such stakeholders will be systematically approached.

Pilot projects being implemented with the full agreement and cooperation of the communities

- Partnership with the Wildlands Conservation Trust for developing interactions between formerly protected areas (Usuthu Gorge Community Conservancy) and wilderness areas in community land.
- Application for AGRISETA funds (March 2011) for Skills Programme Implementation on innovative,

biodiversity-friendly agricultural practices.

- Proposal to call for Institutional Research Themes at the University of Pretoria: Ecosystem services.

Past and on-going studies by CFES

- Feasibility of ecoagriculture, PhD Munyaradzi Chitakira, on-going
- Farming systems dynamics and landscape structure, MSc thesis, Flavia Nakaggwa, 2009
- Feasibility of landscape labelling, MSc thesis Nathalie Cholet, 2010
- Landscape dynamics, MSc thesis Joseph Fleury, 2010
- Agricultural intensification and landscape-level biodiversity conservation, MSc Cécile Gallet, 2011
- Ecosystem service assessment, MSc Camille Stouff, 2011
- Socio-geographic assessment of the Mathenjwa landscape, MSc Patrick Alexander, 2011-12
- Comparative assessment of plant biodiversity in protected and farmed areas. E. Torquebiau and J. Fleury, 2011-12.

Publications

- Torquebiau, E., Dosso, M., Nakaggwa, F. and Philippon, O. 2011. Biodiversity Conservation through Farming: A Landscape Assessment in KwaZulu-Natal, South Africa. *Journal of Sustainable Agriculture*: Accepted
- Chitakira, M., Torquebiau, E. and Ferguson, W. 2011. Unique Combinations of Stakeholders in a Transfrontier Conservation Area Promote Biodiversity - Agriculture Integration. *Journal of Sustainable Agriculture*: Accepted
- Chitakira, M., Torquebiau, E and Ferguson, W. 2011. Community visioning in a transfrontier conservation area in Southern Africa paves the way towards landscapes combining production and protection. *Journal of Environmental Management and Planning*: Accepted.
- Chitakira, M., Torquebiau, E. and Ferguson, W. Participatory landscape performance assessment in KwaZulu-Natal, South Africa. *Society and Natural Resources*: Submitted.
- Ferguson, JWH., E. Torquebiau., BJJ van Rensburg and R. Boon. Small scale subsistence farming areas in savannas are important for biodiversity conservation. *Biodiversity and Conservation*: Submitted
- Cholet, N. and Torquebiau, E. A labeling index reveals the potential of multifunctional landscapes in Southern Africa. In preparation for *Landscape Research*.

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