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| BELSPO UNESCO Cooperation (Man and the Biosphere Program) |
| **EVAMAB ( BL/58/UN32, period 2017- june 2020)****Project frame** : Research Cooperation with and for the **UNESCO- Man and the Biosphere Program** (MAB). MAB currently counts 669 sites in 120 countries worldwide. Combining natural and social sciences, economics and education to improve human livelihoods and equitable sharing of benefits, and to safeguard natural and managed ecosystems, MAB promotes innovative approaches to economic development that are socially and culturally appropriate, and environmentally sustainable (Afrimab, 2013). **Summary** The project will address the **evaluation of the economic value of ecosystem services (ES) in UNESCO-MAB sites from a regional perspective (Africa**). The expected results will contribute to the transition to green economy in Africa. Our hypothesis is that Payment for Ecosystem Service-schemes will play an increasingly important role in the so-called green economy. Tools and methods from the social and exact sciences are needed to assess both the services delivered as their economic value in order to develop a functioning mechanism between buyers and sellers of ES.Payments for ecosystem services (PES) have gained increased interest over the past decennia. However, on the research side, mainstream methods for ES assessment still fall short of addressing the complex, multi-scale biophysical and socioeconomic dynamics inherent in ES provision, flow, and use. On the practitioner side, application of methods remains onerous due to data and model parameterization requirements. Policy makers cannot wait for yearlong scientific research in face of rapid extinction rates and declining ecosystem functionality worldwide. There is a **need for reliable ‘quick and cheap methods’** in order to meet the demand and stimulate the appreciation, valuation and rewarding of ecosystem services . The present project proposes to further develop and test a rapid methodology in selected African UNESCO-MAB sites along the lines of the in 2016 approved Lima Action Plan for UNESCO’s MAB Programme and its World Network of Biosphere Reserves (2016-2025). It will be innovative knowledge for essentially four **groups of stakeholders**: (1) local scientific institutes, (2) government and local policy makers and managers, (3) local populations (acknowledging the ubiquitous gender issues) and (4) global interest from donors and scientific community at large, and UNESCO-MAB in particular. Each of these stakeholder groups will have different interests/stakes in different MAB sites. The rapid assessment will focus on three essential clusters of assets providing ecosystem services, around (1) carbon stocks (as indicator of productivity and carbon sink for climate change mitigation), (2) water (hydrology) and (3) biodiversity. Again, their relative importance will differ amongst MAB sites, both in absolute terms (biomass, number of species, carbon stock, hydrological regimes), as in relative terms, as a function of the perception of the stakeholders that on one hand deliver these services or on the other hand benefit from these services. How they attribute value to ES is a key issue to be assessed. This willingness to pay needs to be scoped through surveys and/or in stakeholder workshops in order to gain an estimate of the potential of ‘Payment for ecosystem services’ (PES) in a particular area, ecosystem or biome. In that sense, tools and methods more related to social sciences (stakeholder engagement) will significantly contribute to improve the science-policy interface for the benefit of the MABregions. The approach fits into the ‘landscape approach’ promoted by the Convention on Biological Diversity (CBD), and will offer local solutions, there where global schemes (e.g. carbon market) have not delivered the expected results. Our hypothesis is that a bundled approach of ecosystem valuation has a higher chance of success. At the local level where there are, clear services, potential buyers and intermediate players that can e.g. also work on conflict resolution, land tenure policies etc..., there is a large untapped potential. Through its network of reserves the concept of UNESCO-MAB Bioreserve has the potential of becoming a global catalyst in that respect. EVAMAB will focus on developing local solutions supporting the livelihoods of local stakeholders in an economically feasible set of options, and translate this towards recommendations, which can be extrapolated to the regional and global framework. . EVAMAB will specifically focus on the buffer and transition zones, as explained in the classical UNESCO-MAB schemes, zones that are characterised by a higher impact and presence of ‘man’: the core area is protected from any human influence apart from monitoring and eco-tourism, while in the buffer zone limited access and resource utilisation is allowed by the surrounding communities. The transition area is rural with agro-systems. The buffer and transition zones are prone to environmental/resource conflicts but also provide an interesting area for applying economic reward mechanisms, in order to shield the core zone from anthropogenic influences. Weblink:The project focusses on 4 African MAB reserves, being :

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| **Two aquatic lentic systems:** * Lake Manyara (Tanzania)
* Lake Tana (Ethiopia)
 | **Pendjari National Park, Bénin****Mount Elgon, Uganda****Lake Tana, Ethiopia****Lake Manyara, Tanzania** |
| **One afro-montane system:** * Mount Elgon (Uganda-Kenya)
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| **One Sahelo-Sudanese system*** Pendjari National Park (Bénin)
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Map of Africa displaying the UNESCO-MAB sites & case studies(arrows) ( <http://www.unesco.org/mabdb/bios1-21.htm> )Expected research results**Research results expected** from the EVAMAB project are:* A review of ecosystem services rapid valuation metrics related to selected representative UNESCO-MAB sites;
* A recommendation for a set of rapid assessment method and tools of ES linked to biodiversity, hydrology and carbon for four African UNESCO-MAB sites;
* A recommendation for the most appropriate reward mechanisms for at least 1MAB site, Lake Tana in Ethiopia;
* A more general extrapolation/ upscaling for a regional and global approach to UNESCO-MAB sites worldwide, with special emphasis on AfriMAB based on the local and regional lessons learned and best practices, also listing the limitations to do that depending on the data available or that are crucial to collect.
* At least 4 A1 scientific papers are expected
* For each MAB - site a policy brief will be produced based on the research results.

Recommendations from the research and multi-stakeholder workshops will be summarized in international fora and media, such as side events at SBSTTA, COP and IUCN World Congress, best practices in OECD-DAC manuals and of course through all UNESCO-MAB relevant events/meetings **The expected impacts** of the research are multiple: This proposal is fully in line with the recently developed MAB strategy (2016-2025) and an associated Lima Action Plan (2016). It will make UNESCO-MAB better aware of tools and methods to realise the local potential of PES in MAB sites in Africa to capitalise on ecosystem services for a better socio-economic integration of conservation and a better conservation of biodiversity, based on state-of-the-art stakeholders’ engagement. * UNESCO has some guidelines (manual ) for a more appropriate use of rapid assessment tools of ES in other UNESCO-MAB sites in Africa and globally.
* The best practices and lessons learned from the RUPES project in Southeast Asia and the PRESA project in East Africa are transferred to the 4 selected MAB sites.
* In 4 UNESCO-MAB sites where the multi-stakeholders engagement, validation and uptake took place, stakeholders are more aware of the conservation potential of their MAB site and effective actions to consider in decision-making
* The perspectives of sellers, buyers and intermediaries in typical UNESCO-MAB sites are better understood and also better linked to possible gender differences.
* For biodiversity, hydrology and carbon, monetary value of ecosystem services is better understood and estimated for 4 UNESCO-MAB sites in Africa.
* The recommendation of a most appropriate reward mechanism for Lake Tana will incite local and national authorities

Weblink : <http://www.biodiv.be/evamab/> |

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| **Scientific Belgian partners** |  |  |
| KBIN-CEBioS – C Luc Janssens de Bisthoven (coordinator) |  |  |
| KU Leuven – P2 Bruno Verbist |  |  |
| ULB – P3 Jean Hugé |  |
| UIA – P4 Steven Van Passel |  |
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