Everyone knows the tragedy of the commons (Garrett Hardin, 1968), which we already mentioned in fifth NAPA’s editorial, in February 2008. The concept describes the overexploitation of a common resource in situations of possible competition between various users. The resource is free and openly accessible, but limited, therefore each user tends to try to make maximum use of it to his advantage. Thereby, he consumes the part that could be used by others and ultimately jeopardizes the sustainability of the resource. This is only a rather logical manifestation of human selfishness.

Of course, this happens at all levels. A collective field could be quickly over-grazed since every farmer of the village will try to first consume this common feed before that of his own field. A shared pond may be quickly emptied of fish since any fish which is not caught now is a fish that will be caught by others later. The air we breathe is polluted and used by those who can, wherever they can (ie industrialized countries) while they explain to others that they should not do the same if we want to continue to breathe; and this common resource will remain out of their reach – although not protected anyway.

Hardin describes three possible ways around this fatality. The first is to nationalize the resource, that is to say, to make it a state responsibility. This is an attractive and effective way to conserve natural resources if the representatives of the state actually do their job honestly; this is not always the case unfortunately and we’ll talk about that in the next NAPA. The second solution is to privatize the resource, that is to say, to make an individual or group of individuals responsible for it. The method is efficient if the management that is applied respects its “common” nature and takes into account the interest of all. Finally, the third proposed solution is to communalize the resource, that is to say, to make local stakeholders responsible. Decentralization schemes allow this in some cases, participatory management approaches attempt to make it happen. Again, this is based on the quality of governance that is taking place.

Among the readers of the NAPA, there are those who swear only by the state and its legal strength to ensure the protection of protected areas, the perfect example of a common good. Others tirelessly repeat that the private sector is more efficient and remains the only way to ensure the sustainability of resources, provided it benefits from them. Finally, there are those who definitely support the local communities and are convinced that only local actors have a response to local problems.

All this is true, at least in part. The right recipe is, as we know and already said it at several occasions, the addition of all solutions; everyone easily understands that, but it is very difficult to apply. Difficult because each player is wary of another, sometimes even fears others, and the
cohesion of all, in one place, at one time, is precarious. This is why a good approach might be to change the scale of application and instead try to involve stakeholders in complementary areas. This is exactly what the Biosphere Reserves model, which we quickly present in this NAPA, offers. They are one territory with different vocations – one of them being conservation - combining different needs and different skills, and thus different players with added if not complementary responsibilities.

It is, after all, only a simple and constructive development scheme for a territory and when used properly - which is unfortunately not the case in some African Biosphere Reserves! – it produces quite conclusive results. Let’s give a thought so...

**Reminder: Master on PA management**

The Senghor University (Alexandria) and IUCN-PAPACO, with the generous support of the MAVA Foundation, launch the recruitment for the second year of the Master’s degree on protected areas management. To register, please follow the link here after: http://www.usenqhor-francophonie.org/Data/PDF/M2AppelCandidature2016.pdf or visit [www.papaco.org](http://www.papaco.org), page trainings.

Five scholarships will be offered which cover all the cost of the training (except travels).

**Deadline for registration: 14 April 2016.**

**MOOC on protected areas management... register now!**

Our MOOC on PA management starts on the 1st of April, on Coursera. It is now on open access so you can do the course and pass the exams at your own pace. Please register on [www.papaco.org](http://www.papaco.org), page trainings.

**Management Manual for UNESCO Biosphere Reserves in Africa**

A practical guide for managers

Prof Dr Wafaa Amer, Sheila Ashong and Dr Djafarou Tiomoko - edited by the German Commission for UNESCO in collaboration with AfriMAB, ArabMAB and the UNESCO MAB Secretariat

**Directions 1, 2 and 3 of the Roadmap for African PAs**

**NB:** this NAPA presents some extracts of the above mentioned guide. The full guide can be downloaded on [www.papaco.org](http://www.papaco.org), page “publications”.

**1) The MAB Programme**

UNESCO biosphere reserves are designated in the framework of UNESCO’s Programme on “Man and the Biosphere”, or MAB), established in 1971. UNESCO is an intergovernmental organization and specialized agency of the United Nations with almost 200 member states; it promotes peace and sustainable development through international
cooperation in education, science, culture and communication. UNESCO does this through several dozen programmes and legal instruments; MAB is one of UNESCO’s most successful and best known programmes.

MAB explores strategies of conserving biodiversity and enhancing ecosystem services – strategies which at the same time enable their sustainable use and community development. As a scientific programme, MAB promotes scientific research on human populations’ interaction with ecosystems. Moreover, MAB also promotes the cooperation between all the scientific disciplines needed to better understand human-nature interactions through science, through education, through training and through building capacities of communities.

MAB promotes one of UNESCO’s central goals, i.e. sustainable development (see box on sustainable development in this NAPA). In a sustainable world, resources are used fairly and equitably – globally. A sustainable world limits its resource consumption so that future generations have fair opportunities as well. MAB has promoted the concept of sustainable development even before the term was explicitly used in world politics, i.e. even before the 1980ies. Since 1971, MAB tries to overcome conflicts between people’s livelihoods and nature through a “rational” use of natural resources, to establish or re-establish “harmony” between people and their environment. Actually, the concept of sustainable development is a more detailed and scientific version of “harmony of people and nature”. It is about overcoming modernity’s alienation of people from their natural environment.

2) MAB reserves

Since 1976, MAB specifically designates environmentally important and globally representative sites, called UNESCO biosphere reserves. The official definition reads: “Biosphere reserves are areas of terrestrial and coastal/marine ecosystems where, through appropriate zoning patterns and management mechanisms, the conservation of ecosystems and their biodiversity are combined with the sustainable use of natural resources for the benefit of local communities, including relevant research, monitoring, education and training activities”.

There are more than 600 biosphere reserves in more than 110 countries. Since 2013, the MAB Council has increased oversight over the World Network, demanding full compliance with the requirement of periodic review for each site. Noncompliant biosphere reserves are threatened with exclusion (“exit strategy”) – some of them being in Africa ndlr. The aim of this Manual is to support countries to enhance their performance also in this regard.

3) Key characteristics of MAB reserves

IUCN defines protected areas as “clearly defined geographical spaces, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”. At first sight, this might be seen as a sensible definition for UNESCO biosphere reserves, but their ambition as a holistic and integrated concept from the outset extends beyond pure nature conservation. For biosphere reserves, it is just as important to promote sustainable economic and social development in the local communities as well as participation, education, research and monitoring – sustainable community development is not only a means to achieve nature conservation, it is a goal by itself.

MAB reserves: they are about consultation…

Another key aspect is that UNESCO biosphere reserves are designated according to globally identical criteria – all protected areas such as national parks, wilderness areas, national forests, or wildlife refuges are only specified by national laws, which differ from country to country. Only few countries have national laws specifically for biosphere reserves.
UNESCO biosphere reserves are landscapes and ecosystems where people live and work – another word for this is socio-ecological systems. Still today in Africa, many biosphere reserves only protect primary forests or other untouched nature, such as the Taï Biosphere Reserve in Côte d’Ivoire, a huge dense evergreen forest under strict protection. But actually, biosphere reserves are much more than that. They can also be used to conserve cultural landscapes, i.e. landscapes and ecosystems that have been created over centuries through a particular human use, e.g. pastoralism or extensive agriculture. In many cases, unique biodiversity has been created through this human use. Often cultural diversity goes hand in hand with biological diversity.

Three functions and three zones:
In the language used by UNESCO, biosphere reserves have three main functions:

1. Conservation of biodiversity and functioning ecosystems
2. Socio-economic development
3. Logistic support which means mainly research, monitoring and education

All three functions are equally important – successful conservation depends on successful socio-economic development – and vice versa. An important aspect of MAB comes on top: we need to understand conservation and development and create knowledge through research. We need to transfer the skills, attitudes and knowledge about sustainability to future generations. We need to monitor change and we need to exchange experiences. Without such knowledge-based efforts, any conservation and development will not be effective in the long run. This is why the function of the so-called logistic support is just as important.

Maybe the best known characteristic of biosphere reserves is their zonation: The “core area” is typically strictly protected in a legal sense, it is typically rather small in comparison to the entire biosphere reserve; of all human activity, typically only research is allowed there. There can be several core areas. The core area should be surrounded (or adjoined) by a “buffer zone”, with typically quite some restrictions as well – human activity in these areas should be compatible with the conservation goals. The third zone is the “transition area”, where the focus is not on “restrictions”, but on “promoting” sustainable practices. This zonation in particular supports “ecosystem approaches” to management.

While UNESCO has globally spearheaded this zonation approach in the legal-institutional terms since the 1970ies, the concept is very ancient and wide-spread in Africa, in practical terms. Many African indigenous communities have been practicing a “zonation method” of conservation and sustainably sourcing livelihoods for centuries, in particular by respecting sacred “no-touch” sites.
administration. In others, only the core area is legally gazetted. As a matter of fact, governance approaches in particular regarding the engagement of communities and stakeholders, frequently vary substantially even within one country, from one biosphere reserve to the other.

Such diversity of management and governance approaches represents a value in itself and should be promoted, provided that approaches are based on the same underlying values and objectives. UNESCO encourages the international exchange about advantages and disadvantages about such management/governance approaches. Each UNESCO biosphere reserve is an opportunity for new institutional innovation, while being able to draw from a wealth of experience globally. Each UNESCO biosphere reserve first of all is a framework to create opportunities.

This is also the reason why the zonation pattern of UNESCO biosphere reserves is only schematic, because it needs to apply to all biosphere reserves globally. In practice, many different approaches can implement this schematic zonation in specific ecosystems such as coastal regions, savannahs, drylands, or forests. In some cases, the entire biosphere reserve is legally gazetted as a “protected area”. Other biosphere reserves incorporate several protected areas as core areas and combine them through “ecological corridors” between them. In most cases, especially of new UNESCO biosphere reserves, the core areas and buffer zones are more or less strictly protected, and the transition zone has low or no protection; at the same time, their legislative basis has been designed comprehensively to meet the goals of the biosphere reserve in its entirety.

Thus, in practice, UNESCO biosphere reserves look quite different – in goals, zonation, management and governance. One purpose of the World Network is also to exchange experiences of success or failure with different institutional set-ups.

Experts of the MAB Programme often speak about biosphere reserves “of the first generation”. This refers to biosphere reserves designated by UNESCO until 1995 and the adoption of the Seville Strategy and Statutory Framework – many of those have hardly any population. Often these early biosphere reserves are exactly those that are strictly protected in their entirety; they often coincide with national parks and may be good conservation and research sites. However, such sites are not biosphere reserves in the modern sense. Today, UNESCO is reminding its member states to adapt the status of many early biosphere reserves – it is to be expected that by the end of 2016, several early biosphere reserves might lose their status.

The main focus of this Manual is on the newer biosphere reserves which work closely with the people that live and work in the buffer and transition zones, and to promote sustainable socio-economic development. Biosphere reserves “of the first generation” can find ideas in this Manual in how to transform into the next generation which emphasizes local community involvement for enhancing nature conservation and sustainable development (note from Papaco: this indeed concerns several sites in Africa and this transformation should not lead to “less conservation” but “better conservation”).

5) What does “managing a biosphere reserve” actually mean?

Managers of UNESCO biosphere reserves, having the task to promote sustainable development, need to address a region comprehensively, not just the legally protected ecosystems (a warning: “region” does not necessarily mean a territorial or administrative unit). They need to address abiotic factors (climate, water, soil, and landscape in its entirety, etc.), the local communities (cultures, traditions, knowledge, heritage, etc.) and their practices (fishing, forestry, agriculture, livestock breeding, tourism, etc.).

UNESCO biosphere reserves are instruments for integrated management of socio-ecological
Managers of biosphere reserves need to work in a team that brings together a vast set of skills and knowledge; managers need to act more like moderators than like rangers. Managers need also specific skills to maintain a biosphere reserve beyond the initial nomination. Starting a project is always much easier than maintaining momentum in the long run. Sometimes the “launchers” of a biosphere reserves are even not the best people to manage it over extended periods of time. Also financial resources are often more readily available at the start of an initiative than over prolonged periods. Whatever the context, biosphere reserve management is essentially about empowering local communities, not about restricting them. Managers’ most important task is to motivate, moderate and negotiate, and to interact with local communities in order to empower them and to inspire sustainable forms of life and work, not to restrict.

Managers of UNESCO biosphere reserves, working as a team of specialists and generalists, need to plan ahead, to identify upcoming changes in climate, in nature, in society, in the economy. They have to integrate all forms of knowledge in such planning. Together with communities they have to lay down such planning into consensus strategies and management plans. They have to implement these plans – through own interventions, through fund-raising and through coordinating interventions of other actors and of communities. They have to identify whether unforeseen developments are threats or opportunities, whether a consensually planned roadmap is a defense against threats or whether new developments actually are enriching. They have to consult widely, while also being able to take quick decisions as needed.

Managing a UNESCO biosphere reserve is not easy – but it is one of the most exciting challenges one can imagine. There is no blueprint for management, for governance or stakeholder involvement; each case is different and must be decided following local needs and specific threats, e.g. adaptation to climate change. This Manual does not provide a blueprint either; it provides support and ideas.

### 6) MAB reserves support sustainable development in Africa

Nobody knows in advance, what the concept of sustainable development will really mean for a specific landscape or a specific society, how a specific community will live and work sustainably. Sustainable development is specific to an ecological, institutional and cultural context. It is a learning process and a negotiation process, which needs to involve all relevant stakeholders.

UNESCO biosphere reserves do exactly this: they explore and demonstrate very specifically sustainable development approaches in specific ecosystems and landscapes through a joint learning process. Biosphere reserves demonstrate the benefits of sustainable development - benefits to improved livelihoods and to community empowerment, to biodiversity conservation as well as to climate change mitigation. They help to improve the effectiveness of management institutions and they help to re-orient stakeholders and partners. They help Africa to become sustainable.

### 7) UNESCO biosphere reserves and protected areas

For many decades, UNESCO biosphere reserves have set global standards in integrating conservation and community benefits. They have overcome the limitations of “classical protected
areas”, being “pioneers for modern protected areas”, but many other protected areas have been “catching up”.

Designating protected areas is a standard answer since the mid-20th century to conserve the integrity of ecosystems and to protect species. In the past, protected areas have often been created without taking into account local communities, their opinions, needs, complaints and interests. Sometimes, communities have even been evicted from an area, prioritizing nature conservation above all other concerns. Such protected areas may effectively fulfil their goals for some time. Yet their continuity and long-term acceptance remains threatened when they do not make efforts to serve the needs of local communities.

Nature conservation theorists and practitioners have warned already a long time ago that this practice of nature conservation “against” communities will not be effective in the long run. Modern protected areas usually have goals, properties and practices that are very similar to those of UNESCO biosphere reserves: zonation, safeguarding decent livelihoods for communities, participation, adaptive management, integrating science. Almost all the topics covered by this Manual are covered also by excellent guidelines and handbooks issued by nature conservation NGOs, in particular by IUCN. Therefore, this Manual references much of this high-quality literature. Also UNESCO has edited excellent guidebooks, e.g. for biosphere reserves as well as for related topics such as World Heritage site management in Africa.

UNESCO biosphere reserves therefore cannot make an exclusive claim today to concepts such as zonation, promoting sustainable livelihoods or participation. “At the Fourth World Congress on National Parks and Protected Areas (...) in 1992, the world’s protected-area planners and managers adopted many of the ideas (community involvement, the links between conservation and development, the importance of international collaboration) that are essential aspects of biosphere reserves” (cp. Seville Strategy). There exist convincing reports on such wider impact, e.g. from protected areas in South-East Asia, in Europe, their effectiveness has been globally evaluated, and ambitious targets for their governance have been formulated. However, UNESCO biosphere reserves still accentuate and balance these issues quite differently than other protected areas. Nature conservation simply is not their primary goal – their primary goal, from the outset, is harmonize the human-nature relationship through balancing three functions. This makes a fundamental difference in many practical cases. While also protected areas serve additional purposes such as education, ecosystem services, spiritual enlightenment, aesthetical enjoyment, recreation, hunting (within limitations), the range of additional purposes of biosphere reserves is much larger.

Education and sensitization are main components of the BR missions

What makes biosphere reserves also unique is that they are designated by UNESCO according to binding global criteria. A UNESCO biosphere reserve carries a quality mark, a stamp of approval of quality management and quality development. The success is regularly monitored and assessed. A periodic review is obligatory every 10 years; it further enhances the credibility of the quality mark.

This designation has important consequences:
- Biosphere reserves are globally visible. This means that there is an unambiguously delineated area, which is globally known and recognized, and that there is a management structure and a management team which are globally known and recognized. Biosphere reserves cannot easily
“disappear” – if changes to a biosphere reserve are made, the entire world will notice.

- Biosphere reserves are stable institutions; they are set up for the long run, in principle forever. This is a crucial difference to a “project” which has a beginning and an end. In fact, quite often, biosphere reserves are set up at the end of a development project in order to safeguard its results for the long run.

- As globally visible and stable institutions, they are attractive to donors and funding partners. Donors that support a project in a biosphere reserve can be rather sure that the effects of the project will be safeguarded in the long run; if changes take place locally, not only the donor will notice, but UNESCO and its entire network of partners.

To summarize some key differences of biosphere reserves from protected areas:

- At the level of primary goals: balancing conservation of biodiversity with its sustainable use, community development, promotion of economic opportunities and poverty eradication
- Globally identical criteria, quality mark, global visibility, including for donors and tourists
- Participatory management as a requirement, not as a helpful intervention
- Focus on research, monitoring, education, global exchange of knowledge
- Focus on valorizing traditional knowledge and cultural diversity
- Focus on socio-ecological systems
- Unambiguous zonation
- Special incentives for collective management of trans-boundary ecosystems, because of the intergovernmental designation and of a UN-based conceptual consensus

Concrete examples from African UNESCO biosphere reserves

In the Waterberg biosphere reserve in South Africa, collaboration of the management team with 13 communities has yielded numerous benefits. Projects include the training and sale of handicrafts such as leathercrafts, bead work and embroidery. They also include engagement of local women to conduct tours and environmental education at the Lapalala Wilderness School.

The forests of the Kafa biosphere reserve of Ethiopia are managed in a participatory way. The results are: pristine forests have been preserved and community plantations for fuel-wood have been set up. In addition, a micro-credit scheme has been established.

Village associations in the Delta du Saloum biosphere reserve in Senegal are actively involved in reforestation, for example through communal tree nurseries. Traditional fisheries practices are preserved through combination with new techniques and thus reduce coastal and mangrove degradation. 1,000 solar panels have been installed for providing energy to the communities.

In Morocco, the Argan biosphere reserve’s designation has supported the globally enormously increasing interest for Argan tree oil. Most of this oil is harvested by women’s “Argan oil cooperatives” and the biosphere reserve has ensured that the increase in export price actually trickles down to local people. The boom has enabled rural families to increase their goat herds, and families can send their girls to secondary school.

Honey from the Comoé Biosphere Reserve in Côte d’Ivoire is produced, bottled and marketed by an association in the village of Kakpin. This project was successful in changing the habit of gathering honey from the core area and its surroundings by setting anarchic fire. Through the partnership of park managers with local communities, both income could be generated and the core area could be protected.

Additional information: defining sustainable development

According to the best-known definition (1987), sustainable development is a “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Sustainable development strikes a balance: “One the one side, it promotes global fairness and equity, and the right of all individuals and communities globally to develop and to live a life in dignity. At the same time, sustainable development seeks to preserve the natural resources necessary for the long-term survival of our children. Sustainable development is about eliminating poverty, about fairness and jobs in tourism are created and thus community livelihoods are enhanced.”
opportunity – globally today and between generations. It is not true that sustainable development is about denying the South its development opportunities; it means something very different in the North as in the South. It is universally acknowledged that developing countries have the urgent need and the right to develop further. It is also acknowledged that industrialized countries must heavily reduce their resource consumption. But also for the South, not any development is advisable; many ideas have been proposed according to which the South may “leap-frog”, including through technical cooperation, to a better life and a modern economy that does not require the heavy, inefficient resource use of industrialized countries.

The concept of sustainable development implies uncertainty: from today’s perspective, we know what was unsustainable in the past, but it is difficult to predict what will prove to be sustainable in the future. We know that poverty is unsustainable; we know that excessive resource use is unsustainable; but we do not know how rich we all can be without using resources excessively. So far we lack an integrated vision as well as data, methodology and political instruments to really move closer to environmental sustainability.

In regions with low levels of educational success, using and understanding an abstract concept and word such as “sustainability” is difficult. However, the concept has forerunners and correspondences in many traditional communities, also in Africa. It is not necessary in all contexts to use this word “sustainability” explicitly in public. It is often sufficient to explain the meaning and the causal connections in a given community, for example, of poverty and land degradation. It is more important to implement sustainable development in practical terms, for the benefit of people and of nature. In other words: It is more important that people as a matter of fact live and work sustainably - what is often the fact in Africa.

A very simple but not fully correct explanation of sustainable development, concerning the development of a village: “To live and work such that the available land, water, wood, wildlife etc. is used such that all people in the village have a decent life and that also the children and grand-children have enough land, water, wood, wildlife etc. for a decent life”. Some aspects which are not fully correct in this explanation: “Used such” implies a quantitative limit, but the qualitative use of resources is just as important (e.g. drip irrigation). In addition, maybe future generations do not need to use a resource like wood at all, e.g. because of technological progress, so individual resources do not necessarily count. In addition, even rural communities are part of a globalized world, so they use resources from other continents, e.g. fuel and plastic – a purely local approach is not sufficient. Also a fair distribution of resources between the people of a village has to be taken into account, not only a minimal standard of decency.

There are many “models” of sustainable development. Here we use a mixture of the most frequently used models. The classical model introduces three “pillars” of sustainable development, the environmental, the social and the economic pillar. Other frequently discussed models have a “fourth pillar”, culture; other models have an additional “institutional” layer. In the three-pillar model, development is sustainable, if it addresses challenges in all three pillars. Often this is not possible; there are many possible conflicts between the different pillars, and the true challenge consists in solving these conflicts. The additional models focus on the fact that cultural and behavioral patterns govern all our human activities and that sustainable development requires designing appropriate institutions: institutions that are able to negotiate appropriate solutions, between the three pillars, especially in times of conflict. Compromises are possible and necessary, but need to be negotiated.

What is important is that all these models makes transparent that sustainable development is not
only about the environment. It is also about poverty, about work standards and workers' rights, about education, about fair trade and about the role of economic growth.

Sustainable development allows interconnecting many challenges such as climate change, population dynamics, empowerment of women, desertification, water scarcity and pollution, or access to sanitation. At the United Nations, more than 30 different topics are negotiated jointly under the title of sustainable development – the concept of sustainable development is in particular essential to constantly remind us that we have to avoid too narrow, technical and sectoral approaches, for example to climate change.

More info: www.papaco.org
Page publications

Pendjari NP: a biosphere reserve in Benin

Toward the creation of a new Transboundary Biosphere Reserve in West Africa
By Aurélien Garreau – GIZ Bénin

Aware of the ecological importance of the Mono Delta, but also its vulnerability, the Benin and Togo governments undertook together, with the local communities, the process for the creation of a Transboundary Biosphere Reserve.

Located between Benin and Togo, a set of unique habitats and ecosystems is found in the Mono Delta: the Mono River is bordered by some forests, lakes and ponds before it reaches the coast and the ocean. Many animal species can be found there, including some which are endangered and listed on the IUCN Red List, such as hippos, sitatungas, the red-bellied monkey, the African manatee and several species of sea turtles and dolphins.

Nevertheless, the current dependence on these natural resources threatens their sustainability. Agricultural practices, fishing, hunting, or logging are now poorly controlled despite the existing regulatory measures, which does not allow a rational management.

To cope with these challenges, conservation initiatives have been undertaken by local users and populations around ecological assets such as sacred or community forests, ponds, lakes, mangroves, etc. The objectives for these populations are not only to define management rules to ensure the sustainability of their resources and create community protected areas, but also to be recognized as legal association for the management of these areas.

The populations organized around these conservation sites, among whom are hunters, fishermen, landowners, vodoun priests are supported by local NGOs in this process.

To achieve this, several steps are implemented, including: participatory mapping of the initial and the desired states for their natural resources, setting up of boundaries for the different conservation areas, development of management rules and finally legal recognition of the management structures. Actually eight sites are concerned.

Participative mapping of the Biosphere Reserve

A mosaic of community protected areas will be created in the Delta Mono. Together they will form the Transboundary Biosphere Reserve and these areas will be strengthened through their networking. Finally, a cross-border coordination structure will support the management and enhance the networking between the protected areas.
Mangroves

The Mono Delta Transboundary Biosphere Reserve Project (RBTDM), through this process, aims in particular support for the establishment and functioning of natural resource management tools to ensure protection and sustainable use of biodiversity and ecosystem services.

Funded by the German Federal Ministry of Environment, Nature Protection, Construction and Nuclear Safety (BMUB), as part of the International Climate Initiative (ICI), the project is implemented by the German technical cooperation (GIZ), the National Centre of Wildlife Reserves Management (CENAGREF) in Benin and the Forest Resources Division (DRF) in Togo.

For more information, you can follow the creation process of the RBT Delta Mono on the facebook page: www.facebook.com/rbtdm

Two volunteers needed for Aldabra Atoll

The Seychelles Island Foundation is looking for two enthusiastic, hard working volunteers to join the team on Aldabra for six months from May 2016. These are two different positions with one volunteer needed with excellent experience in the use and development of Access databases, and the other to work as part of the Aldabra research team, conducting routine monitoring on turtles, giant tortoises, birds, and plants. Fieldwork will include spending time at field camps in basic conditions, boat work, walking in difficult terrain and high temperatures and possibly marine work. This role offers a unique opportunity to experience and contribute to the conservation and monitoring of one of the planet’s most pristine ecosystems.

Full job descriptions can be found on the Facebook page or by request from info@sif.sc