Summary of EVAMAB project

Keywords

Ecosystem services, Biosphere Reserves, Africa, UNESCO-MAB

Context

The concept of 'ecosystem services' highlights the linkages between biodiversity conservation and human development, and supports the principles of the UNESCO's Man and the Biosphere (MAB) programme. A better knowledge of ecosystem services, and their integration in Biosphere Reserves management plans is a key, especially as these reserves are facing high anthropogenic pressures such as rapid population growth, their strong dependence on natural resources for livelihoods, weak institutions and competing stakeholder interests in challenging governance conditions.

To ensure that ecosystem services contribute to improved decision-making, the assessment of these services -and their contributions to human wellbeing needs to become systematic, quantifiable, robust and credible. Solid methods to assess and map ecosystem services exist, but remain insufficiently known, used and communicated.

Objectives

The EVAMAB project aimed to explore the potential of ecosystem services for the management of Biosphere Reserves. It addressed the assessment of the (monetary and non monetary) value of ecosystem services in selected Biosphere Reserves from a regional perspective (Africa) and focused on 4 countries: Benin, Ethiopia, Tanzania, Uganda.

The general objective was to further test and develop existing methods and tools for the rapid assessment of ecosystem services (ES) and to assess the value of ecosystem services in African Biosphere Reserves.

The following stepwise **approach** was chosen:

- Selection of the most suitable existing rapid tools for assessing Ecosystem Services in African Biosphere Reserves (Work package (WP) A)
- Assessment of priority ecosystem services in four selected Biosphere Reserves (WP B)
- Strengthening the science-policy interface around ecosystem services in the selected Biosphere Reserves (WP C) and within the AfriMAB network
- Economic valuation of ecosystem services (WP D)

Key-results

- **Rapid ES assessment tools** (WP A): Seventeen most suited tools for the rapid assessment of ecosystem services within the context of African Biosphere Reserves were selected and analyzed. They were classified according to user-generated criteria such as requirements regarding data input, necessary skills, outputs and types of ecosystem services addressed.
-

- **Assessment of priority ES** (WP B)**:** Suitable tools such as TESSA were tested in the four sites, leading to a list of priority ecosystem services and their threats in each site, taking into account the perceptions of key stakeholders. Some of these services were further quantified and potential (or existing) payments for ecosystem services schemes were investigated, such as Carbon offset programmes in Pendjari BR or watershed conservation incentives in Mount Elgon BR.
- **Science-policy interface** (WP C)**:** Stakeholder workshops were conducted in each site, at different stages of the assessment. In Pendjari BR for example, the workshop enabled to collectively select management options based on the ES assessment results. Results of the projects were shared with local and international stakeholders through different means (policy briefs, scientific papers, cross-fertilising workshops,…). One key output of the project is the EVAMAB manual, intended for African MAB managers, and sharing key methods, lessons learnt and best practices for the incorporation of the Ecosystem Services approach in the management of African Biosphere Reserves.
- **Economic valuation** (WP D)**:** A review was made of the economic valuation approaches used in African Man and Biosphere reserves. Specific methods were applied in Pendjari BR and Lake Tana BR, mainly contingent valuation studies, consisting in questioning people how far they would be likely to pay to avoid a given damage or improve an ecosystem service. The impact of water hyacinth infestation, and the indirect ecosystem services provided by agricultural land in Lake Tana BR were assessed, as well as the economic value of the prioritized ES, with a focus on agricultural use in Pendjari BR.

Conclusions

The project involved a wide range of MAB stakeholders, allowed to test good practices, and study cases related to ES assessment and valuation. The project findings were summarized in a manual intended for African BR managers. In particular, tools that are most suited for ES assessment, valuation methods, and ways to involve stakeholders, are the core of the project recommendations.

Key outputs and valorization

Outputs of the projects include scientific peer-reviewed papers, presentations and posters at conferences, policy briefs and a manual for BR managers. Most of them can be consulted on http://www.biodiv.be/evamab/docs.

Recommendations for valorization

The EVAMAB Manual is our key output for valorization and a good basis for sharing knowledge and experience about the consideration of Ecosystem Services for sustainably managing Biosphere Reserves. However, a manual alone will not necessarily lead to concrete change on the field. We believe training sessions (and 'train the trainer') and workshops are needed in order to explain and apply the project recommendations, and in order to bring different BR managers together, which is key for exchanging best practices, lessons learned and success stories.