



WWF Tanzania Programme Office

Africa and Madagascar Programme “Meeting the Challenge”



VALUING THE ARC

Linking Science with Stakeholders to Sustain Natural Capital

1. Summary:

The Valuing the Arc (VTA) programme is focusing on the Eastern Arc Mountains (EAM) which is one of the global biodiversity hotspots in Tanzania. The aim of the programme is to develop a general procedure for analysing and synthesizing detailed information on ecosystem services, and for identifying institutions capable of capturing ecosystem values in decision-making. The VTA programme is implemented by WWF Tanzania Programme Office in collaboration with other partners working on modules based on biodiversity, water, carbon, timber products, non timber products, ecotourism, pollination/agriculture and valuation of ecosystem services.

2. Objectives:

The VTA is an interdisciplinary programme that has two broad objectives:

- i. A global and generic conceptual model for undertaking the ‘ecosystem services approach’ to conservation is developed and published.
- ii. The conceptual model – across a system that is important for biodiversity conservation and ecosystem service delivery is tested.

The VTA will generate high quality scientific information for policy processes in Tanzania. It will also help to build capacity on ecosystem services conceptualization, mapping and valuation in five British and two Tanzanian Universities and within the WWF network. Ideas developed will also be promoted among other key collaborators in the USA-based Natural Capital Project. Among the major project activities include mapping of Ecosystem Services (ES) of EAM; putting economic values of the various ES driven from EAM; developing an Integrated Valuation of Ecosystem Services and Tradeoffs (InVEST) Model; and linking with other programmes and projects working on similar issues in Tanzania.

3. Achievements:

- Biodiversity data sets for the Eastern Arc study area, which cover about 25% of the land area of Tanzania, have been synthesized.
- Eight 1 ha plots have been established in the Udzungwa Mountains and three in the West Usambara Mountains for undertaking detailed estimates of carbon storage and uptake.
- Existing timber inventory data have been collated for 14 Districts.
- Inventory of the available data on non-timber forest product for the Eastern Arc have been compiled.
- Data from 55 rainfall stations and 20 river gauging stations have been assembled, together with land cover data and a detailed Digital Elevation

Duration:

5 years: 2007 - 2011

Funding Status:

USD 2,000,000

Executing Agency:

WWF-Tanzania Programme Office

Partners:

1. Natural Capital Project (USA)
2. Cambridge University
3. University of East Anglia
4. University of Leeds
5. University of York
6. Cranfield University
7. Sokoine University of Agriculture
8. University of Dar es Salaam.



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Model (DEM) for the area to run the Soil and Water Assessment Tool (SWAT) hydrological model in the Eastern Arc Mountains.

- A survey of ecotourism numbers and their values to within the Eastern Arc Region have been designed.
- A map of governance regimes has been compiled for the study area.
- A report on crops and their pollinators has been produced and indicative values of the pollination service have been calculated.
- A modelling tool for biodiversity, pollination, carbon storage & sequestration, timber & non-timber production, water quality, water quantity & timing has been built.
- Scoping study on PES and carbon trade issues has been conducted.
- The programme is co-organising an international meeting on ecosystem services, that will be held in Dar es Salaam and Morogoro.

4. Perspective:

The Millennium Development Goals and the Millennium Ecosystem Assessment highlight the enormous value of the goods and services provided by wild nature, and their crucial role in poverty alleviation. It is also the policy of the Tanzania Government to protect the wild nature which is the most dependable source of economic growth and livelihoods. However, habitats and populations continue to decline at the rate of 0.5-1% per year, creating more threats to the developing world. Attempts to reverse this trend are constrained by three key challenges: scarcity of detailed information on how people benefit from specific services; People who enjoy services derived from the natural capital of an ecosystem are often different, and far from those who benefit from its transformation; Markets typically reward short-term values of natural resources, underestimating the real long-term importance of ecological wealth in sustaining human welfare.

5. Needs:

Since modules are now operational and working well, we know what will be possible in terms of data gathering and compilation from existing sources. The most important needs include

- Bringing together the outputs of the various modules to produce a combined product that contains outputs from the various ecosystem services.
- Developing and adding to the models the 'values' for the various ecosystem services
- Varying the module models and the values according to the various different future scenarios.
- Linking scientific findings with policy processes in Tanzania
- Increased resources allocated to Tanzanian institutions for capacity building.

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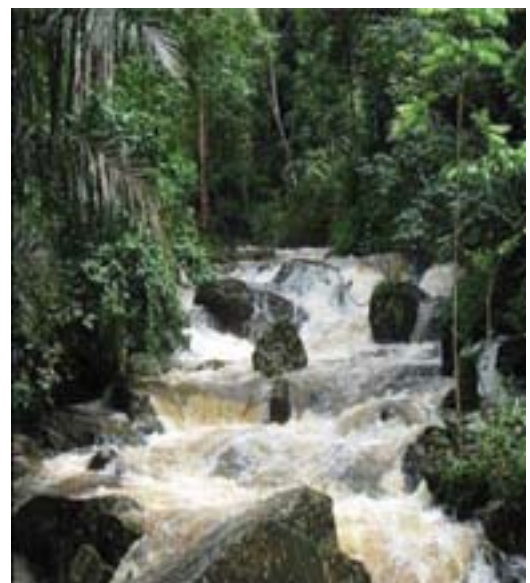
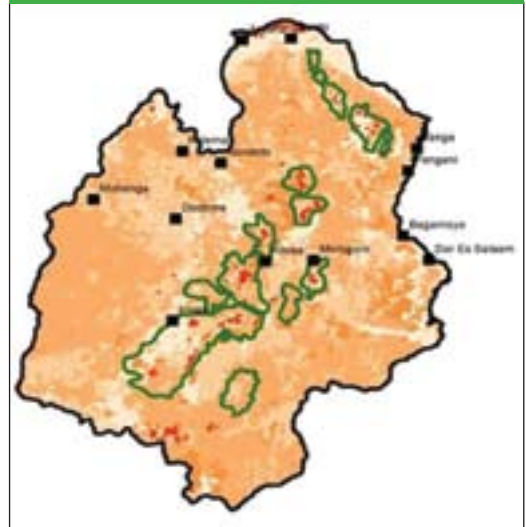
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Carbon Storage in EAM



Scarp rossa forest

