PLAN 2019-2023 (PHASE II)
& ANNUAL PLAN 2019

CEBioS PROGRAMME

Building capacities for biodiversity
and sustainable development

CEBioS

DGD-RBINS programme
Protocol of cooperation

museum

Belgium
partner in development

Final 31 January 2019

Main editor: Luc Janssens de Bisthoven, coordinator

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Contents

1- IDENTITY SHEETS

General data

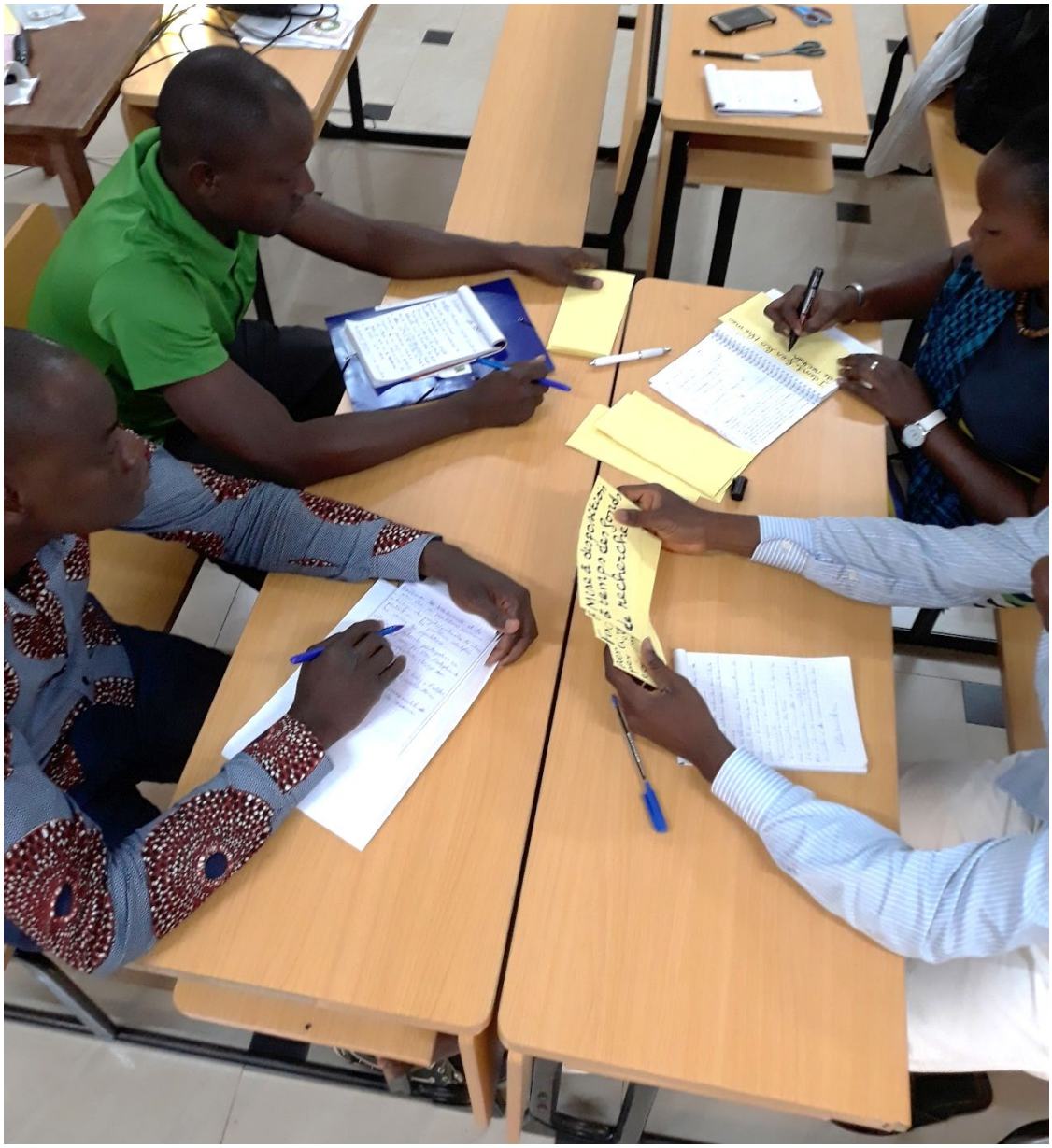
ID	Name	Abbreviation	Country	Address	Tel.	Fax	Email address	Website	Status	Activity	Project account number
Head office											
Secretariat	Royal Belgian Institute of Natural Sciences, CEBioS	RBINS	Belgium	Vautierstraat 21, 1000, Brussels	+32(0)26 27 45 87	-	ljanssens@naturalsciences.be	http://www.biodiv.be/cebios2/	Federal scientific institution	Research and outreach in natural sciences	
Manager	Luc Janssens de Bisthoven		Belgium	CEBioS, RBINS	+32(0)26 27 45 87		ljanssens@naturalsciences.be				
Contact person	Luc Janssens de Bisthoven										
Local partner	Université Abomay-Calavi	UAC	Benin						Public university	Academic	
	Office Burundais pour la Protection de la Nature	OBPE	Burundi						Agency of the Ministry	Managment of protected areas	[redacted]
	Centre de Surveillance de de la Biodiversité	CSB	DR Congo						Research Institute	Monitoring & research biodiversity	
	Université de Kisangani, Université de Kinshasa, Université de Lubumbashi, Université de Goma, Université Officielle de Bukavu	UNIKIS UNIKIN UNILU UGO UOB	DR Congo						Public universities	Academic	
	Institut Congolais pour la Conservation de la Nature	ICCN	DR Congo						State agency	Management o the National Parks	

	Institut de Recherches Halieutiques et de l'Océan au Bénin	IRHOB	Bénin						Research Institute	Protection of coastal systems	
	Ministries of Environment of Benin, Burundi, DR Congo, Togo, Niger, Morocco, Palestinian Territories, Uganda, Tanzania and their agencies		Various countries in Sahel, Palestina, Magreb and East Arfica						Ministries	Collaboration national Clearing House Mechanism, NBSAP	
Secretariats	Various										
Managers	On demand										
Contact persons	Various, no office in the South										
Target group	Researchers, civil servants										

Programme presentation

DATA	
Project number	
Original title	CEBioS-'Building capacities for Biodiversity and Sustainable development'
French title	CEBioS-'Renforcer les capacités pour la Biodiversité et le Développement durable'
Dutch title	
English title	CEBioS-'Building capacities for Biodiversity and Sustainable development'
Contact person	Dr. Luc Janssens de Bisthoven
Service	
Intervention number	
Basic contribution	
Budget heading	
Executing body	Royal Belgian Institute of Natural Sciences
Project code of executing body	
Executing body: other	
Subcontractor	none
Local partners	Universities, research institutes, ministries and their agencies, development actors in developing countries
Implementation period (months)	2019-2023
Country of implementation	Priority in Benin, Burundi, and DR Congo. 25 other countries eligible for certain interventions, in Africa, and SE Asia
Region of implementation	Africa, SE Asia
Province/Department	Benin: coast and North/ Burundi: entire country/ DR Congo: entire country with focus on Kisangani, Goma, Bukavu and Lubumbashi
Local situation	fragile
Type of funding	
Bilateral/Multilateral/NSA	
Info (ODA, PBA, etc.)	
Group/Programme	

TO BE COMPLETED BY THE DGD
TO BE COMPLETED BY THE PARTNER



Formulation workshop, Cotonou, Benin at Université Abomey-Calavi (Photo@LJDB)

EXECUTIVE SUMMARY

CEBioS in short

> Belgium's Development Cooperation will focus in the coming years even more on climate change, biodiversity, women's rights, gender equality, reconstruction and stabilisation.
> - cited from A. De Croo, Min. of Dev. Coop., Jan. 2019

What is CEBioS?

CEBioS stands for 'Capacities for Biodiversity and Sustainable Development' and is a programme of the Royal Belgian Institute of Natural Sciences (RBINS), financed by the Directorate-General for Development Cooperation (DGD).

It carries out capacity building for partners of the Belgian Development Cooperation in the field of biodiversity conservation and sustainable management linked to poverty eradication. For an explanation about the concept of "ecosystem services" which explains the important link between biodiversity and sustainable development, we refer to chapter 6 of this document.

The CEBioS programme works in the framework of international obligations of Belgium under the Convention on Biological Diversity (CBD), the EU biodiversity strategy to 2020 and the Belgian biodiversity strategy 2020. CEBioS is an instrument of Belgium to answer to the international obligations of parties having ratified the Rio Convention of Biological Diversity, in the Global South.

The CEBioS programme contributes to the achievement by the DGD partner countries of the SDGs related to climate change and biodiversity (SDGs 13, 14, 15) in order to reduce poverty (SDG 1), hunger (SDG 2) and improve good health and well-being (SDG 3), as well as to the 2020 (and beyond) strategic plan of the Convention on Biological Diversity (CBD) through the (post)Aichi targets and its related protocols.

CEBioS, being a programme of the federal institutional actor RBINS and being financed directly by DGD, has not the status of an ACNG as such, but adheres to the Law on development Cooperation of 2013, amended in 2016 concerning its methodological approach, policy context, choice of eligible countries and participation in the strategic dialogues. It is monitored by the unit MD8.

Why this document?

Under various names, the CEBioS programme has been running for many years. CEBioS is currently operating in a 10-year strategy spanning 2014-2023, under the supervision of DGD/MD8 and Belspo. It is divided in two phases of 5 years with earmarked budget. The first phase, 2014-2018, received funding of 6 million Euro (1.2 M/year).
This document presents the five-year plan of the CEBioS programme for Phase II, 2019-2023.
It takes into account the recommendations of a mid-term evaluation by independent international experts, namely to continue with at least the same or more budget, as well as the lessons learned from Phase I and the feedback from multiple stakeholders.

This plan is the result of intensive consultations within RBINS, CEBioS, its steering committee and its key institutional partners in Benin, Burundi and in DR Congo. Partner-stakeholders benefiting from our capacity building for their national Clearing House Mechanism (CHM) of the UN CBD convention have also been consulted. The format of the consultations was participatory. The aim was to tailor the programme along the principles of Theory of Change in line with the expectations of DGD, BELSPO, the cabinets of the Ministries of Development Cooperation and Science Policy and in resonance with the existing expertise at RBINS in order to be implemented by the CEBioS programme.

Results of Phase I (2014-2018)

Some highlights and success stories

The Clearing House Mechanism (CHM) websites, a tool of the Convention on Biological Diversity (CBD) set up in every country, permits to collect and share biodiversity information and knowledge, to enhance networking between contributors and to promote technical cooperation. The support to the CHM teams by CEBioS has led to increased contributions to the 6th National Reports to the Convention of Biological Diversity.

506 people were trained in the use of the CHM website tool through workshops in **27** different countries, or by attending training sessions in Belgium.

Belgium was granted a 3rd prize for its CHM in the 2016 CBD competition. Several CHMs supported by CEBioS won prizes in the 2018 competition.

Taxonomy is the key competence for identifications of animals and plants, and therefore for all kind of biodiversity surveys. The Global Taxonomy Initiative (GTI), an initiative of the CBD, aims at maintaining and transferring this knowledge. Global Taxonomy Internships and projects (GTI) granted by CEBioS clearly promoted the career development of young scientists (e.g. CAMES accreditation, academic promotions), often allowing them to become recognized in their countries as biodiversity-experts who can contribute to the development of national biodiversity and development plans and who are able to train future generations of researchers. Their work was essential to provide scientific evidence about e.g. the extent of threats in biodiversity hotspots, the use of biological control against pests, the understanding of the role of termites in soil fertilisation, the threat to wild pollinators or the effectiveness of certification in coffee plantations.

86 papers published in peer-reviewed scientific journals.

79 scholars came to Belgium to access collections and/or taxonomic expertise.

As part of its capacity building activities, CEBioS staff supported South partners with applications for diverse projects and grant proposals (BioBridge, IFS, MAB,…). Some results: Benin won a 2nd prize in the 2018 D4D competition; in 2018 several IFS-grants were obtained for partners; in 2018 a Biobridge project was secured for Benin.

A Measurement, Reporting and Verification project followed by awareness raising activities for decision makers, both funded by CEBioS and executed by the 'Centre de Recherche Hydrobiologique' at Uvira, led to the signature of an Act of Engagement by the local authorities to ensure sustainable fisheries at Lake Tanganyika. A similar success was booked in Mbuyi-Mayi, also in the DRC.

4 LEXICA PUBLISHED

These manuals, co-developed by users of the local ecosystems and CEBioS staff, enable plant and habitat identification of protected areas for park rangers and local populations, the knowledge needed for habitat monitoring. Sessions to explain and disseminate them locally encounter huge success and the local demand is very high. They are considered as invaluable tools in the field of conservation management.

In pilot agricultural secondary schools in two provinces of the DRC, biodiversity and its conservation was added to the curriculum. This was made possible by collaboration with VVOB promoted by CEBioS. Thanks to this synergy, the ministries of education and of environment learned to know each other and worked together in DR Congo.

CEBioS' work has led to the creation of the 'Réseau des Mycologues de la Région des Grands Lacs d'Afrique' (initiated with Belspo funding), a network being used as anchor for the development of value chains for mushrooms of the region: identifying varieties suited for production in small scale farms, the multiplication of 'blanc', the transfer of know-how to farmers, the introduction of the varieties at the local markets. This again led to a next 'spin-off', a large regional ARES project which will implement these aims.

12 high impact policy briefs were produced, presenting key scientific project results and recommendations for decision makers.

The participatory development and redaction of 12 Policy Briefs with south-partners in the DR Congo, Benin, Burundi, Peru, and Vietnam, was promoted and facilitated by CEBioS staff. Policy briefs are used to build awareness among politicians, decision makers and in the civil society. The proposed measures and recommendations in the briefs inform these target groups about the latest scientific findings on hot environmental subjects, and hence will lead to more informed decisions on poverty reduction strategies and action plans. Some policy briefs have already led to changes in local legislation, for instance to help ensure sustainable fisheries in the East of DRC. Subjects treated were thus far: fire, charcoal, fisheries, access and benefit sharing for traditional practitioners, bush meat, prioritising biodiversity indicators, computer models to protect shore lines, ecosystem services in Pendjari Biosphere reserve, uptake of indicators in development plans.

After years of CEBioS' supported research on termitosols in the clear forests around Lubumbashi, CEBioS provided for a drone at the University of Lubumbashi to facilitate the monitoring of the habitats of the Luswishi Forest reserve. The researchers aim at using this new technology to detect fire, habitat encroachment or illegal activities such as poaching or logging. This test case will be presented to ICCN as an effective management tool.

Lessons learned

After five years of executing its programme, CEBioS staff concluded that several approaches can be improved in the second phase. Some of these findings were confirmed by the Mid-Term Evaluation (end 2017).

At programme content level

During Phase I, CEBioS did not yet put enough emphasis on gender equality in its activities, a complex and difficult issue in the often academic or (political) administration circles in its partner countries. CEBioS will be more proactive in this.

- Staff will explicitely focus on gender issues throughout the development, follow-up and evaluation of activities in Phase II.

In Phase I, CEBioS has been paying attention rather implicitly to the improvement of livelihoods and well-being of local people. By naming them as the final beneficiaries of the CEBioS programme in its Theory of Change, both aspects will be explicitly present in the planned activities of Phase II, thus improving the impact of the programme.

- Research grants (GTI and others), as well as MRV and awareness projects will be dedicated to subjects directly linked to these aspects.

  The eligibility criteria in the calls will direct the projects towards pest management (biological control), soil fertility, pollinisation, agroforestry, value chains on edible wild animals and plants with high nutrient and protein contents or medicinal value (related to the Nagoya Protocol and traditional knowledge), efficiency of crop certification schemes, conservation management (regeneration, defaunation, connectivity, production of charcoal, bushmeat), carbon stock, zoonoses, sustainable use (carrying capacity, quotas, control) and development of national and local smart indicators linking biodiversity to development in the framework of the (post) Aichi targets of the CBD strategy and the SDGs.

- Activities are more designed to yield direct results benefiting to local people, authorities or other stakeholders, whenever possible.

At programme management level

During Phase I, the CEBioS programme was divided into 6 sub-programmes, often considered as stand-alone programmes, each of them with insufficient interactions with the others. This approach clearly proved its limits, especially when it comes to efficiency and the obtaining of integrated results.

- For Phase II, the CEBioS team rethought its way of operating. It introduced transversal themes throughout the programme and it defined new Specific Objectives to ensure that each previous sub-programme touches all aspects of the Phase II- programme directed to 4 key target audiences: (1) scientists, (2) environment administrations, (3) policy makers, decision makers, politics, and (4) civil society, private sectors and development actors.

The administrative and financial follow-up of CEBioS' activities was not efficient enough and at times rather complicated.

- At the start of Phase II, measures are being taken to simplify the administrative and financial follow-up, also taking into account the recommendations of the financial and organisational audit (end 2018) with the implementation of new software tools.

The Monitoring and Evaluation framework within CEBioS proved to be cumbersome and not always efficient.

- New initiatives are being developed to valorise the content of past projects and a calendar tool should allow to check on the progress of the different projects more regularly and to directly relate to all 120 indicators of the five-year plan. The Monitoring & Evaluation within CEBioS is being improved by allocating M&E tasks to key staff and by better defining process flows. Annual planning and reporting will be more strictly adhering to a result-based management approach.

CEBioS's communication and visibility policies should be improved.

- A communication officer has been recruited.
- The current website will be further updated and will be migrated to a more actual content management system (Bioland).
- The collaboration with other communication services of the RBINS will be intensified allowing for extra input of stimulating and creative ideas, action plans etc.

A major asset of the CEBioS programme is its potential to swiftly adapt to changing circumstances, be it in its partner countries or in the Belgian context. This flexibility, both in the design of new actions or projects, as on a budgetary level, permits to book the required results more easily, obtain stronger results (high value for money ratio, see mid term evaluation). The open, versatile way of operating and decision-making within the CEBioS team and within the steering committee, makes this possible.

- This 'modus operandi' should be kept up during Phase II of the programme. It adheres to the principles of adaptive management and capacity development.

Contract templates need revision.

- The different types of contrat templates (project contracts EN and FR, training grant contracts EN and FR) will be revised and streamlined by the juridical services of the RBINS.

Financial guidelines have to be updated, elaborated and formalized.

- A set of financial guidelines will be established by CEBioS staff in collaboration with the RBINS accounting department, both for the programme officers and the South partners.

In some cases, collaboration with individuals, institutes or organisations proofs too difficult or even impossible due to low reactivity, governmental interferences and restrictions.

- These findings will be taken into account when developing activities and projects in Phase II.
- Support to these individual researchers is stopped.

At sub-programme and institutional cooperation level

For the Measurement, Reporting and Verification programme (MRV), considered to be a pilot programme in Phase I, CEBioS has been working with two different language groups (French and English) through similar though separate calls, workshops etc. We learned that both groups need a different approach in the set-up phase as well as in the follow-up and evaluation phase of the projects.

- In Phase II the MRV activities for the French speaking countries will provide more training, learning and information than those for the English-speaking countries, where CEBioS will rather have a facilitating role.

The MRV piloting phase also pointed out that the results of this type of projects, including the co-production of policy briefs, can be substantially amplified with immediate impact on the livelihoods of local people, if they are followed by dissemination and awareness raising activities.

- For Phase II, MRV projects will be followed by publication of the project results (scientific papers, pdf series of project reports, policy briefs, videos, use of the media,...) and dissemination and awareness raising activities for target audiences like local people or managers, policy and decision makers.

The support for Masters and PhDs at UNIKIS in Phase I has been successful, even more so if considered in combination with the efforts of the VLIR-IUC with UNIKIS in the last 10 years. However this type of intervention does not always contribute enough to the envisaged institutional reinforcement of UNIKIS or the CSB.

- This part of the programme will be discontinued and replaced by other types of support to UNIKIS/CSB related to the 5-year annual plan of the CSB.

Recommendations from the Mid-Term Evaluation (MTE)

General evaluation

The MTE was positive about Phase I of the programme and recommended further full or increased funding for Phase II.

The MTE was commissioned by BELSPO to 3 international evaluators. The MTE consisted of a desktop study, written surveys and interviews of key stakeholders in Belgium and in the partner countries (distance interviews, written and through skype sessions), and in the end of a participative workshop ('focus group') with CEBioS staff and direct stakeholders (BELSPO, DGD). The MTE was delivered in December 2017. The different management responses by RBINS-CEBioS, DGD and BELSPO were delivered in February 2018 and both the MTE and the management responses were approved by the BELPO-DGD strategic committee in June 2018.

The programme was evaluated according to the OECD-DAC criteria and got the following scores:

- Relevance: excellent
- Effectiveness: good
- Efficiency: very good
- Impact: satisfactory
- Sustainability: very good

The evaluation confirms the general quality and the importance of the programme but remarks that the impact on poverty reduction could not be sufficiently demonstrated. The link between biodiversity and poverty reduction should be better articulated in the following phase.

Management response as a guidance for Phase II

The MTE provided a number of strong and weak points per specific objective, certain questions, followed by a set of recommendations. The management response (validated) on how to improve the weak points provided the basis for the formulation of the second phase, together with the workshops on Theory of Change, both in Belgium and in the South. The integral text of the MTE and the management response (including the responses by DGD and Belspo) can be provided on demand or can be consulted here: http://www.biodiv.be/cebios2/docs/strategy. Since the management response was edited in January 2017, a lot of action points have already been realised. These are explained in the right column (stand January 2019) of the table in annex 6.

Chapter 8, formulation of the second Phase, provides further recommandations from the Mid-Term Evaluation.

Structure of Phase II

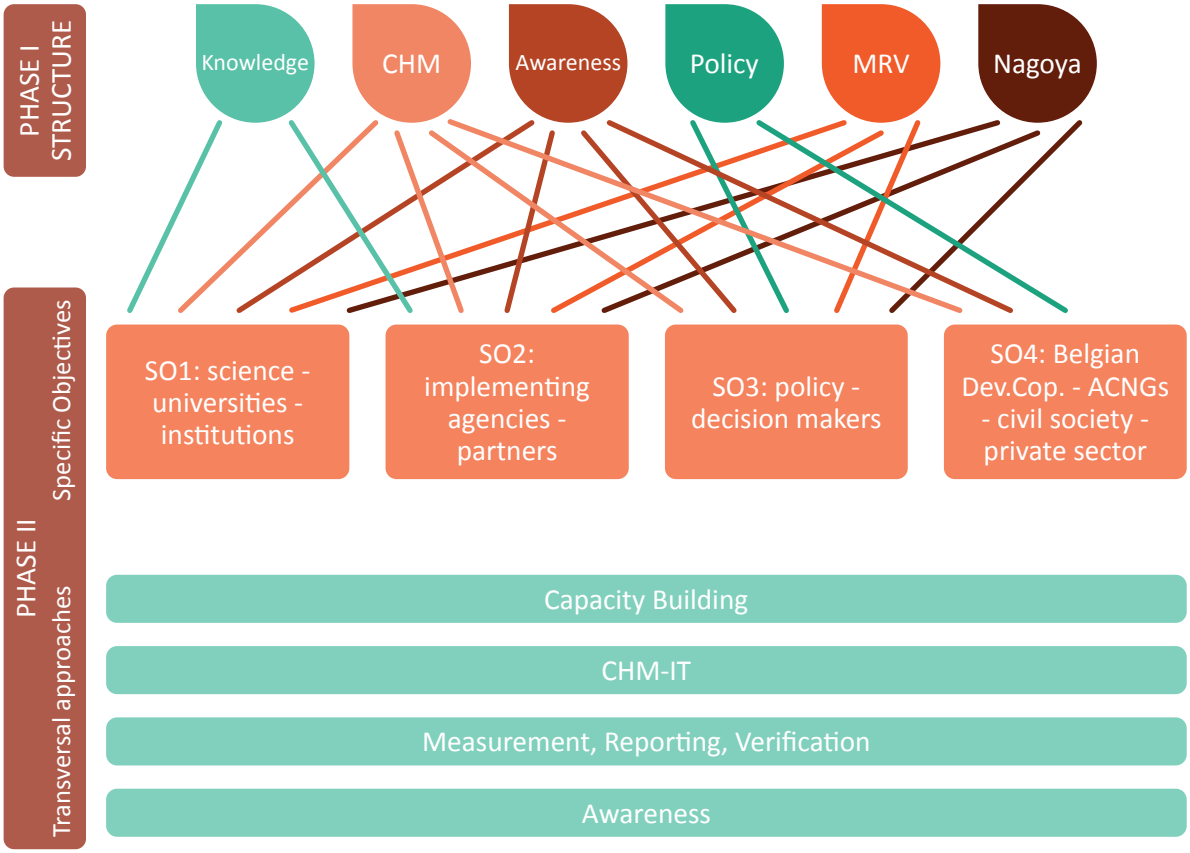
From Phase I to Phase II

The Mid-term Evaluation of CEBioS' activities, and reflections about success stories and lessons learned, have fed the way CEBioS staff has translated its Theory of Change, developed in 2018, into a budgeted logframe for the period 2019-2023.

A new implementation scheme was developed along three principles:

- Working towards a common outcome, namely the increase of the well-being and livelihoods for local people, defined as the general objective in CEBioS' Theory of Change,
- Improve the efficiency and result yielding (Improve the flexibility and adaptative management by) better integrating the six subprogrammes as formulated in Phase I,
- Structure the whole programme along the targeted users' groups and not anymore according to the offer. Targeted users (or audience, beneficiaries, stakeholders) are the environmental administrations, the policymakers, and the scientists, in the South, and the DGD and its partners in Belgium. This users' driven approach comes together with paying extra attention to the development of value chains for the benefit of local people and a rights-based approach.

The following scheme displays the integration of four transversal themes with budget flows compared with those of Phase I. The different bars show the transfer of the six Phase I specific objectives to the four Phase II new specific objectives.



The intervention logic

The intervention logic of the CEBioS programme Phase II is explained in detail from chapter 12 onwards.
The programme is based on 4 specific objectives (tailored to specific target audiences, partners or stakeholders), defined through a formulation process based on the theory of change, each containing 3 or 4 expected transversal results (tailored according to methodological/thematic approach). In total about 120 indicators describe the expected outcome, outputs and activities in a result based management approach. The budget is articulated along the same logic. All Specific Objectives and Results expressed in the intervention logic of the logical framework should be understood as "contributions to..." by CEBioS (as part of a larger context involving other empowering factors). For a schematic flow chart of Specific Objectives and Results in the context of the Theory of Change, see Fig. 2 in Chapter 12.

SO 1: The scientists of the partner countries of the Belgian Development Cooperation acquire knowledge, understand, apply and disseminate results useful for sustainable management, use and conservation of biodiversity and ecosystem services.

Result 1.1 (CB-1): The knowledge and understanding of biodiversity and ecosystem services by the scientists of partner countries of the Belgian Development Cooperation is enhanced and disseminated through capacity building.

Result 1.2 (CHM-IT-1): CHM and other IT tools in service of national research is functional and useful to scientists and their partners.

Result 1.3 (MRV-1): Scientists are able to valorize research data for feeding national and local indicators and formulating trends supporting improved biodiversity related strategies.

Result 1.4 (AW-1): Awareness on dissemination methodologies is raised among scientists.

SO 2: National implementing authorities in the south and their partners improve sustainable management and use of ecosystem services to conserve biodiversity and support the livelihood of rural populations through the development of best practices and value chains.

Result 2.1 (CB-2): Monitoring, management and conservation of ecosystems and services, including development of related value chains by the national implementing authorities is improved through capacity building.

Result 2.2 (CHM-IT-2): CHM and other IT tools in service of monitoring and management are functional and are used by the authorities and target publics.

Result 2.3 (MRV-2): Scientists, in collaboration with implementing authorities, develop the tools to communicate about the results of their research related to monitoring and managing ecosystems and services, among authorities and decision makers.

Result 2.4 (AW-2): The observations and conclusions of the scientific research are vulgarized towards authorities competent for monitoring and managing ecosystem services.

SO 3: The authorities, decision makers and policymakers develop and implement pertinent policies, strategies and action plans for a sustainable management of the national biodiversity in service of the livelihoods of the local populations in the South.

Result 3.1 (CB-3): Policy makers in North and South contribute to national and international policy on biodiversity and development in the South.

Result 3.2 (CHM-IT-3): CHM and other IT based information and reporting tools for policies are functional and used by the authorities for the development of policy plans.

Result 3.3 (MRV-3): Reporting to NBSAPs and other biodiversity related plans is based on evidence-based data, and local authorities adopt or develop decisions and policies based on CEBioS project results.

Result 3.4 (AW-3): Awareness on biodiversity governance and available tools is raised amongst authorities and results in the formulation of policies and organization or participation to (inter) national policy events.

SO 4: Enhanced synergy between the partners of the Belgian Development Cooperation, civil society and the private sector to achieve sustainable development by mainstreaming biodiversity issues.

Result 4.1 (CB-4): Increased synergies of CEBIOS with ACNG's, DGD, ENABEL and private sector for mainstreaming of biodiversity.

Result 4.2 (CHM-IT-4): CHM and other mainstreaming tools are functional and are used by the partners of the Belgian development cooperation, civil society and private sector.

Result 4.3 (AW-4): The awareness about sustainable use and management of biodiversity is raised within the partners of the Belgian development cooperation, civil society and private sector.

How do CEBioS' results have impact on society?

The 'results' or 'outcome' at the level of partners and stakeholders and the impact at the level of society, resulting from the **outputs** of the CEBioS programme are manyfold. Examples of typical outputs are workshops, trainings, grants, contributions to Masters and PhDs, policy support, lexica, abcTaxa, policy briefs, scientific publications, MRV, CHM and awareness projects, support to protected areas and habitat monitoring.

Here are listed some general examples of expected outcome and possible impacts generated by the CEBioS programme:

Expected **outcome** at the level of partners and stakeholders

- Concrete improvements of personal technical (e.g. CHM) and scientific (contributions[1] to Masters, PhDs, research on applied subjects, related to ecosystem services which can improve the livelihoods of local communities) skills, knowledge and career path (e.g. accreditation, promotions, self-confidence, increase in project funding, international network) at individual levels within their institutional context (SO1 and SO2);
- A better functioning (efficiency, governance, self-confidence, international network, publications) of research, administrative and policy units (SO1, SO2, SO3);
- Exchanges of lessons learned, networking and mentoring amongst CEBioS alumni (SO1);
- A better formulation of action plans and strategies for biodiversity and development (SO3);
- A better understanding, formulation and implementation of policy and associated indicators in and around protected areas and in rural landscapes based on scientific data (SO1, SO2, SO3);
- A better integration of biodiversity in other sectors (e.g. education, health, agriculture) and

[1] As RBINS is not delivering diplomas, it rather "contributes" to academic degrees by supporting the field work of these researchers and mentoring them locally and through internships in Belgium.

with the private sector and the other actors of the Belgian development cooperation (e.g. in the strategic dialogues and the learning trajects) (SO4);

- A better building up, maintenance and use of data bases (e.g. for habitat monitoring) which can feed indicators (SO1, SO2);
- A better co-development (both by Ministry based national focal points, web masters and scientists) and higher number of users of the Clearing House Mechanism (CHM) and other IT tools, which results in better informed stakeholders about biodiversity and development (all SO).

Possible **impacts** at the level of local populations

- A higher level of information and awareness about biodiversity and the associated ecosystem services leads to a better acceptance and integration of conservation (and associated revenues such from e.g. ecotourism, bee-keeping, mushrooms etc.), meaning less conflicts, less poaching, less encroachment, less illegal traffics, more co-management, more rational and sustainable management and use of ecosystem services (and their value chains), higher revenues;
- A better respect and implementation of the basic human rights to have sustainable[2] access to drinking water, fodder, energy, construction materials, health and food and a more gender correct context and attitude;
- More stable and healthy socio-ecological systems are more resilient to climate change.

This increased access to basic human rights[3] is the result of complex top down and bottom up processes. These processes form the entry points where CEBioS can make a difference. The measurement and evaluation of this (often intangible) impact at the level of partners, stakeholders and local communities through indicators can be challenging, but we tried as much as possible to express appropriate indicators (see logframe).

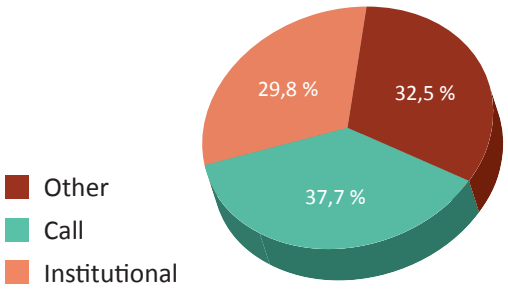
[2] Here "sustainable" clearly refers to the ecosystem services provided by a healthy biodiversity which can maintain/renew itself and is not degraded over time by illicit depredation, encroachment, poaching etc.

[3] from UNEP: http://web.unep.org/divisions/delc/human-rights-and-environment
There are three main dimensions of the interrelationship between human rights and environmental protection:

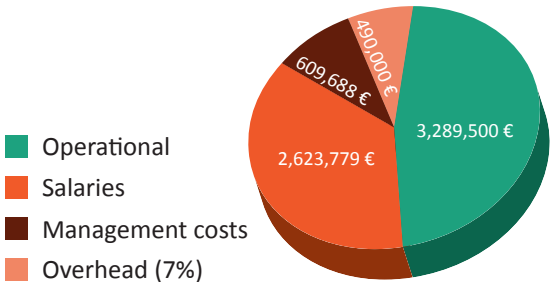
- The environment as a pre-requisite for the enjoyment of human rights (implying that human rights obligations of States should include the duty to ensure the level of environmental protection necessary to allow the full exercise of protected rights);
- Certain human rights, especially access to information, participation in decision-making, and access to justice in environmental matters, as essential to good environmental decision-making (implying that human rights must be implemented in order to ensure environmental protection);
- The right to a safe, healthy and ecologically-balanced environment as a human right in itself.

Budget Phase II

Operational budget Phase II



Total budget Phase II



Total: 7.000.000 €

New budget developments in Phase II

Since the onset of Phase I in 2014, the Belgian Development Cooperation has undergone some major transformations, and evolved anno 2019 e.g. towards more links wit the private sector, more synergies between Belgian actors, special attention to fragile states, gender issues and digitalisation, to name a few. The Phase II of the CEBioS programme (2019-2023) takes up this challenge to match as far as possible these approaches. CEBioS proposes an increase of about 200 K Euro per year, compared to Phase I, because of several rising costs and to be able to meet the many challenges ahead. Travel costs (hotels, tickets, per diems) tend to increase, together with the salaries (index, employees' seniority). The component of Measurement, Reporting and Verification (MRV) is now at full speed, after a slow start in Phase I. Institutional cooperation in Benin, Burundi and DR Congo has expanded and demands more substantial support as well. Monitoring and Evaluation, including the mandatory mid- and end-term evaluations, comes now at a much higher cost than in Phase I, both in terms of salaries and missions abroad. Working together with other Belgian actors, the private sector and the civil society, and linking this to the existing institutional cooperation, as well as the integration of the different sub-programmes (GTI, CHM, MRV, awareness, capacity building) asks for more workshops, more projects in the field, more exchanges between alumni etc. Increasing the research and the project implication in value chains of ecosystem services and livelihoods demands extra attention and budgets. Raising awareness in a transversal way through production of pertinent outputs such as policy briefs and through proactive dissemination and explanation to target audiences (scientists, authorities, civil society, private sector, development actors) demands extra efforts. Finally, the policy work will be intensified towards the formulation by CBD of the new strategy 2020-2030 and the higher implication of CEBioS in IPBES.

Key partners for Phase II

The CEBioS programme will be mostly active in 3 partner countries of the Belgian Development Cooperation for institutional reinforcement, in Benin, Burundi, and DR Congo.

The policy of the current Belgian administration is to focus on fragile countries. This is the case for RDC and Burundi. However this entails certain risks. In case of cessation of cooperation with countries because of political conflicts or bad governance, CEBioS is resilient enough to focus on alternative partnerships as described in Chapter 13- Risk Analysis- Possible or alternative partnerships. However, anno 2019 CEBioS is confident enough to continue the work with the privileged partners in these countries, because of a years-long building up of trust and common objectives to move forward for biodiversity and development. CEBioS works at the level of universities and research institutes, which are relatively unaffected by politics, especially at the operational level. At the level of the ministries of environment, we cooperate with (1) official national focal points (CBD convention and protocols) who do useful policy work, and/or are able to mobilise local NGOs and the civil society, and with (2) environmental agencies like OBPE (Burundi, intense cooperation) and ICCN (RDC, cooperation in a more advisory mode), which are working at the operational level.

Burundi

'Office Burundais pour la Protection de l'Environnement' (OBPE)

Since 2001, the cooperation with OBPE, a government agency, focuses on institutional capacity building (SDG 16) for its mandates related to the implementation of the National Biodiversity Strategy (NBSAP), the Convention on Biological Diversity and the SDGs in Burundi. This ranges from sustainable management of the National Parks (SDG 6/7/14/15), applied biodiversity research on pollinators, mushrooms and other forest by-products (SDG 1/2/3) as well as the development of value chains of these for rural populations around protected areas (SDG 5/8/12), developing networks for mainstreaming biodiversity in other sectors, the Nagoya Protocol, sharing of information through the Clearing House Mechanism and public awareness on all the above. This has been done in the light of a Memorandum of Understanding (2014-2018) and will be continued with the cooperation of the University of Burundi, local NGOs and through synergies with Broederlijk Delen and other ACNGs active in Burundi. On the demand of OBPE new additional activities will be developed on (1) laying sound foundations for the development of future ecotourism sector (SDG1/12), through mobilisation of key players in the private sector (e.g. the arboretum at Rusizi NP), even if this remains a small niche given the current political situation, as well as on (2) the creation of sustainable ecological systems in Burundi (rural populations).

CEBioS will continue to actively participate in the Strategic Dialogue for Burundi to make other actors better aware of the importance and relevance of biodiversity conservation and to identify synergies and potential collaborations with other (Belgian) development actors.

Democratic Republic of Congo

'Centre de Surveillance de la Biodiversité' (CSB)

Originally organised under the auspices of the Royal Museum for Central Africa, in cooperation with the RBINS and the Botanic Garden Meise, the CSB was created in 2010 at the University of Kisangani (UNIKIS) with Funding of the Belgian Development Cooperation and inaugurated in 2014. It has been the object of institutional capacity building (SDG 16) ever since. Under impulse of CEBioS, the CSB became 'Secondary CHM' for the DR Congo in 2017, mandating the institute to contribute to the NBSAP and to contribute to the implementation of the Convention on Biological Diversity and the SDGs. The CSB together with its Belgian partners organised a first International Conference on the biodiversity of the Congo basin and, with as important output, a first 'Etat des lieux' of the knowledge about the biodiversity in DR Congo. By means of an 'Accord Cadre de Coopération' (2017- 2018), the CSB-CEBioS programme has been involved in the development of the Clearing House Mechanism-DRC site, the digitisation of the library of biodiversity research at the Faculty of Science of the UNIKIS, the strengthening of national networks for mainstreaming biodiversity-governance knowledge and training in scientific skills, including One health related topics (Ebola, Monkeypox), and raising awareness about the Nagoya Protocol among scientists. Moreover, the introduction of Measurement, Reporting and Verification projects increased the insights on how decision makers can be influenced on a science base. In the coming years, the CSB will continue the above-mentioned activities, additionally to a programme of biomonitoring of the ecosystems in some zones outside the national parks, taking into account socio-economic factors in order to better understand the development of value chains in those areas (SDG 5/8/12). All activities will be executed in close collaboration with the Faculty of Science of UNIKIS.

A second 'International Conference on Biodiversity in the Congo Basin' is being planned for 2020, probably at the CSB in Kisangani. A first announcement has been disseminated and endorsed by the 11th Meeting of the Parties of the Congo Basin Forest Partnership (facilitated by Belgium), of which RBINS is a member, in November 2018. The programme of this 2nd conference will link biodiversity to public health (One Health), to sustainable agriculture, and highlight the valorisation of ecosystem services, the link to climate change, and the development and facilitation of supra-national and interregional collaborations in scientific research. Links with the AICHI targets and SDGs will be stressed and explained.

Stimulated by CEBioS, the CEBioS-activities with the CSB are known, approved and followed-up by the 'Ministère de l'Environnement et Développement Durable' and its 'Direction de Développement Durable'. The mutual trustful relationship ensures that the ministry calls more easily and automatically on the CSB to contribute to national reporting exercises, to advise when preparing legislation, to help raise awareness among politicians in commissions, and the general public.

'Ministère de l'Environnement et Développement Durable' (MEDD)

During Phase I, the collaboration with the Ministry and its 'Direction de Développement Durable' (DDD) has been intensified. The integration of transversal themes such as Clearing House Mechanism, awareness raising (e.g. in cooperation with VVOB and other NGO's) and Measurement, Reporting and Verification will continue as well as the training on the Nagoya Protocol.

'Institut Congolais pour la Conservation de la Nature' (ICCN) and several universities (UOB, UG, UNIKIS, UNILU, UNIKIN)

The longstanding cooperation with the state agency ICCN will continue to develop guidance for habitat monitoring in its protected areas (including the production of lexica), based on scientific knowledge generated with the cooperation of the local universities. Special attention will be devoted to the valuation or creation of value chains for local people in and around protected areas (SDG 5/8/12) as well as for applied research on pollinators, mushrooms and other forest by-products (SDG 1/2/3).

For the DRC in general, synergies with WWF, Botanic Garden Meise and the Royal Museum for Central Africa will be further developed. A demand from WWF on inventories of Salonga NP is pending. Collaboration as a pilot with a private partner, Kadima's Pride of Africa Safari Park, will be further developed in order to raise awareness on biodiversity of school children of Kinshasa. In the Strategic Dialogue, CEBioS will continue to identify synergies and collaborations with Enabel and ACNGs on the mainstreaming of biodiversity and the identification or creation of value chains and best practices.

Benin

'Université d'Abomey-Calavi' (UAC)

In the period 2014-2018 a Memorandum of Understanding has been signed with UAC on habitat monitoring and applied biodiversity research with focus on the development of best practices around the use of fire and pastoralism around protected areas (Pendjari NP), a programme executed in collaboration with other agencies, the civil society (AVIGREF) and the private sector. These activities will be continued, also with the involvement of the University of Parakou and will be extended to the trans-border 'W' National Park, involving Burkina Faso and Niger. Special attention will be devoted to cooperation with the private organisation 'African Parks', now responsible for the management of Pendjari National Park.

'Institut de Recherches Halieutiques et de l'Océan au Bénin' (IRHOB)

The development of a pilot programme on marine modelling and the protection of the coastal systems, was covered by a Memorandum of Understanding for the period 2016-2018. These activities will be further developed with attention to the dispersal of tiger shrimps in the area and accompanied by capacity building of port authorities, based on demands coming from the bilateral cooperation.

'Ministère de l'Environnement et de la Protection de la Nature' (MEPN)

This collaboration, dating from 2006, includes support to the Clearing House Mechanism (CHM) national focal point and to awareness raising with local NGO partners (Nature tropicale and others). MEPN proved to be a trustful and strong partner to be a 'relais' towards awareness raising on biodiversity and development in Benin.

CEBioS facilitates the collaboration between MEPN, IRHOB and UAC in the framework of its projects to enhance reporting and advising, according to the needs of the national administration.

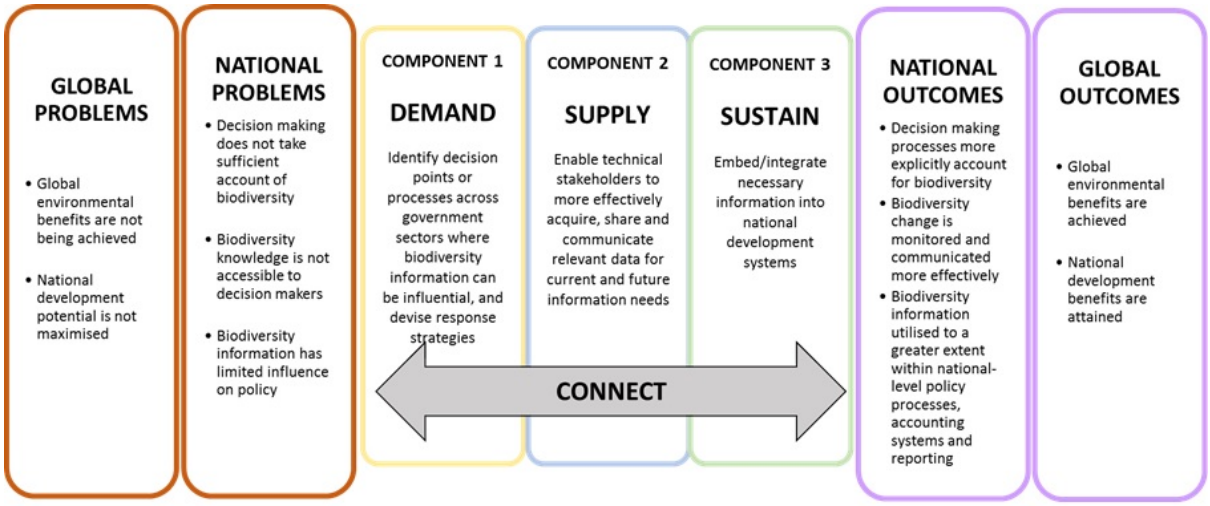
CEBioS has been participating in the Strategic Dialogue for Benin and will continue to do so in the future.

3- INSTITUTIONAL COOPERATION: BIODIVERSITY POLICY CONTEXT AND CEBIOS PROGRAMME

CEBioS collaborates in the first place with environmental authorities depending on the national ministry of environment and/or sustainable development and with research institutes. Long-standing, regular, personal contacts of CEBioS staff at the highest possible levels with those partners assure that CEBioS' activities with the priority partner institution in the country are known, approved, followed-up and evaluated by the national administration (high ownership and South demand). This way of working helps building a trustful relationship between the institutional partner and the national administration and vice-versa, creating a better understanding of each other's needs along the principle of subsidiarity. Hence, the ministries more easily and automatically call on CEBioS partner institutions to contribute to national reporting exercises, to advise when preparing legislation, to help raise awareness among politicians in commissions, to advise on awareness actions for the general public, and so on. Partner institutions feel more confident that their scientific work is being taken into account by the administrations, that their contributions matter on a national level.

The 4 specific objectives (SO) of the phase II CEBioS programme are focused on target stakeholders (scientists, environmental authorities, policy makers, civil society) and can be seen in that perspective: that CEBioS will contribute- with a rights based approach - to strengthening, empowerment, information sharing, awareness raising for these different stakeholders, that CEBioS connects these stakeholders with each other, and that the ideas and knowledge generated by these interactions percolate to science based official strategies, action or management plans and projects in the field. This important contribution is what CEBioS with the available budget can have as an impact, playing the role of brooker, facilitator, networker and transfer agent for expertise and knowledge, by way of a diverse toolkit (policy work, CHM, MRV, awareness, capacity building, technical manuals, policy briefs).

CEBioS, as a member of the expert team of the UNEP-WCMC CONNECT project (https://www.connectbiodiversity.com/), contributes with its expertise, acquired mainly through its MRV projects and policy work (at the level of DGD, CBD, OECD-Environet, IPBES), to help ensure biodiversity is taken into account in decision making across government sectors and their respective development plans. This is done by improving the decision makers' access to and use of biodiversity information and by embedding biodiversity information within national development decision making processes. The project, part of the GEF project on *Mainstreaming biodiversity information into the heart of government decision making* has been designed around the following Theory of Change :



(from https://www.connectbiodiversity.com/about-connect)

The fact that this project has been initiated, demonstrates that the uptake of biodiversity into government decision making is not yet acquired. CEBioS transfers the expertise of the CONNECT-project to the partner institutions to also support them in better understanding of the mechanisms at work when dealing with the uptake of biodiversity information in national development plans and decision making.

In this context, CEBioS and its institutional partners especially aim to have influence on the development, availability and understanding of scientific evidence for the development of the legislation and/or regulatory framework for the application of e.g. the Nagoya Protocol on Access and Benefit Sharing, the protection of natural habitats and their ecosystem services by new or improved (even local) legislation (laws, decrees, directives, acts) and management options (cfr habitats, fisheries, energy wood, bushmeat) or for the necessary control systems thereof, the legal and administrative organisation of value chains for mushrooms, pollinators, the strategies and actions for raising of public awareness, etc. These topics may differ by country. They will also largely depend on the political context of each country.

Generally, the environmental legislation in place in Burundi, Benin and RD Congo is quite well written, and adequate and can be consulted under the respective CHM. It is often the outcome of large capacity development or mainstreaming programmes financed by WCMC, IUCN, World Bank, UNDP or UNEP.

What is sometimes missing though, and where CEBioS can play a role, is (1) a better articulation or translation of the international and national obligations, strategies and action plans into concrete actions in the field (both in protected areas and in rural agricultural landscapes), as well as (2) the promotion of a better understanding by civil servants and scientists of the national policy context and its consequences at operational and management level. This, CEBioS can facilitate through its toolbox, i.e. training, information, awareness, CHM, and capacity building towards research on ecosystem services. Hence, each country will benefit from a package of integrated interventions through and by privileged and trusted partner institutions who play a key national role. The brookerage and expert function brought by CEBioS will link the top down and bottom up processes in the science-policy-development interfaces.

All these CEBioS activities will always be reported and further adjusted in the steering committees, regular technical meetings with DGD and debriefings at the Belgian diplomatic posts in the concerned countries.

Most of the 120 indicators of the phase II 5 year programme concern Benin, Burundi, DR Congo and Vietnam. The MRV, CHM, awareness and GTI calls are interwoven into the institutional cooperations in these countries and will provide country specific indicators which will be reported annually at level of outcome, outputs and activities. Indicator 5bis, 'Annual number of interventions integrating different calls in the institutional cooperation', will be used to report on this, aggregating other more specific indicators.

The habitat monitoring indicators and the lexica concern all 3 African countries as well (SO2) The policy indicators (SO3) are also mostly for Benin, Burundi and RD Congo.

What is an NBSAP?

National Biodiversity Strategic and Action Plan Capacity Building Module 1: An Introduction to NBSAPs (revised in 2011)
(from https://www.cbd.int/nbsap/introduction.shtml)

Article 6 of the Convention (on Biological Diversity, CBD) on General Measures for Conservation and Sustainable Use states that each Contracting Party shall, in accordance with its particular conditions and capabilities:
(a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned

(b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

Article 26 and Article 10(a) are closely linked to Article 6. The first calls for Parties to present, through their national reports, information on measures which have been taken for the implementation of the provisions of the Convention and their effectiveness in meeting the objectives of the Convention. The latter encourages Parties to integrate consideration of the conservation and sustainable use of biological resources into national decision-making.
Article 6 creates an obligation for national biodiversity planning. A national strategy will reflect how the country intends to fulfill the objectives of the Convention in light of specific national circumstances, and the related action plans will constitute the sequence of steps to be taken to meet these goals.

The requirement to integrate consideration of the conservation and sustainable use of biological resources into national decision-making, and mainstream issues across all sectors of the national economy and policy-making framework, are the complex challenges at the heart of the Convention.

Burundi

POLITICAL CONTEXT FOR BIODIVERSITY IN BURUNDI

EXCERPTS FROM THE NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN (NBSAP, ANNO 2019)

To facilitate implementation of its new NBSAP 2013-2020, which takes into account the Strategic Plan for Biodiversity 2011-2020, Burundi has notably developed an associated Resource Mobilization Strategy, Capacity Development Strategy and CEPA Strategy. … Twenty-two national biodiversity objectives are distributed among the NBSAP's five strategic goals which aim to: 1) manage the underlying causes of biodiversity loss through the involvement and commitment of all stakeholders at all levels; 2) reduce direct pressures on biodiversity and biological resources; 3) improve the state of biodiversity through safeguarding ecosystems, species and genetic diversity; 4) value and sustain the benefits derived from biodiversity and ecosystem services; and 5) reinforce NBSAP implementation through participatory planning, efficient knowledge management and capacity development. … Five regional plans for implementing the NBSAP exist, as do plans for integrating biodiversity into six sectors (Ministry of Agriculture and Livestock; Ministry of Energy and Mines; Ministry of the Interior; Ministry of Transportation, Public Works and Equipment; Ministry of Commerce, Industry, Postal Services and Tourism; and the highest levels of decision-making). Burundi's CEPA Strategy identifies rural women as a specific target group for whom particular communication approaches related to biodiversity conservation will be adopted. …

CHALLENGES IN BURUNDI

(in French from National reports 2012 & 2014)

Au Burundi, la dégradation de la biodiversité est la conséquence de plusieurs facteurs dont les principaux sont : les faiblesses institutionnelles, la pauvreté, la surexploitation, les défrichements répétés, l'introduction d'espèces exotiques, le braconnage et l'abattage massif des arbres dans des zones initialement protégées, les incendies criminels, la pollution et d'autres causes naturelles telles que les inondations et la sécheresse. … Le secteur de la biodiversité souffre d'un manque d'expertise en biotechnologie, ainsi que de la mauvaise connaissance du patrimoine forestier due à l'échec de l'inventaire des boisements. De plus, de bons programmes pour la préservation de la biodiversité ont été élaborés mais les financements pour leur mise en œuvre n'ont pas suivis. …Deux défis majeurs sont à signaler : (i) La protection des espèces de faune et de flore menacées d'extinction. (ii) L'application du décret portant création des aires protégées et du décret sur la procédure des études d'impact environnemental et social, au vu de la croissance démographique qui constitue une menace sérieuse à la protection des aires protégées.

…des défis persistent dont les plus saillants sont : - l'allégement de la pauvreté des communautés locales et autochtones ; - l'amélioration de la gouvernance dans la gestion de la biodiversité ; - l'opérationnalisation d'une concertation dans la planification du développement ; - l'acquisition des capacités pour réduire les pressions et conserver le maximum possible d'écosystèmes, d'espèces et de gènes ; - la reconnaissance de la valeur de la biodiversité et son rôle dans la croissance de l'économie nationale et dans la survie des communautés.

Finally the recent **Burundi country environmental analysis by the World Bank** gives a comprehensive analysis of the problematics, see http://documents.worldbank.org/curated/en/244311510936931800/pdf/121464-CEA-P156727-PUBLIC-BurundiCEAFrenchWebFinal.pdf. It mentions amongst others Biodiversity loss caused by Deforestation, land degradation, air pollution, water pollution, and natural disaster, with major

consequences being compromised ecosystem health, loss in vital genetic diversity and loss in ecosystem services. Its recommendations include: "as many of the identified problems occur on rural landscapes, it is useful to adopt a holistic approach that considers intricate linkages at the landscape level, with a focus on building the resilience of the environment and the communities. Note also that the environmental problems cut across various sectors of the economy, particularly, the agriculture, public health, energy, and infrastructure-related sectors. Complementarity of state-led initiatives and community-based programmes should be leveraged, while ensuring enabling conditions for value chain development likely will help catalyze some necessary changes."

…

Capacity of OBPE (analysis by the World bank)

OBPE is in theory organized as a modern institution to deal with comprehensive aspects of environmental management and protection. It has an Environmental Department, which deals with five main functions in five separate units: (i) environmental education, (ii) environmental assessment, (iii) climate change, (iv) research and development, and (v) environmental regulation. In addition, OBPE has a dedicated Center for Environmental Information, which reports directly to the director general. The number of staff involved seems to be adequate—630 staff, according to a recent report. However, the distribution of staff and expertise across the various units must be subject to a more in-depth review and analysis to ensure that major environmental management and protection functions are covered adequately and that expertise is used to monitor the national environment. This review and analysis must be conducted using an inclusive process that involves major national stakeholders to ensure the ownership of its outcomes and built institutions and to develop laws and regulations that will be commensurate with the challenges facing Burundi now and in the future. Further, as seen in the PEER, the bulk of the environmental public budget is allocated for wages and construction. Accordingly, OBPE critically lacks the resources necessary to implement the wide range of activities for which the institution is responsible, in particular ensuring compliance with environmental regulations. The financial capacity of OBPE must be substantially strengthened to apply the Environmental Code in practice.

LINK TO CEBIOS

Working since more than 10 years with OBPE (formerly INECN), CEBioS contributes to working on the weaknesses explained above, especially the strengthening of the environmental scientific administration and the scientific knowledge of the protected areas (phase I), and in phase II, more emphasis on integration of biodiversity in different sectors, such as agriculture, health (traditional medicine, Nagoya Protocol as in phase I), assessing possible sustainable value chains out of ecosystem services such as e.g. mushrooms, bamboo and rotan, and laying sound foundations to start the development of ecotourism as a source of national income. The pilot with the Rusisi arboretum, managed by a private company is in that respect a guidance for future actions.

INSTITUTIONAL PARTNERS AND PLANNED COOPERATION IN BURUNDI

In April 2018 CEBioS explained its interventions to the Cooperation attaché of the Belgian Embassy in Bujumbura. The Belgian Embassy was very supportive, participated to the multi-stakeholder workshops and invited Belgian ACNGs to reflect about future synergies in the domain of agro-ecology or agro-forestry.

- **Institutional partner: 'Office Burundais pour la protection de l'Environnement' (OBPE)**
  Description: the cooperation with the 'Office Burundais pour la Protection de l'Environnement' (OBPE, formerly INECN) focuses on developing guidance for habitat

monitoring and applied biodiversity research with focus on the development of value chains for rural populations around protected areas with the cooperation of the **University of Burundi**. An MoU has been signed for the period 2014-2018 with OBPE (formerly INECN). A new MoU is in the making based on the ToC workshop held in 2018. A strategic partnership between RBINS and OBPE will be worked out. More focus will be dedicated to the development of ecotourism for increased local revenues and mobilisation of the private sector (e.g. the **arboretum** at Rusizi NP). Synergies will be developed with NGOs in the field of agro-ecology. CEBioS will also provide capacity building for the OBPE staff: support to the national CHM focal point and awareness raising in Burundi. Cooperation will start with **Broederlijk Delen and other ACNGs** on the creation of sustainable ecological systems in Burundi (rural populations). Follow-up of the (now finished) external **VLIR-UOS** South Initiative on the biomonitoring of Lake Tanganyika will be implemented with other funding.

LINK TO PLANNED ACTIVITIES WITH OBPE

SO1, Indicator 5, 5bis, Ind. 18:
Number of students in Burundi supported by CEBioS for their field work: here it is the cooperation with OBPE co-supervising students of the Université du Burundi on research on ecosystem services such as rotan, mushrooms, polinisators.

OBPE will work in the three national parks Kibira, Ruvubu and Rusizi, as managing agency mandated for these protected areas as well as natural reserves. The research with 1-4 masters foreseen (4-600 € per year under GTI) will focus on: indigenous species in symbiosis with mushrooms for the restoration of forests; Inventory, characterization and mapping of forest and agroforestry plantations; Ecology and impacts of expansive and / or invasive species in mountain forests Characterization of the remaining waterlands to include in RAMSAR area in Burundi. The subjects were decided during the planning phase. OBPE will decide on the exact number of MS students for each subject and the executive year once the CEBioS plan 2019-2023 has been approved. Computers are purchased in year 1 (3000), some small material is foreseen as well (3000 x 2). Further, the CHM capacity building will be carried out at OBPE which is the National CHM Focal Point for Burundi in terms of specific projects (5000 per year), training and 4 annual steering groups (5000 per year until 2022 and 9000 in 2023). Integrating calls and institutional cooperation. Public awareness and Nagoya Protocol will be supported in the first 3 years with resp. 3000, 3000, 5000 and the last 2 years, 8000 each. OBPE will receive one GTI candidate each year : the institute can decide who and on which subject, as long as related to the indicators and applied research in its other programme activities. OBPE will execute one project under the MRV call (earmarked, but based on quality). It will pay the participation of one staff member to the MRV meetings, the research, the policy brief and more.
One CHM project will be financed within the funds provided for OBPE. It can be on a wide range of subjects, but will be each year approved and has to be reflected in their MoU.

Four quarterly meetings will be organised with the inter-institutional focal points from different ministries and NGOs to ensure that the work the other ministries and NGOs do on biodiversity is added as information on the CHM but also work towards the implementation of the NBSAP and the SDGs. Also one trip a year by the CHM project coordinator will be financed with these funds.

SO2, Indicator 41

Further, concerning habitat monitoring of the 3 national parks, the CEBioS support to OBPE will consist of supplying 2 computers (2000) in yr 1, basic Equipment and documentation (3-4000 during 3 years), RBINS missions for capacity building (1 annually, 2 in yr 2), logistics for a regional workshop (la grenelle de la biodiversité) (17000), collecting data on the state of the habitats (12-15000 per year), the monitoring of fire (with learned techniques from previous workshops with UAC from Benin) (3000 per year) and the data base maintenance (600 per year data base manager, software). Two lexica (Ruvubu and Rusizi) will be produced.

Benin

POLITICAL CONTEXT FOR BIODIVERSITY IN BENIN

EXCERPTS FROM THE NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN (NBSAP, ANNO 2019)

Benin's new Stratégie et Plan d'Action pour la Biodiversité 2011-2020 … builds on the accomplishments of the first NBSAP (2002), such as the publication of the Atlas on West African Biodiversity (2010), covering Benin, Côte d'Ivoire and Burkina Faso, the National Red List of Threatened Species (2011) and the National Forest Inventory (2007), while addressing its shortcomings. Seven principles have been adopted to guide implementation that call for: 1/ membership of all stakeholders in support of a common vision of biodiversity; 2/ a real commitment and involvement of all stakeholders (public institutions, decentralized local communities, private entities, civil society, NGOs, among others) in a dynamic and synergistic planning process; 3/ systematic consideration of the NBSAP as a tool for mainstreaming biodiversity in national and local development programmes; 4/ consistency between the NBSAP and national and sectoral strategies; 5/ identification of national and regional synergies among the CBD, biodiversity-related conventions and other MEAs; 6/ promotion of public-private partnerships; and 7/ the consideration of the Ecosystem Approach in implementation. The Strategy focuses on five key areas: information, education, communication and awareness-raising of all stakeholders …; conservation …; biodiversity planning, monitoring and evaluation, knowledge management and capacity-building; …As a Party to the Nagoya Protocol on ABS, Benin is currently carrying out activities to fulfill its obligations under the Protocol, including raising awareness of the Protocol and developing domestic legislation for its implementation.

Further, this citation in French highlights the importance the government of Benin attaches to the Pendjari-W complex in the North: "Dans le programme d'action du gouvernement 2016-2021, "Bénin révélé", le positionnement de la Pendjari et du Parc Régional W comme le parc naturel animalier de référence de l'Afrique de l'Ouest est un des points stratégiques."

CHALLENGES IN BENIN

In French from NBSAP 2011-2020

…

Biodiversité des Aires Protégées

La RBP (reserve de biosphere de la Pendjari) est devenue un modèle (l'une des plus giboyeuses et mieux gérées en Afrique de l'Ouest), beaucoup de travaux de recherche ont permis de mieux connaître l'état des ressources pour des décisions de gestion plus judicieuses. Délimitation et de nouvelles aires protégées y compris aires protégées communautaires. Le braconnage ciblant particulièrement les éléphants et les incursions agricoles clandestines. Destruction des forêts sacrées.

…

Objectif 19: … La base scientifique et les technologies associées à la diversité biologique demeurent en grande partie l'apanage des chercheurs dont les résultats sont encore peu valorisés. Cependant avec la nouvelle politique de l'Université : mettre la recherche scientifique au service des collectivités locales, il est à espérer un partage, un transfert et une application des technologies associées à la diversité biologique. On peut ajouter à tout ceci la promotion de la valorisation des produits locaux à travers l'encouragement de la consommation locale, l'organisation des foires agricoles et la promotion à travers les masses média (Label Bénin)….

…

Objectif 10: … Deux facteurs peuvent être cités comme menaçant les écosystèmes marins et côtiers au Bénin, il s'agit de la forte pression anthropique du fait de la présence permanente des pêcheurs le long de la côte et l'érosion côtière occasionnée par l'installation du Port autonome de Cotonou et les effets des changements climatiques. Cependant l'érosion peut e d'autres activités anthropiques, telles que la destruction par les populations des mangroves ou des palmiers qui stabilisent les côtes, ou encore l'extraction de sable.

Les facteurs négatifs

On mentionnera singulièrement :

- le manque de synergie entre les projets et programmes traitant de la biodiversité ;
- l'Insuffisance de recherche d'accompagnement dans la connaissance et la gestion des ressources
- le manque de rigueur dans l'application des textes (la non application ou la mauvaise application des textes);

…

Finally the 2010 **Benin country environmental analysis by the World Bank** gives a comprehensive analysis of the problematics, see http://siteresources.worldbank.org/INTRANETENVIRONMENT/Resources/BeninCEA.pdf :

… Selon une étude effectuée en 2001, les principaux coûts économiques liés à la dégradation de l'environnement s'élèveraient annuellement de 3 % à5 % du PIB.

…

Un élément clé de la bonne gouvernance environnementale est que le décideur politique soit informé sur les risques liés à l'environnement. L'existence de données sur l'état de l'environnement est un préalable aux bonnes prises de décision concernant l'environnement. … La population, la société civile et le secteur privé doivent être informés et sensibilisés afin d'intégrer les risques environnementaux…

LINK TO CEBIOS

Working since 5 years with Université Abomey-Calavi (UAC) and the Ministry of Environment (MEPN), CEBioS contributes to working on the gaps explained above, especially with emphasis in phase II on mainstreaming of biodiversity in national strategies and plans through the work with the ministry and the CHM focal point, and involving stakeholders to achieve ownership and support for conservation linked to livelihoods through awareness projects. CEBioS' project financed by Belspo and UNESCO MAB, 'EVAMAB' concentrates with the UAC laboratory 'LABEF' of Prof. Glélé on the Man and Biosphere reserve Pendjari National Park. This is complementary with the core work realised with the UAC Laboratoire d'Ecologie Appliquée (LEA) of Profs Sinsin and Houinatou. While EVAMAB concentrates on the stakeholders perception of ecosystem services and their rapid assessment, the work with LEA concentrates on habitat monitoring, fire and pastoralism management. The work in the Pendjari is closely linked to cooperation with its management, the private foundation 'African Parks', and will be extended to the adjacent transnational park of 'W' in cooperation with the 'eau et foret' CENAGREF and the associations villageoises AVIGREF, involved in co-management options. With the university of Parakou CEBioS is exploring possibilities to start a project on value chain of mushrooms with external ARES funding.

On the marine front, CEBioS started towards the end of phase I the cooperation with the marine institute IRHOB on marine modelling to achieve the necessary capacities to cope with sea currents linked to erosion and fisheries, as explained above in the NBSAP objective 10.
On the marine front, CEBioS started towards the end of phase I a successful cooperation with the marine institute IRHOB on marine modelling to achieve the necessary capacities to cope with sea currents linked to erosion and fisheries, as explained above in the NBSAP objective 10.

INSTITUTIONAL PARTNERS AND PLANNED COOPERATION IN BENIN

In October 2018 CEBioS explained its interventions in Benin to the newly appointed Belgian Ambassador and the cooperation attaché in Cotonou. The Belgian embassy was very interested and encouraged CEBioS to continue on this path.

- **Institutional partner 1: 'Université d'Abomey Calavi' (UAC)**
  Description: the cooperation on habitat monitoring and applied biodiversity research will focus on the development of best practices around the use of fire and pastoralism and value chains for rural populations around protected areas (Pendjari NP) with the cooperation of other agencies, the civil society (especially AVIGREF[1]) and the private sector. The **University of Parakou** will be involved as well. Special attention will be devoted to cooperation with the private organisation **'African Parks'**, now responsible for the management of Pendjari National Park. With the UAC LABORATORY 'LABEF' OF PROF. GLÉLÉ CHM, MRV projects and assistance for representing CSC will be foreseen.

- **Institutional partner 2: 'Institut de Recherches Halieutiques et de l'Océan au Bénin' (IRHOB)**
  Description : the cooperation with IRHOB and its French partner 'Institut de recherche pour le développement' (**IRD)** on marine modelling and the protection of the coastal systems, as well as capacity building of port authorities will be implemented in phase II.

- **Institutional partner 3: 'Ministère de l'Environnement et de la Protection de la Nature' (MEPN)**
  Description: support to the Clearing House Mechanism (CHM) national focal point and awareness raising in Benin with local NGO partners such as '**Nature tropicale'** and others.

An MoU has been signed in the period 2014-2018 for UAC and IRHOB. A new MoU is in the making based on the ToC workshops held in 2018. Given the positive experience in phase I, a strong strategic partnership between RBINS and UAC will be worked out.

LINK TO PLANNED ACTIVITIES WITH UAC

<u>SO1, Indicateur 5, 5 bis, Ind. 19, ind. 20.</u>
3 PhD students in **Benin** supported for field work (UAC, in Pendjari NP and W NP)

[1] AVIGREF: Associations Villageoises de Gestion des Réserves de Faune de la Pendjari, see https://avigref-pendjari.jimdo.com/

With the Laboratoire d'Ecologie Appliquée of Prof. Sinsin and Houinatou (UAC), CEBioS is focusing on applied research in the Pendjari National Park and the 'W' National Park, where contacts will be made with Niger and Burkina Faso as well. One PhD will be supported for the assessment of Termites Diversity and their Mounds and Sustainability of Associated Ecosystem Services in Pendjari Biosphere Reserve, Republic of Benin (2-3000 per year during 3-4 yrs); 1 PhD on the Social representation of wildlife and human-wildlife conflict management measures around the Pendjari Biosphere Reserve (2-3000 per year during 3-4 years); and 1 PhD on Impact of management fires and conservation of floristic diversity in the Pendjari Biosphere (2-3000 per year during 3-4 years). 5RBINS missions are planned for scientific coaching, in combination with other missions to Benin (R2.1-14 habitat monitoring).

SO2, Indicator 41

The transfer of applied science towards the management of protected areas will be facilitated with CEBioS support from UAC to CENAGREF ('W' NP) and African Parks (APN), as well as the association of villages AVIGREF and DNPW. This will require 6 RBINS missions, 2000 for computers, 92000 for small equipment and support to collect data on habitats. A lexicon on 'W'-Pendjari complex is foreseen.

SO2

With the UAC LABORATORY 'LABEF' OF PROF. GLÉLÉ CHM and MRV projects will be foreseen (Budget 3-8000 per year based on calls)

SO3 and SO4

With the UAC LABORATORY 'LABEF' OF PROF. GLÉLÉ assistance for representing CEBioS in CSC will be foreseen (Budget 1000 per year)

LINK TO PLANNED ACTIVITIES WITH IRHOB

In lac Nokoué, Benin, several years ago tiger shrimp has been introduced because of its commercial interest. Now it is an invasive species in the ecosystem. This study aims to investigate the effect of this introduction on the local shrimp population and ecosystem. The programme with Benin will map the distribution of the shrimp species and how they disperse in the lake-sea area. In order to make such maps the circulation system will be simulated with a marine model. This model allows to know the circulation of currents, salinity, temperature and sediments. Once this is done, the behaviour of the shrimp in this environment is simulated and the effect of the tiger shrimp on the ecosystem can be estimated. The focus of this ambitious research project is on capacity building, awareness and technology transfer. To collect data other sources of funding, like the biobridge project, will be added to develop sub-parts of the project.

The main activities are:

Data collection

1. Purchase of 3 computers (3000)
2. Analysis of data needs (2019, zero budget)

3. Retrieval of existing data (focus on 2019, every year, zero budget)
4. Data collection (33500). The budget provides for field trips , purchase of commercial data (e.g. remote sensing), data analysis, equipment The Biobridge project will be implemented in synergy with the CEBioS components in 2019. Data collection to validate the hydrodynamics model (data about salinity, temperature and current velocity are necessary). Data are needed to investigate the life cycle of the studied shrimp and their distribution patterns along the lake-ocean system during several seasons.

Training (51000 Euro)

1. Training of a person to set up the circulation model of the lake-ocean system. An extended stay of up to 4 months in Belgium is provided during the first year together with good equipment and guidance. During the next years shorter stays up to two months are foreseen. The budget for this post is 12000,6000,6000,6000 euro to cover all expenses (flight ticket, visum, stay, per diem, insurance).
2. Selection of a suitable person is done in close cooperation between both institutes (zero budget).
3. Development of life cycle information. A person will be selected in close cooperation between IRHOB and RBINS. The guidance is mainly based in Benin. The budget foreseen for this activity is 1500 euro in 2020 and 1000 euro in 2022. The funding is to reimburse field work, such as travel costs and expenses during the data collection for the life cycle.
4. Develop a research plan to investigate the shrimp behaviour with the particle module. A meeting in Benin is necessary, this will be done during the annual meeting and will be zero budget based. The appropriate person will also be selected during the annual meetings.
5. Training of the person who will set up the particle tracking module. The stays in Belgium can be shorter because either this is the same person that sets up the circulation part or this person will be trained by the person who set up the circulation part. The foreseen budget is 12000,6000 and 3000 euros for the years 2021,2022,2023 respectively.
6. The selected persons are encouraged to take on MSc thesis students and train them in marine modelling. This is zero based and performed when appropriate.

Meetings including formulation, mid- and end of term meetings with our partners and their stakeholders (2x 2000

Communication (11500 Euro). A big part of this is to enhance the visibility in the scientific community and another big part is to inform the local communities. The activities of the communication section are:

1. Dissemination of the results to the local communities, the fisheries industries, … We plan to ask people from local ngo's to support us with that.
2. Organise sensibilisation campaigns
3. Develop communication tools (posters, pancartes, youtube movies, …)
4. Organize talks on the radio or on television
5. Make sure the work is scientifically recognized as well by publishing in journals for the scientific community or present the results on conferences.

Yearly missions of 2 CEBioS staff (25000)

DR Congo

POLITICAL CONTEXT FOR BIODIVERSITY IN DR CONGO

Unique biodiversity

(In French from RAPPORT NATIONAL SYNTHESE SUR LE DEVELOPPEMENT DURABLE EN REPUBLIQUE DEMOCRATIQUE DU CONGO (2012))

La RDC se classe au cinquième rang mondial par sa diversité animale et végétale. Elle dispose de la plus grande biodiversité d'Afrique avec plus de 10 000 espèces de plantes supérieures dont 3 000 endémiques, 480 espèces de mammifères (dont tous les grands animaux de l'Afrique), 565 espèces d'oiseaux, 1 000 espèces de poissons, 350 espèces de reptiles, 220 espèces de batraciens et plus de 10 000 angiospermes dont 3 000 seraient endémiques. La RDC dispose de cinq sites naturels reconnus comme Patrimoine Mondial, soit davantage que tous les autres pays africains réunis. La préservation de la biodiversité en RDC est avant tout assurée par le système des aires protégées. Il importe donc de les gérer de manière efficace afin qu'elles continuent à jouer leur rôle de préservation des écosystèmes et de la biodiversité.

EXCERPTS FROM THE NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN (NBSAP, ANNO 2019)

The new Biodiversity Strategy and Action Plan (2016-2020) of DR Congo is … mainstreamed with such strategic plans as: the second Growth and Poverty Reduction Strategy Paper; the second National Programme for Environment, Forests, Water and Biodiversity; the National Strategy for Biodiversity Conservation in Protected Areas; and the Framework Strategy for Reducing Emissions from Deforestation and Forest Degradation (REDD). … Ten priority strategic axes focus on: 1/ biodiversity mainstreaming in all relevant national sectors; 2/ reduction of pressures on natural habitats; 3/ sustainable fisheries; 4/ improved management of existing protected areas and extension of the protected areas network; 5/ protection of fauna and flora species threatened with extinction; 6/ promotion of payment for environmental services, access to genetic resources and benefit-sharing; 7/ restoration; 8/ biosafety; 9/ promotion of taxonomic research and knowledge acquisition; and 10/ increased funding for biodiversity. … it is proposed that all of the country's 26 administrative provinces (including the city of Kinshasa) prepare a provincial Biodiversity Action Plan. … … by 2020, a national programme on information, education and communication be developed and implemented to raise public awareness of the values of biodiversity. … DR Congo plans on establishing a network of national biodiversity-related databases and to make access available to this network on the national CHM at http://cd.chm-cbd.net/ .
…

CHALLENGES IN DR CONGO

La loi qui régit la conservation de la nature en RDC, LOI N° 14/003 DU 11 FEVRIER 2014 peut se consulter ici: http://www.leganet.cd/Legislation/Droit%20administratif/Environnement/Loi14003.11.02.2014.htm

In French from RAPPORT NATIONAL SYNTHESE SUR LE DEVELOPPEMENT DURABLE EN REPUBLIQUE DEMOCRATIQUE DU CONGO (2012)

… Si les principales réformes légales et institutionnelles ont été mises en place, la promulgation tardive de la loi-cadre sur l'environnement et le manque de moyens pour son application et la mise en œuvre d'actions opérationnelles, notamment le développement des systèmes de gestion des déchets et des contrôles en matière de pollution, a entrainé une dégradation de la qualité de l'environnement au cours des vingt

dernières années. … En outre, le manque de coopération intersectorielle dans un contexte de conflits de compétences entre différents secteurs (miniers, agricoles, forestiers) quant à l'affectation des terres n'ont pas encore trouvé de solutions institutionnelles et sont particulièrement problématiques du fait de l'absence d'un schéma d'aménagement du territoire.

…

La RDC a mis en place un réseau d'aires protégées couvrant actuellement environ 11% du territoire national (contre 9% en 19908), au sein duquel la quasi-totalité de la diversité des écosystèmes du pays sont représentés. Cependant, à la suite des conflits armés, des déplacements de population et la persistance de factions armées incontrôlées les aires protégées, en majorité situées dans l'Est du pays, se trouvent aujourd'hui dans une situation très critique. Faute de moyens et face à la pression conjuguée des populations riveraines et des groupes armés à la recherche de périmètres de culture ou de ressources fauniques, ligneuses ou minières, ces aires protégées ne sont le plus souvent pas en mesure d'assurer une conservation effective de la diversité biologique du pays. Un grand nombre n'existent plus que sur le papier. Les efforts déployés par l'ICCN avec l'appui de la communauté internationale pour lutter contre ces facteurs de dégradation de la biodiversité sont certes notables, mais restent insuffisants par rapport à l'ampleur du défi. …

…La richesse biologique du pays reste encore très largement méconnue, tant les inventaires réalisés sont sporadiques et parcellaires. Selon Debroux et al. (2007) : « La diversité biologique de la RDC est la moins bien connue d'Afrique. De vastes régions forestières sont encore inexplorées et certains groupes taxonomiques sont à peine répertoriés ».. Certaines autres espèces disparaissent avant même qu'on les ait découvert et cela nuit à la bonne planification et gestion de leur conservation. L'écotourisme a toutefois commencé à se développer au sein de certaines aires protégées, apportant ainsi sa contribution aux efforts de conservation de mobilisation interne des recettes.

LINK TO CEBIOS

Working since 1999 with the Ministère de l'environnement et de Développement Durable (MEDD), especially with itsDirection de développement durable (DDD), the Centre de Surveillance de la Biodiversité in Kisangani (CSB) and the Institut Congolais de la Conservation de la Nature ICCN, in cooperation with many universities in RDC, CEBioS contributes to working on the weaknesses explained above and will continue on this path in phase II. CEBioS and its partners will continue transferring the results of the first biodiversity conference (état des lieux de la biodiversité par province) and the future recommendations of the second conference towards the planned provincial biodiversity plans as explained above. CEBioS work (e.g. through MRV projects in phase I) is directly involved in the development of the national biodiversity-related databases and access available to this network on the national CHM. The national CHM involves the secondary CHM installed with support of CEBioS at the CSB. The work on habitats managed by ICCN with the scientific support of the universities adheres closely to the last paragraph explained in the box above, namely to increase the scientific knowledge in service of sustainable development (e.g. edible mushrooms and their value chain) and for laying sound foundation for future ecotourism activities. The pilot with Kadima's parc near Kinshasa is in that respect a guidance for other future actions.

INSTITUTIONAL PARTNERS AND PLANNED COOPERATION IN DR CONGO

In April, June and November 2018, CEBioS visited the Belgian Embassy and the EU representation in Kinshasa to present its interventions in DRC, which were welcomed as important and pertinent.

- **Institutional partner 1: 'Institut Congolais pour la Conservation de la Nature' (ICCN) and universities (e.g. : UOB, UG, UNIKIS, UNILU, UNIKIN)**

  Description: the cooperation with the 'Institut Congolais pour la Conservation de la Nature' (ICCN) will focus on developing guidance for habitat monitoring in its protected areas (including the production of more lexica) with the cooperation of universities. Special attention will be devoted to the valuation or creation of value chains for certain ecosystem services. The network of mycologists (**Belspo** project), itself a spin-off of CEBioS phase I, will continue under a new **ARES** project in cooperation with Burundi and Rwanda, on the domestication of mushrooms for consumption and income generation. Synergies with **WWF-Belgium, Botanical Garden Meise and AfricaMuseum** will be further developed. A demand from WWF on inventories of Salonga NP is pending.

- **Institutional partner 2 : 'Centre de Surveillance de la Biodiversité' (CSB)**

  Description : An 'Accord Cadre de Cooperation' (ACC) has been signed with CSB in the period 2014-2018. This ACC describes the strategic partnership between RBINS and CSB. The institutional cooperation with CSB in Kisangani will continue on several fronts: the support of the CSB as 'secondary CHM' in cooperation with the national CHM in Kinshasa; the support of CSB to fulfil its role and mandate in biodiversity research through a comprehensive programme of monitoring of non-, or partially protected areas ; awareness activities (participation at the yearly 'Semaine de la Science et des Technologies' in Kinshasa and its contribution to other CEBioS activities in Congo (e.g. awareness raising of Kinshasa's school children by **Kadima's Pride of Africa wildlife park)** as well as the continued professional reinforcement of the CSB staff. A second " International Conference on Biodiversity of the Congo Basin" is planned for 2020. CEBioS is looking for funding from several authorities, in cooperation with the **Congo Basin Forest Partnership** (CBFP[2]) , the EU, CIFOR and others. An *ACC between the CSB and the Direction de Développement Durable (DDD) du Ministère de l'Environnement et de Développement Durable (MEDD),* signed in April 2017 under the auspices of CEBioS, confirms the CSB as Secondary CHM for the country and its status as a National Expertise Centre for biodiversity.

- **Institutional partner 3: 'Ministère de l'Environnement et de Développement Durable' (MEDD)**

  Description : integrating transversal themes such as Clearing House Mechanism, awareness raising and MRV will continue in cooperation with the 'Direction de Développement Durable' (DDD) of MEDD. The implementation of protocols and legislation of the Nagoya Protocol is also a field in which CEBioS continues to play a facilitating role together with the CSB and the Congolese universities.

[2] CBFP: RBINS is member of the CBFP since 2018 under impulse of CEBioS. CBFP is currently (2018-2019) facilitated by Belgium (Minister of State F.X. de Donnea): https://pfbc-cbfp.org/home.html

Through the Strategic Dialogue, CEBioS will cooperate with Enabel and ACNGs on the mainstreaming of biodiversity and the identification or creation of value chains and best practices and to identify synergy actions and learning trajectories for the coming years.

LINK TO PLANNED ACTIVITIES WITH ICCN AND UNIVERSITIES

SO1, Indicator 5, 5bis, ind. 17:
Number of students in **DR Congo** (universities, CSB) supported by CEBioS for their field work. Students will be able to do their thesis work with some support of CEBioS and in dialogue with ICCN, managing the protected areas. For CSB and UNIKIS, inventories of biodiversity combined with awareness work on bushmeat and trafficking will be performed in several sectors of the rain forest around Kisangani. Some "One health" aspects (e.g. : Ebola) will be supported as well.

CEBioS works with several universities in DR Congo to assess biodiversity and ecosystem services of protected areas managed by ICCN. This triangular cooperation proved to be successful in phase I and resulted already in the production of 2 lexica. In phase II, the focus will be strengthened on the possible value chains linked to the assessed ecosystem services and how to transfer to local communities (through GTI, CHM and MRV indicators in SO1 and other SOs). Next to basic equipment and documentation (3x3000 Euro), 1 PhD will be supported in UNIGOM and in cooperation with UB, ULg/Gblx on the Taxonomic, ecological and functional diversity of edible fungi in the Great Lakes Region, Virunga NP (3 years with 3500); 1 PhD on Predictions of biomass stocks and flows from a three-dimensional characterization of tropical forest structure near Yangambi Reserve (3500); 3 PhDs and other research on the miombo forest of Luswishi with UNILU (4 years 2500 each year; 3 years 2500 each year; 4 years 2500 each year and 5 years 2500 each year); a master with UOB on Populations of wild coffee and its possible relationship to cultivated coffee in Itombwe Reserve (2x 6000). Interest of the Belgian NGO Rikolto will be explored; 1 master with UNIKIN on "Forest regeneration in the island of vegetation at the level of the MUA track in Bombo Lumene reserve not far from Kinshasa (as a follow-up of the lexicon work there) (6000+4000), and 1 master with UOB on Diachronic assessment of habitat dynamics compared to their status established from 2008 in PNKB, as a follow-up of the lexicon work there (2 x 4000). Five RBINS capacity building missions are planned.

SO2, Indicator 41
One CEBioS expert mission is planned for Kahuzi Biega and one to Bombo Lumene
These missions will ensure the follow-up of the habitat monitoring, collection of data and maintenance of the data base and liaison with ICCN and the local universities.

LINK TO PLANNED ACTIVITIES WITH THE 'CENTRE DE SURVEILLANCE DE LA BIODIVERSITÉ'

SO1, Indicator 5, 5bis, see also SO1 Ind. 5, 12, 13, SO2, Ind. 48, 49
During several workshops about the Theory of Change for the elaboration of a five-year cooperation scheme with RBINS/CEBioS, in the presence of representatives of the 'Ministère de l'Environment et de Développement Durable', the CSB team decided to integrate MRV, GTI, CHM and awareness activities in a project to monitor ecosystems in zones *outside of the national parks*. Five zones have been identified (Télé (Buta), Avakubi (Ituri), Lowa (Lubutu), Lomami (Opala), Ruiki (Ubundu)), based on the availability of earlier reports, theses, publications and recent data

gathered during the VLIR-UOS IUC project (2012-). Every year another zone will be studied. The researchers of the CSB will provide answers to the following questions to enable the drawing of a baseline and a first follow-up for the development of ecosystem-based value chains in these areas:

1. What is the state of the art of the biodiversity and its monitoring in the studied zones ?
2. What are the causes and consequences of perturbations of the ecosystems in the studied zones and who is responsible for those disturbances ?
3. What are the revenues generated by natural resources in the studied zones ?
4. What is the level of knowledge and awareness of the sustainable use of biodiversity among the stakeholders in the studies zones ?

Mapping all the available data, by consulting the digitized faculty-archives at the CSB's e-library, turning them into data-bases fit for use in GBIF and other platforms, identifying the knowledge gaps and adding new data from the field, executing questionnaires on causes, authors and consequences of the perturbations of the biodiversity as well as on the commercial circuits and revenues linked to ecosystem services, will permit to establish a baseline and a first follow-up on biodiversity-related themes in the studied area. This information can be used to report to the National Report on Biodiversity, to raise awareness among national and provincial authorities and for other purposes. The CSB directors will use the information during their contacts on national and international forums. Guidance and support by CEBioS staff will be provided to further develop the capabilities and skills of the CSB team members in these matters. A large part of the CSB-programme can be considered as an **MRV-actitivity**. Members of the CSB-staff will therefore be invited to the MRV training+formulation and closing workshops. Based on CEBioS' experience in Burundi and with ICCN in the National Parks, **training on habitat monitoring** will be organised in the first year to optimise data collection, facilitate future monitoring work and expand habitat monitoring work outside the National Parks. To facilitate the publication of combined data-sets of fauna and flora, the expertise of OBPE Burundi and of local experts trained by UCL and ICCN will be linked with the CSB to provide for training and follow-up on the adaptation of the available data-sets to ensure their suitability for uptake in GBIF or other facilities.

The planned research activities will be multidisciplinary and will include other disciplines (e.g. social and economic sciences), for which collaboration is sought with other ongoing projects (e.g. the VLIR-UOS Joint project of UNIKIS and IOB). A yearly taxonomy grant (**GTI**) will ensure the acquiring of knowledge for taxons the team is less familiar with.
At the same time the team plans to return to the local populations, chiefs, and government agencies with the results of their research to create **awareness** about best practices for the sustainable management of their natural resources, which in its turn may lead to more **income** generating activities.

The organisation of a seminar on the research results for a certain zone, will ensure the implication of **stakeholders**, implementing agencies, NGO's and authorities on a provincial level. The **publication** of a series of scientific papers and a state of the art of the biodiversity in the studied zones will contribute to the **dissemination** of the research results among peer scientists on a national and international level.

Members of the CSB team will be invited to the **communication and awareness training** sessions organised by CEBioS.

Due to the overwhelming success of its participation at the 2017 and 2018 editions, the CSB will again participate at the yearly editions of the '**Semaine de la Sciences et des Technologies'**, a major event organised in Kinshasa with well over 10.000 visitors. CSB will man a booth, distribute flyers, hold presentations.

The CSB, as **secondary CHM** for the DR Congo, will continue to contribute to the national CHM-site and offer assistance and training to colleagues at other locations when posting to the site. A contribution to the financing of the internet connexion of the institute is needed, as the CSB has no proper funds for functioning. It goes without saying that reports, papers and other documents resulting from the research conducted in the framework of this program, will be posted to the national CHM-site.

CEBioS staff will provide advice and guidance for the organisation of and the reporting about this CSB-program. Yearly evaluation sessions, a relatively new concept at the institute, will be organised, occasions to strengthen the team members' capacities in this matter.

A second '**International Conference on Biodiversity in the Congo Basin**' is being planned for 2020, an initiative of CEBioS and co-organised by CEBioS and the CSB, in collaboration with the AfricaMuseum, the Botanical Garden Meise, CIFOR, and other organisations. The strong involvement of the local and regional stakeholders during the 1st conference and the subsequent activities in the region seem to indicate it is time to convene an international conference to address future challenges resulting from global climate changes, massive deforestation, the steep demographic growth in the region, as well as the periodically emerging epidemics from zoonotic origin. Discussing these issues requires the mobilisation of novel science-based answers and their translation into adequate policy measures. A first announcement has been disseminated and endorsed by the 11th Meeting of the Parties of the Congo Basin Forest Partnership, of which RBINS is a member, in Brussels, November 2018.

The program of a 2nd conference would therefore comprise additional themes, linking biodiversity and public health (One Health), biodiversity and food security, the valorisation of ecosystem services, biodiversity and climate change, sustainable agriculture, the development and facilitation of supra-national and interregional collaborations in scientific research, new approaches in conservation, sustainable exploitation of natural resources, forestry and biodiversity, industrial development and biodiversity, the availability of official environmental data, biodiversity in the city, and policy making. Links with the AICHI targets and SDGs will be stressed and explained. Adding these and possibly other new themes to the conference programme would draw an even more diverse and cross-fertilizing audience than during the 1st conference.

Estimated yearly budget in cooperation CSB-CEBioS (48000 Euro / year):

OS1 : Inventorier, cartographier et suivre la biodiversité dans la zone d'étude

24.200 Euro: Mettre à jour les données existantes en vue d'une comparaison ultérieure - Organiser des missions multidisciplinaires de collecte des données (par des méthodes moins invasives) dans la zone d'étude - Identifier et traiter les matériels récoltés dans la zone d'étude - Cartographier la zone d'étude (prélèvement des coordonnées des points d'intérêt et leurs géo référençages) ou exécuter une étude approfondie sur un taxon, dans le cadre des bourses GTI (one GTI candidate each year,CSB can decide who and on which subject)- Rédiger des rapports de missions et diffuser les résultats - Elaborer et publier un état des lieux caractéristique de la zone d'étude et des articles

scientifiques - Comparer les données antérieures avec les résultats obtenus pour documenter le suivi - Assurer la gestion de la valorisation des collections après la mission.

> Note : Combination with **budget post R1.1-6**
> The Yr1 field trip will be combined with training on habitat monitoring (cfr. activities with ICCN in the National Parks and with OBPE) to optimise data collection, facilitate future monitoring work and expand habitat monitoring work in areas not already covered. To facilitate the publication of combined data-sets of fauna and flora and. the expertise of OBPE Burundi and of local experts trained by UCL (BE) and ICCN will be linked with the CSB as follows: Yr 1 initialisation data-base work with local experts; Yr 2-5 continued monitoring (combined with the field work programme of the CSB @ 15000) + data-base work @ 19500 (including mutual visits by the experts). Follow up missions by CEBioS staff or external expert in yr 1, yr 3 and yr 5.

OS2 : Identifier les causes, les conséquences et les acteurs des perturbations des écosystèmes
2300 Euro: Produire des outils d'enquêtes - Organiser les enquêtes dans la zone d'étude - Identifier les activités perturbatrices, évaluer leurs conséquences sur les habitats et proposer des pistes possibles de solutions pour une gestion durable de la biodiversité - Sensibiliser les groupes ciblés sur le terrain sur les résultats obtenus
OS3 : Inventorier et établir les circuits commerciaux et quantifier les apports socio-économiques des ressources exploitées
650 Euro: Mener les enquêtes socio-économiques dans la zone d'étude (usage de questionnaire d'enquête) - Identifier, répertorier les différents usages et quantifier les ressources exploitées pour cartographier les chaînes de valorisation des services écosystémiques - Rédiger des rapports des enquêtes socio-économiques et diffuser les résultats
OS4 : Sensibiliser, éduquer et responsabiliser les différents intervenants
1830 Euro: Elaborer les outils de sensibilisation adaptés aux différents intervenants - Organiser des campagnes de sensibilisations à l'intention des acteurs impliqués dans l'exploitation de la biodiversité
OS5 : Coordonner les activités, valoriser les résultats et évaluer le programme
19000 Euro: Planifier, organiser et suivre toutes les activités du programme pour atteindre les objectifs - Identifier et organiser des activités génératrices de revenu pour le CSB - Poster les documents produits sur le site web du CHM national - Participer à/Organiser les activités scientifiques et/ou sensibiliser le grand public - Organiser des réunions annuelles de coordination et d'évaluation - Assurer un bon fonctionnement des engins roulants, le matériel de terrain et les outils de travail essentiels - Produire et faire imprimer un rapport annuel du CSB - Produire et diffuser le rapport final du programme - Assurer les contacts réguliers entre les partenaires directs et potentiels

Vietnam

Important notice:

Vietnam is not anymore part of the Belgian official bilateral cooperation, but remains important for the indirect cooperation. The Belgian embassy in Hanoi encourages very much synergies between Belgian actors and welcomes the continuation of the CEBioS work in one or another way. CEBioS

decided to exit from the marine work with IMER in Vietnam with the core funding to concentrate better on Benin. However, Dr. K. Baetens (marine modeler CEBioS) will seek other funding channels to continue the cooperation with IMER. The second aspect, the exploration of biodiversity hotspots in cooperation with the Vietnamese Academy of Sciences, remains an intervention of CEBioS in Vietnam in the coming years, given the extremely rapid degradation of natural ecosystems and their services in Vietnam, but also the opportunities risen by the prospect of a more responsible tourism, based on knowledge and respect of the remaining biodiversity hotspots. The very high number of endemic (only living there) species of animals and plants in its rain forests and coral reefs can be sustainably exploited as an asset for the future.

POLITICAL CONTEXT FOR BIODIVERSITY IN VIETNAM

EXCERPTS FROM THE NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN (NBSAP, ANNO 2019)

Vietnam's new National Biodiversity Strategy to 2020, with a vision to 2030, is an integral part of the country's Socio-Economic Development Strategy (2011-2020). ……Some 20 million Vietnamese people depend on fisheries for most or part of their income, while approximately 25 million people live in or near forests and derive 20-50% of their income from non-timber forest products, including hundreds of species of medicinal plants and latex plants. Eco-tourism is also becoming popular in protected areas which brings benefits to the local people providing related services. Many species of plants and animals are associated with Vietnam's history and culture, and considered sacred objects of worship among the Vietnamese people. … Vietnam's Biodiversity Law (2008) …creating the legal basis for local community involvement in the conservation of natural resources through new mechanisms of co-management and benefit-sharing.

CHALLENGES IN VIETNAM

From VIETNAM'S FIFTH NATIONAL REPORT TO THE UNITED NATIONS CONVENTION ON BIOLOGICAL DIVERSITY 2009–2013

…

Biodiversity in Vietnam is currently is facing many threats. Pressure from the increasing human population combined with an increasing level of consumption is resulting in overexploitation of biodiversity resources. Rapid socioeconomic development has also changed the natural landscape. Land conversion and infrastructure construction has significantly reduced the area of natural habitats, increased ecosystem fragmentation, and degraded the habitats of many species of wild plants and animals. Natural resources, especially biological resources, are undergoing overexploitation and timber, non-timber and aquatic products are particularly vulnerable. In addition, alien species, environment pollution and climate change are all directly impacting on the biodiversity of Vietnam. In addition, the level of effort to manage the biodiversity resources of Vietnam is still insufficient.

…

A consequence of the current and planned harvesting and production pressure on marine and coastal ecosystems, the coastal ecosystem's biological resources and its ecosystem service functions are currently considered to be over-exploited. The continuous decline in quality of natural habitats including the inter-tidal areas, coral reefs, sea grass, as well as decline in coverage of coral reefs and sea grass is pointing towards "coastal desertification" in the future

…however, Hai Phong IMER monitoring in 2007 recorded a reduction in live coral by 90%. The cause of coral loss was identified as being due to use of the toxic chemical, cyanide, by fishermen between 2002 and 2006

…

Although there have been some useful baseline surveys of ecological resources and biodiversity, these surveys currently remain unsystematic. There is no comprehensive monitoring system for tracking changes in biodiversity. In addition, there is no national biodiversity database. Formal mechanisms for information

sharing are limited. Although a number of protected areas have been established and many have operated for a long period of time, most of them are small, isolated and separated, which makes it difficult for unified conservation and linked management.
…
There are shortcomings in biodiversity policies and challenges due to an overlap in responsibilities and regulations between key agencies, compounded by a weak and fragmented approach to law enforcement.
…
Impacts on economy
The economy of Vietnam relies considerably upon natural resources, and biodiversity plays an important economic role. Despite having no specific and significant recognition, biodiversity makes a real and important contribution of value to the national economy, especially in the fields of agriculture, forestry, fisheries and human health….Thus, the degradation of biodiversity has impacts and consequences, and will directly result in impacts on the national economy.
…

LINK TO CEBIOS

Working since a few years with the Vietnamese Academy of Science and Technology through the Vietnam Natural History Museum and the marine institute IMER, CEBioS contributes to working on the weaknesses explained above on the two main priorities: forests and marine environment. Concerning the forests, our interventions contribute to a better understanding of the unique biodiversity and its potential to highlight and valorise the existing protected areas and the imminent threats. Concerning the marine environment, marine modeling of currents in Halong bay contribute to strengthen the capacities of IMER to better understand the dynamics of sedimentation and pollution at the coast and the mouth of the Red River in order to create scientific evidence for policy development and decisions towards a better sustainable management and conservation of the area.

INSTITUTIONAL PARTNERS AND PLANNED COOPERATION IN VIETNAM

The Belgian Embassy in Hanoi was informed several times about CEBioS' activities. The Embassy was always available, interested, supportive and regrets that the cooperation will be reduced.

- **Institutional partner 1 (exit): 'Institute of Marine Environmental Research' (IMER)**
  Description: the marine modelling cooperation with the 'Institute of Marine Environmental Research' (IMER) *will continue on external competitive funding* (funding decision by BELSPO and VLIR-UOS pending) and will thus no longer be part of the core funding of the CEBioS programme phase II. The local scientists are very much motivated to apply for other fundings in cooperation with CEBioS in order to work on the threats on Halong Bay and its tourism industry.

- **Institutional partner 2: 'Vietnam National Museum of Nature' (VNMN) (under 'Vietnam Academy of Science and Technology')**
  Description: the large effort on the biodiversity research of protected biodiversity hotspot areas during phase I was very successful and culminated in many scientific publications, adapted and vulgarized to decision makers in a policy brief (http://www.biodiv.be/cebios2/news/launch-of-a-policy-brief-dedicated-to-insect-biodiversity-in-vietnam). This effort will continue in cooperation with the VNMN.

Extensions of this type of capacity building towards Cambodia, Laos or Thailand are in the making.

PLANNED ACTIVITIES IN VIETNAM:

SO1, Ind. 5, 5bis
The cooperation with Institutional partner 2 (VNMN) will be on the basis of GTI funding. More hotspots of the rainforest in Vietnam, but also in Cambodia, will be screened for new insect species and their role in the conservation will be highlighted and disseminated amongst park authorities.

The other work in Vietnam in biodiversity hotspots with the Natural History Museum is covered by the indicators of the GTI sub-program:
Ind. 15. Number of GTI grants to young researchers to come to Belgium and alumni database
Ind. 16. Number of GTI grants to RBINS scientists performing capacity building in the South

4- THE MAIN TOOLS OF THE CEBIOS PROGRAMME

CEBioS performs capacity building in many ways, but these tools are essential: (1) by implementing several types of competitive calls linked to individuals and institutional cooperation and (2) with the co-production of technical manuals and policy briefs through dedicated workshops.

Calls for projects within CEBioS

Global Taxonomy Initiative (GTI)

SO1, indicator 5, 5bis and GTI activity indicators 15 and 16

GENERAL

Regarding the Global Taxonomy Initiative (GTI), support will continue during the second phase since large parts of biodiversity in the South remain unknown and it is crucial to know the component of biodiversity in order to take appropriate measures in order to sustainably use the resources and ecosystem services provided by biodiversity.
That is why CEBioS continues building taxonomic capacities of researchers from our partner countries in its capacity of Belgian National GTI Focal Point.
CEBioS will continue to provide funding for:

- individual short-term trainings in Belgium for researchers/students from Belgian partner countries, with an emphasis on CEBioS partner institutions (UAC, OBPE,…) and main partner countries (Benin, DR Congo and Burundi). These trainings will enable access to the rich collections based in Belgian institutions (RBINS, AfricaMuseum, Meise) and to Belgian expertise.
- *in situ* group trainings facilitated by Belgian researchers/technicians in the South.

Grantees will be selected via 2 annual calls for proposals: one for individual trainings in Belgium and one for group trainings in the South. The allocated budget will be 245,000 € per type of call for the 5 years (thus a total 490,000 €).

STRATEGY AND FOLLOW-UP

Quality projects positively evaluated after the 1st year will continue for 2 more years in a row.

Projects will have to clearly show how they aim to achieve both the Aichi targets (established within the CBD towards 2020) and the Sustainable Development Goals. Taxonomic research related to the following subjects will be encouraged:

- agriculture,
- fisheries,
- pollution mitigation,
- pollination,
- food,
- health
- forest management

Projects that have a multi-disciplinary approach will be favoured. Cooperation with local or Belgian NGOs working in the partner countries will be encouraged, when relevant.

All research results will be shared on CHM national websites, when possible, and used to achieve awareness raising activities in the partner countries. CEBioS will help the grantees disseminate their research results to different stakeholders in their countries (farmers, administration, researchers, local population, fishermen…). For example, results will be used to produce policy briefs aimed at policy makers in the South and uptake meetings will be organised and facilitated by CEBioS.

It is crucial to **promote women empowerment** in our partner countries because this empowerment is closely linked to economic development in the South. That is why, in the second phase, women participation in GTI trainings will be encouraged and favoured whenever possible, until we reach at least a 50/50 ratio of women participation in our trainings. In order to attract more feminine applications, information sessions in our partner institutions will be organised. We will ask our alumni who are now professor in the South to stimulate application of their feminine students to our GTI calls. Finally, through our awareness calls, we will propose to our feminine GTI alumni who are now lecturers in their home country to share their experience towards female students, in order to explain how they can combine personal and professional achievements. It will also be important to talk to men for them to accept that their wives, daughters, sisters… perform research at a high level. However, we must note that we will achieve convincing results only on a long term commitment and with a close collaboration with our partner scientific institutions in the South.

Finally, CEBioS will continue managing its GTI alumni network, by keeping its **alumni database** up to date, by updating the 'taxonomy.be' website with relevant information on GTI alumni (professional achievements, publications, career advancement…), by regularly organising networking and knowledge exchange meetings and when possible, by facilitating participation of GTI alumni in international scientific events or IPBES expert meetings.

Part of the institution building in Benin, Burundi and DR Congo will be on taxonomy.

The eligibility criteria for GTI training will include the following thematics referring to applied research, e.g.:

- pest management and biological control,
- soil fertility,
- water quality,
- edible plants and animals,
- bushmeat,
- carbon stock

For each institution under SO1 one scholarship will be available each year.

MRV

SO1, Indicator 12 (MRV-1)

In 2019 two formulation and formation workshops have been planned for the MRV program, one in French and one in English speaking countries. Alumni from MRV projects in phase I will be invited as well as other participants. Budget 50.000 euro. (target public: scientists of partner institutions, new institutions and authorities of respective countries focused on GBIF, CBD, CHM, CITES, Nagoya P. etc).

The two workshops will be followed by calls (one for French and one for English speaking countries). The projects resulting from the calls will run from January 2020 to October 2021. As a result the budgeted funds have to be spread over three years: first instalment for Fr-projects at the end of 2019 (24.000 €) ; first instalment for Engl-projects in 2020 (24.000 €); remaining funds 6.000 € fr FR-projects in 2020 as well as 6.000 € for Engl-projects in 2021.

In 2022 the project leaders will be invited to MRV Closing workshops, one in French and one in English, which will be organised back-to-back with training sessions on awareness raising and communication, open to all CEBioS-alumni (GTI, habitat monitoring, CHM, institutional cooperation).

The following tentative scheme has been planned:

- 1 Training session on awareness and communication in French, back to back with the MRV closing session in French (MRV-1 + AW-1)
- 1 Training session on awareness and communication in French, in another region
- 1 Training session on awareness and communication in English, back to back with the MRV closing session in English (MRV-1 + AW-1)
- 1 Training session on awareness and communication in English, in another region

A budget of 18.000 € is assigned activities a and c mentioned above

SO2, Indicator 47 (MRV-2)

Having been trained in awareness raising and communication (activities under Indicator 12), the MRV-alumni can reply to a call, launched in 2022 (Fr and Engl), to execute mini-awareness projects, viewed as a necessary follow-up action on MRV projects. The budget for all alumni awareness

projects together is distributed over two years (instalments of 80 % =24.000 € in 2022, remaining funds 6.000 € in 2023).

CHM and awareness

For the Countries see also 'CEBioS in short' at beginning of document.

GENERAL INDICATORS

Indicator 8. Number of projects on grey literature digitalisation 40000 €

Each year one or 2 projects will be undertaken to digitalise grey literature related to biodiversity and the implementation of the NBSAPs, AICHI Targets and the SDGs. This grey literature can be master thesis, reports etc. and will be added to the national CHM in order to see what has been done towards the implementation of the NBSAP.

Indicator 13. Number of scientists trained on communication and awareness raising for different audiences 50.000 €

In Yr 4 workshops will be organised for alumni from CEBioS activities to train them in communication and awareness raising skills. A combination with the MRV Engl and FR closing workshops is aimed at, according to the following tentative scheme:

a. 1 Training session on awareness and communication in French, back to back with the MRV closing session in French (MRV-1 + AW-1)
b. 1 Training session on awareness and communication in French, in another region
c. 1 Training session on awareness and communication in English, back to back with the MRV closing session in English (MRV-1 + AW-1)
d. 1 Training session on awareness and communication in English, in another region

The budgets allocated for the MRV closing workshop and Communication and Awareness training will be combined to allow for economies in travel costs and at the same time increase the number of participants.

Ind. 45: Number of annual training/awareness raising on the use of the CHM workshops in partner countries and Belgium 185.000 €

A minimum of 4 national or in Belgium trainings will be organised each year for 15 people per country or 4 people from partner country in Belgium per training workshop on the use of the Bioland tool/DART and other relevant information sharing tools to follow the implementations of the NBSAPS and the SDG related to biodiversity. Budget includes missions of CEBioS-staff.

Indicator 46. Number of postings on the CHM about activities under SO2 financed by CEBioS 70.000 €

Countries organise follow-up trainings (Bioland) and meetings of the steering committees for the CHM and the CBD. The training workshops will be organised on demand by the countries where they feel that they are ready to also do a follow up and keep the national network active. The subjects of the yearly call for CHM-projects and other activities will be based on the recommendations from these workshops or on decisions by the COP of the CBD.

Ind. 46 & 46 bis. Networking CHM 150.000 €

Annual networking meetings between CHM national focal points from the different partner countries to prepare common themes for CHM projects and Awareness raising, prepare common COP positions towards capacity building, knowledge management, communication Education and Public Awareness and be informed about latest COP Decisions, new tools training and more. Five regional meetings are tentatively planned. The budget also contains the missions of CEBioS staff.

Indicator 49. Number of authorities, decision makers, local organisations and NGO's made aware of the results of the scientific research of our partners 28.000 €

Based on the results from the different activities under SO1 and SO2: production and dissemination of awareness materials (brochures, policy briefs, posters, videos, etc)

Note on SO2, Indicator 49 (AW-2)

Due to the fact that science worldwide is using English and due to the fact that by lack of good infrastructures, deprivation of access to outside (scientific) information is often the case in many French speaking countries, , information on the governance of biodiversity, uptake of biodiversity related research results in policy development, scientific writing, usage of research-related internet options and publishing of research papers, knowledge about existing reporting systems or data-systems, is often lacking. This is certainly true for many government agents, both on national and on more local levels, park managers, local authorities and NGOs, who are often very poorly equipped and may have almost no contact with internet, e-mail or reading material. This is a serious preoccupation if one aims at mainstreaming biodiversity into local and national policy making and reporting.

During the Summer School, organised in Kisangani in 2017, CEBioS has successfully provided seminars and training on a number of these topics. With over 100 participants, all stakeholders as listed above, were represented. That is why we plan to repeat this type of activity during the next phase of our program. An opportunity to do so may be the 2nd International Conference on Biodiversity in the Congo Basin (Kisangani, 2020) or as an additional set of information sessions at the back-to-back event MRV (closing workshop) - communication and awareness training for CEBioS Alumni in 2022. Other, yet up until now unknown opportunities, may be presenting themselves in the next couple of years, depending on the outcome of the activities we are executing or on external events. CEBioS will hence decide on dates, venues or programs at a later stage (2x 40000).

Indicator 78. Annual number of CHM training in partner countries or RBINS 250.000 €

Annual Call for projects to promote the use of the CHM in the partner countries or promote South-South cooperation. The projects must be directed to add information on the CHM towards the implementation of the NBSAP and the SDGs. As in Phase I,each year 4-8 projects of 8-10.000 € will be accepted. A project can cover one year or more years.

Indicator 80. Participation in CHM-related activities such as juries, contests, prices by partner countries 15.000 €

During the last two COP meetings, the national CHMs of partner countries have won quite some prices. This activity will allow partner countries to participate in juries and to attendaward ceremonies to receive prices,but most of all to prepare submissions to competitions in order to raise their chances to win. This budget can also support CEBioS staff invited to such juries.

Indicator 85. Number of national and sub-national deciders attending meetings for awareness raising 260.000 €

Each year there will be a call for projects related to awareness raising. 4-6 projects will be chosen for up to 8.000 € per project. In each project , the activities should include meetings and materials to raise the awareness of decision makers.

Indicator 86. Number of CEPA meetings attended by CEBioS staff and partners to promote results of CEBioS work 16.000 €

The work that CEBioS does will be presented during each COP between 2019-2023 in a side event or at the CEPA fair. At each COP a different subject will be focused on. The budget should provide for a stand reservation, catering, flyers and other awareness raising material, and more.

Indicator 87. Number of North and South events promoting Inter-ministerial dialogue at level of focal points or other for CBD, CHM, CITES etc... in the South 45.000 €

A call will be made each year to promote mainstreaming in partner countries between ministries and focal points of the different biodiversity related Conventions like CITES, RAMSAR and other. Also, NGOs and citizens groups will participate.

Indicator 107. Number of training sessions to increase capacity on awareness in North (CEBioS) and South for the partners of the Belgian development cooperation, civil society 3.000 €

Special training sessions will be organised in the North and the South to raise awareness on biodiversity for staff of our institutional partners, DGD, embassies andat partners of the Belgian Development cooperation in the North and the South.

Indicator 108 Number of projects to measure change in perception on biodiversity of target groups of activities financed by CEBioS 60.000 €.

In year 5 of the CEBioS programme a special call will be organised to see if the perception on biodiversity in the partner countries has changed. The baselines had been established in the first phase 2013-2018 in most of the partner countries.

The lexica, AbcTaxa and policy briefs

SO1, Ind. 44, lexica

Lexica are part of a series of technical manuals displaying habitat types, and methods of monitoring in specific protected areas of our partner countries. The choice of these areas is governed by specific demands by the competent environmental authorities. The creation of these lexica is a co-production between CEBioS staff and local stakeholders. These stakeholders consist of scientists, ecosystem managers and eco-guards. By promoting the co-producing of these lexica (almost like action research), CEBioS ensures a high ownership and a close match with local scientific and managerial conservation needs. Experience has shown that these lexica are in high demand.

The 5 planned **lexica** (each estimated at 5000 Euro for printing and shipping) on habitat monitoring in DR Congo, Benin and Burundi are the following protected areas (PNVI=Virunga National Park):

LEXIQUES **(Rédaction + Publication) à 5000€/édition**

	2019	2020	2021	2022	2023
Burundi	**PN Ruvubu**		**PN Rusizi**	**00**	**00**
Benin	**00**	**PN Pendjari+W**	**00**	**00**	**00**
RDC		**Réserve Itombwe**	**00**	**PNVi**	**00**

Distribution of the lexicon about Pendjari National Park to stakeholders, October 2018 (photo@LJDB)

SO1, Ind. 22, AbcTaxa

The series of **AbcTaxa manuals**, with more than 18 high quality volumes produced in the last 15 years, will be further supported by CEBioS under SO1. As a general rule, the author consortia consist of experts from the North and the South, often knowing each other through the GTI programme. The scientific editors belong to RBINS, AfricaMuseum and Botanical Garden Meise. CEBioS finances the production (lay-out, editing) and the printing, as well as the dissemination across the world. Editing and layout are carried out by the Publication service Unit (PSU), a service pooled by RBINS and AfricaMuseum, also publishing the other scientific series and monographs of the institute. The main objective of AbcTaxa is to produce peer-reviewed manuals of sampling and collection

management methodology, as well as identification keys based on photographic plates. This offers a valuable conservation tool to protected area managers in the South, as well as promotion material about the biodiversity of an area for use by other scientists, parataxonomists and visitors (eco-tourists, interested naturalists), hence promoting an intelligent approach in sustainable management and ecotourism.

Possible volumes for 2019 are:
- Ophiuroidea of S. Africa (brittle stars). A better knowledge of brittle stars in South Africa will promote a better sustainable diving industry and set benchmarks for studies elsewhere along the African coast.
- Revision of the genus *Cratispermum* of Central Africa. Belonging to the Rubiaceae, this group of plants provide useful dyes and medicinal properties.

A volume about the sponges of South-America (Peru) and one about the reptiles of Cuba is being planned as well. Concerning the importance of better knowing sponges, we cite Amina & Musayeb (2018): 'there are approximately 8500 described species of sponges worldwide with a prominent role in many reef coral communities. … In the recent years, interest in marine sponges has risen considerably due to presence of high number of interesting biologically active natural products. More than 5300 different natural products are known from sponges and their associated microorganisms, and every year hundreds of new substances are discovered. Concerning Cuba, this Caribbean country is home to six UNESCO-approved nature and biosphere reserves, each of which protects a diverse range of habitats and wildlife. Better understanding its unique fauna will help valorize these protected areas and promote ecotourism.

References:

- In https://cdn.intechopen.com/pdfs/60368.pdf
- In https://www.edf.org/blog/2015/03/03/ecotourism-cuba-model-sustainable-economic-development

In total 5 volumes will be produced in phase II. DGD will be consulted about the choice of the themes covered.

Ind. 48, 49, policy briefs

Policy briefs typically consist of 4 pages with clear infographics and short texts. They can also be considered as 'science digests' and serve the purpose of synthesising the latest scientific evidence in a language which can be understood by non-scientists, who are at positions to develop policy and make policy decisions. Policy briefs in CEBioS are most often the result of intensive workshops bringing together scientists and managers (civil servants, eventually civil society), discussing the results of small projects dedicated to certain themes such as fisheries, bush meat, indicators. After production, it is essential to devote resources in a proper dissemination strategy to target audiences with appropriate explanation. A follow-up of the use of such policy briefs is instrumental to estimate the usefulness and optimize the production process, contents and formats.

5- SYNERGY AND COMPLEMENTARITY WITH CIVIL SOCIETY ACTORS

Synergies and/or complementarities within the priority countries with the ACNGs will be reported under the mentioned indicators per country (see above), as well as under indicator 103: Number of projects in the South involving synergies or complementarities with Belgian actors.

Since 2016, CEBioS staff has followed the formulation of the joint strategic framework for the partner countriesand the strategic dialogues. for Benin, Burundi, DR Congo and Vietnam. In phase II, synergies with Belgian actors of the Development Cooperation will be further developed. A special 'synergy fund' is set aside for this purpose.

Several levels of cooperation are possible (not exhaustive):

- Procedural and management cooperation (reference to each other's log frames, exchanges of reports and best practices, etc.)
- Practical or implicit cooperation (being member of juries, joint calls for projects or calls, joint seminars, expertise for the Nagoya Protocol, expertise in forestry, fish fauna, pest management, CHM, joint publications, joint capacity building for scientific publishing by African scientists.
- Participation in learning trajectories

In that spirit, CEBioS concluded recently MoUs with WWF-Belgium and with ENABEL. It is also observing member in FIABEL and associated member of the "NGO-federatie". In Benin, CEBioS looks for synergies with ARES, Vétérinaires sans frontières, Don Bosco schools, Memisa. In Burundi, avenues of cooperation between OBPE and Broederlijk Delen are explored in order to mainstream biodiversity into agroecology. In RD Congo, CEBioS and WWF are active in the Virungas and exchange of information on charcoal ('makala') and mushrooms could lead to future joint actions. The earlier cooperation with VVOB on awareness about biodiversity in professional schools can be seen as a successful model for further cooperation. In Vietnam, CEBioS is seeking extra funding for the marine modelling part through VLIR-UOS or BELSPO projects.

For more details about the involvement of RBINS-CEBioS in the Joint Strategic Frameworks per partner country, see chapter 5 and Annex 5.

Annex 5 provides a summary table with all specific objectives per joint strategic framework for Benin, Burundi, DR Congo, Vietnam, and Tanzania, where CEBioS is mentioned.

CEBioS, being a programme of the federal institutional actor RBINS and being financed directly by DGD, does not have the status of an accredited ACNG as such, but fully adheres to the Law on development Cooperation of 2013, amended in 2016 concerning its methodological approach, policy context, choice of eligible countries and participation in the strategic dialogues. It is monitored by unit MD8 of DGD. Since the onset of the establishment of a Joint Strategic Framework of the Belgian actors in each partner country of the Belgian Development Cooperation (2016-2017), CEBioS decided to participate on a voluntary basis in the main JSF pertinent for its actions, being Benin, Burundi, DR Congo, Vietnam and Peru, and to a lesser extend in Tanzania and Uganda, . In 2018, CEBioS decided to pull out of Peru to better concentrate in fewer countries. The follow-up of the JSF and the ensuing Strategic Dialogue (2017-2018) is assured by the coordinator and the scientific programme officers. Given the restricted team, this has taken a lot of time resources, but

CEBioS considered it necessary and useful to be present and influence the agenda towards a more biodiversity-friendly approach. Most expressed intentions for the development of synergies, still have to become more concrete in phase II.

Benin

CEBioS aims for synergies under the JSF strategic objectives 2C, 3C, 3F, 3J, 4G, 5aA, 5aF, 5bA, 5bB, 5bC, 5bD, 7B (Annex 5).

Through our GTI calls and our collaborations with the Ministry of Environment, UAC, Un. de Parakou and IRHOB, we implement the strategic objectives of the JSF in various ways. Most are related to strengthening higher education, scientific capacities, awareness raising for biodiversity and vulgarisation of scientific results. CEBioS sees possibilities to work with other actors in the Atakora region, e.g. with ARES and Vétérinaires sans frontières. Also with Via Don Bosco, there are possibilities to set up awareness actions for biodiversity in schools. With Louvain Cooperation, we seek enhanced cooperation on the mangroves of the MAB site 'Delta du Mono' on the coast, through cooperation with Prof. J. Hugé (Uhasselt, VUB). CEBioS is also available to provide training about the CBD and the Nagoya Protocol to the Port authorities on demand of the bilateral cooperation. Benin is the only country where CEBioS can call on a local expert, Dr. Jean-Didier Akpona, of the UAC (Laboratoire de Biomathématiques et d'Estimations Forestières, LABEF). He attends as much as possible the local meetings of the JSF in the Strategic Dialogue of the ACNGs.

Group Photo on occasion of the strategic Dialogue in Benin (December 2018). Fourth from right is Minister A. De Croo and second from left is our CEBioS representative, Dr. JD Akpona (UAC).

Burundi

CEBioS aims for synergies under the JSF strategic objectives 2A, 2C, 2D, 6I, 8A, 8B, 8C (annex 5).

Through our GTI calls and our collaborations with the Ministry of Environment, OBPE and the Université du Burundi, we implement the strategic objectives of the JSF in various ways. Most are related to strengthening higher education, scientific capacities, awareness raising for biodiversity and vulgarisation of scientific results. In 2018 we started exploring possibilities to set up a cooperation framework between OBPE and Broederlijk Delen. This was strongly encouraged and facilitated by the Belgian Embassy in Bujumbura. The aim is to mainstream the preservation of biodiversity into agricultural landscapes for a more sustainable food production. In phase II we will further develop concrete actions of awareness and training.
Together with OBPE, CEBioS will seek to support a private initiative fostering the conservation of an arboretum next to Rusisi National Park. OBPE has signed a long term MoU with this private partner. This pilot project can serve as benchmark for concepts of ecotourism.
Further, CEBioS remains open to act as a co-promotor to VLIR-UOS projects in Burundi, depending on demands of the Burundese partners and the Flemish academic world. We are searching to continue a previous VLIR-UOS South Initiative on the biomonitoring of Lake Tanganyika, eventually with other external funding.

DR Congo

CEBioS aims for synergies under the JSF strategic objectives 2A, 2C, 2D, 2F, 3B, 3D, 4A, 4D, 5B, 5D, 6G, 6I, 9A, 9B, 9C, 9D, 9E, 9F (annex 5).

Through an MoU (signed in 2018) with WWF-BE and with ENABEL, CEBioS intends to work more closely with these two important actors in DR Congo. In phase I, CEBioS and VVOB cooperated on awareness raising of biodiversity in agri-technical schools, an excellent example of synergy and complementarity. We wish to execute similar projects in phase II. The cooperation with the AfricaMuseum will be better aligned and enhanced, especially for the CSB. The same applies for EU projects (eg. CIFOR). This can be done through GTI grants, but also through joint workshops, the organisation of the 2nd International Conference on Biodiversity in the Congo Basin (2020) and facilitation for the co-generation of policy briefs (explicit request by the AfricaMuseum). The cooperation with the Botanical Garden Meise on mushrooms and other important plant based ecosystem services will be continued, especially in the Virunga NP. Value chains will be developed in a new ARES project, a spin-off of a previous BELPO network project, which was a spin-off of CEBioS. Through the work of Prof. E. Verheyen, CEBioS will continue to support conservation of the great lakes in Central Africa and capacity building for Ebola screening and other diseases of zoonotic origin, the. The latter work is done in cooperation with UA, ITM and the Kinshasa based Institut National de Recherche Biomédicale (IRNB). Prof. Verheyen in cooperation with Dr. Anne Laudisoit (Ecohealth, new York) is looking for funding by WHO and other channels.

Vietnam

CEBioS aims for synergies under the JSF strategic objectives 1F, 3C, 3F, 3H (annex 5).

The work on marine modeling with IMER will continue with external funding. GTI will continue to support research on biodiversity hotspots in Vietnam and raise awareness at the managing authorities. With the assistance of the Belgian Embassy, CEBioS will try to join other environmental interventions, e.g. in the Learning Trajectories of the Strategic Dialogue.

Tanzania

CEBioS aims at synergies under the JSF strategic objectives 1D, 3G, 3H, 3I, 5A, 5B (annex 5).

The cooperation with the AfricaMuseum will be enhanced, through GTI grants, joint workshops and facilitation for the co-generation of policy briefs (e.g. pest management on fruit flies). The EVAMAB project (Belspo funded, promoted by CEBioS, collaboration with UNESCO-MAB) on Lake Manyara, a UNESCO-MAB site, will continue until the end of 2019. Follow-up with other funding will be explored. Cooperation with TRIAS, started under a previous VLIR-UOS North-South-South in the lake Manyara region can be continued. GTI grants in Tanzania will be mainly focused on pollination, an important factor for food security.

Other synergies were realised in **Uganda** in phase I, where GTI students from Busitema University made a survey of ant biodiversity in coffee plantations with and without certification of organic agriculture, a cooperation between CEBioS and KLIMOS.

The Belspo funded EVAMAB project, a collaboration with UNESCO-MAB and promoted by CEBioS, still acts in a consortium of VLIR-UOS projects in **Uganda** (KU Leuven), **Tanzania** (KU Leuven) and **Ethiopia** (UA), to support work on ecosystem services in respectively the Mount Elgon Biosphere Reserve, Lake Manyara and Lake Tana. These activities have been enforced by the 2017 call for MRV-projects on the same topics/areas, with a strong involvement of the Ugandan National Environment Authority (NEMA), a collaboration which will be continued in the future. Thanks to EVAMAB both KU Leuven and VUB/UCL are now active in Benin as well.

Synergy and complementarity with the AfricaMuseum

The formulation of phase II of the CEBioS programme at the Royal Belgian Institute of Natural Sciences took place in the same year as the formulation of the 10-year strategy and the new five-year plan of the Royal Museum for Central Africa (AfricaMuseum). Both receive funds from DGD, albeit part of the portfolios of different sections of DGD, and both are exclusively (AfricaMuseum) or mainly (RBINS) active in Africa. Therefore it is of paramount importance that both programmes do not show redundancies, but also work together whenever possible, as two main Institutional Actors (IAs) of the Belgian Development Cooperation (both are observing members of FIABEL).

Both Institutional Actors were supported by M. Luc Ameye for the formulation. The logframe of phase II of CEBioS took also inspiration from the one being developed at AfricaMuseum and vice versa.

The common goal of both institutions is the capacity building of African partners concerning biodiversity issues. This is reflected in SO1 of the programme of the AfricaMuseum and in all 4 SOs of the CEBioS programme, which is uniquely dealing with biodiversity linked to development, whereas the RMCA also deals with cultural aspects, natural disasters etc.). As a consequence, potentialities for cooperation will mainly concern SO1 of the AfricaMuseum-programme, but other SOs might be considered as well, especially when it comes to CEBioS' role at the interface between science, stakeholders, policies, development and governance, corresponding specifically to 'result 4' of the AfricaMuseum and result 'MRV' of the CEBioS-programme at RBINS.

Several levels of cooperation are possible:

- Procedural and management cooperation (reference to each other's log frames, exchanges of reports and best practices, etc)
- Practical or implicit cooperation (being member of juries, joint calls for projects or calls with certain quotas earmarked for the other institute), joint seminaries, expertise for the Nagoya Protocol, expertise in forestry, fish fauna, pest management, joint publications, joint capacity building for scientific publishing by African scientists.
- Specific projects based on results in the field, publications or data sets available in each institution

Examples of synergies identified or being implemented:

1. Joint seminaries or workshops in North and South, using added value of reciprocal expertise. See expertise listed above.
2. Five year plans referring to each other.
3. Joint management of the Publication Service Unit
4. Exchange of jury members
5. Exchange of reports of steering group meetings
6. Inform each other about annual planning
7. Harmonise and synchronise as much as possible instruments such as GTI
8. Information sharing about alumni

6- BIODIVERSITY AND DEVELOPMENT COOPERATION

What are Ecosystem services?

The general objective of our programme is the implementation of protection of ecosystems and their biodiversity in partner countries of the Belgian Development Cooperation in order to strengthen their capacity to generate benefits essential for sustainable development of rural populations.

In order to accomplish this objective, we have to strengthen local resources to sustainably manage, use and protect biodiversity and its ecosystem services. *Ecosystem services* are the many and varied benefits that humans freely gain from the natural environment and from properly-functioning

ecosystems. They are the direct and indirect contributions of ecosystems to human well-being and they support directly or indirectly our survival and quality of life, even more so for rural populations in the South who can survive and make a proper living by exploiting the sustainably managed ecosystems around them. Ecosystem services can be grouped in 4 clusters: supporting, provisioning, regulating and cultural services. The concept of 'ecosystem services' is not static, though evolving towards 'Nature's contribution to people' (NCP) according to the framework developed by IPBES[3]. This framework takes the regulating services as the basis for the 3 other services[4]: emphasizing the central and pervasive role that culture plays in defining all links between people and nature. Second, use of NCP elevates, emphasizes, and operationalizes the role of indigenous and local knowledge in understanding nature's contribution to people (Diaz et al., 2018).

Reference:
Diaz, S. et al., 2018. Assessing nature's contributions to people. Science 19 Jan 2018: Vol. 359, Issue 6373, pp. 270-272. DOI: 10.1126/science.aap8826

[3] IPBES: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, https://www.ipbes.net/about
[4] More information about equivalences between the different ES classifications can be found on the website of The Common International Classification of Ecosystem Services (CICES): https://cices.eu/

Link between ecosystem services and development

As stressed by OECD (2015), biodiversity and ecosystem services provide, inter alia, food security, fuel, and clean air and water, and contribute to human health, local livelihoods and economic development. The rural poor are disproportionately dependent on biodiversity and ecosystem services for their subsistence, income, health and risk management needs. This is partly due to their close proximity to and daily interaction with natural resources and also due to their limited ability to purchase substitutes. As such, poor people are particularly vulnerable to the loss and degradation of these goods and services. Failing to link biodiversity and development can inadvertently lead to a ratcheting down of biodiversity by otherwise well-meaning policies. Such biotic impoverishment could lock health, well-being and other dimensions of human development at minimum levels or lead to its decline and halt or reverse progress in achieving sustainable development.

When talking about "ecosystem services", we implicitly include edible animals and plants (e.g. mushrooms), as well as animals and plants having a significant contribution to food security or health (e.g. polinators, medicinal plants, soil fertility, biocontrol) and their associated value chains: from yield, domestification, to sustainable use or consumption, including the development of a scientific knowledge base about these different steps.

The CEBioS programme aims at increasing human well-being by the protection of ecosystems. The improvement of sustainable ecosystem management is our second specific objective (SO2) and is fed by capacity building of scientists in partner countries in our first specific objective (SO1). Our third specific objective is to support governance linked to biodiversity management and conservation (SO3), encouraging the integration or 'mainstreaming' of biodiversity conservation in sectoral policies and including the increase of awareness about the importance of biodiversity for the provision of ecosystem services (SO3 and SO4). CEBioS intervenes at the interface of the knowledge about the sustainable management of ecosystem services and the society, following the *theory of change* which states that the strengthening/empowering of the society for a more sustainable use, management and conservation of biodiversity will have a positive impact on poverty reduction.

CEBioS : which impact?

It is pertinent to reflect on the process of generating data, evidence and knowledge on ecosystem services, and on how this process can be improved to maximise the potential for poverty reduction or sustainable development. By better understanding and making more efficient use of ecosystem services (and their value chains), individual benefits can be increased (Buytaert et al., 2018).

CEBioS' **Theory of Change** is mainly based on 3 methodological or intervention entry points (1) policy support leading to better and implemented policies, (2) capacity building interventions, being a transfer[5] of technical and scientific skills, knowledge allowing to better tap into scientific evidence,

[5] Transfer in a 'dialectic way', as it includes also peer to peer interactions, cross-sectoral dialogues, cross-fertilisation of best practices, lessons learned and train the trainer

facts and figures for the implementation of national plans and strategies pertaining to biodiversity and development (understanding of ecosystem services, understanding of value chains of certain natural products beneficial to local communities) and (3) increased information and awareness of different stakeholder groups in order to stimulate positive actions and avoid negative actions towards biodiversity, which would, in the long term, potentially have negative consequences for human well-being.

How this reflection is articulated in a cooperation development programme based in a natural history museum is explained in this document. The toolbox includes training sessions and workshops with specific target audiences, reflecting the 4 specific objectives (e.g. administrators, eco-guards, managers, scientists, civil society) and discussing a variety of themes (e.g. Nagoya protocol, bushmeat, fisheries, co-management in conservation).

The quality of these 'outputs' depends on a carefully integrated design of content and eligibility at all levels of the programme and is benchmarked by the way these outputs have an impact on the stakeholders and sustainable development.

We refer to the executive summary for a nonexclusive list of examples of possible results and impact of the CEBioS-programme at the level of partners, stakeholders and local communities.

The increase of basic human well-being is the result of complex top down and bottom up processes. These processes are potential entry points for CEBioS' interventions and for which it can make a difference. The measurement and evaluation of this (often intangible) impact through indicators can be challenging, but we tried as much as possible to define appropriate indicators (see logframe).

Text based on following references

De Groot, R.; Jax, K. and P. Harrison (2016): Links between Biodiversity and Ecosystem Services. In: Potschin, M. and K. Jax (eds): *OpenNESS Ecosystem Services Reference Book*. EC FP7 Grant Agreement no. 308428. Available via: http://www.openness-project.eu/library/reference-book

Buytaert, W., Ochoa-Tocachi, B., Hannah, D.M., Clark, J. And Dewulf, A., 2018. Co-generating knowledge on ecosystem services and the role of new technologies. In : In Schreckenberg, K., Mace, G. & Poudyal, M. (eds.), 2018. Ecosystem services and poverty alleviation. Routledge Studies in ecosystem services, 174-188.

Drutschinin, A., Juan Casado-Asensio, Jan Corfee-Morlot, Dilys Roe, 2015. Biodiversity and development co-operation. OECD Development Co-operation working paper 21, pp. 62.

Naeem, S., Chazdon, R., Duffy, J.M., Prager, C. and Boris Worm, 2016. Biodiversity and human well-being: an essential link for sustainable development. Proc Biol Sci. 2016 Dec 14; 283(1844): 20162091. doi: 10.1098/rspb.2016.2091.

7- HISTORY OF THE CEBIOS PROGRAMME

The 10-year strategy

The 10-year strategy, the Mid-Term Evaluation and its management response can be consulted here: http://www.biodiv.be/cebios2/docs/strategy

The CEBioS programme of the Royal Belgian Institute of Natural Sciences is implemented according to the 10-year strategy, spanning the period 2014-2023. Two phases of 5 years (2014-2018 and 2019-2023) fit into this strategy.

General objective of the 10-year strategy

In its capacity of National Focal Point to the Convention on Biological Diversity (CBD) and national reference centre for biodiversity, the Royal Belgian Institute of Natural Sciences uses the CBD as an overall framework for action. The CEBioS programme is part of the RBINS strategy related to its role as National Focal Point to the CBD.

The general objective of CEBioS' 2014-2023 strategy is to build scientific and technical capacities for a more effective implementation of the Convention on Biological Diversity and its Strategic Plan for Biodiversity 2011-2020, as a contribution to poverty reduction and sustainable development worldwide.

Specific objectives of the 10-year strategy

The RBINS-CEBioS programme will achieve six specific objectives by 2023. These objectives are grouped into two clusters, highlighting how the responsibilities are shared for the strategy's implementation.

The RBINS, with its partners, aims at:

I. strengthening **the scientific and technical knowledge base** on biodiversity and on its linkages with ecosystem services and poverty reduction;
II. enhancing the **information base** on these issues and on associated governance processes;
III. raising **awareness and communicating** on the importance of biodiversity and ecosystem services for poverty reduction and sustainable development, and on associated governance processes;

The RBINS, with both its partners and DGD D2.4 aims at:

IV. improving the **mainstreaming** of biodiversity and ecosystem services in policy sectors that have a high relevance for development;
V. improving the knowledge on the **measurement, reporting and verification** (MRV) of policy choices and activities linked to biodiversity and ecosystem services;
VI. raising awareness on, and build capacities for, the implementation of the **Nagoya Protocol** on Access and Benefit Sharing.

The first phase of the RBINS-CEBioS programme (2014-2018) was implemented according to a logframe consisting of 6 specific objectives (SO), corresponding to the specific objectives outlined in this strategy. Together, the 6 SOs consisted of 17 expected results and 75 indicators. The programme has implemented the 5-year logframe without additional adaptations during this period.
The annual reports of the first phase (2014, 2015, 2016, 2017) can be found here:
http://www.biodiv.be/cebios2/docs/reports .
The annual report 2018 is integrated into a synthetic overview of phase I.

Mid-term evaluation of Phase I

The formulation of phase II (2019-2023) is guided by the findings of the Mid-term Evaluation (MTE).

The MTE was positive about phase I of the programme and recommended further full or increased funding for phase II.

BELSPO commissioned the MTE to 3 international evaluators. The MTE consisted of a desktop study, written surveys and interviews of key stakeholders in Belgium and in the partner countries (distance interviews, writing and skype sessions), and, at the end, of a participative workshop ('focus group') with CEBioS staff and direct stakeholders (BELSPO, DGD). The MTE was delivered in December 2017. The separate management responses by RBINS-CEBioS, DGD and BELSPO were delivered in February 2018 and both the MTE and the management responses were approved by the BELPO-DGD strategic committee in June 2018.

The programme was evaluated according to the OECD-DAC criteria and got the following scores:
- Relevance: excellent
- Effectiveness: good
- Efficiency: very good
- Impact: satisfactory
- Sustainability: very good

The evaluation confirms the general quality and the importance of the programme but remarks that the impact of the programme on poverty reduction could not be sufficiently demonstrated. The link between biodiversity and poverty reduction should be better articulated in the following phase of the programme.

To conclude the first phase, CEBioS organized a colloquium (Biodiversity for Development - A way forward to the SDGs), in May 2018, introduced by Mr. Tom Neijens of the cabinet of Minister De Croo, with stakeholders from the South and representatives of many Belgian development actors:
http://www.biodiv.be/cebios2/events/biodiversity-development-way-forward-sdgs .

- *See lessons learned in 'Executive summary- CEBioS in short-' (beginning of document).*
- *The main recommendations important for the formulation of phase II are listed in chapter 8.*

- *An overview of the management response and the actions already undertaken in 2018 is given in annex 6.*

8- FORMULATION OF THE SECOND PHASE

Formulation process in Belgium

The timeline of the formulation can be consulted in annex 3.

Guided by the results of the MTE, the formulation of phase II was started early in 2018 taking the following **main recommendations** into account**:**

- Develop a clear vision about change processes, concerning biodiversity and the challenges under each specific objective;
- Improve results based management instead of activity based management;
- Organise a strategic reflection about the identity of CEBioS (secretariat-training provider-expertise centre) and clear communication about it;
- Improve learning and communication strategies;
- Develop strategic partnerships;
- Re-arrange the logframe to make it more balanced ; Now the SO1 is disproportionately large compared to the other SOs. Moreover, some SOs can be merged;
- Use also more qualitative indicators ('SPICED') and improve the results based management by creating a follow-up logframe with indicator targets per year;
- Better integrate the different components of the programme;
- Pay more attention to awareness methodology, capacity building on awareness raising and follow-up of awareness projects;
- Be better integrated into the Belgian Development Cooperation;
- CEBioS should embrace the Theory of Change in its next phase.

The MTE also provided the following **recommendations**, not directly related to the process of formulation for phase II, but nevertheless important for the implementation of the next phase:

- Simplify and add flexibility to the planning and reporting;
- Be more visible, known, recognised, nationally and internationally and improve communication strategy;
- Seek for simplified administrative and financial control;
- Pay attention to human resources issues.

Moreover, the formulation also took into account the recent policies of the **Belgian Development Cooperation**, more specifically:

- Organize Development Cooperation according to **the 3-track policy**[6].
- Be more connected to **the Sustainable Development Goals**. Since they were ratified in 2015, phase I, started up in 2014, could not formally include them in the strategy and the five-year plan. The formulation of phase II now offers a nice window of opportunity to include them.

[6] 3-track policy, see https://diplomatie.belgium.be/sites/default/files/downloads/Strategy_note_Environment.pdf

- Work more explicitly on **ecosystem services**, especially the potential to develop value chains that directly benefit local rural populations and their livelihoods, principally based on agriculture, but also on health issues. In other words, support more applied biodiversity research linked to a proper understanding and application of ecosystem services for the rural poor. This may result in a better acceptance of conservation measures of biodiversity and hence will contribute to the achievement of the (post)- Aichi targets[7] of the CBD strategic plan.
- Involve the **private sector** for achieving the SDGs in the partner countries.
- Continue to be an active member of the DGD initiated 'strategic dialogues' in order to work in more synergies and with more complementarities with the other Belgian ACNGs in the field.

Formulation with the institutional partners

Based on the participative risk analyses and stakeholder analyses as explained in annex 3, the institutional partners of CEBioS expressed their input for a phase II collaboration as follows:

Benin

The cooperation between CEBioS and Université Abomey-Calavi is very much valued by its researchers. Proof is the huge success encountered for the lexicon on Pendjari NP co-produced with CEBioS. At first, the scientists were somewhat reluctant as the work on the lexicon puts a claim on their time. However, once finished, they were very proud of the work done as they can now advise the ecosystem managers in a vulgarizing and accessible way. There is also a will to make legal texts about conservation issues more accessible to the large public in vulgarizing formats. The ecosystem managers use the lexicon in their daily management duties of the Pendjari NP. In phase I the cooperation concentrated on Pendjari NP, together with CENAGREF (park authorities) and AVIGREF (village stakeholders). The workshops with the 'Laboratoire d'Ecologie Appliqué' (LEA) in Cotonou and with the 'Laboratoire de Biomathématiques et d'estimation Forestière' (LABEF), held in 2018 in Natitingou in the framework of EVAMAB, showed clearly the scientists' concern for the future cooperation with African Parks (APN), now in charge for the Pendjari NP. CEBioS played a role as a facilitator to enhance the mutual understanding between both groups. UAC has expressed its desire to extend the cooperation towards W National Park, one of the largest trans frontier parks in West Africa. CEBioS will explore this possibility and connect with the responsible agencies in Burkina Faso and Niger to enhance international South-South cooperation. CENAGREF, in charge for W NP showed keen interest to collaborate. CEBioS also received a clear and strong demand by the University of Parakou to cooperate on mushrooms in the area. The latent sense of possible threat by islamist groups in the North is well known and acknowledged by the scientists and authorities. The lack of any incidents so far is positive, but of course, in view of the recent events in Burkina Faso, we remain alert and keep regular contact with the Belgian Embassy to debrief and be debriefed on this issue.

[7] Aichi targets, see https://www.cbd.int/sp/targets/

Cooperation with IRHOB in Cotonou on marine modelling along the coast of Benin will continue after a very good start in 2018, the award of the second D4D prize to their project, and the award of a Bio-bridge project (CBD fund, 30K Euro) as well. CEBioS will promote this and connect as much as possible to ENABEL and the Belgian bilateral cooperation with the Port of Cotonou. Awareness about marine life will be further organised with a local NGO, 'Nature Tropicale' or others as proposed by the Ministry of Environment. Moreover, IRHOB expressed its interest to apply their skills in shrimp aquaculture, important for enhanced food security.

Burundi

In previous years, the staff of OBPE expressed concerns about lack of internet connection and electricity. That has now been remediated after the installation of solar panels by CEBioS in phase I. The death of Benoit Nzigidahera, the driving force of the scientific department of OBPE, leaves a deep void. The colleagues replacing him, are more junior and still need to accumulate experience and knowledge. This might affect the rate of success in phase II. A workshop in 2018 revealed a great connection of OBPE with a large array of NGOs and associations dealing with development, conservation and traditional knowledge in Burundi. The enthusiasm of the OBPE CEO and his staff is already a fact and CEBioS is confident to continue the good work done with Benoit. Transfer of skills in data collection, habitat monitoring and management of sustainable resources (including mushrooms, bamboo, rotan, indigenous species, medicinal plants, invasive species) remain essential in the cooperation between CEBioS and OBPE.

DR Congo

The Staff of the 'Centre de Surveillance de la Biodiversité' in Kisangani is very keen to continue the institutional cooperation with RBINS-CEBioS under the recently signed 'Accord Cadre de Coopération' (ACC). The staff considers the relatively recent introduction of modern techniques (ameliorated stoves, solar panels, internet, brick stones) in the extremely poor villages in the region of Kisangani, as a positive factor and appreciates the international governance of biodiversity as an asset for the conservation of this environment, rich in natural resources. The CSB staff is convinced that the presence of a 'système coûtumier' and ethnic diversity may be key to promote nature conservation and the sustainable use of resources among rural populations. Law enforcement, the erosion of traditional knowledge, the political (and hence economical) instability are disturbing factors, certainly in combination with the demographic evolution and the lack of proper schooling. The CSB has proposed to monitor biodiversity and socio-economic factors in several non-or partially protected areas in order to contribute to the development of ecosystem-based value chains in the area, raise awareness at local level and improve reporting to the NBSAP about the state of the art of biodiversity, its threats and the opportunities deriving from its sustainable management in the wide region of Kisangani. The CSB will continue to focus on its role as secondary CHM for DR Congo. The CHM in DR Congo needs more visibility and to be better known by all stakeholders, the CSB can contribute to the solution, for instance by hosting a second international conference on the biodiversity in the Congo Basin in 2020, an initiative supported by funding and contributions from several organisations and for which CEBioS will cooperate with the AfricaMuseum and CSB and many other organisations.

CHM partners

The main preoccupation of the CHM partners is a good communication within their departments and with other National Focal Points (CBD, CITES, Nagoya…) and with the scientists who should give their inputs to the CHM. Also important is a trustful electricity supply and internet connection. The transition from the CMS PTK to Bioland will be implemented gradually. However, the rate of success greatly depends on the guidance by CBD secretariat as well. Here too, the CHM community lost a great champion, Belgian expert Olivier De Munck working at the CBD secretariat in Montreal, who died prematurely. The legal framework seems to be a concern as well, defining the roles and mandates of the CHM focal points, but also operating costs within their Ministry.

9- INTERNATIONAL AND NATIONAL POLICY CONTEXT

Belgium is committed with the EU and the Global South to contribute to the Sustainable Development Goals and (post) Aichi targets for Biodiversity and Development

The Belgian Development Cooperation Act specifies that Belgium adheres to the UN declarations and conventions concerning development and the environment, as well as human rights in all its forms (Art. 9) and specifies that protection of the environment and natural resources, including the fight against climate change, drought and deforestation, should be integrated transversally in all its interventions (Art.11).

The CEBioS programme of the Royal Belgian Institute of Natural Sciences (RBINS) (http://www.biodiv.be/cebios2) is funded by the Belgian Cooperation for Development (DGD) and is one of the state instruments to contribute to this commitment.

CEBioS acts in support of Belgium to contribute to the **Sustainable Development Goals** (SDG, United Nations, 2015). More specifically, CEBioS supports the implementation of SDG 14 (life below water) and SDG 15 (life on land) in DGD partner countries. Strengthening these SDGs will impact other SDGs directly related to poverty (SDG 1), hunger (SDG 2), good health and well-being (SDG 3), quality education (SDG 4), and indirectly to the other SDGs as well, such as reduced inequalities (SDG 10), clean water and sanitation (SDG 6), or peace and justice (SDG 16). For more details we refer to annex 4.

Acting for these SDGs implies achieving the **Aichi targets** (annex 4) of the Strategic Plan for Biodiversity 2011-2020 of the Convention on Biological Diversity (CBD) and its protocols, ratified by Belgium and its partner countries. *Given the fact that phase II will last until 2023, it will also include the post Aichi targets to be formally adopted at the 15th CBD Conference of the Parties in China in 2020.*

At EU level, the CEBioS programme is part of Belgium's involvement to attain the objectives of the EU biodiversity strategy to 2020 and beyond, more specifically Target 6 (Step-up action to tackle

the global biodiversity crisis). Action 18 is relevant in that respect: mobilise additional resources for global biodiversity conservation.

> 18a) The Commission and Member States will contribute their fair share to international efforts to significantly increase resources for global biodiversity as part of the international process aimed at estimating biodiversity funding needs and adopting resource mobilisation targets for biodiversity at the 10th Conference of the Parties to the Convention on Biological Diversity in 2012.
>
> 18b) The Commission will improve the effectiveness of EU funding for global biodiversity inter alia by supporting natural capital assessments in recipient countries and the development and/ or updating of National Biodiversity Strategies and Action Plans, and by improving coordination within the EU and with key non-EU donors in implementing biodiversity assistance/projects.

At national level, CEBioS is part of the actions of the updated National Biodiversity Strategy 2020 and Action Plan, especially

> Objective 6: Promote and contribute to an equitable access to and sharing of benefits arising from the use of genetic resources – ABS, 6.1 By 2014, raise awareness about the concept of ABS in the context of the CBD and the Nagoya Protocol, and widely disseminate information on ABS,
>
> Objective 7: Improve and communicate scientific knowledge on biodiversity and ecosystem services, 7.7 Improve the Science-Policy interface in biodiversity and promote actor participation,
>
> Objective 10: Ensure a coherent implementation of / and between biodiversity-related commitments and agreements, 10.3 All climate change, biodiversity and desertification cooperation projects funded by Belgium should be assessed to ensure that they are mutually supportive of the objectives of the three Rio conventions
>
> Objective 12: Influence the international agenda within biodiversity-related conventions, 12.1. Enhance Belgium's contribution to the protection of global biodiversity, 12.2. Keep up our leading role in different international and EU forums to strengthen and ensure coherence, within the framework of the CBD Strategic Plan 2011-2020 and its Aichi Targets, between biodiversity related conventions .
>
> Objective 13: Enhance Belgium's efforts to integrate biodiversity concerns into relevant international organisations and programmes, 13.1 Integrate biodiversity concerns into all international organisations and programmes that are relevant to biodiversity, 13.2 Support efforts of developing countries to combat illegal logging and associated illegal trade as well as their efforts to Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests and the enhancement of forest carbon stocks in developing countries (REDD+).

At the level of the Belgian Cooperation for Development, CEBioS is part of the implementation of the DGD environmental strategy, especially according to the **3-track policy**:

> (1) integration of the theme, "conserving and protecting the environment" by reinforcing environmental governance by means of capacity development, raising awareness and the mutual transfer of knowledge, technology and skills,
>
> (2) a sector-specific environmental support plan in 4 priority areas: water, sustainable use of land and soil, forestry and urban waste management,

(3) policy coherence for development between the various Belgian policy actions and reinforcing complementarity and synergy within the different areas of Belgian and European DC.
(https://diplomatie.belgium.be/sites/default/files/downloads/Strategy_note_Environment.pdf)

It should be noted that CEBioS fully implements (1) and (3). Concerning (2), CEBioS focuses rather on water, sustainable use of land and soil and forestry than on urban waste management.

10- SUSTAINABILITY AND GENDER

Sustainability

The term 'sustainability' is inherent part of the CEBioS acronym: 'Building capacities for biodiversity and sustainable development'. The core business of CEBioS is to offer, promote or support capacity building at individual and group level in order to strengthen the 4 target groups represented under the 4 specific objectives, being the researchers (SO1), the implementing environmental state agencies (SO2), the policy makers (SO3) and the development actors, civil society and private sector (SO4). All these groups are considered to be strengthened at institutional level through a variety of modalities going from competitive project calls to the organisation of workshops. Trained and skilled stakeholders in the partner countries of the Belgian Development Cooperation are the best human proof of sustainability. They will (1) integrate the learned skills and knowledge, (2) apply them in their daily professional lives and (3) pass them on, as 'champions' or 'multiplicators', to peers and other target groups and to the students, being the next generation. Therefore, 'train the trainer' is quite essential and CEBioS will always insist on transparency of acquired knowledge in the concerned institutions for a sustainable uptake for the future. The different chapters of cooperation are building up on past track records and adding additional modules in follow-up paths. Special attention to the alumni is part of a sustainable strategy (data-base, activities, lessons learned, success stories, career paths, mentoring of junior peers). Hence CEBioS tries to avoid so-called 'one shot interventions', but is instead building a network of knowledge carriers and skilled personnel in the realm of biodiversity and development. This technical, administrative and scientific executive is bearing the potential success for a sustainable future. Throughout this five year programme, references to the Sustainable Development Goals are paramount to anchor our interventions in that perspective.

Gender

Unfortunately few interventions on ecosystem services take rights-based approaches to transform the structures by which women are inhibited from benefiting from ecosystems (Brown et al., 2018).

While ecosystem interventions mainly involve local populations, this is also true for the world of science and other institutions, which are part of Priority N°1 in the Gender approach of the Belgian Development Cooperation, based on the SDG's of the Agenda 2030 of the United Nations, the Gender Action Plan of the European Union and on the Belgian Law on Development Cooperation (2013) and the Law on Gender Mainstreaming (2007).

It is not uncommon to have workshops in Africa including 1 woman and 20 men, as most scientists or officers in administrations and state agencies are still men- and still receive the comment by the participants that "there is no gender problem". In this context, realising gender mainstreaming and empowerment of women as promoted in SDG N°5, still seems a faraway objective.

The CEBioS core team is rather well balanced itself, with 4 men (3 scientific, 1 administrative) and 5.5 FTE women (2 administrative-technical, 3.5 scientific), but has regularly been discussing this issue in relation with its many projects and activities in other countries. Staff concluded that, among other measures, positive discrimination during project calls seems indispensable, though such an approach will have to be carefully designed in order to maintain project quality and to avoid loss (or even discrimination) of good projects coming from other candidates, which are in majority male.

The three point strategy (DGD), taking into account a rights-based approach, organising specific actions to contribute to the mainstreaming of the gender issue, as well as having attention to the local contexts, is perhaps not always applicable in its entirety in the context of the CEBioS programme, but with the following action points, CEBioS will certainly have a positive impact on the thinking, mind-sets and activities of our partners. In practice, CEBioS' s actions on gender will be interwoven with its other activities. None of the proposed actions calls for a separate budget.

1. At programme level: two scientific officers of the CEBioS team (women) are now responsible for the implementation of gender mainstreaming in the programme. They recently upgraded their knowledge about gender issues through UN webinars.
2. Project calls
    a. Project calls (GTI, CHM, awareness, MRV) will explicitly call on female candidates to submit proposals. We will seek the target that at least 1/3 of the *selected* projects will be coordinated by a woman. This action will mainly target *scientists, institutions and NGOs.*
    b. The development of activities with special attention to the gender issue will be a prerequisite for a project to be eligible. In most awareness or MRV-projects scientists and/or NGO's will work with *local people and population groups*. This provides them with an excellent platform to talk about gender equality, education of girls and training of women, and the empowerment of women in their own context.
    c. A 'contest' per call round will be organised to compare the approaches in the different projects and award one or more of them as outstanding ambassadors for women. This action will put the gender issue to the fore-plan among *scientists, institutions and NGOs involved in our projects.* It will help stress the importance of the theme for the development of local societies and of the society in its entirety by showing different approaches and possibilities.
3. Local training sessions

    Local organisers, usually responsible for identifying the participants of a training session or a workshop, will have the obligation to invite at least 1/3 of women and make this fact known to all participants. This will be monitored and discussed. Delegates at the training sessions are usually members of a*dministrations, scientists and NGOs*, a diverse group still very much populated by men at this moment. Building this obligation in as a prerequisite to obtain funds for the organisation of the training, will contribute to the mainstreaming of the idea that women are equally capable as men to be trained.
4. Local activities

a. Referring to the gender-issue at the opening session of the event
b. Taking a group picture of the women present and one of the men present, comparing them and having a discussion about it
These small, but direct and convincing actions will appeal on all present (*administrations, scientists, institutions and NGOs)* to take the issue into account in their daily lives.

5. Development of value chains
An important part of CEBioS' scientific research aims at developing knowledge about value chains, designed to address the low representation of women in education and income-generating activities. This imbalance is mainly due to the low level of education of girls, especially in DR Congo where "the boy / girl ratio is 3.5 in university and higher education"[8].
For example, the optimization of ecological research to domesticate wild edible mushrooms after demonstrating their dietary and taste qualities and to establish a business plan to monetize them will promote their availability and therefore the increase in income for those cultivate them. This concerns mainly women because they are the majority in food agriculture and gathering (especially mushrooms). In DR Congo they are relegated to the practice of informal sector activities (60%) but "only 28% of working women receive a financial remuneration"[9]. In Burundi, women "predominantly occupy the agricultural sector but do not benefit from it". The CEPA strategy in Burundi specifically refers to rural women and biodiversity. Our work with OBPE can take this as entry point.

References

Brown, K. & Fortnam, M., 2018. Gender and ecosystem services. A blind spot. In Schreckenberg, K., Mace, G. & Poudyal, M. (eds.), 2018. Ecosystem services and poverty alleviation. Routledge Studies in ecosystem services, 257-272

11-ELIGIBLE PARTNER COUNTRIES

In article 3 of the protocol of cooperation 2014 MRAC and RBINS are requested to contribute to the objectives in the « partner countries of the Belgian Development Cooperation », however without excluding other partner countries, member of regional organisations. It is encouraged to focus only on a few priority countries, to engage in the dynamics of the ACC/CSC (article 4 of the protocol 2014) in the countries of the indirect cooperation, and to look for synergies and complementarities with other actors of the Belgian cooperation.

During phase II of its program, CEBioS intervenes primarily through institutional cooperation in *3 priority countries of the Belgian cooperation: Benin, Burundi and DR Congo.* The cooperation in Peru of phase I has been stopped. The marine part of the cooperation in Vietnam will be stopped also, but the natural history part will continue. Both countries were not retained as priority partner countries for the bilateral cooperation.

[8] RD Congo – Ministère du genre, de la famille et de l'enfant 2009- Stratégie nationale de lutte contre les violences basées sur le genre (SNVBG). 35p.
[9] ACC RDCongo. 2015- Analyse contextuelle conjointe. 159p.

With all of its partners, the RBINS/CEBioS has signed memoranda of understanding. For project, CEBioS writes contracts, according to the principles of Project Cycle Management with log frame, operational plan, deliverables and budget. Each partner has to deliver activity and financial reports.

List of eligible countries
28 eligible countries for our calls or interventions:

Benin - Burkina Faso - Burundi - Cabo Verde – Cambodia - Cote d'Ivoire - DR Congo - Gambia – Ghana – Guinee – Guinee Bissau – Kenya – Laos - Liberia - Mali - Morocco - Mozambique - Niger – Nigeria - Palestinian Territory - Rwanda - Senegal - Sierra Leone - Tanzania – Thailand - Togo - Uganda – Vietnam

These countries belong to the 14 partner countries of the Belgian bilateral cooperation, as well as the countries member of the following regional organisations: Economic Community of West African States (ECOWAS), East African Community (EAC), Communauté économique des Pays des Grands Lacs (CEPGL), Banque Ouest-Africaine de Développement (BOAD), Mekong River Commission (MRC).

12- INTERVENTION LOGIC

Mission Phase II

The CEBioS programme contributes to the achievement of the SDGs related to climate change and biodiversity (SDGs 13, 14, 15) by the DGD partner countries, in order to reduce poverty (SDG 1), hunger (SDG 2) and improve good health and well-being (SDG 3).

The CEBioS programme contributes to the achievement of the 2020 (and beyond) strategic plan of the Convention on Biological Diversity (CBD) through the (post)Aichi targets and its related protocols by the DGD partner countries.

General objective Phase II

The protection of ecosystems and their biodiversity in partner countries of the Belgian Development Cooperation, is implemented in order to strengthen their capacity to generate benefits essential for sustainable development of rural populations.

Specific objectives

The four specific objectives are:

SO 1 : The scientists of the partner countries of the Belgian Development Cooperation acquire knowledge, understand, apply and disseminate results useful for sustainable management, use and conservation of biodiversity and ecosystem services

SO 2 : National implementing authorities in the south and their partners improve sustainable management and use of ecosystem services to conserve biodiversity and support the livelihood of rural populations through the development of best practices and value chains

SO 3 : The authorities, decision makers and policymakers develop and implement pertinent policies, strategies and action plans for a sustainable management of the national biodiversity in service of the livelihoods of the local populations in the South

SO 4 : Enhanced synergy between the partners of the Belgian Development Cooperation, civil society and the private sector to achieve sustainable development by mainstreaming biodiversity issues

Transversal Approaches

The following **4 transversal supporting approaches** (called 'Results' in the log frame), support the four specific objectives (SO 1-4) and are primarily related to the CBD Aichi targets 1, 17 and 19 and the SDGs. Reference to the SDGs is given in annex 4. The approaches appear in the log frame tailored to the different target audiences per SO.

1	**Capacity building (CB)** Capacity building is the core of the CEBioS programme, especially under SO1 (for academics) and SO2 (for state implementing partners, agencies), but also under SO3 to inform and train about policies (e.g. Nagoya Protocol). Capacity building is mainly referred to in Aichi Target 19 (see below).
2	**Digital support and information sharing: Clearing House Mechanism and other IT tools (CHM-IT)** The CHM is a web-based tool promoted by the UN CBD to meet Aichi Target 19:  **Target 19** By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied. Support and development of other IT tools, platforms or models to mainstream biodiversity or to harmonise planning and reporting of Aichi targets (and post Aichi after 2020) for CBD and to harmonise with other international conventions, is included in this digital transversal approach and is tailored to fit in with all SOs.

3	**Measurement, Reporting, Verification (MRV)** The MRV concept stems from the carbon discussion in the context of climate change. MRV is now also applied in the biodiversity & development realm, offering a powerful approach to tackle the translation from science to policy to development by valorising scientific data to feed local and national indicators for reporting and verification of biodiversity policies and strategies. MRV facilitates the cooperation between the academic world, the authorities and decision-makers in order to convert academic results into concrete value chain options for livelihoods and tools for the sustainable use and management of the ecosystem services offered by biodiversity. MRV is especially prominent under SO1 and SO2. It mainly contributes to Aichi target 17 :  **Target 17** By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.
4	**Awareness raising and communication (AW)** Awareness and communication are key to realise knowledge and technology transfers for capacity building and in the science-policy-development interface and they are an integral part of all SOs. Both topics are prominently present in the COP conferences under the CEPA fairs side events, being responses to meet the Aichi target 1:  **Target 1** By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

Contribution of the CEBioS programme to the Sustainable Development Goals (SDGs)

The description of the programme with its 4 specific objectives relates to the Sustainable Development Goals, which can be seen as the drivers for this programme and hence the inherent motivation for societal change.

Capacity building (*sensu* Ubels, Acquaye-Baddoo and Alan Fowler, 2010[10]) and facilitation at the science-policy-development interface are the core business of CEBioS. The ultimate sustainability goal is to generate 'multiplicators' or 'local capacity developers'. All 4 specific objectives contribute, in cooperation with local partners and stakeholders, to the SDGs through the 4 transversal 'Results': **capacity building (CB), CHM-IT tools (CHM-IT), MRV and awareness (AW)** (see annex 4 for a detailed description of the link between CEBioS and the SDGs).

[10] See review in http://www.biodiv.be/cebios2/docs/publications/book-reviews/review-capacity-development-practice/book-review/download/en/1/book-review-luc-janssens.pdf?action=view

Description of CEBioS' Theory of Change

In order to understand the theory of change of the CEBioS programme, the specific objectives (SO) and their results are represented in the three spheres of outcome mapping:

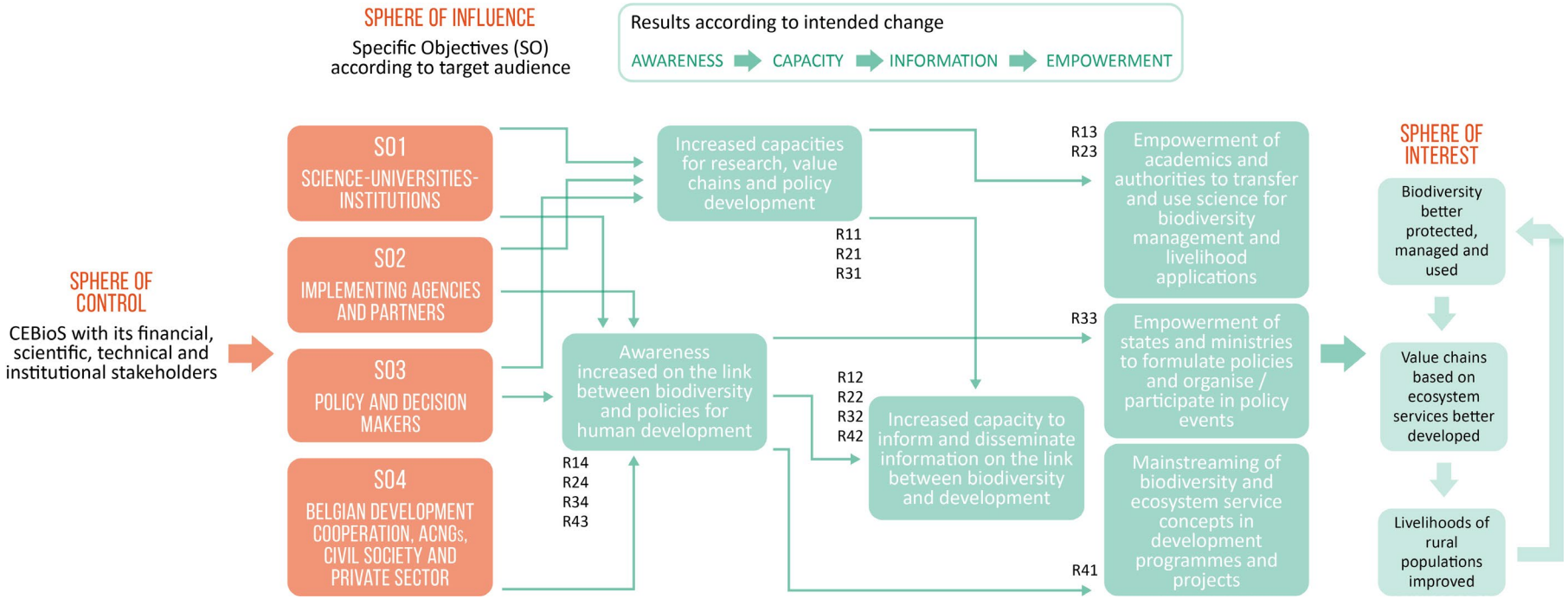


Fig. 2. The 4 Specific Objectives (SO) and the 15 Results (Rxy) of the CEBioS programme phase II in a perspective of theory of change. The results are explained further in the text.

Each of the 4 Specific Objectives (SO) is linked to specific Aichi targets and described according to the following headings:

i. Problem analysis
ii. Description of strategy (theory of change)
iii. Target group
iv. Local partners
v. Description

For a description of the CEBioS activities/outputs related to the budget and the indicators we refer also to chapters 3 and 4.

SO 1 : The scientists of the partner countries of the Belgian Development Cooperation acquire knowledge, understand, apply and disseminate results useful for sustainable management, use and conservation of biodiversity and ecosystem services

Result 1.1 (CB-1): The knowledge and understanding of biodiversity and ecosystem services by the scientists of partner countries of the Belgian Development Cooperation is enhanced and disseminated through capacity building

Result 1.2 (CHM-IT-1): CHM and other IT tools in service of national research is functional and useful to scientists and their partners

Result 1.3 (MRV-1): Scientist are able to valorize research data for feeding national and local indicators and formulating trends supporting improved biodiversity related strategies

Result 1.4 (AW-1) : Awareness on dissemination methodologies is raised among scientists

SO1 contributes particularly to Aichi targets 5, 11, 14, 16 , 17, 18 and 19 (see annex 4).

i. Problem analysis

Part of the problem analysis for SO1 applies also for SO2 and vice versa.

Developing countries are often rich in natural resources, but vulnerable to poverty and environmental changes. Some of their main economic activities (e.g. agriculture and mining) generally threaten natural resources that provide essential ecosystem services such as food and water, construction material, energy, tourism revenues, better health etc.
UNESCO mentions that higher education institutions (being a large part of CEBioS partners) have made significant efforts to address sustainability and are extending the value and impact of their teaching and research to their respective communities. However, major challenges remain: (1) the lack of a coordinated approach at all levels of a given institution to implement the necessary

changes; (2) insufficient capacity development activities to transform curricula and pedagogy towards a sustainable development perspective; and (3) the persistence of disciplinary boundaries for addressing complex sustainable development issues. It remains a challenge to install creative dynamics and adaptive management at all institutional and individual levels in order to meet the global and local challenges and acquire more academic independence and autonomy.
The core design of collaborative formulation of questions or problems related to this environment-development nexus must be done amongst individuals from academia, civil society, private sector and government (Hugé et al., 2016).

ii. Description of strategy (theory of change)

At the level of the Specific Objective

As stated in the mid-term evaluation, 'the CEBioS program is built on the following assumptions: developing and strengthening scientific knowledge and capacity on biodiversity leads to a better valuation of biodiversity. This in turn will inform decision makers who will develop and adapt policies and actions to protect biodiversity, resulting in improved environmental conditions. Better quality of the environment will have positive impact on development goals: livelihood conditions, health and natural resources will improve'. CEBioS acted in phase I under this paradigm of change. Empowering scientists in the South to acquire the capacities to increase scientific knowledge about the biodiversity in their country remains the main pillar of the CEBioS program in phase II and is the subject of the first result, R1.1. It reflects the added value of being a program of the Royal Belgian Institute of Natural Sciences, a centre of expertise for biodiversity.

SO1 hence aims at encouraging young scientists to cultivate a culture of transparency, openness, as well as national and international networking amongst peers and in a transdisciplinary way. It adds a niche value (i.e. biodiversity and development) to the larger interuniversity programs of VLIR-UOS and ARES.

Facilitating a culture of transparency, openness and networking in a transdisciplinary way also applies to the formulation of the collaboration programs with CEBioS' institutional partners and the way these programs are executed: discussions are organised in a collaborative way, including individuals from academia, civil society, private sector and government

At the level of results

R1.1. (CB-1) is about empowering scientists in the South to collect data, either primary, or secondary, through own research, existing literature (e.g. grey literature) or data banks, analyse them, interpret them, and finally, making them available to society for concrete applications, through posting on the Clearing House Mechanism (**R 1.2. (CHM-IT-1)**) and other communication tools (**R 1.4 (AW-1)**)targeted at specific publics for restitution and uptake. **R1.3**. **(MRV-1)** contributes to the understanding by scientists of the development and importance of biodiversity-related indicators for uptake in policies, national biodiversity plans and (inter)national reporting.

Even more so than in phase I, phase II will focus on pushing for development pertinent research which does not stay in a shelve of the 'ivory tower', and for academic relevance to society, especially the rural poor.

The planned activities will contribute to :

- Providing scientists with more insight in the mechanisms of the SDG's, (post) Aichi targets and their links with human development plans,
- Help them understand the importance of the valorisation of their data to define trends fed by the monitoring of indicators,
- Convincing them of the importance of feeding national data sets, and thus contributing to the realisation of the expected change (becoming more open and transparent).

To achieve this change in thinking, CEBioS strongly encourages trans- and multidisciplinary cooperation among scientist, as well as South-South collaboration initiatives.

Scientists will be trained on communication, dissemination methodologies and awareness raising techniques (**R1.4**. **(AW-1)**, in order to prepare them for their roles as messengers and change inducers with policy makers and other development actors. The role of communication to support this change needs extra attention. Communication is needed to create a shared need, to shape a vision and to mobilize commitment.
Note : CEBioS already prepared the implementation of this important MTE recommendation by recruiting a communication expert who will engage with South projects on communication and awareness issues.

By using more effective communication strategies (personal meetings with decision makers for instance) CEBioS, with its partners, can be a powerful change agent.' This applies to all the 'transversal awareness results' in each SO.

iii. Target group

Targeted audiences under SO1 are in first instance the **scientists**, but by proxy also their target audiences within the science-policy interface, such as authorities and civil society players. The development actors (authorities, NGO's receiving special attention under SO4) become more conscious that science can be a useful tool and they take more and more ownership of problems related to biodiversity, its management and conservation. Scientists, both professors and students, in the academic world as well as in research and government agencies are clearly part of the sphere of influence of SO1.

iv. Local partners

For our institutional partners, we refer to the executive summary. Main partners in Benin are the Université Abomey-Calavi, Université de Parakou and IRHOB; in DR Congo : the Université de Kisangani, Université officielle de Bukavu, Université de Goma, Université de Lubumbashi,

Université de Kinshasa, the Centre de Surveillance de la Biodiversité; in Burundi : the Office Burundais pour la Protection de l'Environnement and the Université du Burundi. In Vietnam the National Museum of Nature under the Academy of Science and Technology. Through the GTI and MRV grant systems other universities in other African countries can be supported as well, e.g. in Tanzania, Uganda, Togo, Burkina Faso, Ivory Coast, Niger, Senegal, and for marine modelling with IRHOB in Benin and IMER in Vietnam

v. Description

GTI training and other interventions under MRV, awareness, CHM, or studies on marine modelling and ecosystem services, will be implemented under SO1. Some of the institutional cooperation entities will benefit from earmarked grant quotas for GTI or MRV, based on the quality of the individual submissions or based on specific needs expressed by the entity.

- **Result 1.1 (CB-1): The knowledge and understanding of biodiversity and ecosystem services by the scientists of partner countries of the Belgian Development Cooperation is enhanced and disseminated through capacity building**

The GTI training

In order to train young scientists in biodiversity research (mainly taxonomy of animals and plants having a significance as ecosystem service), CEBioS organises annual calls in the framework of the UN CBD 'Global Taxonomy Initiative' (GTI), whose national focal point is based at CEBioS. The calls contain 2 categories: (1) to invite young scientists to spend an internship in Belgium with a grant of short duration and (2) to invite a scientist from RBINS to carry out capacity building activities locally with a group of scientists in the field of his/her expertise. Both types are regularly related, since the organisation of a local workshop often stems from good contacts established during a GTI training in Belgium.
In phase II, the GTI call eligibility criteria will be tailored to themes related to ecosystem services and their incorporation into value chains as to ensure that, in the end, the taxonomic study will contribute to enhanced livelihood or inceased well-being for a local population group.

Examples of eligible GTI themes are:

- agriculture,
- fisheries,
- pollution mitigation,
- pollination,
- food,
- health,
- forest management,
- pest management and biological control,
- soil fertility,
- water quality,

- edible plants and animals,
- bushmeat,
- carbon stock

CEBioS attaches particular importance to offer follow-up stages to grantees who were evaluated positively by their mentors, and is creating a class of GTI alumni all over Africa. Belgian embassies are important communication channels in that respect.

The editing of the widely acclaimed **AbcTaxa series** will continue as in phase I. The themes will depend on the availability of authors from South and North who are willing to collaborate on a volume on a certain taxonomic group which is seen as important in the South because of links to e.g. ecotourism, conservation management, value chains (e.g. mushrooms), food security (e.g. pollinators).

The concept of habitat monitoring, as already applied in some Congolese National parks, Benin and Burundi, will be extended to the area around Kisangani with the CSB which is planning to monitor five biodiversity rich non-or partially protected areas. At the same time an effort will be put in place to combine the existing (and newly retrieved) floral and faunal data-sets and make them suitable for uptake in GBIF and other systems and ready-to use for reporting to the NBSAP and other pertinent plans.

Marine modelling

To enforce capacities for marine modelling, scientific staff will be trained to apply an open access software developed by RBINS to model marine currents and living (larvae, zooplankton) and non-living (sediments, plastics) particles carried by them. This will empower them to better document and report on, for instance, erosion or pollution, but also to spreading of fish larvae, plankton, shrimps etc...having an influence on the productivity of local fisheries. In this regard, CEBioS will still be active in Vietnam (IMER) with other funding and cooperate with University of Antwerp on the perception of fishermen in Halong Bay concerning ecosystem services, fisheries, ecotourism, pollution. In Benin, this modelling training will be organised with IRHOB, in Cotonou. IRHOB is also prepared to conduct awareness campaigns with the coastal populations, as it did during phase I. Towards year 3, CEBioS may consider to start another marine modelling project in a second country, still to be identified.
In a cooperation structure with Nature Tropicale (local NGO), the Ministry of Environment and the UAC, under CEBioS's guidance, IRHOB will be more empowered to play an active role in coastal biodiversity, erosion mitigation, climate change adaptation and shrimp culture.
For ENABEL, CEBioS is available to deliver training about biodiversity, ecosystem services to the port authorities in Benin.

CEBioS staff, together with alumni from our institutional cooperation of the first phase, will provide training or mentor students in the framework of their academic degree (Master, DEA, PhD, post doc) on several aspects of ecosystem services:

This will be the case for institutional cooperation in the DR Congo (CSB and universities), Burundi (OBPE and university) and Benin (UAC, Parakou) and in ad hoc cases (Université du Rwanda),

resulting from GTI and MRV projects (e.g. mushroom exploitation, valorisation of wild coffee, Makala,…).

- **Result 1.2 (CHM-IT-1): CHM and other IT tools in service of national research is functional and useful to scientists and their partners**

Through workshops, scientists involved in different activities supported by CEBioS will be made aware of the CHM and will be trained to communicate their activities, data banks, results to the national CHM focal point.

- **Result 1.3 (MRV-1): Scientist are able to valorize research data for feeding national and local indicators and formulating trends supporting improved biodiversity related strategies**

MRV projects will be set-up with the alumni of Phase I and their extended networks as well as with new groups or individuals. Themes will mainly be based on pilot projects executed in Phase I but they will be identified during two (Fr and Engl) collaborative formulation workshops in 2019. Some examples of themes that will be discussed:

1. Animal and human health issues
   - Invasive ticks on imported cows and their potential effects on local cattle and porc stocks, transmissions on humans ?
   - The effect of the import of cows (=cheap beef) on hunting and poaching for bush meat (= expensive meat for citizens)
   - The influence of the recent Ebola epidemics in the DRC on the knowledge and consumption of bat-meat by diverse city population groups;
   - Documenting the consumption of different types of bushmeat by different population groups in cities
   - Research on parasites and other pathogens in divers animal groups to document and help prevent epidemic disease outbreaks (Monkey pox, Ebola)

2 Food security, agriculture, ecosystem health
   - Appreciation of mitigation measures, implemented by local populations and park wardens in fringe areas of national parks, to protect crops and humans against elephant raids;
   - Documenting the effects of different fishing techniques on fish catch rates and work, develop mitigation measures, work with authorities to turn them into decrees and assure their implementation through awareness rising with local populations
   - The energy wood chains: determining most wanted and harvested species, documenting the socio-economic context and the value chain (from harvest to end-user)
   - Documenting the bush meat chain: determining most wanted and harvested species, documenting the socio-economic context and the value chain (from harvest to end-user). Research on small mamals, providing valuable information to allow effective pest-control in crops, protecting the revenues of farmers
   - Research on wild mushrooms to identify the varieties suitable for growing on a larger scale, generating revenues for specific population groups

- Research on the water quality of rivers in and around protected areas related to fish catch rates and/or the presence of some species, helping fishermen to determine the best places to go fishing

Within R 1.3. (MRV-1) two formulation/training workshops (Frand Engl) will be organised to gather scientists and decision makers for two main purposes: (1) decision makers express their needs in terms of biodiversity information for reporting their results (on the above mentioned themes) towards biodiversity strategies and plans and their adaptation; (2) scientists are trained on methodologies for turning data into trends that are useful for decision making. In particular, scientists and science beneficiaries (authorities) will be jointly trained to apply the Biodiversity Indicator Development Framework developed by the Biodiversity Indicators Partnership (BIP)[11] (Fig. 3).
Two calls for projects will be launched (one for French-speaking partners, one for English-speaking partners). Closing workshops at the end of the projects are the opportunities to share results, lessons learnt and produce common publications such as policy briefs and scientific papers.

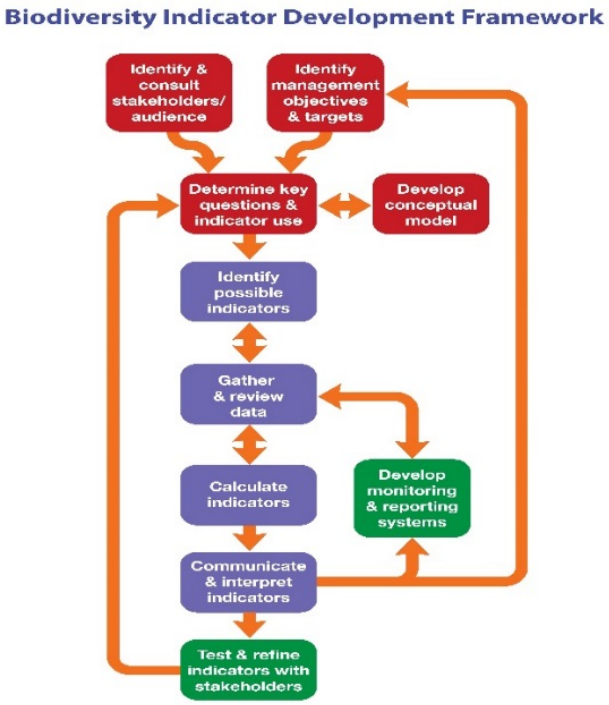


Fig. 3. Scheme representing the Biodiversity Indicator Development Framework (source: Brooks and Bubb, 2014)

Coaching of scientists

South partners will be coached on an ad hoc basis when writing project and grant proposals, articles, abstracts and presentations for conferences and project reports. CEBioS will also facilitate and/or co-organise with south-partners, events (summer schools, workshops) on SDG's, Aichi targets and other relevant topics like policy briefs, and take part in Master, PhD and other external grant juries, visitations etc. Its staff will also participate at scientific conferences with poster or oral presentations and support its South-partners to do the same.

[11] See https://www.bipindicators.net/system/resources/files/000/000/410/original/901.pdf?1482313832

- **Result 1.4 (AW-1) : Awareness on dissemination methodologies is raised among scientists**

To valorize the results of CEBioS alumni activities (scientists supported by CEBios through e.g. MRV, GTI, habitat monitoring,…) and to increase their impact for decision making, biodiversity conservation and livelihood improvement, training workshops will be organized on communication to various target audiences and dissemination methodologies. Communication should be tailored to the target audiences, e.g. posters, videos and radio spots for the local communities and the public at large, policy briefs for decision makers, practical manuals for field ecoguards, well-written scientific papers and posters for other scientists… The different strategies and tools will be addressed and put in practice by alumni during the training sessions. Afterwards they will have the opportunity to apply the acquired knowledge through a call for awareness projects (see SO2-Result 2.4). Special attention will be given to reporting to the NBSAPS and other biodiversity related plans and the importance of the use of biodiversity indicator trends for human development plans.

References

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Van Crugten, S. Bouamrane, M. and Van Kempen P.P., 2017. CEBioS-Capacities for Biodiversity and Sustainable Development-Mid-term evaluation, pp. 69.

SO 2 : National implementing authorities in the south and their partners improve sustainable management and use of ecosystem services to conserve biodiversity and support the livelihood of rural populations through the development of best practices and value chains

Result 2.1 (CB-2)
Monitoring, management and conservation of ecosystems and services, including development of related value chains by the national implementing authorities is improved through capacity building

Result 2.2 (CHM-IT-2)
CHM and other IT tools in service of monitoring and management are functional and are used by the authorities and target publics

Result 2.3 (MRV-2)
Scientists, in collaboration with implementing authorities, develop the tools to communicate about the results of their research related to monitoring and managing ecosystems and services, among authorities and decision makers

Result 2.4 (AW-2)
The observations and conclusions of the scientific research are vulgarized towards authorities competent for monitoring and managing ecosystem services

SO2 contributes particularly to Aichi targets 5, 7, 10, 14 and 17 (see annex 4).

i. Problem analysis

The environmental state agencies and their partners in the South, main actors in the CEBioS' sphere of influence, will have to improve their way of managing and monitoring biodiversity and ecosystems. Often, these environmental agencies exist to manage protected areas but lack the knowledge, methodology and resources to do so (Wingqvist et al., 2012). One of the major challenges for state authorities is to install alternative livelihoods for rural poor populations around the protected areas, so that the willingness to extract natural resources illegally is reduced (e.g. poaching, logging, grazing, encroaching). The development of concepts related to Community Based Natural Resource Management (CBNRM) is certainly a key factor to find solutions (Felbab-Brown, 2017). CEBioS can contribute to facilitate or mediate on this. For example, in 2016 CEBioS facilitated the explanation of the Zimbabwean CAMPFIRE program as an example of CBNRM, in a VLIR-UOS project on Lake Manyara (Tanzania).

ii. Description of strategy (theory of change)

At the level of the Specific Objective

CEBioS can play a crucial role by linking up the ministries of environment with the other ministries such as the ministries of agriculture or planning, and unlock barriers to facilitate support to smallholders, favouring agroecology, as well as increasing policy coherence.

By facilitating and promoting agroecology and associated traditional knowledge, negative social and ecological externalities linked to industrialised agriculture can be avoided or diminished (Oxfam, 2014). Smallholders are a sizeable economic force in the world but the value of their production is intimately tied to the landscape they live on. Non-timber wood products make up to 30% of household income in Benin for instance. Informal smallholder economy is not well documented though, although available data show that globally their combined value of smallholder production in agriculture and exceeds that of many of the largest companies for food, energy and construction materials. Information is lacking (needed) on the nature of smallholder production and how it is linked to household dynamics, environmental conditions and market linkages (Verdone, 2018). CEBioS aims at making understood by local state agents, park wardens and administrations that the sustainable management of natural resources can create added value for ecosystem services derived from those resources and as such can support the, mostly informal, local smallholder economy.

At the level of results

CEBioS will deliver its added value by transferring of knowledge about the concept of ecosystem services to intermediaries and representatives of small holders in rural areas (**R2.1**.). CEBioS will incite its partners of the Ministries of Environment to liaise with other relevant ministries supporting small holders, who are the ultimate beneficiaries of our interventions. First steps in that direction have been taken in **Burundi with OBPE** and Broederlijk delen. Smallholders will be made aware for instance of the important role played by insects and bats as pollinators. In **DR Congo (ICCN with CSB, universities)**, CEBioS promotes the sustainable exploitation of e.g. wild mushrooms as important sources of protein, an ecosystem service delivered by protected areas (amotivation to keep it protected), and in cultures as well, or rotan and bamboo as important construction and artisanal material. The work on mushrooms is a partnership within an ARES project and CEBioS is looking for cooperation with WWF and ENABEL on this matter.

Proximity with the partners is essential in this package of interventions. CEBioS implements or facilitates capacity building missions or local trainings with the state agencies to implement best practices when managing the areas for which they are responsible. Providing tools is essential. **A crucial tool in that respect is the co-production of lexica about the habitats of protected areas.** Writing the lexica together is already an important component of the capacity building. The lexicon, once published, remains a reference work for generations of eco-guards, managers and visitors to come. A lexicon is composed of a series of photographic plates explaining the vegetation types of an area, followed by an explanation of the methodology of habitat monitoring and a list of plant and animal names in vernacular languages. In phase II, we intend to produce an additional lexicon in Benin in cooperation with UAC and CENAGREF (Pendjari-W complex), 2 additional ones in RDC in

cooperation with ICCN (Itombwe, Viriunga) and 2 more in Burundi in cooperation with OBPE (Rusizi, Ruvubu).

MRV (R2.3), information sharing (R2.2) and awareness raising (R2.4) projects with environmental authorities and related target audiences about key scientific research results are essential to promote evidence-based management. Through calls, projects by CEBioS alumni will be implemented to increase awareness with authorities, decision makers, local organisations and NGOs of the scientific research outputs of our partners and the resulting practical management recommendations in 'Policy Briefs' and thus make them change their approaches in management and decision making (**R2.3 and R2.4**). All implemented actions will be tied to the CHM-system **(R2.2.).** The national focal points for the CHM in the respective partner countries will be trained on the new CMS system 'Bioland' and through national and regional meetings, they will anchor the use of the CHM-websites into decision maker-circles and research communities

i. Target group

The target groups of SO2 are the managers and agents of the state agencies, protected areas, administrations and voluntary or contracted partners of state and civil society. For the civil society in Benin for example, this would be AVIGREF, representing villages next to Pendjari NP, small holders (rural poor) living next to the 3 national parks in Burundi (Ruvubu, Kibira and Rusizi NP) and local populations in the neighbourhood of Virunga NP or in the areas studies around Kisangani in DR Congo.
The distinction with SO1 is not strict, since SO2 is set up to make use of the scientists (main actors under SO1) to influence their decision makers. In this way, CEBioS intends to strengthen science based or evidence based management, taking into account that an outcome-oriented approach should replace a management-oriented approach, as recommended by IUCN (2015).
CEBioS considers his role as being the in-between, broker or intermediary, facilitator, to link up local scientists with the decision and policy makers on the one hand, and with the implementing agencies responsible for the protection of natural habitats on the other hand.

ii. Local partners

SO2 focuses primarily but not exclusively on the state agencies of ministries of environment, such as OBPE (Burundi), ICCN and the 'Coordinations et Ministères provinciaux de l'Environnement' (DR Congo), and in Benin, via the cooperation with UAC, with CENAGREF and African Parks (private foundation).

iii. Description

Scientific support for applied topics related to biodiversity, conservation management and valorisation of ecosystem services and their derived products, as well as support for awareness activities will be provided at the level of research institutions and state agencies of the ministries of environment responsible for natural resources and nature conservation in the respective partner countries.

- **Result 2.1 (CB-2) : Monitoring, management and conservation of ecosystems and services, including development of related value chains by the national implementing authorities is improved through capacity building**

The **component 'habitat monitoring'** in Benin, DR Congo and Burundi is implemented under SO2. It includes capacity building of managers of protected areas and associated scientists for the monitoring of protected areas and the dynamics of their habitats.

An important tool, developed in phase I, the lexica, will be further developed in phase II. These lexica are highly praised among the scientific and the management communities in the partner countries. They are a typical product of participatory co-production, involving local scientists, managers and the expertise present at CEBioS. They focus primarily on the various habitats of protected areas, how to monitor them, displaying photographic material, management measures and vernacular names. In phase II there will be an increased focus on the fauna as well. The lexica are excellent educational intermediaries between science and park management and ecotourists wanting to dig a bit more into the natural history of the protected area they are visiting. The lexica constitute a mini-series of small monographs, and like AbcTaxa, are edited by the PSU (Publication Servie Unit, a pooled service between RBINS and AfricaMuseum). CEBioS is responsible for the scientific production of this series (editor in chief of lexicon is in CEBioS staff) and its dissemination. Until now 4 volumes of lexica have been published. In phase II, 5 more volumes are planned. Two for Itombwe reserve and Virunga NP (RDC), one for Ruvubu NP (Burundi), one for Rusizi NP (Burundi, RDC) and one in Benin for Pendjari-W complex.

- **Result 2.2 (CHM-IT-2) : CHM and other IT tools in service of monitoring and management are functional and are used by the authorities and target publics**

The **digital aspect** in environmental policies in developing countries gains more and more importance. CEBioS has in-house expertise for several CMS to train web masters of focal points to better build, manage and use digital platforms, such as CHM, and other digital carriers (IT tools at EU level). Technical CHM trainings will be organized to build CHM sites with the new CMS 'Bioland', to do contents management and to ensure maintenance. All output should appear in appropriate form on the national CHM of the concerned countries. Through the national CHM focal point, CEBioS staff will facilitate this transfer by providing dedicated technical training and workshops at national and regional levels. Extra attention will be paid to the cooperation between different national focal points (CBD, CHM, CITES...), the lack of it often being an important obstacle to well-functioning authorities. SO2 pays special attention on the adaptation/consolidation of existing data and research to/with new research.

- **Result 2.3 (MRV-2) : Scientists, in collaboration with implementing authorities, develop the tools to communicate about the results of their research related to monitoring and managing ecosystems and services, among authorities and decision makers**

Relevant data and information related to biodiversity and ecosystem services is often poor or lacking, especially at the community or local level in many developing countries (Roe et al. 2013b). Data collection, validity and reliability would need to improve if they were to guide further analysis on the impacts of biodiversity-related interventions. MRV -alumni will be invited, after having attended training on communication and awareness raising, to develop small projects to create awareness about the results of their research projects among (local) implementing authorities and decision makers, while at the same time informing civil society about them to help raise pressure. One of the tools they will be using to do so, is the Policy Brief.

- **Result 2.4 (AW-2) : The observations and conclusions of the scientific research are vulgarized towards authorities competent for monitoring and managing ecosystem services**

To facilitate the uptake of research results into management and decision making practice and to *to ensure a real integration and acceptance of the material, with high sense of ownership,* awareness calls will be organised throughout the entire program, some of them following the specific alumni-training workshops on awareness raising as discussed in SO1. The implemented awareness projects will allow scientists to meet decision makers and managers to present their results and recommendations via Policy Briefs, town hall meetings, seminars, posters, flyers and so on.

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SO 3 : The authorities, decision makers and policymakers develop and implement pertinent policies, strategies and action plans for a sustainable management of the national biodiversity in service of the livelihoods of the local populations in the South

Result 3.1 (CB-3)
Policy makers in North and South contribute to national and international policy on biodiversity and development in the South

Result 3.2 (CHM-IT-3)
CHM and other IT based information and reporting tools for policies are functional and used by the authorities for the development of policy plans

Result 3.3 (MRV-3)
Reporting to NBSAPs and other biodiversity related plans is based on evidence-based data, and local authorities adopt or develop decisions and policies based on CEBioS project results

Result 3.4 (AW-3)
Awareness on biodiversity governance and available tools is raised amongst authorities and results in the formulation of policies and organization or participation to (inter) national policy events

SO3 contributes particularly to Aichi targets 2 and 16 (see annex 4).

i. Problem analysis

According to Wingqvist et al. (2012), 'governance aspects need to be considered when aiming at improving implementation of environmental legislation and other environmental measures.
… Improving environmental outcomes is thus not only dependent on legal frameworks and the capacities of the environmental authorities and sector ministries, but also largely on external factors that provide the 'enabling environment'. Environmental governance is cross-cutting, relates to international, national, and sub-national levels, and involves many actors. Global governance mechanisms are needed to address global challenges. However, implementation at national and sub-national level must be led by the developing and transitional countries themselves. While the public sector has a key role in the formulation and implementation of governance mechanisms, such as policies and regulations, the active participation of many other actors, free flow of information, accountability and integrity are crucial aspects for improved environmental outcomes. The important governance role of communities and other actors in between the state and the market are increasingly recognised. Many countries have decentralised natural resource management for enhanced community level participation, transparency and strengthened accountability. However, with decentralised responsibilities must follow sufficient resources - for instance information, training and financing - needed to carry out the new functions.'
This quite well reflects the contribution of CEBioS under SO3 (see below under 'description'), related to SO1 and SO2 (covering the different scales, from science to environmental agencies to global policy).

ii. Description of strategy (theory of change)

At the level of the Specific Objective

Linking up the statement by Wingqvist et al. (2012) with SO3, 'while the public sector has a key role in the formulation and implementation of governance mechanisms, such as policies and regulations, the active participation of many other actors (**R3.1),** free flow of information (**R3.2),** accountability and integrity are crucial aspects for improved environmental outcomes. The important governance role of communities and other actors in between the state and the market is increasingly recognised (**R3.3**). Many countries have decentralised natural resource management for enhanced community level participation, transparency and strengthened accountability. However, with decentralised responsibilities must follow sufficient resources - for instance information, training and financing (SO3, but also SO1 and SO2) - needed to carry out the new functions.'

At the level of results

SO3 very much relates to the mandates of Belgium and its partner countries to fulfil the UN CBD obligations (**R3.1**). Part of this CBD obligation is to run efficient and useful Clearing House Mechanism national web sites (CHM, **R3.2**). The results of MRV projects and MRV awareness activities empower scientists and policy makers to better formulate scientific evidence based policies and transfer them to e.g. the NBSAP (**R3.3**). Both activities will enhance the mainstreaming of biodiversity in sectoral and general development plans (= North and South) and encourage and facilitate collaboration between diverse national focal points in the partner countries, allowing data from national institutes, research centres etc. to be centralised and used by national and local reporting authorities for evidence based reporting but also for supporting new/adapted legislations and policies. The valorisation of grey literature and untapped data and making them accessible online (SO1) will contribute to this.

By participating in a working group of the CONNECT project of the UN Environment World Conservation Monitoring Centre (WCMC), CEBioS will contribute to the development of theoretical frameworks and procedures to ensure the uptake of biodiversity indicators, as developed for instance by the teams which are executing MRV-activities, in National Development Plans. *This is an interesting development as it may help to ensure that practical, real-life matters, related to the daily lives of many people living in a natural environment, will be taken into account while developing national budgets, legislation and their implementation.*

Further, we intend to raise the awareness raising skills (**R3.4) at the level of the environmental ministries and their stakeholders** by better defining the targets of awareness raising, by investing in longer projects, and by linking our communication officer to the work in the South. One idea is to stimulate the installation of multi-stakeholder awareness committees and to train them to specifically address awareness about the (post)Aichi targets and SDGs.

iii. Target group

Authorities in the South, but also in the North (when related to work in the South, such as DGD, EU), elements of CEBioS 's sphere of influence, will change their way of handling their national and international mandates and obligations related to SDGs and CBD and their National Development Plans.

iv. Local partners

For the local partners, we also refer to Ch. 3. SO3 mainly focuses on ministries of environment, their national focal points for CBD, CHM and other environmental conventions, with links also to research institutes with a national mandate, such as the CSB in DR Congo.

v. Description

- **Result 3.1 (CB-3): Policy makers in North and South contribute to national and international policy on biodiversity and development in the South**

Through CEBioS capacity building, CHM, awareness, and MRV activities, Belgium contributes to strengthen governments of developing countries to better formulate their National Biodiversity Strategy and Action Plans (NBSAP) and national reports to the CBD. We aim to contribute to the strengthening of governance by e.g. bringing focal points of different conventions or ministries together to listen to each other, learn from each other and perhaps undertake common actions in the implementation of environmental policies in their country. We will also support some focal points to attend the international convention meetings such as SBSTTA and COP and valorise their work through CEBioS side events. CEBioS will continue to be part of the Belgian delegations to international conventions (COP and preparatory technical meetings, IPBES). We will also continue being active with OECD-Environet in Paris and IPBES, when related to development cooperation. At national level, CEBioS will provide on demand advice to DGD concerning policies related to the Rio conventions, UNEP and other UN bodies, and the preparation of Belgian bilateral cooperation programmes.

- **Result 3.2 (CHM-IT-3): CHM and other IT based information and reporting tools for policies are functional and used by the authorities for the development of policy plans**

Grey literature and archives are continuously being digitized (see SO1) to provide free online access to the public at large and interested stakeholders in particular on dedicated web sites. This unlocking of knowledge is an important aspect of taking down barriers for policy knowledge and implementation at the science-policy interface. Through dedicated calls, national focal points will implement projects to strengthen their national CHM.

- **Result 3.3 (MRV-3): Reporting to NBSAPs and other biodiversity related plans is based on evidence-based data, and local authorities adopt or develop decisions and policies based on CEBioS project results**

Trends developed under MRV projects (SO1) will be formulated and disseminated for uptake in NBSAPs and other biodiversity related plans. Special training sessions will be organised to stimulate insight in how biodiversity indicator trends can be reported to the NBSAPS and how they relate to national (human) development plans, according to the experience being developed by the current UNEP-WCMC CONNECT initiative (https://www.connectbiodiversity.com/), in which CEBioS participates in its International technical Advisory and Upscaling Group. At the same time, MRV-alumni will be trained on best practices developed by champions among their peers during the previous and ongoing MRV cycli.

- **Result 3.4 (AW-3): Awareness on biodiversity governance and available tools is raised amongst authorities and results in the formulation of policies and organization or participation to (inter) national policy events**

CEBioS will organise, whenever appropriate, national meetings involving policy makers, on the importance of biodiversity and the way it is governed. During side activities at the COP-meeting and during other national and international meetings, CEBioS will focus on special issues, related to the weight the attention for biodiversity management should receive in policy making.

References

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SO 4 : Enhanced synergy between the partners of the Belgian Development Cooperation, civil society and the private sector to achieve sustainable development by mainstreaming biodiversity issues

Result 4.1 (CB-4)
Increased synergies of CEBIOS with ACNG's, DGD, ENABEL and private sector for mainstreaming of biodiversity

Result 4.2 (CHM-IT-4)
CHM and other mainstreaming tools are functional and are used by the partners of the Belgian Development Cooperation, civil society and private sector

Result 4.3 (AW-4)
The awareness about sustainable use and management of biodiversity is raised with the partners of the Belgian Development Cooperation, civil society and private sector

We also refer to chapter 5 and annex 5 on the possible synergies of CEBioS with the ACNGs.

SO4 contributes particularly to Aichi targets 1 and 4 (see annex 4).

i. Problem analysis

In a global context, the development sector pays only lip service to the protection of biodiversity. This is illustrated by the lack of high quality environmental impact assessments (EIA) in many Development Cooperation projects in particular when it comes to the integration of biodiversity in EIAs (Hugé et al. (2017), . Mainstreaming of biodiversity is a complex challenge, as it touches science based policy, awareness raising of key stakeholders and cross-sectoral multi-stakeholder approach (IIED and UNEP-WCMC, 2017).

ii. Description of strategy (theory of change)

At the level of the Specific Objective

Actors of the Belgian Development Cooperation as well as civil society and the private sector (acting in the South), elements of CEBioS' sphere of influence in the North and the South, will change their way of strategy development and planning by taking biodiversity issues into account. This pertains to the mainstreaming issues often mentioned by CBD.

At the level of results

*CEBioS offers the expertise to contribute to a better understanding of the importance of biodiversity with the other cooperation actors, and if possible also with private sector actors (**R4.1**).* A better

comprehension of the relevance of biodiversity, its governance and its importance for human development through ecosystem services, will inadvertently lead to a change in the development of other intervention strategies.. One important mainstreaming strategy component is to warrant and improve access to the national CHMs by civil society, private sector and development actors **(R4.2).** CEBioS' participation in the Strategic Diaologues **(R4.1),** to which it can contribute by organising specialised training sessions, is key to help assure uptake of biodiversity-related reflexions in the intervention programs developed by other actors of the Belgian Development Cooperation.

iii. Target group

The target group for this SO encompasses a variety of stakeholders with different influence and interest in biodiversity and development. The Belgian ACNGs and their strategic dialogue offer an ideal biotope to introduce mainstreaming actions. KLIMOS and its possible successors, are important platforms to contribute to the work of CEBioS to enhance mainstreaming in the Development Cooperation sector (e.g. the the application of the KLIMOS and Louvain Cooperation toolkits). Finally, CEBioS will look for opportunities to sensitize actors in the private sector and link them to ACNG's and other actors, possibly with some pilot actions.

iv. Local partners

SO4 is very much oriented to both the North (working for or in the South) and the South. The South actors concern all the ones mentioned under SO1, SO2 and SO3 and some NGOs and private actors in the South (see further). The North actors are primarily the Belgian Development Cooperation actors with their interventions in the global South. These are DGD, ENABEL, the institutional actors grouped in Fiabel (especially AfricaMuseum, VLIR-UOS, ARES), Botanical Garden Meise and the Non Governmental Organisations. The platform to meet is the strategic dialogue per country, as well as the local Belgian actor committees (e.g. FOBAC in Burundi, FABAC in DR Congo). Of course the EU commission and Parliament also belong to the action radius of CEBioS through thematic exhibitions, invitations to debates and colloquia etc. CEBioS will connect with the private sector in phase II. At local level, this will be the case for small agroforestry farmers (= private sector) in Burundi (in cooperation with Broederlijk delen). In DR Congo this will be the case via a cooperation with Kadima's Pride of Africa, a private initiative in the neighbourhood of Kinshasa, to cater for environmental awareness amongst school children. In Benin, CEBioS has already started a fruitful dialogue with the private conservation foundation, 'African Parks', now in full charge of the management of Pendjari National Park (see http://www.biodiv.be/cebios2/news/workshops-formulation-cooperation-uac-and-es-pendjari). CEBioS together with the universities of Abomey-Calavi and Parakou will cooperate with APN to do relevant research on habitat monitoring, pastoralism and fire management in that area. Some ACNGs active in the Atacora region might be interested to work with CEBioS as well. Most likely many more possibilities for cooperation with the private sector, ENABEL and ACNGs will pop up in the next five years. As for the North, CEBioS will seek opportunities to inform, make aware or train private companies acting in the global South and developing their corporate green identity.

v. Description

- **Result 4.1 (CB-4): Increased synergies of CEBIOS with ACNG's, DGD, ENABEL and private sector for mainstreaming of biodiversity**

An innovative step compared to phase I, is the introduction of a so-called '**synergy fund'** in our program budget. This fund can provide support to common sactions with selected ACNGs and other actors such as AfricaMuseum and ITM or universities. Joint thematic workshops can be organised, including for instance the participation to the learning trajectories, that have been formulated in the wake of the strategic dialogues. Themes which certainly will be important in the next year include one health, food security and digitalisation. Moreover, CEBioS is actively involved in several platforms related to Belgian actors: Fiabel, Educaid, Acodev, NGO federatie, and within the BIOPOLS group at RBINS, the Belgian Biodiversity Platform and the CBD National Focal Point. The mainstreaming of biodiversity through strategic and environmental impact assessments ex-ante or ex-post in project cycle management is another good entry point (Hugé et al., 2017). CEBioS will work with those platforms to facilitate the learning about biodiversity and its pertinence.

- **Result 4.2 (CHM-IT-4): CHM and other mainstreaming tools are functional and are used by the partners of the Belgian Development Cooperation, civil society and private sector**

Initiatives, documents and training sessions organised under SO4 will be documented on the CHM and the CHM will be explained to the stakeholders of SO4.

- **Result 4.3 (AW-4) : The awareness about sustainable use and management of biodiversity is raised with the partners of the Belgian Development Cooperation, civil society and private sector**

To have a direct impact on the wellbeing and the livelihood of local population groups, whether it is with respect to their agricultural practices or their usage of the fauna and flora present in their environment, a number of awareness activities will be organised, based on similar successful experiences in Phase I. These activities will often be tied to MRV-activities since researchers have to work with local fishermen, hunters, sales persons at the markets, farmers, slaughterhouses, poachers, etc to obtain their information (SO2). They will return to those groups with the consolidated results of their research and recommendations, translated to the local level of understanding by means of appropriate tools (pictures, movies, posters, town hall meetings, flyers, translations in local languages,..). Other means of communication and awareness raising, based on the same research results, for instance Policy Briefs, technical notes and presentations, will be used to influence local and national authorities as well as local and national decision makers. At the same time, other awareness activities of a more general nature will be organised with schools and other organisations of the civil society and the private sector, as has been done in Phase I (cfr the cooperation with Kadima's Pride of Africa Safari park where deprived school children of Kinshasa

can visit the park and receive some education on the biodiversity of their country in the Parks educational pavilion). CEBioS assures adequate training to develop appropriate communication tools. It also provides small funds to produce them and visit the local communities, authorities and decision makers to present them.
Towards the end of Phase II, a project will be launched to monitor the impact of CEBioS' awareness activities in the North and in the South.

References

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13- RISK ANALYSIS

General

Details of the analysis of external factors leading to a risk analysis concerning the CEBioS programme and its subcomponents are provided in Annex 3.

Between January and October 2018, risk analyses were executed during participative workshops, within CEBioS, and one by one with partner institutions. During the workshops external factors having a positive or negative effect, on the program and its objectives were identified. These factors can be political, economic, social, technical, environmental or legal (abbreviated as 'PESTEL').

The negative factors were attributed a score of probability P (1-5) and impact I (1-4).
P*I=Risk factor between 1 and 20. Whenever possible risks were attributed some mitigation measures.

The following risk analyses have been executed:

- the CEBioS programme phase II in general in a workshop of theory of change with CEBioS staff, the RBINS direction, Belspo, BBPF and DGD;
- the cooperation with OBPE in Burundi with OBPE staff and stakeholders (NGOs, Belgian embassy), facilitated by 2 CEBioS staff;
- the cooperation with CSB in DR Congo with CSB staff and stakeholders (NGOs, ministry, faculties of science and natural resource management), facilitated by 2 CEBioS-RBINS staff;
- the cooperation with UAC in Benin with scientific staff and stakeholders (NGOs, Belgian embassy), facilitated by 1 CEBioS staff;
- the cooperation with IRHOB in Benin with their staff and stakeholders (NGOs, authorities), facilitated by 2 CEBioS-RBINS staff;

- the CHM national focal points, in a workshop held in Belgium, following their participation to a CHM workshop and the CEBioS colloquium on biodiversity and development, facilitated by 3 CEBioS staff.

Table 3 summarizes the top risks for the CEBioS programme in phase II, per cluster of external factors (PESTEL), being a kind of priority synthesis from all subcomponents (for details see annex 3). Budget cuts or institutional reforms at the federal level obviously pose potentially considerable risks for the programme.

Table 3. Priority risks of the CEBioS programme and proposed mitigation measures. Legend: green = low risk; yellow = medium risk , according to the Managing intervention risks- scheme provided in Annex 3.

Risk	Risk score	Mitigation
POLITICAL		
1. Embassy or diplomatic rotation	4	Re-inform new embassy personnel about CEBioS program, produce paper and digital documentation about CEBioS, country files etc...
2. Conflicts, political instability, bad governance, corruption, hidden agendas, fraud	6	Only implement what is possible and allowed by Belgian policy of Foreign Affairs, remain transparent and proactive about values of good governance, decrease project volume or retract from cooperation if necessary, refer to and apply integrity charter of Belgian Development Cooperation, be vigilant with financial reports, implement monitoring locally
ECONOMIC		
3. Banking systems not well developed in the South, weak local financial resources, lack of alignment between bookkeeping systems, varying currency exchange	4	Ensure transparent financial management / Align whenever possible or be aware of different systems / add some capacity building about financial management in institutional cooperation, beware of substitution of local capacities, keep improving administrative processes internally and with partners
4. Accounting system at RBINS could be better aligned to CEBioS daily activities	6	Improve communication and develop common tools for improving work flow between CEBioS and RBINS accounting systems
SOCIAL		
5. Poor demand for synergies/cooperation from ACNGs, ENABEL, poor involvement in development of the PICs.	6	Be visible, communicative, be on the agenda of others, through proactivity in strategic dialogues, policy advice to DGD etc., add elements into the learning trajectories of the strategic dialogues, organize events promoting the science-policy-development interface
6. Lack of interest or low budgetary priority for biodiversity amongst actors in Development Cooperation and amongst authorities in the South	4	This is one of the reasons why CEBioS exists: raising awareness and sensibilisation for biodiversity in the South linked to development in order to promote the SDGs and the (post) Aichi targets.

7. Difficulty to find enough Belgian experts wanting to spend their time on capacity building in biodiversity research with South students. Lack of sufficient expertise on awareness and social science aspects.	6	Due to shrinking budgets for taxonomy and environmental studies in general, the number of Belgian taxonomic experts is decreasing on the one hand and the pressure on the remaining experts to work only for academically or financially rewarding projects, is increasing, both in the North and in the South. CEBioS will have to work hard to be convincing enough to mobilise expertise by stressing the win-win of such collaborations. For specific expertise touching on Payment forr Ecosystem Services, Valuation of Ecosystem Services, agroecology and agroforestry, as well awareness and stakeholder engagement methodology, CEBioS will have to find external expertise (short term consultants). Contracting a FEDtWIN candidate in that field would be very welcome.
8. High turn-over of personnel with the South partners and gender issues	6	The paradox of capacity building in partner institutions, is that well-trained individuals will look for more rewarding jobs in the NGO or the private sector and hence may be leaving the institution. CEBioS always tries to receive some guarantees about a stable future position for the trained individuals. On the other hand, these individuals will use their expertise and services in other jobs in their country, in most cases for the cause of biodiversity, which can be perceived as useful for society. The strong bias towards male scientists and managers in the global South is a real concern. CEBioS should always encourage female candidates in the different subprograms and sometimes instore strict quotas as well.
TECHNICAL		
9. Weak logistics, management, administrative and financial capacities / lack of infrastructure, equipment, consumables, internet with the South partners	6	Capacity building at project level/ Include small equipment in projects/ seek efficiency, digitalisation of processes, alternative energy sources such as solar, use of drones.
10. Ambitions of CEBioS not matched by existing expertise or field reality in the South	6	CEBioS has the ambition to further develop and to be recognized as an expert centre concerning the biodiversity-development interface within the group 'BIOPOLS' of the Operational Directorate 'Nature' of RBINS. However, this is only possible if its staff remains abreast and proactive, with regards to the latest developments in IT tools (e.g. CHM and other platforms), as well as for scientific skills in conservation, ecosystem services, rapid assessment, habitat monitoring and policy skills in UN conventions negotiation, IPBES and OECD working groups etc. Continuous learning is the key word. Some external drives such as the Belspo funded EVAMAB project, the ARES funded mycology project

		or the cooperation with KLIMOS greatly contribute to increased staff knowledge through extensive cooperation with academic colleagues. As explained under factor 7, CEBioS sometimes will be consulting for others (e.g. ENABEL) or will have to engage external expertise.
ENVIRONMENTAL		
11.		
The environmental risks for the CEBioS program are rather situated in the risks for natural disasters such as flooding, drought, fire, damage by climate change, or other human induced degradation such as deforestation and poaching and hence changing/ impoverishing the protected areas and the management options.	2	Climate change or other human induced degradation of the environment are part of the habitat dynamics monitored by the CEBioS partners or studied by South scientists supported by CEBioS. So it is rather an inherent element of the program. Nevertheless it is important that CEBioS remains up-to-date regarding possible techniques of monitoring, and conservation management as e.g. developed or promoted by IUCN, CBD and IPBES.
LEGAL		
Legal risks at the level of CEBioS are minimal, since it is embedded in a federal institute and is considered as a program of the institute.	1	Produce legally sound or water tight contracts, MoUs, after fiat by the internal juridical service. Work toward leaner and more efficient administrative processes.
Legal risks in the South are perceived at the level of non-application of environmental laws by local population or beneficiaries of the program, but also in a political economy context, such as corruption or fraud.	4	The mitigation possibilities are rather limited since it is up to the local authorities to cope with this problem. However, CEBioS can be of support to promote CBD directives and explain the Nagoya Protocol and its implementation measures. For fraud and corruption, see factor 2.

Possible or alternative partnerships

The policy of the current Belgian administration is to focus on fragile countries. This is the case for RDC and Burundi. However this entails certain risks. In case of cessation of cooperation with countries because of political conflicts or wars, CEBioS is resilient enough to focus on alternative partnership as described below. Some of them will be explored and started anyway in the coming years to ensure the follow-up for the next phase and to ensure enough network diversification in phase II.

Rwanda

The administrative conditions to work in Rwanda can be challenging, but the Centre d'Excellence de la Biodiversité de l'université du Rwanda (Dir : Ms. Beth Kaplin) is well organised and seems efficient. Moreover, cooperation with the Université du Rwanda through M. Venuste Nsengimana (Gembloux) on the 'use of soil and litter arthropods as biological indicators of soil quality in Southern Rwanda' would be further explored, as it was successful under the GTI scheme. The same applies with M. Prosper Umuntunundi, Biodiversity Centre of Excellence on Mollusca (collaboration with RBINS and AfricaMuseum). The CHM cooperation with Rwanda, started earlier,could be re-dynamized as well.

Tanzania

Working in Tanzania is sometimes challenging because of administrative constraints such as work permits, per diem regulations, top down decisions and the issue of bad reporting in the case of CHM. However, working on marine topics with the marine institute in Zanzibar remains an option. Concerning the subprogram 'GTI', good experience exists with Dr. A. Pauly and JL Boevé (RBINS) with the College of African Wildlife management' in Mweka (CAWM) on the role of pollinators, a highly acute issue for global food security. The CHM cooperation with Tanzania, started earlier,could be re-dynamized as well.

Uganda

The good experience through MRV with NEMA, NaFIRRI and Busitema University encourages to explore further cooperation in the future.

West African countries: Burkina faso, Niger, Guinée, Senegal

Certainly good options, given the priorities of the Belgian bilateral cooperation. Contacts exist already with universities in Guinée, Niger and Burkina Faso. First explorative contacts were laid in Senegal to explore cooperation with the Université de Dakar, and IRD on marine modelling, but without concrete result till now. The work in Benin will be extended to the W National Park, which is also located in Niger and Burkina Faso (see next paragraph).

Trans frontier conservation in W National Park: Benin, Burkina Faso, Niger

One of the needs expressed by UAC was to extend its current research on vegetation, fire management and transhumance in Pendjari N.P. towards the W N.P. CEBioS could be instrumental to encourage an international cooperation with partners from the 3 countries making up this park. Prof. Mahmane Ali, Rector of 'Université de Niamey' is interested. The shift towards W NP is due to the taking over of the management of Pendjari NP by African Parks as approved by the President's Office in Benin. The cooperation of UAC with CENAGREF is herewith jeopardized in PNP. However it could be extended to where CENAGREF is still working, the W NP. Cooperation with African Parks and UAC in the Pendjari NP will however continue with CEBioS support. However the constraints imposed by APN on research are more strict than before (choice of themes, seasons of sampling, permits, etc…). The German cooperation GIZ pulled out of PNP when APN came in. This shift in conservation style and management is taken hard by local populations and scientists, and we are in a transition period towards more acceptance, highly encouraged by CEBioS in multi-stakeholder workshops as the ones held in 2018 in Cotonou and Natitingou.

Morocco

Previous cooperation by Dr. P. Martin (RBINS), supported by the GTI of CEBioS with the Université Moulay Ismail de Meknes on subterranean meiofauna could be restarted depending on actual needs. The CHM support in Morocco remains very active and will continue, given its prominent role as multiplicator to other Arab countries.

Benin

CEBioS considers to start an institutional cooperation with the Université de Parakou (Prof. Yorou). It is a dynamic research group on mushrooms, one of the most promising ecosystem services for food security. They cooperate with Dr. De Kesel of the Botanical Garden Meise.

14- GOVERNANCE AND MANAGEMENT OF CEBIOS

Decription of protocol, steering and strategic committees

The CEBioS programme is formally embedded in a **protocol of cooperation** between the ministries of science policy (BELSPO) and of the Directorate-general Development Cooperation and Humanitarian Aid (DGD) of the Ministry of Foreign Affairs.
Within DGD, CEBioS used to be part of the D4.2 portfolio. Since 2018, D4.2 has merged into MD8 which is now responsible for following-up the programme. The programme is monitored by a **steering committee**, regrouping the direction of RBINS, the coordinator of CEBioS and his deputy, DGD and BELSPO, meeting 2-4 times a year. Technical meetings and mail exchanges ensure further quality control during the year. Once or twice a year, CEBioS takes also part in a **strategic committee**, gathering the steering committee, both cabinets and the steering committee of the Royal Museum of Central Africa (AfricaMuseum).

The new five year programme (phase II) will be formalised in a new '**protocol of cooperation'** as was the case for phase I, with special attention to the policy context, the governance, the management and the financial regulations and control.

The staff

The **staff** of CEBioS, anno 2018, **consists of 8-9.3 FTE** (depending on temporary maternity leaves or temporary salaries on external funding). However, 10 to 15 staff of the RBINS payroll also contribute both scientifically and administratively to the operations of CEBioS. The staff is a mix of scientific programme officers and administrative support staff.

The staff has two main activities:

a. It does 'process management by earmarking operational funds for projects with partner institutions and individuals in partner countries:
    a. Competitive thematic calls with the hands-on follow up of implemented projects
    b. Earmarked institutional cooperation
b. Its scientific staff provides technical and scientific expertise and training to partners in the South and the North/global.

As recognised by the mid-term evaluation, the staff of CEBioS is its main asset, fulfilling both roles of process management and expert coaching as scientific programme officers with a training and capacity building role as scientific experts in the field of science-policy-development interface.

The structure of the staff paid by the CEBioS programme is as follows in phase II:

The staff is composed of 9.3 FTE. The salaries are ventilated according to the following key:

Coordinator (1): COO
Scientific Officer (5.5) : SOF
Financial administrator (1): ACO
Secretariat (0.8): SEC
Graphism and communication (1): GRAC

COO: 1 FTE for general strategy, management, streamlining of administrative processes, coordination, policy support to DGD and international, communication and visibility, COP, formulation and part of monitoring & evaluation; also involved in the different SO1-2-3-4 for specific activities related to the above.

SOF 1: 1 FTE divided equally on SO1 and SO2 for training in habitat monitoring, coaching of students and production of lexica; support to UAC in Benin, OBPE in Burundi and ICCN and universities in DR Congo;

SOF 2: 1 FTE for SO1 on the GTI grants programme and the GTI support for scientific capacity building in the South by RBINS researchers, SO2 and 3 for CHM-IT and Public Awareness as well as in SO3 and SO4 for involvement of CEBioS in Educaid, IPBES, OECD Environet, alumni work, and pilot in SBSSTA and COP, facilitation for production and dissemination of AbcTaxa;

SOF 3: 1 FTE divided amongst SO1, SO2, SO3 and SO4 for the MRV work and policy briefs;

SOF 4: 1 FTE divided amongst all SO for CHM and awareness work, for policy support, DGD attests, COP, Nagoya Protocol, part of M&E and cooperation in strategic dialogues; support to OBPE in Burundi;

SOF 5: 1 FTE in SO1, SO2, SO3 and SO4 for MRV work, policy briefs, support to CSB in DR Congo, part of M&E and cooperation in strategic dialogues and gender aspects; This officer will be, assisted by all colleagues, responsible for the daily follow-up of indicators in the monitoring framework.

SOF 6: 0.5 FTE for marine modelling in Benin (SO1); support to IRHOB in Benin;

ACO: 1 FTE for general financial accounting of the programme in cooperation with central accountancy of RBINS Under management costs for year 1-3 Divided among SO1, SO2, SO3; SO4 and management costs for year 4-5

SEC: 0.8 FTE responsible for general logistics of the CEBioS programme, including administration of mobility of grantees, preparation of letters, DGD attests, buying of small equipment, shipment of equipment, books, AbcTaxa, presence at events with booth and folders. She works closely together and is supported by another FTE from the National CBD Focal Point team at RBINS. Divided under SO1, SO2 and SO3

GRAC: 1 FTE for the graphical design of reports, plans, folders, posters, policy briefs and communication through social media, web site. Divided under SO1, SO2, SO3 and SO4

The team is working closely together, in an integrated way, due to the good habit of holding weekly team meetings and an open discussion culture.Tasks can easily be redistributed among colleagues when needed. . The team is conscious of the need for more integration of the different sub-programs in phase II, which is already reflected in the way the phase II program is designed.

Monitoring & Evaluation

CEBioS has appointed two scientific programme officerrs and the coordinator to monitor the indicators of the programme and M&E activities. At least 1% of the budget will be devoted to Monitoring and Evaluation (70K for an MTE and Strategic evaluation, as estimated by BELSPO).

The following activities will contribute to M&E:

- Mid term evaluation by external referees : will start in year 4 (2022) and provide recommendations for the formulation of the next strategy and 5 year programme.
- End of term evaluation (DAC criteria) by external referees will be done at the end of year 5 or beginning of year 5+1 (technical question on how to finance this outside the 5 years remains open), as specified by the financial guidelines of DGD and will assess the 'value for money' aspect of the 10 years 2014-2023.
- Three staff members will continuously update the 120 indicators to provide input for the tabular *annual* reports and guidance about whether CEBioS is on the right track ; One of the officers will be responsible for the consolidation of these data.
- In every partner institution a local staff member is designed to monitor the programme executed in collaboration with CEBioS. CEBioS staff, responsible for every institutional partnership, will train this person and follow-up on his monitoring activities during visits, by e-mail and telephone contacts. Yearly evaluations or one mid-term evaluation, as well as end evaluations are planned for each institutional cooperation.
- As in the past, missions by scientific staff to the partner institutions will take place at least once or twice a year to monitor current activities and solve potential issues, next to providing specific training ;
- Whenever possible, non-institutional projects are visited by competent CEBioS staff in order to monitor progress and understand the constraints and outcomes, amongst others through the collection of success stories and lessons learned.
- All CEBioS interventions are accompanied by post intervention surveys or evaluation forms in order to get enough feedback for improvements.
- The selection of projects in the framework of competitive calls are done by a jury composed of the programme officers, seconded by an external colleague as far as it is possible to mobilise them on a voluntary basis. One of the juries' tasks is to monitor the

eligibility of the proposed projects against the criteria defined by the CEBioS team and validated by DGD.

- In weekly meetings, the CEBioS staff (joint administrative and scientific) informs the colleagues and gets informed by the colleagues about own activities and management issues. This continuous mutual monitoring has proven its value.
- The M&E officers will focus on the complementarities and synergies with other Belgian actors (ACNGs) in the field (especially Benin, Burundi, DR Congo, AfricaMuseum and Botanical Garden Meise and selected ACNGs) and as much as possible stimulate this kind of cooperation.
- Internal mid-term evaluations of the different projects in the South will be undertaken by our scientific officers in cooperation with the partners.
- Phase I is financially closed by means of a financial audit organised by BELSPO in September-December 2018, which has to be approved by the steering committee and the strategic committee, according to the 'Protocol of cooperation'.
- CEBioS, as part of Biopols in the OD Nature of RBINS has also the obligation to report on the RBINS indicators.

When **monitoring and evaluating** biodiversity-related interventions in the context of development, (we cite Drutschinin, A., et al. (2015)), understanding causal impacts across a number of relevant variables and foster learning and accountability are common difficulties (e.g., Davies et al. 2013; Roe et al. 2013). On the one hand, this is because the available knowledge base underlying what is causing biodiversity loss is not always informing the types of interventions designed, which in turn thwarts the effectiveness of monitoring and evaluation as an exercise that can help improve on-going and future interventions (see White, 2009). On the other hand, this may be the result of specific biodiversity-related features that make monitoring and evaluation more difficult than in other fields of development evaluation, such as (e.g. Ferraro and Pattanayak, 2006):

• Definitions of biodiversity and ecosystem services, and agreement on how to measure these over time, are often ambiguous, as are definitions of other concepts. typically targeted in biodiversity-related interventions. This "cascades to vague objectives and difficulty in developing targets and indicators to gauge performance" (Davies et al. 2013);

• The outcomes targeted by interventions related to biodiversity and ecosystem services tend to be local in nature. Yet strong and complex spill-over and leakage effects over a broader geographic area are common and these are difficult to capture through routine monitoring of individual programmes;

• Compliance or "cheating" (e.g. in conservation or certification schemes) can be hard to verify. This may be compounded by weak governance structures and unclear property rights in many developing countries, thus making it difficult to find counterfactuals against which monitoring and evaluation could be performed from a cross-section perspective and over time (Honey-Rosés et al. 2011);

• Outcomes related to biodiversity and ecosystem services often respond slowly to interventions (e.g. forest or wildlife stocks change over many years). Measuring progress is relatively difficult because the time required to demonstrate positive change to social and ecological systems is lengthy and often extends well beyond the lifespan of most interventions (Hildén 2009).

Moreover, long time horizons reduce the incentives to learn from an evaluation for the staff involved in the exercise (e.g. due to staff promotion policy);

• Relevant data and information related to biodiversity and ecosystem services is often poor or lacking, especially at the community or local level in many developing countries (Roe et al. 2013b). Data collection, validity and reliability would need to improve if they were to guide further analysis on the impacts of biodiversity-related interventions;

• Monitoring and evaluation is further complicated by a lack of understanding of social science research by natural scientists implementing biodiversity-related interventions, and vice-versa (Davies et al. 2013). Few multi-disciplinary methodological approaches are readily available to conduct development evaluation in the field of biodiversity and ecosystem services.

These features result in three specific methodological challenges that affect monitoring and evaluation of interventions related to biodiversity and ecosystem services and development, namely: (a) the problem of outcome attribution of biodiversity and ecosystem service interventions; (b) difficulties setting baselines and targets given relatively uncertain operating contexts in developing countries; and (c) the challenge of monitoring and evaluating biodiversity and ecosystem services over time (Drutschinin et al., 2015).

CEBioS has put the above mentioned measures in place to monitor and evaluate as good as possible the progress and results of its programme.

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Knowledge management

The recommendations of the MTE and of the financial and organisational audit have been in depth discussed by the CEBioS team and a number of measures have been taken on in the meantime (see: also lessons learned).

CEBioS' team, including support staff, attends weekly team meetings (Tuesday at 10- 11.30 a.m.) during which practical issues as well as issues with the projects or with aspects of the programme in general are discussed. When staff members return from missions, a summary of their experiences with partners, projects is also presented at those weekly meetings (later on a more extensive, written mission report is circulated among team members).

Practical issues may cover accounting issues, the organisation of the stay of grantees or other visitors, progress with printing orders (lexica, AbcTaxa, flyers,…), progress reports of editing tasks (AbcTaxa, Lexica) and so on.

Projects issues may have to do with late arrival of funds, delaying deadlines for report submissions, problems encountered during the execution of projects, problems that may have risen with individuals or institutions during project or grant calls or during the execution of the projects, and how these issues can be dealt with.

When staff members return from missions to institutional partners, discussions may be about the internal organisation of the partner institute, the necessity to amend a running programme, the impact of the absence of key persons and how to deal with it, reporting of the discussions at the partner institute about the cooperation with CEBioS, etc…

Mission reports and other meeting reports of individual staff members also inform CEBioS staff on developments in the protected areas we are working in (management changes, incidents, reports), on developments in the countries themselves, at embassy level, in the Strategic Dialogue groups and so on.

Based on the information received during the staff meetings and in written reports, separate discussions are organised between CEBioS staff members or between CEBioS staff and institutional partners, to re-orientate some programme parts, or develop activities to help mitigate problems discovered (e.g. lack of information about the Nagoya Protocol in DRC > CEBioS organised a seminar during the Summer School in Kisangani in 2017).

CEBioS staff also has the good habit of (literally) working with open doors to facilitate an easy communication between all staff members.

In short, the way of working of CEBioS staff, together with the weekly staff meetings guarantee a continuous evaluation of many aspects of the programme and of separate activities within the programme. The many-fold contacts with our institutional partners, whom we know quite well, permits to inform them and discuss with them any changes or adjustments to the programme that is needed.

At the level of RBINS, CEBioS needs to report highlights per semester and to inform the operational director about progress at regular OD Nature meeting ('business reviews').

15-BUDGET FOR PHASE II (2019-2023)

Budget in Euro:
Requested total budget for phase II: 7,000,000 Euro.

	SO1	SO2	SO3	SO4	management costs < 10%	Total
Operational	1595000	896500	635000	150033	92,000	**3368533**
Salaries	1152800	708000	391260	371720	517688	**3141468**
Total op.+sal.	2747800	1604500	1026260	521753	609688	**6510001**
Overhead						**490000**
Grand Total	**2747800**	**1604500**	**1026260**	**521753**	**609688**	**7000000**

	2019	2020	2021	2022	2023	Total 5 years
Operational	699500	704000	587500	746500	539033	**3276533**
Management costs	113241	112530	123278	133921	126718	**609688**
Salaries minus salaries in Management costs	470759	492670	508050	564500	587800	**2623779**
Overhead 7%	98000	98000	98000	98000	98000	**490000**
Total op.+sal.+ man costs	1285519	1311220	1220849	1446943	1255574	**6510000**
Grand Total	**1383519**	**1409220**	**1318849**	**1544943**	**1353574**	**7000000**

	SO1	SO2	SO3	SO4	management costs < 10%	Total
Operational	22.79	12.81	9.07	2.14	1.31	**48**
Salaries	16.47	10.11	5.59	5.31	7.40	**45**
Total op.+sal.	39.25	22.92	14.66	7.45	8.71	**93**
Overhead						**7**
Grand Total	**39**	**23**	**15**	**7**	**9**	**100**

Overview of the budget for phase II of the CEBioS programme.
For full details of specific objectives, results and indicators please consult annex 1 or annex 7 (exel file)

Budget according to DGD format is given in annex 8.

Budget CEBioS Phase II		Budget post			Euro					
Intervention logic	**Indicators (linked to indicators in logframe)**		**Details**		**2019**	**2020**	**2021**	**2022**	**2023**	**Total**
Specific objective 1 (SO1):	Based on Aichi target 19, SDG 6.6, SDG 14									0
*The **scientists** of the partner countries of the Belgian development cooperation acquire knowledge, …*	3. Participation by scientists from partner countries in …									0
	4. Scientists are more able to integrate new knowledge, find appropriate funding, apply it …									0

Result 1.1 (CB-1): The knowledge and understanding of biodiversity and ecosystem services …	5. More researchers in the South are empowered to conduct more applied research on biodiversity and …	1	GTI for grantees from South	9-11 grants @ca 5000 each per year	55000	45000	45000	55000	45000	245000
	5bis. Annual number of interventions integrating different calls in the institutional cooperation, hence allowing cross-fertilization between science, awareness, MRV and CHM in the science-policy-development interface.	2	GTI for RBINS researchers doing capacity building in the South	5 projects @ca 6300 per year; missions 5 x5p @4000	55000	55000	55000	55000	25000	245000
		3	RD Congo universities, ICCN: institutional cooperation for research	Equipment+documentation @6000; 5 PhDs @2500 à 3500 of support/year during 3-4 yrs; 3 Masters @4000 à 6000 during 2 yrs; missions 5x1p @3000	28000	28000	28000	20000	16000	120000
		4	Marine modelling in Benin	data collection @ 33500, 8 stages S-N of 2-4 months@51000), dissemination @11500, meetings @4000, missions 5 x2p @ 2500	25000	25000	30000	25000	20000	125000
		5	production of AbcTaxa	5 volumes produced & disseminated @18000 each	18000	18000	18000	18000	18000	90000
		6	pilot projects on monitoring and data bases	combined activities MRV and habitat monitoring in RDC to optimise and publish combined data-sets of fauna and flora and expand habitat monitoring work in areas not covered …	10000	10000	10000	10000	4000	44000
		7	OBPE institutional cooperation for research	equipment+documentation @6000; 6 Masters: mushrooms for …	40000	40000	40000	40000	40000	200000
		8	UAC institutional cooperation for research	Pendjari, W NP : 3 PhDs @2-3000 during3-4 yrs; 5 missions combined with missions in R2.1-14	10000	10000	10000	10000	8000	48000
		9	CSB/UNIKIS: institutional cooperation for research	yearly: inventory mapping @24200; surveys on awareness, triggers, …	48000	48000	48000	48000	48000	240000
	6. Annual number of mentions in different scientific, policy or popular media with direct or indirect reference to ecosystem …		zero budget							0

Result 1.2 (CHM-IT-1): CHM and other IT tools in service of national research is functional and useful to scientists and their partners	7. Annual nr. of items of scientific information added on the national CHM of partner countries, showing …		zero budget							0
	8. Number of interventions of grey literature digitalisation, including amount of contents scanned, …	10	Digitalisation	2 projects / yr for digitalisation of grey literature for CHM@4000 each, as benchmark for NBSAP	8000	8000	8000	8000	8000	40000
	9. Digitised grey literature is available on national CHM, being a direct …									0
Result 1.3 (MRV-1): Scientist are able to valorize research data for feeding national and local indicators and formulating trends supporting improved biodiversity related strategies	10. Number of MRV project with relevant information feeding into National Biodiversity Reports and other assessments	11	MRV calls, projects	Fr- projects @24000 Yr1, 6000 Yr2; Engl-projects @24000 Yr2, 6000 Yr3, at ca 3800 per project	24000	30000	6000	0	0	60000
	11. Number of indicators developed by the partners used to feed into NBSAP		zero budget							0
	12. Number of scientists able to use MRV-related methodologies ot transfer their data towards indicator based systems of reporting	12	MRV workshops	2 formulation+training workshops@25000 each in 2019; closing workshops in 2022 back to back with awareness methodology workshop for CEBioS alumni @18000; missions staff to workshops see R2.3	50000	0	0	18000	0	68000
Result 1.4 (AW-1) : Awareness on dissemination methodologies are raised among scientists	13. Number of scientists able to communicate and raise awareness for different audiences in order to valorise science in outreach		dissemination of policy briefs and other awareness material (see also SO2) part of indicator 48		0	0	0	0	0	0
		13	awareness methodology workshop for CEBioS alumni	GTI alumni Workshop @20.000; Large FR and Engl workshops in Africa including MRV, GTI, CHM alumni @41000; partially back to back with MRV closing workshops; missions 1x3p @3000	20000			50000		70000
			TOTAL SO1		391000	317000	298000	357000	232000	1595000
Specific objective 2 (SO2):	Based on SDG 2.4., aichi 7, SDG 8.9, SDG 12.2, 15.1									

National implementing authorities *in the south and their partners improve sustainable management and use of ecosystem …*	40. Management plans of national authorities, agencies, their local civil society partners and research institutes of partner countries of the Belgian Development Cooperation take …									
Result 2.1 (CB-2) : Monitoring, management and conservation of ecosystems and services, …	41. Number and skills of staff of implementing agencies, …		training on habitat monitoring							
		14	in Benin	small equipment & documentation Yr1, habitat data collection in prep. of lexicon @112500 for 5 yrs; missions 6x1p @3500	24000	24000	24000	24000	34000	132000
		15	in Burundi	small equipment & documentation Yr 1; missions 6x1p @3500; training event @ 17000; data base@600 per yr; habitat data collection (in prep. of lexica) and fire monitoring @82000	24000	40000	24000	24000	18000	132000
		16	in RDC	missions 2x1p @9000; habitat monitoring @3000	7000	5000				12000
	42. Improved monitoring through campaigns to collect data …		see training							0
	43. Number of databanks or publications with these data to point out the dynamics trend and to feed national reporting		see training							0
	44. Increasing use of tools (lexica) that facilitate the application of scientific knowledge to ensure the monitoring of habitats and of ecosystem health. (related to indicator 50)	17	Production of lexica	5 lexica @ca 5000 each	5000	10000	5000		5000	25000
Result 2.2 (CHM-IT-2) : CHM and other IT tools in service of monitoring and management are functional and are used by the authorities and target publics	45. Number of contributors to the national CHMs in partner countries and Belgium, showing the correct functioning of the national focal point and the contributors network	18	workshops on CHM	First 4 years: 4 national or in BE trainings@10000 each year; 2023: 2 training @12000; missions 18x2 p	40000	40000	40000	40000	25000	185000

	46. Number of postings on the CHM about activities under SO2 financed by CEBioS, providing access to valuable information about biodiversity and development	19	training on Bioland	CHM partners organize own follow-up meetings on CHM management and contents; yearly calls: 3-4 projects@4-5000 per year	20000	20000	10000	10000	10000	70000
		19b	Computers and server for South and http://www.biodiv.be	IRHOB 3 computers Yr 1, UAC 2 computers Yr 1, OBPE 5 computers Yr 1, CSB 3 computers Yr2 + 2 computers Yr 4, CHM server at RBINS to replace old server	10000	3500	9000	2000	0	24500
		20	Networking CHM	Yearly CHM regional meetings @125000, missions 5x2p @2500	30000	30000	30000	30000	30000	150000
Result 2.3 (MRV-2): Scientists, in collaboration with implementing authorities, develop the tools to communicate about …	47. Number of tools developed by CEBioS-MRV alumni used for awareness raising, and influencing policies	21	awareness projects for alumni based on the MRV projects	Call on mini awareness projects as a follow-up action on MRV projects of alumni				24000	6000	30000
	48. Number of scientists involved in the production of lexica, policy briefs and scientific papers, …	22	Coaching by CEBioS staff in dedicated MRV-workshops and other MRV-related activities	Missions for MRV workshops (3-4 p per workshop) and other MRV related activities	16000	0	0	16000	0	32000
Result 2.4 (AW-2) : The observations and conclusions of the scientific research are vulgarized towards authorities competent for monitoring and managing ecosystem services	49. Number of authorities, decision makers, local organisations and NGO's on having benefited from awareness raising activities and converting it in their professional lives at level of policies or management	23	production and dissemination of other material like brochures, policy briefs, posters etc…	Support of production and distribution of flyers, posters for conferences, policy briefs, etc.	5000	5000	5000	5000	8000	28000
		24	punctual workshops, summer schools	2 large summer school events in Africa @40000, related to training on MRV, CHM, governance, P. of Nagoya, scientific writing, publishing, data mining etc.; missions min 2x5p @3000		40000		40000		80000
			TOTAL SO2		181000	217500	147000	215000	136000	896500
Specific objective 3 (SO3) :	Based on Aichi targets 2, 16 and 17, SDG 15, 16									
The authorities, decision makers and policymakers *develop and implement pertinent policies, strategies and action plans for a sustainable …*	70. The participation of developing countries in the institutions of global governance …									0
	71. Number of times ecosystem and biodiversity values are mentioned into national and local planning, …									0

Result 3.1 (CB-3) : Policy makers in North and South contribute to national and international policy on biodiversity and development in the South	**Nagoya: SDG 15.6 and Aichi target 16**									0
	72. Number of CEBioS staff leading agenda items for Belgium as (co-)pilots in international policy meetings like OECD, IBPES by CEBioS staff members	25	missions CEBios for policy	In years without COP, 2 missions@3000 in Montreal for SBI and SBSSTA as part of Belgian delegation, in COP years 2-3 missions@4000 as part of Belgian delegation	6000	16000	6000	16000	5000	49000
	73. Number of partner country staff that were supported or are involved in CEBioS activities, attending …	26	support of South to attend international policy	In COP years, CEBioS finances 2-3 missions of national focal points of South partners to attend and present CEBioS cooperation in side events and negotiate		10000		10000		20000
	74. Number of CEBioS staff leading agenda items for Belgium as (co-)pilots in SBSTTA and COP and expert meetings of CBD, EU and other organisations by CEBioS staff members		see Annual Number of attendance to international policy meetings like OECD, IBPES by CEBioS staff members.							0
	75. Number of North scientists requesting Nagoya PIC and MAT (related to indicator 89) to the competent authorities as a result of CEBoS training, showing the level of implementation of the Nagoya Protocol									0
	76. Number of South scientists requesting Nagoya PIC and MAT (related to indicator 89) to the competent authorities as a result of CEBoS training, showing the level of implementation of the Nagoya Protocol									0
Result 3.2 (CHM-IT-3) : CHM and other IT based information and reporting tools for policies are functional and used by the	77. Number of CHM technical and IAC meetings participation, showing the level of CEBioS involvement and influence in the global CHM policy									0

authorities for the development of policy plans	78. Number of people enabled to train contributors to the CHM in partner countries, showing the sustainability of train the trainer approach by CEBioS	27	CHM call	Annual call for projects to promote use of CHM in partner countries towards NBSAP and SDGs: 4-8 projects/ yr @8-10000	50000	50000	50000	50000	50000	250000
	79. Number of contributors to CHM of partner countries, showing CHM community network is functioning		see call							0
	80. Participation in CHM-related activities such as juries, contests, prices by partner countries, showing value the CBD or D4D price is attributing to CEBioS and partners	28	participation in juries etc...on demand	1 mission per year for jury activities/contest ceremonies concerning CHM, MEA, IT tools, either for CEBioS or partner	3000	3000	3000	3000	3000	15000
	81. Visits to the CHM websites of partner countries and others that receive support through South-South cooperation, …		zero budget, see other posts							0
Result 3.3 (MRV-3): . Reporting to NBSAPs and other biodiversity related plans is based on evidence-based data . Influencing local authorities to adopt or develop decisions and policies based on CEBioS project results, is organised	82. Number of official documents using MRV for reporting, showing a functioning science-policy interface		zero budget							0
	83. Number of official documents referring to new relevant policies or decisions and local plans, referring to documents, reports, actions of CEBioS projects and alumni		zero budget							0
Result 3.4 (AW-3): Awareness on biodiversity governance and available tools is raised amongst authorities and results …	84 Number of projects on awareness raising carried out, showing qualitative projects to raise awareness amongst …									0
	85. Number of national and sub-national deciders attending meetings for awareness raising	29	Awareness calls, including training on awareness , including baseline studies	Annual call for awareness projects @40000-60000 in 2019-2022 and 30000 in 2023, @4-6 projects /yr @8000 per project	40000	55000	55000	60000	30000	240000

	85. Number of national and sub-national deciders attending meetings for awareness raising	30	activities related to COPs in 2020, 2022	CEPA and side events at COPs, also in support of indicator 73		8000		8000		16000
	85. Number of national and sub-national deciders attending meetings for awareness raising	31	activities in framework of awareness calls or ad hoc,in Belgium or abroad	annual call for mainstreaming Biodiversity in several sectors and connecting several ministries, 2-3 projects per year @3-5000	10000	10000	10000	10000	5000	45000
	86 deleted									
	87 deleted									
			TOTAL SO3		109000	152000	124000	157000	93000	635000
Specific objective 4 (SO4) :	Based on Aichi targets 1 and 4, SDG 17									0
*Enhanced synergy between **the partners of the Belgian Development cooperation, civil society and the private sector** to achieve sustainable development by mainstreaming biodiversity issues*	101.Number of activities on North-South, South-South, triangular regional and international cooperation to enhance …									0
	102.Number of activities that promote effective public, public-private and civil society partnerships for a sustainable use of ecosystem services in rural landscapes									0
Result 4.1 (CB-4) : Increased synergies of CEBIOS with ACNG's, DGD, ENABEL and private sector for mainstreaming of biodiversity	103.Number of projects in the South involving synergies or complementarities with Belgian actors	32	attending SD in South	1 or 2 missions to attend strategic dialogues in the South, mainly Benin, Burundi, RD Congo	5000	5000	5000	5000	5000	25000
		33	Synergy fund to promote specific synergy projects with civil society and private sector in agriculture and conservation	Allocated to activities related to synergies with other Belgian actors in the South: projects by our partners with local partners, other Belgian NGOs or Enabel and universities (VLIR-UOS, ARES external co-funding possible) in the field of agroforestry, ecotourism, makala, coffee, other value chains, mission	12500	12500	12500	12500	12033	62033

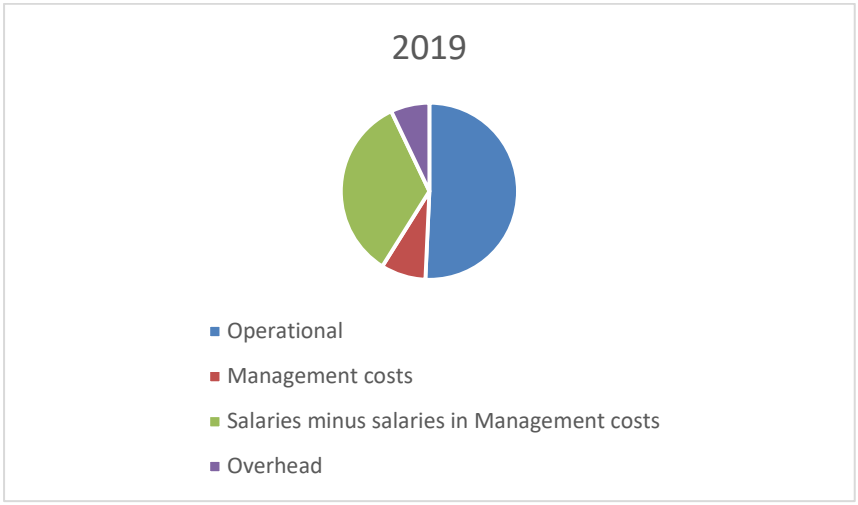
Result 4.2 (CHM-IT-4) : CHM and other mainstreaming tools are functional and are used by the partners of the Belgian development cooperation, civil society and private sector	104. Number of projects reports of partners of the Belgian Development cooperation available on the national CHMs		zero budget							0
	105. Number of additions on the national CHMs on activities by civil society and the private sector.		zero budget							0
Result 4.3 (AW-4) : The awareness about sustainable use and management of biodiversity is raised within the partners of the Belgian development cooperation, civil society and private sector	106. Number of initiatives raising awareness on biodiversity and development in private sector and NGOs (with call explained under R3.4), …		see synergy fund							0
	107. Number of training sessions to increase capacity on awareness in North (CEBioS) and South for the partners of the Belgian development cooperation, civil society	34	CEBioS increases awareness in North and South for the partners of the Belgian development cooperation, civil society	Training organised by CEBioS, possibly back to back with SD-activities	1000		1000		1000	3000
	108. Number of projects to measure change in perception on biodiversity of target groups of activities financed by CEBioS.	35	Special call at end of phase II	Call for projects to test the awareness at end of phase II, as a function of previous awareness projects (see ind. 85): surveys					60000	60000
			TOTAL SO4		18500	17500	18500	17500	78033	150033
Coordination										
		36	End of term evaluation (N and S)					40000	30000	70000
		37	Identification, Formulation, Monitoring and evaluation	missions CEBioS staff	4000	2000	4000	6000	6000	22000
Salaries		38			109241	110530	119278	87921	90718	517688
Total Management costs					113241	112530	123278	133921	126718	609688
TOTAL operational					812741	816530	710778	880421	665751	3886221
Total Salaries (9.3 FTE)					580000	603200	627328	652421	678518	3141467

Total Salaries minus salaries in management costs					470759	492670	508050	564500	587800	2623779
Stuctural costs 7%					98000	98000	98000	98000	98000	490000
Subsidy requested from the DGD					**1381500**	**1407200**	**1316828**	**1542921**	**1351551**	**7000000**
			TOTAL CB		375000	404000	363000	375000	306000	1827000
			TOTAL CHM-IT		161000	154500	150000	143000	126000	734500
			TOTAL MRV		90000	30000	6000	58000	6000	190000
			TOTAL AW		76000	118000	71000	173000	104000	542000

16-THE ANNUAL PLAN FOR 2019

For the detailed budget, see budget of phase II in annex 7 and 8.

The budget of 2019 is divided as follows:



Operational Plan 2019 (at level of activities)

Intervention logic	Indicators (linked to indicators in logframe)	Budget 2019	Targets planned	Planning 2019 narrative, comments, explanation
			Yr 1 2019	
Specific objective 1 (SO1):				
*The **scientists** of the partner countries of the Belgian development cooperation acquire knowledge, understand, apply and disseminate results useful for sustainable management, use and conservation of biodiversity and ecosystem services*		**391000**		
Activities R1.1 (CB-1) :				
· Coaching of students in terrestrial/freshwater biology and ecosystem services directly by CEBIOS staff to apply for grants, write abstracts for conferences, write papers · Coaching of students directly by CEBIOS staf for marine modelling to apply for grants, write abstracts for conferences, write papers · Organise GTI calls · Coaching of students through GTI call and earmarked budgets · Mobilising/motivating research units in the South to start specific research topics · Organise, co-organise or participate in larger events (symposia	14. Number of students from the south coached on biodiversity and ecosystem services in the framework of a thesis in the South		8	Three PhD who focus on the creation of value chains from wild mushrooms of the Albertine Rift forests (DRC, Burundi, Rwanda)will be trained on Ecosystem Services as well as 5 MSc students
	15. Number of GTI grants to young researchers to come to Belgium and alumni database		12	This year the GTI call will be open again for the selection of 12 students. Some students will come for the 3rd and last time, others will be selected for a 3-year-period 2019-2021 to come each year to Belgium for a taxonomic training as well as access / use of the collections hosted at different Federal Scientific Institutes.
	16. Number of GTI projects supporting RBINS scientists performing capacity building in the South		4	The call for RBINS scientist will be open again in 2019. This call will enable Scientists from RBINS or other FSI to give trainings in the partner country to students/researchers/rangers on the field. Often the capacity building will be organised in collaboration with a former GTI student.

, summer schools) · Coordination of editors and PSU for production of AbcTaxa · Attending juries by CEBioS staff · Attending congresses by CEBioS staff with poster or oral presentation to consolidate scientific credibility and present results · Supporting South scientists to attend international scientific congresses · Supporting South partners to organise international scientific congresses · Sending AbcTaxa to South partners or North partners (sales) by the secretariat of CEBioS · Organising workshops on policy briefs	17. Number of students in RDC (universities, CSB) supported by CEBioS for their field work		16	8 students from universities will do fieldwork in protected areas related to habitat monitoring. At least one student/staff member at CSB will come to Belgium on a GTI grant embedded in the allocation to CSB . CSB will implement its programme accordig to a new logframe and MoU.
	18. Number of students in Burundi supported by CEBioS for their field work		1	At least one student/staff member at OBPE will come to Belgium on a GTI grant embedded in the allocation to OBPE. OBPE will implement its programme accordig to a new logframe and MoU.
	19. Number of students in Benin supported to work in the field		1	At least one student/staff member at UAC will come to Belgium on a GTI grant embedded in the allocation to UAC. UAC will implement its programme accordig to a new logframe and MoU.
	20. Number of students in Marine modelling		1	The training of at least one student is started. In the project based learning approach the understanding of dispersal behaviour of several species of shrimp in the 'lacNokoué-Chenal-Ocean' system is used to do capacity building for marine conservation. The student will execute the first step needed to reach this goal: use a numerical model software to set up a simulation of the hydrodynamics of the system 'lacNokoué-Chenal-Ocean'. By the end of the year this student will have made a literature review of the existing knowledge of the 'lacNokoué-Chenal-Ocean' system and started setting up a model. To validate the model output, field measurements are taken in the framework of the BioBridge project funded by CBD. This will be done in parallel with this project.
	21. Number of colloquia or symposia on SDGs, post Aichi, biodiversity, ecosystem services and development organised directly by CEBioS		1 minor	Support to National Focal Point for Biodiversity Day (May 2019), as well as to wildlife traffic exhibition at Brussels airport.
	22. Annual Number of AbcTaxa produced		1	One AbcTaxa volume will be produced this year, probably on fish parasites of central Africa

	23. Annual number of participation in Master, PhD and other external grant juries, visitations etc... by CEBioS staff, related to biodiversity and development		3	on ad hoc demands from universities
	24. Annual number of scientific congresses attended by CEBioS staff with poster or oral presentation		2	Known : One presentation at the Royal Academy of the overseas Sciences. Organisation of a session on ecosystem services at ESP conference in Togo, February 2019. Other opportunities might come up during the year.
	25. Annual number of scientific congresses attended by South researchers with poster or oral presentation supported by CEBioS		1	To be decided according to opportunities that will come up during the year
	26. Annual number of scientific congresses organised by South researchers with poster or oral presentation supported by CEBioS		0	Not applicable in 2019
	27. Number of students in Marine modeling trained in linux based operating systems, programming languages, scientific methodology		1	A student will start a training trajectory in programming in Fortran and linux This training will continue in the next years.
Activities R1.2 (CHM-IT-1) :				
· Organising national content management workshops for scientists · Encouraging scientific posts on the CHM · Organising scanning sessions of archives at RBINS and in the partner countries	28. Annual number of scientists participating in national content management workshops or workshops in Belgium.		12	The students selected under the GTI grant will receive an introduction to their national CHM and learn how to add the information that they have on their national CHM. This will be given during their stay in Belgium.
	29. Annual number of posting on the national CHMs of partner countries related to scientific research done by CEBioS financing (related to indicator 7)		10	This year the scientific results from phase I will still be published in scientific journals. The authors will have to post them on the national CHM. Reports on field research activities of institutional partners financed by CEBioS will be posted on the national CHM site.

	30. Annual number of scanned pages from the archives (RBINS, Leopold III and others)		30	This year 2-3 students will scan again parts of the archives of the "archives of the parks of former Belgian Congo" and make them available on the internet for consultation and use by stakeholders worldwide.
Activities R1.3 (MRV-1):				
· Organise MRV formulation and training workshops Fr and Engl · Organise MRV calls Fr and Engl · Implement and follow up on MRV projects · Organise MRV closing workshops Fr and Engl, back to back with awareness methodology workshops	31. Number of MRV formulation and training workshops organised		2	Two formulation and training workshops will be organised (FR and Engl speaking countries) with MRV alumni and new partners. The MRV calls for phase II will be formulated by the groups and specific training will be provided on MRV methodologies (database management, indicator development and reporting for decision making)
	32. Number of participants at the MRV formulation and training workshops		50	idem
	33. Number of MRV calls opened		2	Taking into account the results of the formulation workshops, one call for French speaking partners and one for English speaking partners will be launched
	34. Number of MRV projects implemented		0	Juries and administrative implementation of the projects in 2019, implementation in the field in 2020-21
	35. Number of MRV closing workshops organised		0	
	36. Number of participants at the MRV closing workshops		0	
Activities R1.4 (AW-1):				
· Organise awareness methodology and communication workshops for CEBioS-alumni	37. Number of workshops to train scientists in communication and awareness raising		1	1 GTI alumni workshop
	38. Number of participants at the awareness methodology workshops		12	The students selected under the GTI grant will receive an introduction to public awareness. This will be provided during their stay in Belgium.
	39. Number of events on vulgarization, dissemination and awareness for marine modelling		0	No activity foreseen this year
Specific objective 2 (SO2):				

National implementing authorities *in the south and their partners improve sustainable management and use of ecosystem services to conserve biodiversity and support the livelihood of rural populations through the development of best practices and value chains*		181000		
Activities R2.1 (CB-2) :				
· Implement South trainings in habitat monitoring · Identify, formulate and implement research projects related to value chains of ecosystem services · Collect data on transects in protected areas · Co-produce lexica with local partners	50. number of lexica on habitat monitoring (related to indicator 44)		1	The lexicon on Ruvubu NP in Burundi should be finalised in 2019
	51. number of research projects on value chains of certain ecosystem services		2	Two projetcs were started in 2018 and will continue in 2019: one at UNIGOM (DR Congo) , the other at OBPE (Burundi)
	52. Number of South trainings in habitat monitoring		1	One training on the dynamics of habitats monitoring will be organised in Burundi at OBPE
	53. Number of Data-sets on transects in protected areas		2	Data collection will be done in Burundi two times in 2019
Activities R2.2 (CHM-IT-2):				
· Organisation of networking and training events for national CHM · Participation in meetings for development of IT tools in the framework of CBD and EU · Involvement in development or application of mainstreaming tools	54. Number of networking and training events for national CHM		4	Four training workshop will be organised in partner countries Foreseen are training in Guinea, Chad and two countries still to be decided
	55. (moved towards 46bis)		230000	As a result of the training workshops on Bioland in the countries, see indicator 54, additional information will be added on those national CHMs. Also through other activities by CEBioS and the countries more information will be added. This will attract more visitors to the national CHMs.
	56. Number of meetings for development of other IT tools in the framework of CBD or EU		1	With the development of Bioland at least one (Skype) meeting will be attended to discuss the development.
	57. Number of networking meetings, seminaries, regional workshops for CHM		1	One network meeting for francophone partner countries will be organised in 2019 to introduce them to Bioland and discuss the CHM and capacity building for the post 2020 framework of the Convention
	(indicator 58 cancelled)		1	There will be at least one CHM-IAC in 2019.

	59. Attendance to strategic meetings on development related to the CHM (ind. 58 cancelled)		1	With the development of DARTS at least one (Skype) meeting will be attended to discuss the development.
Activities R2.3 (MRV-2):				
· Organise MRV, GTI awareness calls Fr and Engl · Implement and follow up on awareness projects · Create policy briefs with and by CEBioS- alumni	61. Number of MRV etc awareness calls organized		0	No activity foreseen in 2019
	62. Number of MRV etc awareness projects implemented		0	No activity foreseen in 2019
	63. Number of Policy Briefs published		0	No activity foreseen in 2019
Activities R2.4 (AW-2):				
· Create flyers, posters, video's, with and by MRV, GTI alumni · Organise local meetings with specific target groups · Assure the targeted dissemination of the tools produced · Publish activity reports to CHM	64. Number of vulgarizing documents produced		2	As a result of the activities by institutional partners at least 2 vulgarising document will be produced by the partners or CEBioS staff.
	65. Number of persons involved into awareness activities		4	At least 2 projects that involve institutional partners or through the awareness call 2019 will involve each one or more persons
	66. Number of local meetings organized		5	At least 4 projects that involve institutional partners or through the awareness call 2019 will organise local meetings involving the target groups.
	67. Number of participants to the local meetings		60	Based on the number of local meetings under indicator 66 one can expect at least this number of participants
	68. Number of dissemination activities		4	Based on the number of projects and meetings under indicators 66 a 67 we intend to have at least 4 media reporting on the activities in the countries.
	69. Number of reports published at the CHM websites		5	Based on the number of projects and meetings under indicators 66 a 68 we should ensure that at least all the reports of the meetings are put on the national CHM websites

Specific objective 3 (SO3) :				
The authorities, decision makers and policymakers *develop and implement pertinent policies, strategies and action plans for a sustainable management of the national biodiversity in service of the livelihoods of the local populations in the South*		109000		
Activities R3.1 (CB-3):				
· Attend international policy meetings for OECD, IPBES · Attend SBSTTA and COP of CBD · Support and promote South attendance to SBSSTA, COP etc.. · Organise trainings on the Nagoya Protocol in the North · Organise trainings on the Nagoya Protocol in the South	86 deleted			
	87 deleted			
	88 Number of international policy meetings attended by CEBioS staff and partners		0 - 1	2019 is SBSTTA year, depending on the subjects that will be treated there might be a CEBioS Staff member participating however not sure.
	89 Number of trainings on Nagoya P. organized (related to indicator 76)		1	One training organised in RBINS or other FSI
Activities R3.2 (CHM-IT-3):				
· Attend CHM technical and IAC meetings · Attend CHM-related activities such as contests, prices · Organise CHM trainings in partner countries · Stimulate partners to participate in in CHM related activities	90. Number of CHM technical and IAC meetings participation		2	Participation in one CHM-IAC (CHM Informal Advisory Committee) meeting by skype and one in person.
	91. Number of CHM trainees in partner countries		60	15 persons per training session, 4 foreseen (Guinea, Chad and 2 other countries that are migrating to Bioland)
	92. Number of Participation in CHM-related activities such as contests, prices by partner countries		1	Partners will be stimulated to participate in at least a contest, a call, and other activities. CEBioS will assist them in wrting a good project proposal/file

	93. Visits to the CHM of partner countries and others that receive support through South-South cooperation		280000	During the trainings and other activities (calls, MRV and more) participants will be stimulated to add information to the national CHMs. This will give more visibility of the sites and increase the number of page visits.
Activities R3.3 (MRV-3):				
· Publish summaries of tendencies, indicators, research for uptake in NBSAPs and other biodiversity related plans · Special training session on reporting for uptake in NBSAPS and other biodiversity related plans during the MRV closing workshops · Coaching of scientists to valorize their research results and to report for NBSAPs and other plans on individual basis · Special training session on best practices during the awareness training and MRV closing workshops	94. Number of documents produced by MRV alumni for uptake in NBSAPs and other biodiversity related plans		0	No activity foreseen in 2019
	95. Number of special training sessions on reporting for uptake in NBSAPs and other biodiversity related plans		0	No activity foreseen in 2019
	96. Number of special training sessions on best practices during the awareness training and MRV closing workshops		0	No activity foreseen in 2019
	97. Number of scientists coached by CEBioS staff to valorize their results with regards to reporting to the NBSAPS or other plans		0	No activity foreseen in 2019
Activities R3.4 (AW-3):				
· Attend/organise national or regional deciders meetings · Attend/organise side events and CEPA sessions at COPs and other national and international meetings;	98. Number of national meetings organised involving policy makers		1	Partners will be stimulated to include at least one meeting involving policy makers in their projects. At least 20-40% of the participants should be director level or up.
	99. Number of regional meetings attended.		2	At least 2 regional meetings involving policy makers will be attended to be determined during the year according to opportunities
	Number of side events attended and/or organized during COPs and other national and international meetings		0	No COP year therefore no activity foreseen

Specific objective 4 (SO4) :				
*Enhanced synergy between **the partners of the Belgian Development cooperation, civil society and the private sector** to achieve sustainable development by mainstreaming biodiversity issues*		18500		
Activities R4.1 (CB-4):				
· Attend strategic dialogues in Belgium and whenever possible in the South · Conclude strategic talks and MoUs · Implement synergy projects with ACNGs and local partners	109. Number of strategic dialogues attended		3	CEBioS, with the synergy fund, will follow the strategic dialogues for DR Congo, Burundi, Benin and Vietnam. Local meetings will be attended if back to back with other activities or if time allows .
	110. Number of meetings in Belgium for Fiabel, Educaid, etc attended		5	on ad hoc basis
Activities R4.2 (CHM-IT-4):				
· Organise training on CHM use and insist on the participation of partners, civil society and the private sector.	111. Number of training workshops		4	Four training workshop will be organised in partner countries Foreseen are training in Guinea, Chad and two countries still to be decided
	112. Number of participants from the target group participating in training workshops		8	We will stimulate the partners to invite at least 2 participants of the civil society and/or the private sector in the CHM training workshops.
Activities R4.3 (AW-4):				
· Promote biodiversity and development with private sector in the South · Promote biodiversity and related tools in the strategic dialogues and learning trajectories · Organise training on awareness · Calls to raise awareness of target groups	113. Number of meetings organized for the chosen target groups organised or attended		1	At least one meeting will be organised dealing with the target groups under SO4
	114. Number of projects to raise awareness signed		4	During the Awareness raising activities financed by CEBioS, we will stimulate that NGOs and the private sector will be invited to participate in the workshops/meetings.

COORDINATION AND MANAGEMENT **CEBioS programme is implemented according to plan and in a professional way and is recognised as an expertise centre for biodiversity and development**	115. Positive monitoring and evaluation through OD Nature, CEBioS staff, local partners, mid and end term evaluations and through steering and strategic committees. The positive M& E is due to a smooth planning and implementation.	see budget table for salaries, coordination, monitoring & evaluation	annual plan and report	Efficient M&E	
	116. Internal and external visibility and recognition of CEBioS		at least 5 mentions in international documents or web sites	Proactive coordination and communication	
	116bis Percentage of women amongst the beneficiaries of the CEBioS programme (gender indicator, transversal to all SO, therefore under coordination)		30	Two staff of CEBioS will follow online UN webinars about gender and biodiversity and set up an action plan which will be implemented from 2019 onwards to reach at least 30% female supported scientists.	
Activities					
• CEBioS is well integrated into RBINS • Professional and unbureaucratic administrative and financial processes • Efficient human resources • Evaluations, audits	117. CEBioS is well functioning within RBINS		6 Biopols reports and sheets	Participation to all inernal RBINS processes	
	118. Efficient administrative and financial processes		Improved contract flow and financial administration in cooperation with central RBINS services		Continuation of improvement of internal processes, looking for better financial interactivity and controlling software

	119. Human Resources stable and satisfied		Dedicated, enthusiastic and professional staff with team spirit and common purpose, stable presence of sufficient technical, administrative and scientific expertise to implement CEBioS	Maintaining present staff and adding one more scientific staff

ANNEX 1: THE LOGFRAME OF PHASE II

The logframe for phase II of the CEBioS programme is composed of 4 'specific objectives', 15 'results', and about 120 indicators.
See also exel file Annex 7

Intervention logic	Indicators	Sources of verification	Hypotheses and risks (See also risk analysis, PLAN+annexes)
General objective :	**Impact indicators** Based on Aichi target 14, SDG 1, SDG 9.5, SDG 14, 15		Political and institutional stability
The protection of ecosystems and their biodiversity in partner countries of the Belgian Development Cooperation, is implemented in order to strengthen their capacity to generate benefits essential for sustainable development of rural populations	1. Positive trends of benefits that humans derive from ecosystem services in a sustainable way in the partner countries are better known, understood, disseminated and are increasing	National reports, statistics about decrease of logging, poaching, encroachment, pollution, overgrazing, conservation conflicts, illicit traffics, increase of respect for indigenous communities, valorization of traditional knowledge, respect for the law, adapted legislation, more co-management options around protected areas, agreements between the state and local communities for sustainable exploitation of resources, responsibilisation of all parties, implementation of Nagoya Protocol, increased cooperation and more mutual benefits between science, agriculture and conservation, increased revenues from bee-keeping, mushrooms and other activities or products from ecosystem services and value chains	Proactivity and capacity of the partners to implement and report the progress at national level, functioning national MRV system
	2. Partner countries show positive trends in the implementation of their biodivesrity and development policies (e.g. NBSAP) with tangible results and good indicators	Indicators in NBSAP and national reports for CBD and other development plans show a positive evolution for biodiversity and sustainable development	Monitoring capacity of CEBioS
Specific objective 1 (SO1):	**Outcome indicators** Based on Aichi target 19, SDG 6.6, SDG 14		

*The **scientists** of the partner countries of the Belgian development cooperation acquire knowledge, understand, apply and disseminate results useful for sustainable management, use and conservation of biodiversity and ecosystem services*	3. Participation by scientists from partner countries in international, regional, national or local MRV or policy processes for biodiversity and development has increased, putting more emphasis on a more efficient science based policy and management of biodiversity related to development	Co-authorships by scientists in international, national, regional or local reports and policies, fora, or project reports attesting their applied research, involvement, and influence on policies and management, self-evaluation forms	Willingness of scientific community to work in a more applied way towards livelihoods and value chains Networking and transparency amongst academic community
	4. Scientists are more able to integrate new knowledge, find appropriate funding, apply it for society and disseminate the results towards policy makers, peers, and the general public, with specific attention to indigenous people and local rural communities, women and youth. (see also other SOs)	Co-authorships by scientists in scientific papers and technical manuals in applied research, project reports, participation in online fora, sites, increase of project funding, personal promotions, accreditations, participations dissemination and awareness campaigns, in juries, awards, congresses, academic degrees, agreements between universities and local communities and authorities, increase of parataxonomists, valorization of community leaders by the academics and their outreach activities	Support by university authorities, faculties, departments, openness of local authorities and communities to scientists and vice versa
Result 1.1 (CB-1): The knowledge and understanding of biodiversity and ecosystem services by the scientists of partner countries of the Belgian Development Cooperation is enhanced and disseminated through capacity building	5. More researchers in the South are empowered to conduct more applied research on biodiversity and development (1) to consolidate the knowledge on habitats and biodiversity, (2) to understand and valorise ecosystem services and their value chains of the protected areas and surrounding rural lanscapes in DRC, Burundi and in Benin and (3) to understand water currents having an influence on coastal erosion and dispersal of organisms such as shrimp or fish in Benin and Vietnam (if external funding). see indicator 14	Peer reviewed papers, project reports, tickets, visa, logistics, contracts for the grantees and the researchers/ promotions , accreditations, academic degrees, academic prices, abcTaxa volumes, nominations, partcipations to juries, congresses, new funding for projects of applied research in international networks	Willingness of scientific community to work in a more applied way towards livelihoods and value chains Full support by the university, rector, faculty, department, valorisation of outreach component in academic careers Mutual openness of the administrations and the local communities towards academic world
	5bis. Annual number of interventions integrating different calls in the institutional cooperation, hence allowing cross-fertilization between science, awareness, MRV and CHM in the science-policy-development interface.	Calls by CEBioS, number of applications, call jury reports, project reports, Exchanges of lessons learned, networking and mentoring amongst CEBioS alumni Contacts between academics and local communities in outreach interventions, test cases to apply improved value chains	

	6. Annual number of mentions in different scientific, policy or popular media with direct or indirect reference to ecosystem service benefits or value chains derived from biodiversity, showing that the scientific community is not in its ivory tower but participates to societal debate and policies by producing and communicating science based evidence (also see for dissemination: SO1.2, 1.3. and 1.4 and SO2)	Mentions in different media and reports at level of academia, policy and press	ability of CEBioS M& E to capture these success stories
Result 1.2 (CHM-IT-1): CHM and other IT tools in service of national research is functional and useful to scientists and their partners	7. Annual nr. of items of scientific information added on the national CHM of partner countries, showing the effective participation by scientists to enrich the CHM with own data (related to indicator 30)	Reports of projects financed under SO1, policy briefs, articles, approved projects available on the CHM, Participation of scientist and partners in national CHM training workshops., stats of number of web visits	Hypothesis: In contracts with partners there is the obligation to post the results on the national CHM of their country.
	8. Number of interventions of grey literature digitalisation, including amount of contents scanned, showing a higher accessibility and usage of this information to the wider expert community and public (stats on nr. of readers)		Risk: Internet connection.
	9. Digitised grey literature is available on national CHM, being a direct consequence of indicator 8, enlarging the use and utility of CHM		access to grey literature
Result 1.3 (MRV-1): Scientist are able to valorize research data for feeding national and local indicators and formulating trends supporting improved biodiversity related strategies	10. Number of MRV project with relevant information feeding into National Biodiversity Reports and other assessments	Project reports	Hypothesis: identifying the right expertise and experts N and S for training can be done and is adapted to the local level of understanding
	11. Number of indicators developed by the partners used to feed into NBSAP	CEBioS reports, NBSAP	Risk: experts and expertise fit to this purpose cannot be found
	12. Number of scientists able to use MRV-related methodologies ot transfer their data towards indicator based systems of reporting	Participant lists workshops, databases, indicators reviewed by scientific facts and figures	Capacity of CEBioS to transfer methodology of GBIF and others
Result 1.4 (AW-1) : Awareness on dissemination methodologies are raised among scientists	13. Number of scientists able to communicate and raise awareness for different audiences in order to valorise science in outreach	CEBioS reports, Participants lists	Hypothesis: identifying the right expertise and experts N and S for training can be done and is adapted to the local level of understanding, Risk: experts and expertise fit to this purpose cannot be found

Activities R1.1 (CB-1) :	**Activity indicators**		
· Coaching of students in terrestrial/freshwater biology and ecosystem services directly by CEBIOS staff to apply for grants, write abstracts for conferences, write papers · Coaching of students directly by CEBIOS staf for marine modelling (SDG 14.2 & A) to apply for grants, write abstracts for conferences, write papers · GTI call and coaching of students by RBINS and external through calls · Coaching of students through GTI call and earmarked budgets · Mobilising/motivating research units in the South to start specific research topics · Organising, co-organize or participate to larger events (symposia , summer schools) · Coordination of editors and PSU for production of abcTaxa · Attending juries by CEBioS staff · Attending congresses by CEBioS staff with poster or oral presentation to consolidate scientific credibility and present results	14. Number of students from the south coached on biodiversity and ecosystem services in the framework of a thesis in the South	Contracts, Tickets, logistics, per diems, hotels, DGD attestations	
	15. Number of GTI grants to young researchers to come to Belgium and alumni database	Articles	
	16. Number of GTI projects supporting RBINS scientists performing capacity building in the South	project reports, logistic documents	
	17. Number of students in RDC (universities, CSB) supported by CEBioS for their field work	Colloquium report, news posts on web site, logistics of missions	
	18. Number of students in Burundi supported by CEBioS for their field work		
	19. Number of students in Benin supported to work in the field	Abctaxa, internal memos between CEBioS and Publication Service Unit (PSU)	
	20. Number of students in Marine modelling	DGD attestations, logistic documents, self-evaluations	
	21. Number of colloquia or symposia on SDGs, post Aichi, biodiversity, ecosystem services and development organised directly by CEBioS	Internal reports	
	22. Annual Number of AbcTaxa produced	volumes of AbcTaxa	
	23. Annual number of participation in Master, PhD and other external grant juries, visitations etc... by CEBioS staff, related to biodiversity and development	Posters, abstracts with CEBioS as co-authors, entries in Biblio4plone	
	24. Annual number of scientific congresses attended by CEBioS staff with poster or oral presentation	Databases accompanied by quality check (marine modeling, Benin, Burundi)	
	25. Annual number of scientific congresses attended by South researchers with poster or oral presentation supported by CEBioS	abstract books, tickets	
	26. Annual number of scientific congresses organised by South researchers with poster or oral presentation supported by CEBioS	abstract books, tickets	

· Supporting South scientists to attend international scientific congresses · Supporting South partners to organise international scientific congresses · Send abcTaxa to South partners or North partners (sales) by the secretariat of CEBioS · Organize policy brief explaining workshops, eventually back to back with other events	27. Number of students in Marine modeling trained in linux based operating systems, programming languages, scientific methodology	progress reports by CEBioS trainer	
Activities R1.2 (CHM-IT-1) :	28. Annual number of scientists participating in national content management workshops or workshops in Belgium.	Workshop/mission report, project reports on national CHM, national CHM statistics	Hypothesis: In contracts with partners there is the obligation to post the results on the national CHM of their country.
· Organising national content management workshops for scientists · Encouraging scientific posts on the CHM · Doing scanning sessions of archives at RBINS and in the countries	29. Annual number of posting on the national CHMs of partner countries related to scientific research done by CEBioS financing (related to indicator 7)	Web site of archives	Risk: Internet connection.
	30. Annual number of scanned pages from the archives (RBINS, Leopold III and others)	Web site of archives	
	31. Number of MRV formulation and training workshops organised	CEBioS reports	Hypothesis: local conditions (political, access, security) are such that workshops can be organized and projects can be executed
Activities R1.3 (MRV-1): · Organise MRV formulation and training workshops Fr and Engl · Organise MRV calls Fr and Engl · Implement and follow up on MRV projects · Organise MRV closing workshops Fr and Engl, back	32. Number of participants at the MRV formulation and training workshops	Participant lists	Risk: political unrest, security problems, inaccessibility of research sites, transportation problems between countries or inside bigger countries (no flights etc)
	33. Number of MRV calls opened	Web Sites	
	34. Number of MRV projects implemented	call selection report, project reports	

to back with awareness methodology workshops	35. Number of MRV closing workshops organised	worlshop report	
	36. Number of participants at the MRV closing workshops	worlshop report	
Activities R1.4 (AW-1):	37. Number of workshops to train scientists in communication and awareness raising	CEBioS reports	Hypothesis: local conditions (political, access, security) are such that the workshops can be organized
· Organise awareness methodology and communication workshops for CEBioS-alumni	38. Number of participants at the awareness methodology workshops	Participant lists	Risk: political unrest, security problems transportation problems between countries or inside bigger countries (no flights etc)
	39. Number of events on vulgarization, dissemination and awareness for marine modelling	# of trainees, pictures of events, report of trainings, thesis	
Specific objective 2 (SO2):	**Outcome indicators** Based on Aichi 7, SDG 2.4., SDG 8.9, SDG 12.2, 15.1		
National implementing authorities *in the south and their partners improve sustainable management and use of ecosystem services to conserve biodiversity and support the livelihood of rural populations through the development of best practices and value chains*	40. Management plans of national authorities, agencies, their local civil society partners and research institutes of partner countries of the Belgian Development Cooperation take into account activities towards ecosystem services, development of value chains and alternative income sources for the local populations. (see also SO4 for mainstreamings into national plans)	National and project reports	Good governance by partner institutions Efficient administrative and financial procedures by RBINS and CEBioS in particular
Result 2.1 (CB-2): Monitoring, management and conservation of ecosystems and services, including development of related value chains by the national implementing	41. Number and skills of staff of implementing agencies, incorporating issues of management, habitat monitoring, stakeholder engagement and valorisation of ecosystem services for local communities. They apply this through participative conservation	Mission reports by CEBioS, annual reports by South partners, scientific publications, lexica, tools, databanks, links with agriculture, rural communities	Willingness and capacity to maintain databanks, to monitor protected areas, to keep science-base as a priority in the management at the environmental agencies, and to make the right choices concerning the promotion

authorities is improved through capacity building			of selected ecosystem services and their value chains
	42. Improved monitoring through campaigns to collect data on the dynamics of habitats - Establish data bases of the LEM habitats	annual institutional and project reports about monitoring of protected areas	
	43. Number of databanks or publications with these data to point out the dynamics trend and to feed national reporting	data banks, reports	
	44. Increasing use of tools (lexica) that facilitate the application of scientific knowledge to ensure the monitoring of habitats and of ecosystem health. (related to indicator 50)	lexica and activity reports using lexica	
	44. bis. Number of concrete projects by environmental agencies or associated partners to promote value chains of ecosystem services for rural livelihoods	concept papers, meeting reports, projects, surveys amongst local communities	good cooperation with actors of other sectors and local communities
Result 2.2 (CHM-IT-2): CHM and other IT tools in service of monitoring and management are functional and are used by the authorities and target publics	45. Number of contributors to the national CHMs in partner countries and Belgium, showing the correct functioning of the national focal point and the contributors network	Meeting reports, Web statistics of the national CHMs;	Hypothesis: In contracts with partners there is the obligation to post the results on the national CHM of their country.
		Reports, public awareness material and results on activities financed by CEBioS available on the national CHMs	Risk: Internet connection.
	46. Number of postings on the CHM about activities under SO2 financed by CEBioS, providing access to valuable information about biodiversity and development	Project reports posted on CHM-sites	Hypothesis: the implementing authorities are interested in the topic
	46bis Number of visits by authorities and large public of dedicated web sites such as CHM, showing the increasing demand and use by interested stakeholders of the information posted on the CHM	Author names on publications	Risk: implementing authorities do not want to cooperate if not paid
Result 2.3 (MRV-2): Scientists, in collaboration with implementing authorities, develop the	47. Number of tools developed by CEBioS-MRV alumni used for awareness raising, and influencing policies	Project reports, policy briefs, papers, events of dissemination and sensibilisation, alumni working, policy plans, concept notes with elements from science supported by CEBioS	MRV alumni still interested to continue cooperation

tools to communicate about the results of their research related to monitoring and managing ecosystems and services, among authorities and decision makers	48. Number of scientists involved in the production of lexica, policy briefs and scientific papers, showing their involvment in the science-policy interface	progress reports by CEBioS programme officer in charge	Hypothesis: authorities competent for monitoring and managing ecosystem services are interested in the topic and open for advise
Result 2.4 (AW-2): The observations and conclusions of the scientific research are vulgarized towards authorities competent for monitoring and managing ecosystem services	49. Number of authorities, decision makers, local organisations and NGO's on having benefited from awareness raising activities and converting it in their professional lives at level of policies or management	Participants lists of local meetings, follow-up formats, self-evaluation	Risk: : authorities competent for monitoring and managing ecosystem services do not want to cooperate if not paid
Activities R2.1 (CB-2) :	**Activity indicators**		
· Implement South trainings in habitat monitoring · Identify, formulate and implement research projects related to value chains of ecosystem services · Collect data on transects in protected areas · Co-produce lexica with local partners **Activities R2.2 (CHM-IT-2):** · Organisation of networking and training events for national CHM · Participation in meetings for development of IT tools in the framework of CBD and EU · Involvement in development or application of mainstreaming tools	50. number of lexica on habitat monitoring (related to indicator 44)	Lexica, internal memos between CEBioS and Publication Service Unit (PSU)	
	51. number of research projects on value chains of certain ecosystem services	Contracts, project reports	
	52. Number of South trainings in habitat monitoring	databases	
	53. Number of Data-sets on transects in protected areas	internal memos and data sets at the local instuitute	
	54. Number of networking and training events for national CHM	Web statistics, mission reports, Reports, public awareness material and results on activities financed by CEBioS available on the national CHMs	Hypothesis: In contracts with partners there is the obligation to post the results on the national CHM of their country. Risk: Internet connection in partner countries.
	55. (moved towards 46bis)		
	56. Number of meetings for development of other IT tools in the framework of CBD or EU	mission report of responsible CEBioS staff	
	57. Number of networking meetings, seminaries, regional workshops for CHM	mission report of responsible CEBioS staff	

	(indicator 58 cancelled)		
	59. Attendance to strategic meetings on development related to the CHM (ind. 58 cancelled)	mission report of responsible CEBioS staff	
	60. Number of exchanges/participation in meetings related to mainstreaming tools	mission report of responsible CEBioS staff	
Activities R2.3 (MRV-2):	61. Number of MRV etc awareness calls organized	CEBioS reports	
· Organise MRV, GTI awareness calls Fr and Engl · Implement and follow up on awareness projects · Create policy briefs with and by CEBioS- alumni **Activities R2.4 (AW-2):** · Create flyers, posters, video's, by and with MRV, GTI alumni · Organise local meetings with specific target groups · Assure the targeted dissemination of the tools produced · Publish activity reports to CHM	62. Number of MRV etc awareness projects implemented	Website	
	63. Number of Policy Briefs published	Policy Briefs, CHM sites	
	64. Number of vulgarizing documents produced	Project reports	
	65. Number of persons involved into awareness activities	Participant lists	
	66. Number of local meetings organized	CHM sites per country involved in the calls	
	67. Number of participants to the local meetings	Participants lists	
	68. Number of dissemination activities	Reports	
	69. Number of reports published at the CHM websites	Reports	
Specific objective 3 (SO3) :	**Outcome indicators** Based on Aichi targets 2, 16 and 17, SDG 15, 16		
The authorities, decision makers and policymakers *develop and implement pertinent policies, strategies and action plans for a sustainable management of the national biodiversity in service of the livelihoods of the local populations in the South*	70. The participation of developing countries in the institutions of global governance is broadened and strengthened	Number of national experts from developing countries participating in international fora a such as COP, IUCN and IPBES	Proactive and open attitude of leadership in administrations
	71. Number of times ecosystem and biodiversity values are mentioned into national and local planning, development processes, poverty reduction strategies and accounts, showing concrete mainstreaming of biodiversity concepts into planning	National and local plans and policies	

Result 3.1 (CB-3): Policy makers in North and South contribute to national and international policy on biodiversity and development in the South	Nagoya: SDG 15.6 and Aichi target 16	Meeting and travel reports/ contracts signed	
	72. Number of CEBioS staff leading agenda items for Belgium as (co-)pilots in international policy meetings like OECD, IBPES by CEBioS staff members		Good cooperation with CBD national focal point and SPF Environment and Belgian platform Biodiversty
	73. Number of partner country staff that were supported or are involved in CEBioS activities, attending international policy conferences and participating to their side events, showing the increased connection and influence of the partner countries with international policy		Proactive and open attitude of leadership in administrations
	74. Number of CEBioS staff leading agenda items for Belgium as (co-)pilots in SBSTTA and COP and expert meetings of CBD, EU and other organisations by CEBioS staff members		Good cooperation with CBD national focal point and SPF Environment
	75. Number of North scientists requesting Nagoya PIC and MAT (related to indicator 89) to the competent authorities as a result of CEBoS training, showing the level of implementation of the Nagoya Protocol		efficient implementation of Nagoya protocol in North and South
	76. Number of South scientists requesting Nagoya PIC and MAT (related to indicator 89) to the competent authorities as a result of CEBoS training, showing the level of implementation of the Nagoya Protocol		
Result 3.2 (CHM-IT-3): CHM and other IT based information and reporting tools for policies are functional and used by the authorities for the development of policy plans	77. Number of CHM technical and IAC meetings participation, showing the level of CEBioS involvement and influence in the global CHM policy	Meeting and mission reports	CHM is functioning in the partner countries
	78. Number of people enabled to train contributors to the CHM in partner countries, showing the sustainability of train the trainer approach by CEBioS	training and mission reports, self-evaluations	
	79. Number of contributors to CHM of partner countries, showing CHM community network is functioning	Web statistics	
	80. Participation in CHM-related activities such as juries, contests, prices by partner countries, showing value the CBD or D4D price is attributing to CEBioS and partners	Prices, juries, contests	

	81. Visits to the CHM websites of partner countries and others that receive support through South-South cooperation, showing functioning South South cooperation and exchange of best practices	Mission and project reports	
Result 3.3 (MRV-3): Reporting to NBSAPs and other biodiversity related plans is based on evidence-based data, and local authorities adopt or develop decisions and policies based on CEBioS project results	82. Number of official documents using MRV for reporting, showing a functioning science-policy interface	NBSAP's and other biodiversity related plans	Hypothesis : scientists are able to identify data suited for reporting and authorities responsible for reporting to the different biodiversity related plans are willing to consult scientists and accept their input
	83. Number of official documents referring to new relevant policies or decisions and local plans, referring to documents, reports, actions of CEBioS projects and alumni	Official documents issued by local authorities	Risk: scientists do not understand the potential of their work in the framework of biodiversity related plans and authorities responsible for reporting to the different biodiversity related plans do not consult scientists
Result 3.4 (AW-3): Awareness on biodiversity governance and available tools is raised amongst authorities and results in the formulation of policies and organization or participation to (inter)national policy events	Based on SDG 12.8		
	84 Number of projects on awareness raising carried out, showing qualitative projects to raise awareness amongst deciders and policy makers, as well as civil society (see R4.3), so that these stakeholders will adapt their behaviour when taking decisions or management actions	Observations in documents of a change in the focus of experts and decision makers to incorparate more respect for biodiversity in their decisions	Green light by competent authorities and active links between sectors and ability of partners and CEBioS to report on it
	85 Number of national and sub-national deciders attending meetings for awareness raising, showing proactivity and willingness to do outreach and understand the policies at stake	reports of workshops and worksqhop evaluation forms	
	86 deleted		
	87 deleted		
Activities R3.1 (CB-3):	**Activity indicators**		
· Attend international policy meetings for OECD, IBPES · Attend SBSTTA and COP of CBD	88 Number of international policy meetings attended by CEBioS staff and partners	Travel reports, training and project reports	
	89 Number of trainings on Nagoya P. organized (related to indicator 76)	Contracts, results on activities financed by CEBioS available on the national CHMs	

· Support and promote South attendance to SBSSTA, COP etc.. · Organise NP trainings in North · Organise NP trainings in South			
Activities R3.2 (CHM-IT-3): · Attend CHM technical and IAC meetings · Attend CHM-related activities such as contests, prices · Organise CHM trainings in partner countries · Stimulate partners to participate in in CHM related activities	90. Number of CHM technical and IAC meetings participation	Travel reports, training and project reports, web statistics	
	91. Number of CHM trainees in partner countries		
	92. Number of Participation in CHM-related activities such as contests, prices by partner countries		
	93. Visits to the CHM of partner countries and others that receive support through South-South cooperation		
Activities R3.3 (MRV-3):	94. Number of documents produced by MRV alumni for uptake in NBSAPs and other biodiversity related plans	CEBioS reports, CHM sites	Hypothesis : authorities responsible for reporting to the different biodiversity related plans are willing to consult scientists and accept their input
· Publish summaries of tendencies, indicators, research for uptake in NBSAPs and other biodiversity related plans · Special training session on reporting for uptake in NBSAPS and other biodiversity related plans during the MRV closing workshops · Coaching of scientists to valorize their research results and to report for NBSAPs and other plans on individual basis	95. Number of special training sessions on reporting for uptake in NBSAPs and other biodiversity related plans	scientific papers, presentations at conferences	
	96. Number of special training sessions on best practices during the awareness training and MRV closing workshops	mission reports, workshop reports	Risk: authorities responsible for reporting to the different biodiversity related plans do not consult scientists
	97. Number of scientists coached by CEBioS staff to valorize their results with regards to reporting to the NBSAPS or other plans	mission reports, workshop reports	

· Special training session on best practices during the awareness training and MRV closing workshops **Activities R3.4 (AW-3):** · Attend/organise national or regional deciders meetings · Attend/organise side events and CEPA sessions at COPs and other national and international meetings;	98. Number of national meetings organised involving policy makers 99. Number of regional meetings attended. Number of side events attended and/or organized during COPs and other national and international meetings	Travel reports, projects signed to organize meetings, presentations	
Specific objective 4 (SO4) :	**Outcome indicators** Based on Aichi target 1 and 4, SDG 17		
Enhanced synergy between the partners of the Belgian Development cooperation, civil society and the private sector to achieve sustainable development by mainstreaming biodiversity issues	101.Number of activities on North-South, South-South, triangular regional and international cooperation to enhance access to science, technology and innovation and enhance knowledge sharing	reports of the CFCs and strategic dialogues with CEBioS contributions, contributions to learning trajects	Openness with other Belgian actors towards biodiversity mainstreaming Support of Belgian embassies
	102.Number of activities that promote effective public, public-private and civil society partnerships for a sustainable use of ecosystem services in rural landscapes	**Project reports, self-evaluations, number of contracts and MoUs**	Demand by Enabel for advice on indicative programmes, mixed commissions, Active role of CEBioS in strategic dialogues with ACNGs for priority countries Benin, Vietnam, RDC and Burundi, next to the secundary countries Tanzania, Uganda, Burkina faso, Guinée, Palestina
Result 4.1 (CB-4): Increased synergies of CEBIOS with ACNG's, DGD, ENABEL and private sector for mainstreaming of biodiversity	103.Number of projects in the South involving synergies or complementarities with Belgian actors	Travel and meeting reports, Project reports and contracts	Hypothesis : synergies can be identified and worked out in detailed realistic plans, Risk: identifying synergies is barely or not possible
Result 4.2 (CHM-IT-4): CHM and other mainstreaming tools are functional and are used by the partners of the	104. Number of projects reports of partners of the Belgian Development cooperation available on the national CHMs	Project reports, web statistics	Hypothesis: the national CHM focal point manages to activate the partners, civil society and the private sector in the country.

Belgian development cooperation, civil society and private sector	105. Number of additions on the national CHMs on activities by civil society and the private sector.		
Result 4.3 (AW-4): The awareness about sustainable use and management of biodiversity is raised within the partners of the Belgian development cooperation, civil society and private sector	106. Number of initiatives raising awareness on biodiversity and development in private sector and NGOs (with call explained under R3.4), with these stakeholders being more aware of positive and negative effects on biodiversity of their actions and projects and accepting the concept of environmental impact assessements or other tools as powerful mitigation and precautionary measures.	Contracts and project reports, effective use of tools by stakeholders, baseline studies, self-evaluations	Risk: there is no partner country interested in working with these sectors
	107. Number of training sessions to increase capacity on awareness in North (CEBioS) and South for the partners of the Belgian development cooperation, civil society		
	108. Number of projects to measure change in perception on biodiversity of target groups of activities financed by CEBioS.		
Activities R4.1 (CB-4):	**Activity indicators**		
· Attend strategic dialogues in Belgium and whenever possible in the South · Conclude strategic talks and MoUs · Implement synergy projects with ACNGs and local partners	109. Number of strategic dialogues attended	outlook agenda, individual logbooks, time sheets	
	110. Number of meetings in Belgium for Fiabel, Educaid, etc attended		
Activities R4.2 (CHM-IT-4): · Organise training on CHM use and insist on the participation of partners, civil society and the private sector.	111. Number of training workshops	mission reports, workshop reports	
Activities R4.3 (AW-4):	112. Number of participants from the target group participating in training workshops		
	113. Number of meetings organized for the chosen target groups organised or attended		

· Promote biodiversity and development with private sector in the South · Promote biodiversity and related tools in strategic dialogue and learning trajects · Organise training on awareness · Calls to raise awareness of target groups · Calls to measure change in perception of target groups.	114. Number of projects to raise awareness signed	contracts	
COORDINATION AND MANAGEMENT : CEBioS programme is implemented according to plan in a professional way and is recognised as an expertise centre for biodiversity and development	115. Positive monitoring and evaluation through OD Nature, CEBioS staff, local partners, mid and end term evaluations and through steering and strategic committees. The positive M& E is due to a smooth planning and implementation.	Internal memos, mission reports, weekly team meetings, concept notes, expenditure sheets, annual reports and plans, powerpoints and reports of steering committee and strategic committees, mid- and end of term evaluation, project evaluations, press articles, presence on dedicated web sites, invitations to participate in projects, papers, debates, colloquia, juries, synergies with other development actors	See risk analysis in 5 yr plan, see monitoring and evaluation in 5 yr plan
	116. Internal and external visibility and recognition of CEBioS	web sites, papers, mentions in global policy papers, interviews, press coverage	
	116bis Percentage of women amongst the beneficiaries of the CEBioS programme (gender indicator, transversal to all SO, therefore under coordination)	% female scientists supported by CEBioS	correct gender attitudes in North and South, adapted eligibility criteria in CEBioS calls and other CEBioS capacities and actions to promote gender
Activities/ Coordination & Management			
· CEBioS is well integrated into RBINS · Professional and unbureaucratic administrative and financial processes · Efficient human resources · Evaluations, audits	117. CEBioS is well functioning within RBINS	BIOPOLS and OD Nature Business reviews reports and activities, highlights, monitoring sheets	Support by OD Nature
	118. Efficient administrative and financial processes	Internal memos, development of contract flows, financial software, fast payment of contracts, efficient controlling of expenses	updates of better systems are efficient and implemented, follow-up is implemented , responsibilisation of staff
	119. Human Resources stable and satisfied	Development circles, function sheets, regular M&E of staff, absence of burnouts, social activities, efficient knowledge management and M&E	

ANNEX 2: MONITORING FRAMEWORK (EXEL FILE)

Because of lay-out reasons, the monitoring framework is not included in this document, **but can be consulted in annex 7, exel file.**

ANNEX 3: THE THEORY OF CHANGE, AS A BASIS FOR THE FORMULATION OF THE LOGFRAME

The new logframe for phase II of the CEBioS programme has been built in a participative way in North and South based on the principles of the Theory of Change.

The following steps were undertaken:

1. Timeline of formulation
2. Risk analysis based on a listing of external factors mainly affecting the sphere of influence (using PESTEL method).
3. Stakeholder analysis according to the 3 spheres of outcome mapping
4. Narrative of the intended changes, formulating hypotheses of short-mid-term and long-term outcome and change
5. Conversion in a results based format (logframe with indicators)

1-Timeline of the formulation of phase II

The formulation of phase II was an iterative and participative process, which took place in 2018, the last year of phase I:

- **February 2018**: participative workshop on the Theory of Change (ToC) with external moderator Luc Ameye (APEFE). Participants to this workshop were the CEBioS staff, the direction of RBINS, representatives of the Belgian Biodiversity platform, the communication officer of DO Nature of RBINS, DGD staff and BELSPO staff. Participants were introduced to the ToC and applied it directly to the CEBioS program. This generated sufficient elements to continue the formulation.
- **April 2018**: participative workshop on the Theory of Change (ToC) in Burundi with institutional partner OBPE (Office Burundais pour la Protection de l'Environnement) and many other stakeholders, including the Belgian embassy and Belgian and local NGOs. This allowed to gather and validate data for the formulation of phase II for this cooperation.
- **April 2018 and June 2018**: participative workshop on the Theory of Change (ToC) in DR Congo with institutional partner CSB (Centre de Surveillance de la Biodiversité), MEDD and many other stakeholders. This allowed to gather and validate data for the formulation of phase II for this cooperation.
- **May 2018**: participative ToC workshop in Belgium with our African partners, national focal point of the Clearing House Mechanism (CHM, a CBD driven digital network of national web sites regrouping biodiversity information, strongly supported by CEBioS).
- **June 2018**: participative workshop on the Theory of Change (ToC) in Benin with institutional partner IRHOB (Institut de Recherches Halieutiques de l'Océan au Benin) and other stakeholders.
- **September 2018**: last minute cancellation of ToC workshop in Benin in June 2018 with UAC (Université Abomey Calavi), due to unforeseen sickness. This workshop has then taken place in the last week of September 2018.
- **June-August 2018:** 4 CEBioS seminaries and several face to face meetings to build up the new phase II log frame, a meeting with the RBINS direction and a technical meeting with DGD to discuss the work in progress.
- **September-February 2019**: continuous updating of the 5 year plane within CEBioS team, as well as on the annual 2019 plan, the 5 yr budget, the log frame and the monitoring log frame.

2-The spheres of and the Theory of Change and the envisaged changes

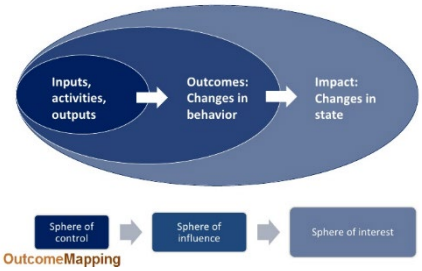


Fig. Scheme of theory of change, explaining the different spheres where stakeholders and partners are belonging to.

3-Risk analysis based on PESTEL external factors

Approach

The methodology used for risk analysis consisted of a listing in a workshop setting (in North and South) by partners of positive and negative external factors influencing the programme at the level of the sphere of influence, the institutional cooperation or the tools used. The factors were listed according to the PESTEL scheme, abbreviation for *political, economic, social, technical, environmental and legal factors*. Then, the negative factors were attributed a probability and impact score as illustrated. Mitigation measures were added, whenever relevant.
It should be noted that this exercise strongly scopes the gaps, needs, demands by the stakeholders as well.

Managing intervention risks: Risk appetite

Probability	1-Negligible	2-Minor	3-Moderate	4-Major	5-Severe
4-Almost certain	4-Low	8-Medium	12-High	16-Extreme	20-Extreme
3-Probable	3-Low	6-Medium	9-Medium	12-High	15-Extreme
2-Possible	2-Low	4-Low	6-Medium	8-Medium	10-High
1-Unlikely	1- Low	2-Low	3-Low	4-Low	5-Medium

Potential impact

The positive PESTEL factors for the CEBioS programme

POLITICAL
North: support by Belgian embassies- increasing international interest for biodiversity- SDGs

South: security increasing in stable countries-good governance and political will-decentralisation-democratic transition-existing local demand-recognition of the importance of ecosystem services

ECONOMIC
CBD commitment to double BD budget globally-stable economy-increasing awareness to enter transition economy and foster green economy

SOCIO-CULTURAL
North: increasing awareness about Development Cooperation and transition economy-visible effects of climate change
South: local traditional knowledge and acquaintance with the context-enthusiasm of population-youth open for change-creativity, looking for alternative solutions despite lack of resources-resilience- positive use of cultural taboos for conservation

TECHNICAL
North: skills for capacity building and transfer to the South, technical resources
South: trainings in technical skills. South expertise becomes more and more available to train peers.

ENVIRONMENTAL
North and South: visible effects of climate change will prompt political decisions- SDGs
South: value chains for biodiversity products-renewable energies-BD rich zones to be protected-ecosystem resilience

LEGAL
Ratification of laws-favourable legal framework for CEBioS activities

The negative PESTEL factors and risk assessment affecting the CEBioS programme- details

PESTEL factors affecting the CEBioS programme were identified in participative workshops at the level of CEBioS in Belgium, OBPE in Burundi, CHM in Belgium (South partners), UAC in Benin, IRHOB in Benin and CSB in DR Congo.

RISK MANAGEMENT MATRIX							
Identification		**Assessment**			**Control**		**Follo w-up**
Identification	**Risks**	**Probability (1-4)**	**Potential impact (1-5)**	**Total risk level (1-20)**	**Mitigation measures**	**Owner**	**Follo w-up**
	POLITICAL						
ToC workshop for CEBioS (Febr. 2018)	Embassy rotations of personnel	4	1	4	Re-inform new embassy personnel about CEBioS programme	CEBioS	
	Uncertain future of BELSPO, federal institutions	2	2	4	Support role of Belspo in the steering committee and as co-signatory of the protocol of cooperation	RBINS, Belspo	
	Budgetary restrictions	2	3	6	Continuous lobbying for the good cause	RBINS, Belspo and DGD	
Also mentioned by IRHOB	Conflicts, political instability	2	3	6	Only implement what is possible and allowed by Belgian policy of Foreign Affairs	Foreign Affairs, DGD, RBINS	
	Bad governance, democratic deficit	2	2	4	Strict financial follow-up, retract from cooperation if honesty is not warranted	CEBioS	
	Weak participation by local populations in the policy processes and weak implementation	3	2	6	Promote participative approach with partners	CEBioS, partners	
	Conflicts of interest, corruption	2	4	8	Be vigilant and report malversations	CEBioS	
Also mentioned by IRHOB	High personnel turn-over with partners	3	2	6	Ensure continuity by promoting information sharing and mutual learning	CEBioS & parners	
	Biodiversity low on the agenda	2	4	8	Awareness raising at all levels	CEBioS & partners	

Also mentioned by IRHOB	Problems of timing	1	1	1	Good planning	CEBios & partners	
	ECONOMIC						
Also mentioned by IRHOB	Banking systems not well developed in the South, weak local financial resources	2	2	4	Ensure transparent financial management	RBINS, CEBioS, partners	
	Lack of alignment between bookkeeping systems	2	2	4	Align whenever possible or be aware of different systems and adapt as much as possible	CEBioS	
	Bad or weak administrative and financial management	2	3	6	Capacity building in administrative and financial management	CEBioS or third parties	
	Variable currency exchange rates, inflation	3	2	6	Pay in dollars if budget is made up in dollars to avoid currency exchange rates	RBINS	
Also mentioned by IRHOB	Biodiversity is under-financed	4	2	8	Participate to policy and influence it	National Focal Points CBD supported by CEBioS	
	Priority given to existential needs perception-economic growth for poverty eradication prioritized	4	2	8	Implement projects dealing with valuating ecosystem services, such as Evamab, lobbying	CEBioS and partners	
	SOCIO-CULTURAL						
	Discrepancy between ambitions and feasibility on the field	2	3	6	Participative formulation of projects to ensure ownership and adherence to the Paris Declaration on aid efficiency	CEBioS & partners	
	Indifference to biodiversity	3	3	9	Awareness campaigns	CEBios & partners	
	Lack of critical positions and creativity	3	3	9	Capacity building in project writing, scientific writing etc	CEBioS, AfricaMuseum	
	Fear and resistance to change	3	3	9	Use techniques of change management	CEBioS, supported by third parties	
	Gender discrimination	3	3	9	Talk about it, include positive discrimination in project/ personnel selection	CEBioS	
	Cultural inhibitions, taboos	2	2	4	Be open, transparent and inclusive about these issues (soft skills)	CEBioS, eventually seconded by anthropologist or sociologists	
	TECHNICAL						
	Weak logistic, management, administrative and financial capacities	3	2	6	Capacity building at project level	CEBioS	
Also mentioned by IRHOB	Lack of infrastructure, equipment, consumables	3	1	3	Include small equipment in projects	CEBioS	
	Weak internet, electricity cuts	3	2	6	Find solutions such as solar panels	CEBioS & partners	
	Weak technical and ICT knowledge	3	3	9	Training	CEBioS	

	ENVIRONMENTAL						
	Poaching	3	1	3	Awareness, bushmeat campaigns and research	CEBioS, WWF and other NGOs, scientists	
	Environmental degradation, deforestation, erosion	4	1	4	Awareness raising, campaigns	CEBioS, WWF and other NGOs, scientists, AfricaMuseum, BG Meise	
	Climate change	4	1	4	Awareness raising, campaigns	CEBios and specialists	
IRHOB, June 2018	For Benin coastal zone: pollution by plastics threaten marine turtles, overfishing, coastal erosion pollution, e.g. phosphates from Togo, leakage of hydrocarbons from oil platforms, hydro-climatic perturbations	4	1	4	Awareness raising, informing and lobbying, management of sargasse algae, prohibition of plastic bags, creation of ecological zonations, integrated coastal management, capacity building of staff	IRHOB	
	LEGAL						
	Lack of surveillance to apply the law	3	1	3	Strengthening local authorities with more self-respect and expertise	CEBioS	
	Lack of legal framework for biodiversity	2	4	8	Promoting values of CBD to influence legislature for better legal framework	CEBioS & partners	
	No respect for regulations and law	3	1	3	Information efforts, lobbying	Partners of CEBioS	

PESTEL analysis of positive and negative factors affecting the CHM and Risk analysis

Following the 28 May 2018 colloquium, the national focal points and CHM web masters from Africa received a one-day training on the Theory of Change and made some exercises applied to the Clearing House Mechanism. This provided useful output to be used in the five-year programme of phase II of the CEBioS programme.

PESTEL factor	**Positive**	**Negative (risk)**	**Risk matrix score Probability (1-4)/impact (1-5)**	**Risk score**
POLITICAL	• Sensibilisation strategy • National Focal Points • Priority by Minister	1. Absence of NFP 2. No cooperation 3. Lack of coordination framework	1/4 3/2 3/3	4 6 9
ECONOMIC	• Sufficient fundings • Resource mobilisation with the donors	4. No budget line 5. Delays of cash flow 6. Bureaucracy	4/2 3/3 3/3	8 9 9
SOCIAL	• Adherence by population	7. Rural illiteracy	4/1	4

	• Use of CHM as a research tool • Cooperation amongst actors	8. Urban illiteracy 9. Lack of knowledge 10. lack of input	2/1 3/4 3/4 2/3	2 12 12 6
TECHNICAL	• Alternative energy	11. Lack of internet connection 12. Lack of current	1/4 3/5 (Morocco: 1/5)	4 15 (5)
ENVIRONMENTAL	• General Environment Plans • NBSAP	13. Lack of environmental data 14. Lack of access to data	1/4 2-3/4	4 8 12
LEGAL	• Legal and institutional anchoring • Conventions, agreements, contracts, MoUs, guidance documents available	15. Absence of respect and application of the laws 16. Outdated laws	3/1 3/1	3 3

Nr. of Risk	Mitigation measures
1	Lobbying for nomination of National Focal Points
2	Mediation, Meetings, facilitation, more coordination
3	Well defined mandates, communication increased
4	Lobbying, administrative reforms
5	Communication and follow-up
6	Communication and follow-up
7	Use of other media and local languages
8	Use of other media and local languages, dialogue
9	Use of other media and local languages, dialogue
10	Post-training follow-up, regular meetings, motivation, contests
11	Private sponsoring, lobbying
12	Alternative energy
13	Agreements with universities, institutes, scientists, access to environmental impact assessments (mines...)
14	Agreements with universities, institutes, scientists, access to environmental impact assessments (mines...), workshops for sharing information and sensibilisation, uptake, restitution for deciders, academics, technical partners, CBD, APA
15	Visibility of the laws, publication of trespasses, infractions, sanctions, use of the press
16	Lobbying, sensibilisation

Risk analysis by OBPE in Burundi

Nr.	SEV	PROB	Risk score	Mitigation
POLITICAL				
1-interruption of cooperation	5	2	10	OUT
2-political instability	3	2	6	OUT
3-rotation of embassy personnel	2	1	2	OUT
4-budget restrictions	5	1	5	OUT
5-weak mobilisation of partners	4	3	12	IN: multiplicator effects amongst partners
ECONOMIC				
6-poverty of population	4	4	16	Actions on final beneficiaries with alternative value chains
7-weak public-private partnership	3	2	6	IN: sensibilisation, cooperation frameworks, involvement of stakeholders
8-weak administrative and financial management and payment difficulties	2	2	4	IN: improvement of administrative processes in the cooperation
SOCIAL				
9-increasing demography	4	4	16	OUT
10-lack of interest for BD	4	4	16	IN: sensibilisation, incentives, conferences
11-resistance to change	3	2	6	IN: lobbying, sensibilisation, incentives, financial motivation (Payment for Ecosystem Services)
12-discrepancy between ambitions of CEBioS and reality in the field	2	2	4	IN: participative formulation, monitoring and evaluation
13-weak level of critical spirit and initiative	2	2	4	IN: self-evaluation, Initiatives, training, encouragements, exchange of experience, lessons learned, best practices
TECHNICAL				
14-weak logistics	3	2	6	IN: training, improved management, culture of transparency and exchange, sharing
15-poor equipments	3	2	6	IN: increased cooperation, access, maintenance, efficacy
16-lack of electricity	2	2	4	IN: solar panels, maintenance, training
17-lack of internet	4	3	12	IN: internet fee, implementation of contracts
18-weak knowledge of GIS	3	2	6	IN: trainings
19-lack of sharing of information between colleagues and lack of use of good formats	4	3	12	IN: organisation of seminars/ thematic working groups (pex APA, P. inv, 8J/ access to results / better use and input to CHM/ better knowledge of the CHM/ no secrets, accessibility, complementarities promoted
20-manual monitoring of habitats	3	3	9	IN: improvement of techniques, training, equipment, digitalisation, data bases, exchange of experience, publication, networking between cadres and park managers
21-lack of data about population	5	4	20	IN: inventories, regular counts, ecological monitoring, data bases, production of manuals & lexica (wildlife+ flora), training, technology (cameras, drones…), observation posts (miradors), international training

22-lack of access to satellite imagery and maps	4	3	12	IN: means, knowledge, focal points, partnership giving access, training
23-weak technical and ICT knowledge	4	3	12	IN: training, software, follow-up of trainings, equipments, maintenance
24- weak access to software and their licences	4	3	12	IN: IDEM
ENVIRONMENT				
25-poaching	2	2	4	IN: sensibilisation, alternative resource mobilisation, alarm systems
26-environmental degradation	3	2	6	IN: very large, refers to other risks
27-bad environmental conditions	2	1	2	IN: infrastructure of adaptation
28-climate change	2	2	4	OUT but see 27
29-no transformation of products in the value chains	4	3	12	IN: cooperation projects, bambou, rotan, medicinal plants
30-invasive species	4	3	12	IN: monitoring, assessments, cartography, management and valorisation of biomass (eg water hyacinth), coopérations with other institutes of research, eg ICIPE. Exchange on experience with artisanal and other products
31-water, air, soil pollution	3	2	6	IN: follow-up, analyses, sensibilisation, application of the law, technical training, waste management
32-loss of biodiversity	3	2	6	Too general: status of threatened species, (lists CITES, IUCN), distribution, use of CHM, national reporting CBD, NBSAP
33-degradation of agricultural land	3	2	6	In: promote agroforestry/reforestation, sensibilisation, work with specialised NGOs, lobby with other ministries/ improve techniques/ high level dialogue
34-forest degradation, deforestation	3	2	6	Idem
35-mining	3	3	9	In: restauration of ecosystems, environmental impact assessments
36-oil exploration (L. Tanganyika, L. Albert, etc...)	3	1	3	In/out: lobbying, environmental impact assessments
LEGAL				
37-lack of suveillance of application of the law	3	2	6	In/out: evaluation of the actual status, increase of controls, lobbying/sensibilisation about laws, media tools
38-lack of legal framework	2	1	2	Out: Role to play at CBD COPs
39-non-respect of regulations and laws	3	3	9	See 38
40-lack of texts explaining how to apply the law	3	2	6	Idem
41-lack of legal knowledge	4	3	12	Sensibilisation, translation of texts, vulgarisation/multiplication, identification of target publics
42-lack of culture of law abiding	3	3	9	Changes of attitudes and mentalities
43-lack of environmental inspectors	2	2	4	Adoption of laws, strengthening of existing inspectors
44-weak coordination, overlapping, conflicts	2	2	4	Meetings/framework of concertation, attribution of roles/responsibilities, coaching, FOBAC
45-lack of planification of careers in national parks	4	4	16	Training, career planning, HR management, transfer of knowledge and data
46-lack of equipments in protected areas	4	3	12	Finances !
47-lack of top down incitations, motivations	3	2	6	Sensibilisation of deciders, incitations, formations, management tools

(in French)

Les facteurs PESTEL positifs :

Politiques

NORD

- Support des ambassades de Belgique nécessaire
- Croissance de l'intérêt international pour la BD OUI
- Objectifs du Développement Durable OUI

SUD

- Sécurité dans pays stables OUI
- Bonne gouvernance et volonté politique OUI
- Décentralisation OUI: antennes de OBPE au niveau des provinces, rep de OBPE communes et AP responsables et chefs de secteur et gardes
- Transition démocratique
- Demande locale existe OUI
- Reconnaissance de l'importance des services écosystémiques OUI, interet des gouverneurs, des administrateurs…

Economiques

Opportunités:

Partenaires potentiels comme BM, BE, PNUD, beaucoup d'autres. Potentiels touristiques avec les parcs, AP, sites (pex: zones thermales, lac TG), culturels. Existence SE a valoriser: champignons, rotan, bambou. Les SE vendus aux bénéficiaires, régie des eaux, le thé, opp de financement, marché carbone, fonds de climat REDD+, taxation sur exploitation de minerais. PES , écotaxes, pollueur payant

Socio-culturels

- Connaissances traditionnelles et du contexte OUI
- Enthousiasme des populations OUI
- Jeunes ouverts au changement OUI
- Débrouillardise, créativité malgré le peu de moyens, résilience, pas fréquent , ouverture au changement, pex les apiculteurs, multiplicateurs d'arbres, champignons
- Ajout: aspect culturels tenant compte de l'environnement: pex: interdits culturels, enfant: pas tuer lézards, la mère va perdre les seins; contes; récits; dictons, chanson

Technologiques

Existence de formations méthodologiques: opportunités: formations sporadiques, présence de fibre optique, panneaux solaires, sociétés de telecom qui couvrent pays. UB met sur pieds centre de recherche + aspects environnementaux et obligation de travailler avec centre de recherche de l'OBPE

Environnementaux

- Filières de transformation de la BD (chaînes de valeurs): existence de ressources biologiques potentielles nécessitant une transformation
- Energies renouvelables OUI, potentialités hydro, soleil, vent, biomasse pas utilisée (écoles, prisons, compostage)
- Zones riches en BD à protéger OUI
- Résilience des écosystèmes OUI
- Ajout: zones écologiques diverses: 5 du Burundi: lié à géographie
- Potentialités pour devenir AP: lac TG, massifs dans le sud
- Projets PNUE

Légaux

- Ratification de lois OUI, pex SPANB, stratégies gestion produits forestiers non ligneux (gouvernance)
- Cadre légal favorable aux activités de CEBioS et OBPE OUI
- Cadres de l'OBPE ont le pouvoir de OPJ OUI, formés! 30 par an
- Ajout: cadre légal favorable a la conservation, différents codes for, env, eau, chasse interdite, loi pêche et aquaculture, collaborations avec acteurs, ONG locales, partenariats

Institutionaux (OBPE)

- OBPE, ministère de l'environnement, associations locales, MoU existants, contrats
- Offres de formations et de suivi ou de suite

Risk analysis by UAC in Benin

(in French)

Facteurs PESTEL positifs

Politiques: la volonté politique, le cadre institutionnel favorable
Economique : capacités des gestionnaires sur le plan économique à mettre en oeuvre une stratégie de gestion des feux, bénéfices accrus pour les communautés riveraines en lien avec activités liées à la biodiversité)
Social : implication de la population riveraine dans la gestion des ressources, partage équitable des bénéfices, conscientisation de la population riveraine par rapport aux avantages des services écosystémiques
Technologique : accès aux outils biotechnologiques, accès facile et à coût réduit aux TIC
Environnement : essor de conscience environnementale à tous les niveaux, existence des réserves de biosphère
Légale : ratification de la CBD par le bénin, ratification de CITES par le Bénin, loi 2002 de 18 octobre 2004 portant régime de la faune en république de Bénin, ratification de toutes les conventions sur l'environnement : CMS, RAMSAR, CITES, CBD, CCC etc., loi sur la flore de décembre 1993, loi-cadre sur l'environnement

Facteurs négatifs PESTEL et analyse des risques

PESTEL	Facteurs négatifs	probabilité	impact	risque	atténuation
P	Insuffisance des intrants	National 4 Externe 1	5 3	20 3	FSOA (2018) fond fiduciaire (charges de fonctionnement), rédiger des projets de recherche, améliorer la gouvernance des finances
	Insécurité régionale	2	2	4	Programme d'urgence pour la sécurité des aires protégées, obligation des chercheurs d'alerter les autorités compétentes lors d'observation d'acteurs illégaux
Ec	Faible niveau de vie des populations locales qui peut les amener à poser des actions illégales dans la réserve	3	2	6	Education, sensibilisation, information, intégrer les populations dans les activités de recherche, utiliser les guides de APN et AVIGREF, brigade spéciale de l'APN
	Commanditaires extérieurs/ Fond agricole	3	3	9	
S	Conflits entre acteurs, groupes sociaux-culturels, population et gestionnaires	3	4	12	Concertation à la base, gestion intégrée, clé de répartition, clareté des droits et devoirs, co-gestion APN, conseil de gestion, edition des outils, matériel d'information, médias, ateliers de restitution, CHM
	Manque d'information et de sensibilisation	2	4	8	
T	Non-accès aux outils biotechnologiques pour les chercheurs	3	4	12	Collaboration avec d'autres équipes de recherche, inclusion de co-financements des outils
	Accès difficile et coûts élevés des TIC	2	3	6	
En	Forte dépendance des communautés envers les aires protégées	4	3	12	Promotion des activités génératrices des revenus, promotion de l'agroforesterie, création de jardins

	Faible niveau d'adaptation aux changements climatiques	4	4	16	communautaires, valorisation des plantes médicinales, référence à PANA et aux travaux de recherche sur les changements climatiques : synthèse
L	Insuffisance des décrets de mise en application des lois	3	4	12	Réaliser des plaquettes illustrées pour une meilleure vulgarisation des lois, reconnaissance du cadre légal par les chercheurs, promouvoir le sens de la citoyenneté, montrer l'exemple, utiliser les médias sociaux avec de petites vidéos, simplification des textes juridiques.

Risk analysis by CSB in DR Congo

The participants at the workshop insisted to take into account the following statement:
Une analyse PESTEL ne peut pas représenter la réalité congolaise parce qu'il y a, avant tout, l'instabilité politique.

	Facteurs positifs	**Facteurs négaitfs**
P		INSTABILITE POLITIQUE, lourdeur administrative tracasseries
Ec		Inflation monétaire
S	système coutumier présent, diversité etnique	Disparition de la richesse ethnique, intoxication des masses, pauvreté, chômage, division économique qui augmente, évolution de la démographie
T	Le modernisme (briques, panneaux solaires, foyers améliorés, internet)	
Ev	Resources naturelles présents	
L	Gouvernance international de la BD	Non-application des lois

4-Stakeholder analysis

Stakeholders analysis for the general CEBioS programme in phase II

Table : The stakeholders and partners of the CEBioS programme in phase II are listed in a perspective of the Theory of change. Note that several partners and organisations can be present in several spheres of influence.

		INTEREST AND ATTITUDE TOWARDS PROJECT	ROLE IN PREPARATION PROCESS		
	Organisation				
Sphere of control				**Intended change at team level**	**Intended change at programme level**
CEBioS	RBINS	+++	+++	Better follow-up of outcome, better prioritisation, more integration between sub-programmes, better results based management, better indicators (SMART and SPICED), develop a theory of change, align strategy on the needs and demand and not only on offer, better visibility and readability, avoid redundancies	A professional team implements and follows-up efficiently a performing programme according to results based management, based on needs and demands from the South
				Complementarities	**Synergies**
Institutional stakeholders	DGD, ENABEL, CBD, Environment Ministries, BELSPO, AfricaMuseum, Institutions in partner countries, BE-UE-UN, ICCN, WWF.be, ULB-UCL Coopération, KMDA, , RBINS, VLIR-ARES, FIABEL	+++	++ (for DGD, RBINS, OBPE, UAC LABEF, BELSPO)	To be determined, but possibilities exist with Enabel, WWF-RDC, KMDA, ULB Coopération etc.	Continuation with VVOB, institutional partners in south countries etc.
Financial stakeholders	DGD, ENABEL, UE, UNESCO, , VLIR-UOS-ARES, CBD, Ministères de l'environnement, BELSPO			Implementation of projects funded by several parties, using scale effects.	Implementation of projects funded by several parties using opportunities of common actions whenever possible in transparency.
Scientific stakeholders	MNHN, Environment Ministries in partner countries, BELSPO, AfricaMuseum, Botanical Garden MEISE, IPBES, UNESCO, , Belgian Universities,institutions and universities in partner countries , Partners MRV, CETAF, KLIMOS, ICCN, , KMDA, RBINS, NEGOCIATORS BE UE UN	++	++ for the direct partners in the South	The priority scientific stakeholders are scientists from RBINS and other federal institutes, as well as of the Botanical Garden Meise.	Synergies go hand in hand with cooperation with scientists from the South. CEBioS specifically supports scientists in Benin (UAC, Parakou, IRHOB), from Burundi (science directorate of OBPE, Université du Burundi), DR Congo (CSB, UNIKIS, UNILU, UNIKIN, UOG etc) and Vietnam (IMER, Academy of Sciences, VNHM)
Technical stakeholders	MNHN, Environment Ministries in partner countries, BELSPO, AfricaMuseum, Botanical Garden MEISE, IPBES, UNESCO, , Belgian Universities,institutions and universities in partner countries , Partners MRV, CETAF, KLIMOS, ICCN, , KMDA, RBINS, NEGOCIATORS BE UE UN	++	idem	Many organisations play a role in technical support of CEBioS.	-
Sphere of influence				**Intended change at level of target groups in phase II**	**Hypotheses of changes at level of partners in phase II**

STAKEHOLDER Partner	Target Group (persons)				
Universities in North	Students and researchers	+		Integration of biodiversity for development in research The researchers integrate the values of the the specific objective.	The research by the North in the South linked to biodiversity is based on needs expressed by the South, aims at mutual learning, integrates a socio-economic dimension, is more transdisciplinary, is better and more restituted to the beneficiaries
Universities and research institutes in South	Students / grantees, Alumni, researchers Professors, Technicians, Administrtaive personnel,	+++		Increased knowledge. Restitution towards policy, networking	Disseminate, multiply, transform, empowerment-communicate, vulgarize research results outside academic world, towards politics and populations. Strengthen capacities of administrative management, efficient applied research, transdisciplinary
Belgian governmental federal administrations, (SPF, DGD, BELSPO), 'Comité de concertation de politique internationale pour l'environnement'	Elected politicians (executive and legal)) Negociators at Belgian , UE and UN level	+		Be sensitized and more conscious about BD issues Be involved to politically support the promotion of biodiversity	Adapt legal framework, improve pertinence of programme. Expertise of CEBioS about BD and development is known and recognised
ACNGs ('Acteurs de la Coopération Non Gouvernementale belge'), NGO North, Federations of organisations of civil society and institutional actors, sectoral platforms, technical and financial partners, OECD, IPBES, UE, UN, Belgian embassies, ENABEL, BIO	Members, Personnel, Responsables, Leads of commun strategic frameworks, Team in Belgium	++	++	Promote CEBioS programme and biodiversity linked to development, sectoral facilitation, integrate BD in strategic dialogue, and in 'Programmes Indicatifs de Coopération'	More complementarities, better alignment with local needs and demands, more mainstreaming of BD in projects and programmes
Ministries of environment	Focal points CBD and CHM	++	+	Follow-up of implementation of NBSAP	Better implementation of the commitments and conventions, ressource mobilisation for BD, transparence of Financial management, decentralisation
Executive and legislature powers	Politicians and cabinets	+		Good governance	Better understanding, control and application of laws and regulations
Institutions with executive functions or 'implementing agencies' in the domain of nature conservation	Technicians, administrative and scientific personnel, rangers ('eco-gardes'), managers of protected areas, National Focal Points CBD, CHM etc	+++		Better monitoring of habitats, knowing the species, ownership of protected areas, acceptance of conservation values, adherence to a more green economy, follow-up of implementation of NBSAP	Better taking into account the needs of local populations, letting riverine populations co-manage, participate in conservation efforts, letting rural populations co-develop and accept new value chains linked to ecosystem services improving their livelihood. Better sharing the benefits of genetic resources, better management of natural resources and environmental conflicts, more efficient administrative management
Professional organisations (farmers, fishermen etc), local NGOs	Leads, technicians	+		Being sensitized, made more conscious, more competent, more involved, more collaborating	Valorise good practices with members of local communities and implementing synergic actions. Stop actions and practices which are deleterious for the environment
Sphere of interest					
The populations of the partner countries of the Belgian cooperation whose revenues depend directly from the ecosystem services offered by biodiversity	Organisations, local communities, partner countries, private sector	+++	+[12]	Better understand biodiversity and ecosystem services, sustainable use in daily life, better and more transmission and communication about traditional knowledge	Contribute to the fight against erosion of biodiversity, contribute to the SDGs, contribute to the strategy of CBD The populations of the partner countries of the Belgian cooperation whose revenues depend directly from the ecosystem services offered by biodiversity sustainably benefit from biodiversity

[12] The formulation is based on the needs and demands by the local rural populations in partner countries; It was impossible logistically and financially to organise a public hearing, but CEBioS is confident that (1) the partners' demands reflect the demands from the partner countries and (2) the demands and needs are continuously upgraded and updated during the implementation of the programme though participative workshops including civil society.

Specific stakeholder analysis by some key partners in the South

The validation by some key partners in the South confirmed the general analysis above and identified needs and demands. It provided some extra information specific per partner or country. The format is not uniform, as each workshop followed its own dynamics.

IRHOB, Benin (in French)

Acteurs & sphères
1°) Contrôle :
Positif : CEBioS, Centre Béninois de Recherche et d'Innovation (CBRSI), Institut de Recherche Halieutiques et Océanologiques du Bénin (IRHOB), Nature tropicale
2°) Influence :
Positif : Marine militaire, Direction de la Production Halieutique (DPH), préfet maritime, Agence Béninoise pour l'Environnement (ABE), Nature Tropicale, ONGs, Ministère de la Santé, Laboratoire de Recherche sur les Zones Humides (LRZH), Laboratoire du domaine Université d'Abomey-Calavi (UAC)/Ministère de l'Enseignement Supérieur et de la Recherche Scientifique (MESRS), Centre National de Télédétection (CENATEL), Institutions de recherche, Assemblée Nationale, Institut National de Recherche Agricole du Bénin (INRAB), Laboratoire de surveillance Environnementale (LES/DGEC), Direction Générale de l'Environnement et du Climat (DGEC), Mairies, Météo Bénin
Négatif : Les bateaux pétroliers pirates, les pirates (pirates – gros problème (empêchent les autres bateaux, par ex. navires océanographiques).
3°) Intérêt :
Positif : Union Nationale des Océanographes du Bénin, Associations de pêcheurs, Communautés locales
Négatif : Pêcheurs, Exploitants pétroliers, Les industriels, La pêche industrielle illicite.

OBPE, Burundi

Sphère d'influence
Scientifiques : Université Burundi (Fac de science, fac d'agronomie et bio-ingénieur), Chercheurs, étudiants, centres de recherché, ISABU, ENS, ICIPE, AfricaMuseum, IRSNB, JB Meisse, Réseau Mycologues, UPG (Fac. Sci env. present)

Ministères: Min. sectorielles (MEEATU, MINAGRI, MINSanté, …. voir comité CHM) point focaux interinstitutionelles, cadres, DGs, techniciens/inspecteurs
Autres acteurs politiques: Présidence, Deuxième vice-presidence, Parlement, Gouverneurs, authorités locales,

Société civile: Institute Jane Goodal, IUCN, Répresentants Batwa, comm rivraines des APs, Tradi-practiciens, ABN (Ass Bur protection de la Nature), APRN (Assoc. Prot. Ress. Nat. apiculture/reboisement/sensibilisation/…. Present à l'atelier), ADRA, ODEB, AFEB (femmes), Eglises,
Partenaires privés

Acteurs du développement: GIZ, Authorité lac TG, DGD, CEBioS/IRSNB, WCS, IUCN, GRASP,
Nations Unies etc: PNUD, FAO, PNUE, FIDA, BM, CBD, IPBES, COMIFAC, RAPAC, UE, FEM, EAC, ARCOS, CEFDHAC

Sphère de contrôle
OBPE : groupes cibles
DG OBPE, Dir. Des forets, écogardes, DAF, chefs des AP, Resp. du service de recherché, PFN CHM BUR, PFI et chercheurs, écogardes, chefs de secteur, conservateurs, gestionnaires des AP, antennes OBPE, gardes et guides.

Changement attendu pour le staff de OBPE:
Vision Claire de l'avenir de OBPE, Personnel renforcé en qualité et quantité/ poster régulièrement infos sur site CHM, rendre accessible résultats de recherché/ suivi régulier des intervenants sur le terrain, cartographie et orientation des intervenants/ faciliter le rapportage et améliorer la communication/ Eco gardes: renforcer la surveillance des aires protégées/ suivi du personnel par les directeurs, recrutement du personnel selon les besoins/ DG et DAF: renforcement de res hum qui connaissent BD/ chercheurs en synergie / partager priorités nationales/confier mise en œuvre a certaines associations/ matériel de surveillance, renforcement de capacités travaux de terrain/ DAF accélérer décaissement des fonds/ renforcer centre de recherché en BD/ maitrise de la taxo pour les guides/ suivi de la dynamique bénéficie formations, stages…/labo recherché BD associer a UB/ DG OBPE associer universités travaux de recherché.

CSB, RDC

GROUPES CIBLES	PARTENAIRES
Militaires	ONG's nationales
Police Natinale	ONG's provinciales
Presse	Coordination Prov Environnement
Groupes Réligieux	Coordination Prov Pêche
Coordination des écoles	Coordination Prov Agriculture
Chefs coûtumiers	Coordination Prov Elevage
Population	UNIKIS
Bourgmestres	ICCN
Politiciens Provinciaux	
Politciens Nationaux	
Exploitants resources naturelles	
Commerçants	
Associations des femmes	
Artistes	
CHANGEMENTS envisagés (qui feront que les groupes cibles deviennent des partenaires)	
conscient de l'importance de la biodiversité dans la vie de chacun	
engagement politique	

UAC, Benin

(in French)

Changements escomptés

Décideurs, ministères, CENAGREF, CHM

- Rendre plus visible le CHM
- Formation des cadres sur les conventions sur la biodiversité
- Centraliser les points focaux liés aux diverses conventions sur la BD
- Former les acteurs compétents dans la recherche et la constatation des infractions dans les AP.
- Aider à la gestion d'une base de données des activités des points focaux des diverses conventions
- Former et équiper les agents de durveillance des APs.

Chercheurs

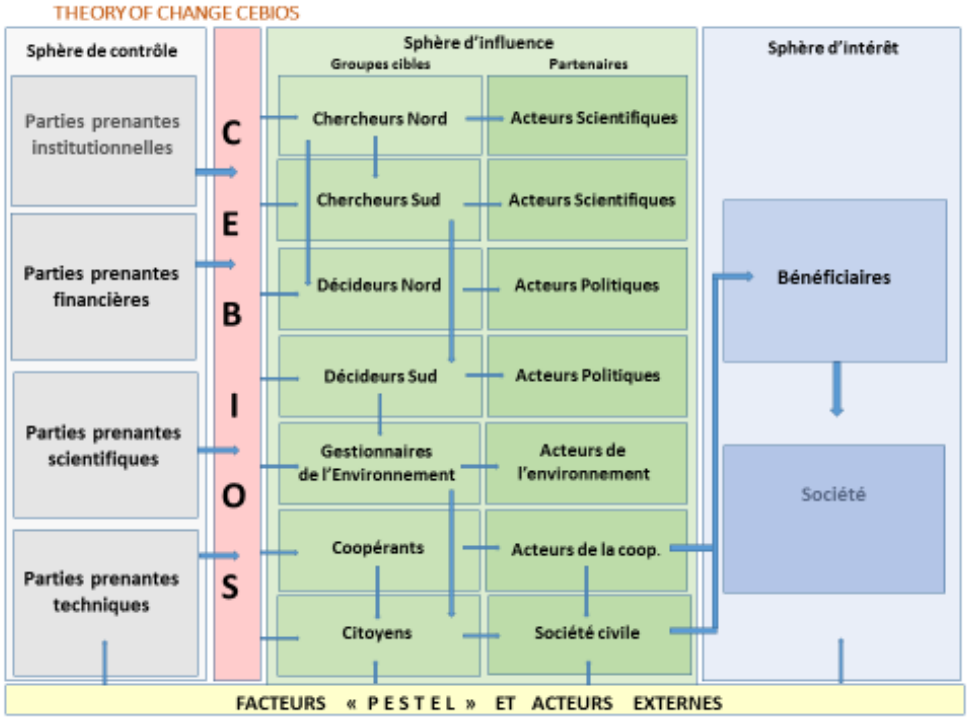
- Renforcement des équipements des laboratoires de recherche
- Mise à disposition à temps des fonds de recherche
- Financer les recherches à long terme
- Faciliter la collaboration entre les laboratoires du sud et du nord
- Renforcer le monitoring des habitats
- Activités communes LEA+CHM avec budget

- Renforcement des capacités des chercheurs sur les nouvelles méthodes de recherche : ethnobotanique, drônes, modélisation
- Développer les politiques de valorisation des résultats de recherche, vulgarisation en langues locales
- Identification des thèmes de recherche en tenant compte des problèmes de base
- Bonne utilisation des fonds destinés à la recherche
- Elaboration d'un 2nd lexique pour la simplification des résultats de recherche
- Dialogue avec APN (voir convention), CENAGREF/AVIGREF

Société civile, AVIGREF, AFRICAN PARKS

- Formation des relais sur la connaissance et gestion des feux de végétation
- Formation des relais sur le prélèvement de certains organes (p.ex. écorces, feuilles)
- Formation des relais sur les fonctionalités de chaque habitat et du zonage de la réserve
- Vulgarisation/ sensibilisation pour les relais pour les populations
- Boîte à images
- Animation des cartes de formation
- Outils de vulgarisation
- Conception de fiches techniques en langues locales
- Elaboration de guides, de facilitateurs
- Outil radio
- Accompagnement au niveaulocal
- Suivi de la mise en oeuvre/recommendations
- Transfert de la science vers la société

Synthesis of Theory of change from a stakeholder's perpective



ANNEX 4: CEBIOS PLURI-ANNUAL PROGRAMME AND CORRESPONDING AICHI TARGETS AND SDGS

SDGs related to mission and general objective of phase II (priority areas for CEBioS are in **bold**)
SDG 1 (no poverty), especially 1.1. (eradicate extreme poverty), 1.2. (reduce proportion of poor men, women and children), 1.4. (equal rights to economic resources, as well as access to basic services, ..., **natural resources**, appropriate **new technology**...),

SDGs related to the 4 specific objectives:
The following SDGs relate to SO1 and SO2 particularly:
SDG 2.3.(By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, **indigenous peoples, family farmers, pastoralists and fishers**, including through ..., **other productive resources and inputs, knowledge**, ...and opportunities **for value addition** ...), 2.4. (By 2030, ensure sustainable food production systems and implement **resilient agricultural practices** that increase productivity and production, that help **maintain ecosystems**, that **strengthen capacity for adaptation to climate change**, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality).

SDG 3D (**Strengthen the capacity** of all countries, in particular developing countries, for early warning, risk reduction and management of national and **global health risks**). Public health *sensu strictu* is not a particular focus area within the CEBioS programme, but CEBioS supports in a 'one health' perspective[13] biodiversity research related to disease vectors in wild animals, as well as capacity building at the CSB (Kisangani, DR CONGO) on how to analyse and document outbreaks of pandemics (e.g. ebola) together with specialised institutions such as ITM,the Kinshasa based 'Institut National de Recherche Biomédicale' and several international institutions (CDC-USA, CIRAD- France, …)

SDG 6.6. (By 2020, protect and restore **water-related ecosystems**, including mountains, forests, wetlands, rivers, aquifers and lakes). In phase I, CEBioS was promoter or partner in 2 VLIR-UOS projects on resp. Lake Tanganyika (Burundi) and Lake Manyara (Tanzania) and supported MRV projects on fisheries and habitat monitoring in the Ruzizi wetland of DR CONGO. It is foreseen that these kind of activities will continue depending on the thematic MRV calls and external funded projects.

SDG 8.9. (By 2030, devise and implement policies to promote **sustainable tourism** that creates jobs and promotes local culture and products). CEBioS will engage in phase II in e.g. awareness activities for eco-tourism in Burundi (arboretum at Rusisi NP) and in DR CONGO (Kadima's Pride of Africa).

SDG 9.5. (**Enhance scientific research**, ..., **in particular developing countries**, including, by 2030, **encouraging innovation and substantially increasing the number of research and development workers** per 1 million people ...).

SDG 12, especially SDG 12.2. (By 2030, achieve the **sustainable management and efficient use of natural resources**), SDG 12.8 (By 2030, ensure that people everywhere have the relevant **information** and **awareness** for **sustainable development** and lifestyles in **harmony with nature**). *The awareness and CHM components throughout all SOs of the CEBioS programme fit in completely with this SDG.*

SDG 14.2. (By 2020, **sustainably manage and protect marine and coastal ecosystems** to ...), SDG 14.A. **(Increase scientific knowledge, develop research capacity and transfer marine technology, taking into**

[13] Antoine-Moussiaux Nicolas, Janssens de Bisthoven Luc, Leyens Stéphane, Assmuth Timo, Keune Hans, Hugé Jean, Vanhove Maarten, 2019. The good, the bad and the ugly: Framing debates on Nature in a One Health community. Sustainability Science. In Press.

account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular ... **least developed countries**). This SDG relates to the marine component (marine modelling in Benin) under SO1.

The following SDGs relate to SO2 and particularly SO3:

SDG 15.1. (By 2020, ensure the **conservation**, restoration and **sustainable use** of terrestrial and inland freshwater ecosystems **and their services**, in particular **forests**, **wetlands**, mountains and drylands, in line with obligations under international agreements), 15.5. (Take urgent and significant action **to reduce the degradation of natural habitats**, **halt the loss of biodiversity** and, by 2020, **protect and prevent the extinction of threatened species**), 15.6 (**Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources** and promote appropriate access to such resources, as internationally agreed). This particularly refers to the capacity building organised by CEBioS concerning the Nagoya Protocol in North and South under SO3. 15.7 (Take urgent action to **end poaching and trafficking** of protected species of flora and fauna... **and address both demand and supply of illegal wildlife products**), 15.9 (By 2020, **integrate ecosystem and biodiversity values into national and local planning, development processes**, poverty reduction strategies and accounts), 15.C (Enhance global support for efforts to combat poaching and trafficking of protected species, including **by increasing the capacity of local communities to pursue sustainable livelihood opportunities).** *This particularly relates to the support of CEBioS to the Belgian CBD National Focal Point for the exhibition on wildlife trafficking at the EU Parliament (July 2018); to a awareness campaign at Brussels airport in 2019 to stop wildlife import , as well as to the work of Prof. E. Verheyen and Dr. S. Gombeer (BOPCO project - RBINS) and their partners of the CSB on bushmeat and bushmeat traffic in and from DR CONGO to Europe (see e.g. documentary https://www.vrt.be/vrtnws/nl/2018/10/03/pano-bushmeat/ as well as in the Canvas series 'Er was eens' alflevering 3 op 18 november 2018, zie https://www.canvas.be/er-was-eens)*

16.6 (Develop **effective, accountable and transparent institutions at all levels)**, 16.7 (**Ensure responsive, inclusive, participatory and representative decision-making at all levels**), 16.8 (**Broaden and strengthen the participation of developing countries in the institutions of global governance).** This relates both to SO3 and SO4 of the CEBioS programme.

The following SDG relates particlarly to SO4:

17.6 (**Enhance North-South, South-South and triangular regional and international cooperation** on and access to **science**, **technology** and **innovation** and **enhance knowledge sharing** on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism), 17.16 (Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular **developing countries**), 17.17 (Encourage and promote effective **public, public-private and civil society partnerships**, building on the experience and resourcing strategies of partnerships). *This very much relates to the work of the Belgian National Focal Point for CHM, ir. Han de Koeijer of CEBioS.*

CEBioS phase II	Corresponding Aichi target	Corresponding Sustainable Development Goals and the most pertinent targets (all SO confounded due to the more general nature of the SDGs)
Specific objective 1 (SO1): *The **scientists** of the partner countries of the Belgian development cooperation acquire knowledge, understand, apply and disseminate results useful for sustainable management, use and conservation of biodiversity and ecosystem services*	 **See under SO2: Target 5**  **Target 11** By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.  **Target 14** By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.  **Target 16** By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.  **Target 17** By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	 **SDG 1: No poverty** 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day 1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance  **SDG 2: Zero hunger** 2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality  **SDG 3: Ensure healthy lives and promote well-being for all at all ages** 3.D Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks

	 **Target 18** By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.  **Target 19** By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	 **SDG 6: Ensure availability and sustainable management of water and sanitation for all** 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes  **SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all** 8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products  **SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation** 9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending  **SDG 12: Ensure sustainable consumption and production patterns** 12.2 By 2030, achieve the sustainable management and efficient use of natural resources 12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature 12.A Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production  **SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development** 14.2
Specific objective 2 (SO2): National implementing authorities *in the south and their partners improve sustainable management and use of ecosystem services to conserve biodiversity and support the livelihood of rural populations through the development of best practices and value chains*	 **Target 5**: see above  **Target 7**: By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.  **Target 10** By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning  **Target 14** see above  **Target 17:** see above	
Specific objective 3 (SO3) : *The authorities, decision makers and*	 Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning	

policymakers *develop and implement pertinent policies, strategies and action plans for a sustainable management of the national biodiversity in service of the livelihoods of the local populations in the South*	processes and are being incorporated into national accounting, as appropriate, and reporting systems.  **Target 16**: see above	By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans 14.A Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries  **SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss** 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species 15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed 15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products 15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts 15.C Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities  **SDG 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels** 16.6
Specific objective 4 (SO4) : *Enhanced synergy between* ***the partners of the Belgian Development cooperation, civil society and the private sector*** *to achieve sustainable development by mainstreaming biodiversity issues*	 Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.  Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	

		Develop effective, accountable and transparent institutions at all levels 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels 16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance  **SDG 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development** 17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism 17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries 17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

The Aichi targets of the 2020 CBD strategy:

- Strategic Goal A (1-4): Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society
- Strategic Goal B (5-10): Reduce the direct pressures on biodiversity and promote sustainable use
- Strategic Goal C 11-13): To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity
- Strategic Goal D 14-16: Enhance the benefits to all from biodiversity and ecosystem services
- Strategic Goal E (17-20): Enhance implementation through participatory planning, knowledge management and capacity building

From 2021 onwards the post-Aichi targets will be integrated into an amended programme.

ANNEX 5: CEBIOS IN THE JOINT STRATEGIC FRAMEWORKS

The following table presents the Strategic Objectives of the JSF per country where CEBioS is playing or intends to play a role in the coming five years.

Country	Nr. of strategic goal	Approches (contributions)	OSC/AI participants	Comments
BENIN	2C	Améliorer la couverture en **infrastructures sanitaires** ainsi que l'**environnement technique et sanitaire des hôpitaux**, dans le respect de **l'environnement**.	IRSNB-CEBioS, MSV*, Memisa, IMT, APEFE,	CEBioS supported the MinofEnv in an awareness campaign on waste of hospitals. No new actions planned.
	3C	Mener des actions de **plaidoyer** auprès des **autorités nationales et locales**, et les appuyer, pour défendre les intérêts et besoins des usagers, ainsi qu'une gestion durable, équitable et participative.	IRSNB-CEBioS, Protos*	The awareness interventions of CEBioS with the MinofEnv and UAC fully covers 3C.
	3F	Chercher des réponses innovatrices pour les défis du secteur par la **recherche**, la **recherche-action** et la **gestion de connaissances**.	ARES*, IRSNB-CEBioS, Protos*	Yes, through cooperation with UAC and Un. de Parakou (planned)
	3J	Contribuer à la **préservation des ressources naturelles et à l'adaptation aux effets du changement climatique** par une approche « Gestion intégrée des ressources en eau » (GIRE) et par la conservation et sensibilisation à la biodiversité.	Louvain Coopération, ADG, IRSNB-CEBioS, Protos*	The awareness and research interventions of CEBioS with the MinofEnv and UAC covers 3J, especially the second part on "la conservation et sensibilisation à la biodiversité". With Louvain Cooperation, we seek enhanced cooperation on the mangroves of the MAB site 'Delta du Mono' on the coast, through cooperation with Prof. J. Hugé (Uhasselt, VUB).
	4G	Mettre en place des mesures et collaborer avec les communautés pour renforcer la capacité de **résilience des populations face aux changements climatiques**, *notamment* par : - une gestion optimale des stocks de produits agricoles et de l'eau pour la production agricole et l'élevage ; - la diffusion de techniques adaptées et respectueuses de l'environnement en matière de production et de gestion de la fertilité des sols ainsi que de gestion intégrée des ravageurs et maladies ; - la mise en place de Systèmes communautaires d'alerte précoce/Réponse d'urgence (SCAP/RU) en matière de sécurité	IRSNB-CEBioS, Louvain Coopération, DBA, ADG*, Protos, IdP*	Through UAC and with support of MinofEnv. we reach the AVIGREF, association villageoise autour du PN de la Pendjari, so mostly last point.

		alimentaire, et d'actions de plaidoyer pour leur prise en compte à différents niveaux ; - la conservation de la biodiversité (par exemple, au niveau du Parc national de la Pendjari).		
	5aA	Mener des actions de **plaidoyer** et **appuyer les pouvoirs publics** (autorités, communes,...) et **autorités locales** dans les secteurs suivants *notamment* : - pour une meilleure accessibilité financière et géographique de l'enseignement ainsi qu'une augmentation du budget consacré aux infrastructures scolaires ; - pour l'amélioration de la formation technique et pédagogique des enseignants ainsi que de la politique de gestion des ressources humaines dans le secteur de l'éducation ; - pour une meilleure insertion professionnelle et une meilleure adéquation formation-emploi ; pour la sensibilisation à la biodiversité et au respect de l'environnement dans les écoles.	ARES, IRSNB-CEBioS, VIA DB, HI*, Plan Belgique*, APEFE	Yes, through support to MinofEnv for CHM, and awareness campaigns at level of schools (last point). Also with Via Don Bosco, there are possibilities to set up awareness actions for biodiversity in schools.
	5aF	Au niveau de l'**enseignement supérieur**, renforcer les capacités académiques individuelles par le biais de **bourses d'études** et l'organisation de **cours ciblés intensifs** (« short courses »), en tenant compte du genre.	ARES*, IMT, IRSNB-CEBioS	Through the GTI grants
	5bA	En appui à toutes les cibles du CSC, améliorer les **pratiques de recherche** (fondamentale et opérationnelle) des institutions d'enseignement supérieur et autres centres de recherche appropriés, à travers le renforcement des capacités et les partenariats en tenant compte du genre et de la durabilité environnementale.	ARES*, IMT, IRSNB-CEBioS, APEFE, Louvain Coopération	Through the GTI grants. Possibility to be co-promotor in ARES projects, depends on demand from Belgian academics.
	5bB	Soutenir la **vulgarisation, la valorisation et la diffusion des résultats de la recherche académique.**	ARES*, IRSNB-CEBioS, IMT, APEFE, Louvain Coopération, HI	Through cooperation with UAC and Un. de Parakou
	5bC	Motiver les acteurs du secteur de la recherche et de l'enseignement supérieur à promouvoir une **approche genre et respectueuse de l'environnement.**	ARES*, IRSNB-CEBioS, IMT, Louvain Coopération	idem
	5bD	Renforcer les capacités individuelles par le biais de **bourses d'études** pour la recherche en tenant compte du genre.	ARES*, IRSNB-CEBioS, IMT	Through GTI grants
	7B	Veiller à ce que les interventions accordent une attention particulière à la **protection de l'environnement** et favorisent l'adaptation et la résilience des populations face aux changements climatiques.	IRSNB-CEBioS, Louvain Coopération, VIA DB, HI, DBA, Memisa, IDP*, IMT, ADG, ARES, MSV, (Plan Belgique), Protos*, VVSG, CRB, IdP*, APEFE.	Mainly it is mainstreaming of biodiversity towards other actors. This happens to participate to the strategic dialogue and the learning trajectories. CEBioS sees possibilities to work with other actors in the

				Atakora region, e.g. with ARES and Vétérinaires sans frontières.
BURUNDI	2A	Améliorer le fonctionnement des structures décentralisées, surtout par une meilleure coordination/gestion des responsabilités (collecte de données, analyse, suivi, rapportage, implémentation etc.)	Protos Kiyo, IRSNB-CEBioS, Handicap, Caritas, Broederlijk Delen, VSF-B, RCN J&D, ASF, APEFE, IAP	Mainly supporting station of OBPE in Bujumbura and cooperation with Broederlijk Delen to create sustainable agricultural landscapes.
	2C	2C Renforcer les compétences du personnel des institutions décentralisées, plus particulièrement les capacités pédagogiques à travers la formation initiale et continue	Protos Kiyo, IRSNB-CEBioS , Handicap, Caritas, VSF-B, RCN J&D, APEFE, IAP	Not planned until now
	2D	Appuyer les institutions décentralisées en équipement et en infrastructures	Protos, Kiyo, IRSNB-, RCN J&D CEBioS, Handicap, Caritas, VSF-B, APEFE	Through cooperation with university and OBPE, small material in the framework of GTI research
	6I	Préserver des ressources naturelles par une approche de gestion intégrée des ressources en eau	Protos, IRSNB-CEBioS, RKV, VSF-B	Possible follow-up of VLIR-UOS South Initiative on monitoring of Lake Tanganyika depending on funding opportunities.
	8A	Améliorer les pratiques de recherche des institutions d'enseignement supérieur à travers le renforcement des capacités et les partenariats, en tenant compte du genre et de la durabilité environnementale.	VLIR-UOS/ARES, IRSNB-CEBioS	Yes, see previous objectives
	8B	Promouvoir la vulgarisation et la valorisation de la recherche académique.	VLIR-UOS/ARES, IRSNB-CEBioS, Louvain Coopération	Through cooperation with OBPE.
	8C	Renforcer les capacités individuelles à travers les bourses, en tenant compte du genre.	VLIR-UOS/ARES, IRSNB-CEBioS	Through GTI grants
DR CONGO	**2A**	Promouvoir et appuyer les initiatives ou filières économiques intégrant la protection, la gestion des ressources naturelles et l'utilisation durable des services éco systémiques	11.11.11, APEFE, ARES, Broederlijk Delen, Caritas Be, CNCD-11.11.11, Congodorpen, Croix Rouge de Belgique, Commission Justice et Paix, Louvain coopération, IPIS, IRSCNB-CeBIOS, KMMA-AfricaMuseum, Rotary Clubs For Development, SOS Villages d'enfants, ULB coopération, Via Don Bosco, Vétérinaires sans frontières, Rikolto (Vredeseilanden), WWF BE.	Mainly through research on mushrooms and value chains in the Virunga. Cooperation with WWF planned. Possible cooperation with Rikolto on coffee explored.
	2C	Promouvoir le développement des énergies propres et une gestion intégrée des déchets au niveau de l'Etat, de la société civile et des populations.	11.11.11, Benelux Afro Center, CNCD-11.11.11, IRSCNB-CeBIOS, KIYO, KMMA-AfricaMuseum, Louvain Coopération au Développement, ULB	Not planned yet

			coopération, SOS Villages d'enfants, Via Don Bosco, WWF BE.	
	2D	Encourager et soutenir l'Etat congolais dans la bonne gouvernance environnementale, la lutte contre l'exploitation illégale des ressources naturelles et la destruction de l'environnement.	11.11.11, Benelux Afro Center, ,CNCD-11.11.11, Commission Justice et Paix, IPIS, IRSCNB-CeBIOS, KMMA-AfricaMuseum, ULB coopération, WWF BE.	Mainly through cooperation with DDD of Min of Env. and CSB in Kisangani.
	2F	Soutenir et mettre en œuvre des activités de sensibilisation, formation et de recherche en appui à la protection de l'environnement et à la gestion durable des ressources naturelles	11.11.11, APEFE, ARES, CNCD-11.11.11, Commission Justice et Paix, Congodorpen, Croix-Rouge de Belgique, IPIS, IRSCNB-CeBIOS, KBA-FONCABA; KMMA-AfricaMuseum, Louvain Coopération, Oxfam sol, Protos, Rotary Clubs For Development, ULB Coopération, VLIR-UOS, WWF BE.	Through MRV projects and follow-up.
	3B	Soutenir les processus politiques visant à la création d'un environnement éducatif propice à un enseignement de qualité, communautaire et plus décentralisé, tant pour ce qui est du cursus, que de l'accompagnement pédagogique et administratif, de la formation fondamentale du personnel ou encore de l'accompagnement des élèves.	Coopération Education et Culture, Enfance Tiers Monde, Light For The World, Handicap International, IRSCNB-CeBIOS, SOS villages d'enfants, VIA Don Bosco, VLIR-UOS, VVOB.	In phase I project with VVOB. Not planned in phase II, but we are open for collaboration.
	3D	Promouvoir et soutenir une recherche de qualité, moteur du développement et du progrès, menée par des universités, des instituts de recherches, des plateformes (Educaid) et des OSC qui informent et orientent la politique.	APEFE; ARES, Coopération Education et Culture, Congodorpen, KMMA-AfricaMuseum, Light For The World, Handicap International, IRSNB-CEBIOS, VIA Don Bosco, VVOB.	Through cooperation with Unikin, Unilu, UniGom, UB, Unikis
	4A	Promouvoir et renforcer la bonne gouvernance à tous les niveaux de la pyramide sanitaire publique (du niveau communautaire, à la zone de santé, niveau intermédiaire et niveau central) et entre les acteurs en appui au secteur, et promouvoir la recherche-action et la capitalisation comme moyen de valorisation et de dissémination des expériences en matière de santé.	Action Damien, Benelux Afro Center, Cap Santé, Chaine D'Espoir, Congodorpen, Handicap International, ISCNB-CEBioS, ITG, Light For The World, Louvain Coopération au Développement Memisa, Rotary Clubs for Development, ULB-Coopération.	Through monitoring and research on Ebola with CSB and Institut National de Recherche Biomédicale (INRB, Kinshasa) (Prof. E. Verheyen, RBINS)
	4D	Promouvoir un accès équitable aux soins de santé, avec une attention particulière aux zones isolées et marginalisées, pour des populations vulnérables (dont orphelins, enfants de la rue, handicapés, veuves, vieux, PVVIH…) et pour des problèmes de santé négligés (soins de santé mentaux, aveugles, maladies zoonotiques -	Action Damien, APEFE, Benelux Afro Center, Cap Santé, Chaine D'Espoir, Congodorpen, Croix-Rouge de Belgique, Dynamo International, Fracarita Belgium, Handicap	Mainly by promoting concept of One health in various fora

		suivant le concept de « one health », maladies chroniques…) en vue de la couverture universelle en santé.	International, IRSNB-CEBioS, ITG, KIYO, KBA-FONCABA , KMMA-AfricaMuseum, Light For The World, Louvain Coopération au Développement, M3M-G3W, Médecins du Monde , Médecins Sans Vacances, Memisa, Rotary Clubs for Development, SOS Villages d'Enfants, ULB-Coopération, Vétérinaires sans frontières.	
	5B	Renforcer la sécurité alimentaire et lutte contre la pauvreté par l'amélioration durable de la productivité des exploitations familiales (incluant les cultures de rentes) et en favorisant leur accès aux marchés locaux et (inter-)nationaux, et en améliorant le climat d'affaire dans une approche « filière » (production, transformation et commercialisation).	APEFE, Broederlijk Delen, Caritas Belgique, Congodorpen, Collectif Stratégie Alimentaire, Entraide et Fraternité, IRSCNB-CeBIOS, KBA-FONCABA, Le monde selon les femmes, Louvain coopération, Oxfam-sol, Rotary Clubs for Development, SOS Faim, SOS Villages d'Enfants, Trias, ULB-Coopération, Rikolto (Vredeseilanden), Vétérinaires sans frontières, WWF BE.	Through research on mushrooms in the Virunga NP.
	5D	Renforcer les capacités techniques et institutionnelles des OSC, des services publics et des autorités décentralisées. Soutenir et mettre en oeuvre des activités de sensibilisation, formation et recherche en appui à la sylviculture, l'agriculture, l'élevage et la pisciculture.	APEFE, ARES, Broederlijk Delen, CAP Santé, Caritas Belgique, CNCD-11.11.11, Congodorpen, Collectif Stratégie Alimentaire, IRSCNB-CeBIOS, KBA-FONCABA, KMMA-AfricaMuseum, Louvain Coopération au Développement, Oxfam –sol, RCN Justice & Démocratie, Rikolto (Vredeseilanden), SOS Faim, SOS Villages d'Enfants, Trias, ULB-Coopération, Vétérinaires sans frontières, VVOB, WWF BE.	Sensibilisation through awareness projects with DDD of Min of Env.
	6G	Chercher et diffuser des réponses innovatrices pour les défis locaux par la recherche-action et la gestion de connaissances	IRSNB-CEBios, KMMA-AfricaMuseum, Protos, SOS Villages d'Enfants.	Through co-production of lexica with ICCN and through summer universities and congresses with CSB.
	6I	Préserver des ressources naturelles par une approche de Gestion Intégrée des Ressources en eau.	Congodorpen, IRSNB-CEBios, Protos, Vétérinaires sans frontières.	**Au niveau de la cible 6** Assurer l'accès et la gestion durable, équitable et participative de l'eau potable et de l'assainissement

	9A	Améliorer l'offre et la qualité de l'enseignement supérieur à travers le renforcement des capacités et les partenariats, en tenant compte du genre et de la durabilité environnementale.	ARES, Chaine d'Espoir, IRSNB-CEBioS, ITG, KMMA-AfricaMuseum, Le Monde selon les femmes, Vétérinaires sans frontières.	Through cooperation with CSB and universities, see above.
	9B	Améliorer les pratiques de recherche appliquée des institutions d'enseignement supérieur à travers le renforcement des capacités et les partenariats, en tenant compte du genre et de la durabilité environnementale.	ARES, IPIS, IRSNB-CEBioS, KMMA-AfricaMuseum, VLIR-UOS, Rikolto (Vredeseilanden).	idem
	9C	Promouvoir la vulgarisation et la valorisation de la recherche académique.	APEFE, ARES, IRSNB-CEBioS, ITG, KMMA-AfricaMuseum, Vétérinaires sans frontières, VLIR-UOS.	Through CSB and DDD of Min of Env.
	9D	Renforcer les capacités individuelles à travers les bourses ou des stages de spécialisation rémunérés, en tenant compte du genre.	ARES, Chaine d'Espoir, IRSNB-CEBioS, ITG, KMMA-AfricaMuseum, VLIR-UOS.	Through GTI grants
	9^{E}	Motiver les acteurs du secteur de la recherche et de l'enseignement supérieur à promouvoir une approche genre et respectueuse de l'environnement (p.ex. dans la conception des interventions).	ARES, IRSNB-CEBioS, Le Monde selon les femmes, KMMA-AfricaMuseum, VLIR-UOS.	CEBioS will be more proactive in that respect.
	9F	Améliorer les capacités des institutions de l'enseignement supérieur en recherche et en administration à travers un appui à leur digitalisation (e-learning, librairies digitalisées, services TIC, etc.)	ARES, IRSNB-CEBioS, ITG, KMMA-AfricaMuseum, VLIR-UOS.	Support to CHM in Kinshasa and in Kisangani. MRV projects
VIETNAM	**1F**	Improve resilience of small-scale farmers and other stakeholders to the consequences of climate change on agricultural and natural ecosystems, including amongst others the protection of natural resources (as soil, water, forests, biodiversity,…).	ARES, RBINS-CEBioS, Rikolto, WWF	Through partnership in externally funded projects, not planned but open for calls.
	3C	Improve the quality and provision of higher education through capacity building and partnerships in a gender sensitive and environmentally sustainable way.	ARES, RBINS-CEBioS, VLIRUOS	Mainly with IMER, but in exit modus.
	3F	Strengthen individual capacities through relative gender-balanced scholarship attribution.	ARES, ITG, RBINS-CEBioS, VLIR-UOS	Through cooperation with Vietnam Institute of Natural History
	3H	Build capacity of local duty bearers and advocate to national authorities to improve the quality of teaching and research methodologies.	Plan, RBINS-CEBioS, VVOB, VLIR-UOS	Not planned yet
TANZANIA	**1D**	Support farmers and pastoralists to obtain equitable access to lands and water through their active participation in inclusive natural resource management processes, policy dialogue, and conflict prevention and resolution mechanisms.	IdP, Trias, VECO, VSF, BOS+, IRSNB-CEBioS	Thematic exchange meetings within the CSO/IA yearly meeting with a particular focus on two specific themes: (1) Natural Resource Management (incl. land use planning) (2) Value Chain Development/ Identify opportunities for cooperation

				in/around the geographical areas where the bilateral cooperation is focused (Kigoma, Arusha) when preparing the IDCP or other CSO/IA initiatives.
	3G	Improve research practices of higher education institutions through capacity building and partnerships in a gender-sensitive and environmentally sustainable way.	VLIR-UOS, IRSNB-CEBioS	Mainly through GTI and EVAMAB (Belspo funded) with NM-AIST in Arusha. Open for co-promotership in VLIR-UOS projects.
	3H	Promote the extension and outreach of academic research.	VLIR-UOS, IRSNB-CEBioS, BOS+	Cooperation with AfricaMuseum for policy briefs on pest management is planned.
	3I	Strengthen individual capacities through gender-balanced scholarship attribution.	VLIR-UOS, LFTW, IRSNB-CEBioS	Through GTI grants
	5A	Support participatory land use planning which respects strategic ecosystems (corridors, buffer zones, etc.)	Trias, VECO, VSF, BOS+, IRSNB-CEBioS	Mainly through GTI and EVAMAB (Belspo funded) with NM-AIST in Arusha. Open for co-promotership in VLIR-UOS projects (see North South South in phase I). Cooperation with TRIAS succesful in phase I. Open for more.
	5B	Support advocacy and awareness-building regarding sustainable land use planning and protection of strategic ecosystems, including access to critical dry-season grazing resources and water points for agro-pastoral communities by, among other activities, building partnerships with environment/climate-relevant institutions.	BOS+, VECO, VSF, Trias, IRSNB-CEBioS	idem

ANNEX 6: MANAGEMENT RESPONSE AS A GUIDANCE FOR PHASE II

The MTE provided a number of strong and weak points per specific objective, certain questions , followed by a set of recommendations. The management response (validated) on how to improve the weak points provided the basis for the formulation of the second phase, together with the workshops on Theory of Change, both in Belgium and in the South. The integral text of the MTE and the management response (including the responses by DGD and Belspo) can be provided on demand or can be consulted here: http://www.biodiv.be/cebios2/docs/strategy . Since the management response was edited in January 2017, a lot of action points have already been realised. These are explained in the right column (stand January 2019) in the following Table.

Mid Term Evaluation: management response by CEBioS (January 2018) (a bit shortened)			Additional comments (January 2019)
Chapter from mid-term evaluation	**General comment**	**Follow-up (short term and long term)**	
2.2 Assessment of CEBIOS 6 specific objectives			
SO1 - To strengthen the scientific and technical knowledge base on biodiversity and on its linkages with ecosystem services and poverty reduction (Knowledge base & GTI)	**Strong points** CEBioS appreciates the positive evaluation by the stakeholders of SO1 and the reference to the clear success stories, including the in situ trainings and the work on marine modelling. **Points of attention** SO1 is indeed large and complex and often overlaps with other SOs. CEBioS generally agrees. However, the perceived 'silo' of marine modelling is remediated by full integration in team meetings and communication since the onset. The particular nature of this specialised intervention tends to give that impression of silo. The logframe and eligibility criteria as well as the strategy are very important in order to decide which priorities CEBioS should focus on and on which pool of experts we can be based.	**How to improve?** CEBioS agrees that results of SO1 should be consolidated and improved in the second phase. The formulation of phase II will simplify the structure, stimulate an integrated approach and understanding of SO1 and eventually adjust budget. CEBioS widens the pool of expertise if needed. CEBioS insists on the value of long term impact initiated by knowledge transfer at formal higher education level, as e.g. AbcTaxa has demonstrated over the years, being now a recognised and appreciated tool.	The large SO1 from phase I has now been split in phase II according to target audience: SO1 for scientists and SO2 for environmental agencies. The two new SO are now better structured and less dominant in the overall programme architecture. The creation of 'transversal results' (capacity building, CHM, MRV, awareness), now present in all 4 specific objectives and the creation of a number of integrative indicators will ensure a better integration of the subprogrammemes. The tool AbcTaxa, but also the tool lexicon remain strong pillars in SO1 of phase II. The marine modeling focuses now exclusively on Benin, while its activities with Vietnam will continue manly with external project fundings.

SO2 - To enhance the information base on biodiversity and on its linkages with ecosystem services and poverty reduction and on associated governance processes (CHM)	**Strong points** CEBioS agrees. **Points of attention** CEBioS agrees with these points which are all related to the fragility of governance and management as well as logistics in the partner countries.	**How to improve?** CEBioS will continue addressing the weak points of CHM in collaboration with CBD in Montreal, will further explore CBD small grants opportunities, and will continue financing partner participation in CBD meetings and start supporting CHM steering committees not only in Burundi but also elsewhere in order to increase ownership.	CHM remains a strong subprogrammeme in phase II and emphasizes a train the trainer approach, integrative approach with other focal points and ministries and south-south collaboration. Main emphasis remains in Burundi, Benin, RDC Morocco (by extension training the Arab world) and West Africa.
SO3 - To raise awareness and communicate on the importance of biodiversity and ecosystem services for poverty reduction and sustainable development (Awareness)	**Strong points** CEBioS agrees. **Points of attention** It is indeed a point of attention to approach awareness interventions 'step by step' with our partners and to tailor them to the right target audiences. The principle handled by CEBioS is to empower the partners gradually to discover for themselves how best they can tackle awareness in their country. A more clear definition of the targeted topics, audiences, and actors, is requested when defining the action plan, and the evaluation of the projects should benefit more (or make more use) of the existing internal (to RBINS) competences for awareness raising in a wide variety of audiences. A change in the process, and/or internal a training programme strengthening the competences of the team in respect to education, sensitization, and public engagement, will be considered. . In regard to the overall recommendations to focus on outcomes instead of activities, a redesigned SO3 component should focus on awareness only (as an expected outcome) and leave communication (that is an activity) out (see also hereunder the comment on visibility). …establishing a strategic communication plan for …	**How to improve?** Capacity deficiencies of partners concerning their abilities to conduct awareness raising should be better identified and tackled with, by encouraging a step by step learning process and input of training from experts in behavioural sciences or change management. This would not only empower the South, but CEBioS as well, if done properly on specific occasions. Budget should be set aside for more follow-up and evaluation projects and cooperation with Enabel. Exchange of best practices in South-South context and more co-creation of awareness products (eg policy briefs) with scientists and policy makers will be stimulated and supported. A ToC workshop will re-define the exact mandate of CEBioS concerning awareness in Belgium and the link to identity and visibility of CEBioS as a side effect, as well as clear objectives and indicators. …	Meanwhile the TOC workshops have been done. A budget is set aside for training on awareness raising techniques for CEBioS and South partners. Many workshops are planned for alumni, GTI, MRV and CHM to disseminate knowledge and raise awareness capacities. The production of policy briefs together with our South partners will always be accompanied by a follow-up for information and dissemination to target audiences. The expertise built up about policy briefs will be transferred to AfricaMuseum on their demand.
SO4 - To improve the mainstreaming of biodiversity and ecosystem services in policy sectors that have a high relevance for development (Mainstreaming)	**Strong points** CEBioS appreciates that it is seen as 'added value for many development actors'. The involvement with IPBES is acknowledged, although we would like to stress that CEBioS is even more involved with SBSTTA and COP of the CBD, at national and EU levels. **Points of attention** It remains indeed a challenge to find 'a clear entry point for non-biodiversity related units in DGD.' CEBioS agrees that the mainstreaming in the South is focused on e.g. supporting focal points for participation to SBSTTA and COP, rather than reaching out to other development actors. There is certainly room for extending these activities, but the limitation of not having	**How to improve?** CEBioS agrees that SO4 is important to strengthen the role in science-policy-development interface. It is acting to get a FEDtWIN profile … in the next year in this field. We are active in the strategic dialogues and are continuously seeking new contacts in the development sector. The visibility and the link with development actors, as well as their federations will be further strengthened in phase II. CEBioS is now an observing member of Fiabel, …and since 1.5 year member of	The FEDtWIN profile for BIOPOLS (group to which CEBioS belongs) has been submitted for approval. The first round (2018) failed however. A new submission in 2019 is planned. The MoUs with ENABEL and WWF are now signed. In this five year plan a whole chapter is dedicated to the role of CEBioS in the joint strategic frameworks and strategic dialogues of the ACNGs (see also annex 5).

	a local representative cannot be underestimated. Nevertheless, CEBioS tries to participate to local fora of Belgian actors (e.g. FOBAC, FABAC) and to make contacts with other development actors, but it remains punctual and often without consequences for synergies.	Educaid, …CEBioS is about to sign MoUs with Enabel and WWF-Belgium	
SO5 - To improve the knowledge on the measurement, reporting and verification of policy choices and activities linked to biodiversity and ecosystem services (MRV and Aïchi targets)	**Strong points** CEBioS agrees. **Points of attention** CEBioS agrees about some overlap between SO3 and SO5. Any output can contribute to awareness (SO3), but also information (SO2). When awareness serves the science-policy interface in the realm of MRV, it should rather belong to SO5. Only recently the effectiveness (see also 1st table,) of the MRV programme started showing in DRC (series of small projects, Workshop with 3 policy briefs, series of small sensitisation projects as follow up, working with parliamentary commission based on the policy briefs). Approach could be copied for other countries if possible. The calls launched in the framework of this SO do not support awareness activities. Only the closing workshops aim at creating visible outputs based on the projects results and on lessons learnt (policy briefs and papers). The awareness call related to the MRV calls was launched and funded under SO3, for dissemination of the projects results and of the outputs jointly created at the workshop.	**How to improve?** CEBioS takes notice to put more input and time into SO5 in phase II and to focus on a proper dissemination and use of the ouput such as workshops and participative action based policy briefs, as well as sensitisation actions with specific target groups. Target audiences should indeed be clearly defined for each intervention, that is defined in the eligibility criteria of the calls. The interaction between MRV, information and awareness should further be clarified during the next ToC workshop of February 2018. The excellent cooperation with KLIMOS shall be continued. MRV will be adapted to the SDGs and post-Aichi targets of the CBD strategy.	The MRV component is now a transversal result and appears in SO1 (scientists), SO2 (environmental agencies), and SO3 (policy makers). The cooperation with the successor of the KLIMOS programme will be explored and promoted whenever possible. MRV poutputs will always be closely linked to awareness and dissemination activities to raise the impact.
S06 - To raise awareness on, and build capacities for, the implementation of the Nagoya Protocol on Access and Benefit Sharing (Nagoya protocol)	**Strong points** CEBioS agrees but would like to add that the Nagoya protocol should be well understood by all scientists in both North (scientists sampling in the South) and South, and that some interventions are therefore done in Belgium. **Points of attention** The lack of implementation of the Protocol of Nagoya at national level during 2014-2017 is now being resolved (competencies at federal and regional levels) and the NP is now in a phase of implementation process, meaning that training needs are increasing. This should stimulate CEBioS activities in this field, especially towards the federal state organisations as was already the case in phase I.	**How to improve?** CEBioS takes up the suggestion of the ET to 'identifying key stakeholders in more detailed manner, maybe be more selective in the target groups and to build or identify tools to communicate on this protocol with support of CBD and NGO's to produce concrete outcomes', and will base further work on the initiated success stories in Burundi and the training in RDC. …	The Nagoya Protocol, being one of the protocols of the Rio CBD convention, is now integrated under policy (SO3) and awareness (in all SOs, according to target audiences). The implementation of the Nagoya protocol is just starting, both in Belgium and in the South. Appropriate indicators have been developed for that.
Chapter from mid-term evaluation	General comment	Follow-up	
2.3 Answers to the evaluation questions (EQ)			

EQ 4: Are the tools and modalities appropriate to assess the progress towards strategic objectives and the success of its activities?	**Strong points** CEBioS confirms. **Points of attention** CEBioS agrees that the piloting of implementation can further be improved by a clearer logframe, target audiences and more results and impact oriented indicators. Reports could be also more synthetic and integrating the various components. CEBioS agrees that these issues are points of attention: a rigid results-based budgeting procedure that is imposed for financial planning and monitoring, an unclear strategic division between SOs allowing for overlaps and a far too unbalanced budget between the different budget headings (that correspond to the different SOs).	**How to improve** A collaborative workshop on the theory of change envisioned for CEBioS will be implemented in February 2018 in order to reconsider the CEBioS logframe for phase II, including more qualitative indicators. Attention will be given to more tabular reporting as suggested by the MTE, including reporting on impact. The multi-annual perspective and more infographics will be developed in the next annual reports, where more detailed reporting will be put in annexes.	ToC workshops in Belgium and with partners have been realized. Tabular reporting is now a fact, with the new format of the annual plan 2019, to be found as part of the five year programme. The indicators at the level of the SO and the results will now ensure a better reporing on the results, outcome and impact. The budget, operational plan and annual plans are now all connected to the logframe to ensure an improved results based management (exel). The budget is now more balanced between the SOs.
EQ 5: How effective and efficient is the RBINS/CEBIOS coordination in its implementation management and monitoring procedure?	**Strong points** no comments **Points of attention** The administrative burden is partly structural and partly due to gaps in process optimization. The calls are online and available, with clear eligibility criteria.	**How to improve** We will explore whether the calls could indeed include respective attribution criteria, scoring grid and weighting system. We should however be careful not to put unnecessary burden on the programme officers if unselected partners start arguing about the selection process in endless discussions. Further optimization of administrative and control processes will be done together with RBINS central administration.	Calls (GTI, CHM, awareness, MRV) are under review and will better reflect the increased sense of connecting biodiversity to poverty reduction and sustainable development. Thanks to several meetings between CEBioS and central RBINS services and the Belspo organized financial audit (December 2018), CEBioS is in the process of seriously improving its financial and administrative processes (e.g. better accounting tables installed by external consultant, plan to learn from Belspo tools, writing of financial guidelines for CEBioS and for South partners with simplified lump sum approach if possible)
EQ 8: How effective are the synergies identified and developed by CEBioS through partnerships with Belgian institutions	**Strong points** CEBioS agrees with the strong points. **Points of attention** We agree that the search for effective synergies and collaboration with other development actors in Belgium has not reached its full potential yet.	**How to improve** CEBioS will continue intensifying cooperation with other development actors and link natural sciences with development. While agreeing that physical presence makes a difference, CEBioS is reluctant to attend every meeting in the South as it is cost and timewise not efficient with reference to available man power, besides being ecologically not responsible. However, the missions that are planned anyway could be scheduled to fit back to back with the agenda of such meeting whenever possible. …	The new logframe and budget provide for more flexibility to participate to the strategic dialogues and learning trajectories, as well as developing synergies with other Belgian actor with an own 'synergy fund' under SO4. Appropriate indicators are now installed.
3. Recommendations			

3.2. Recommendation to CEBioS implementing team	**1. Strengthen team spirit** **2. Coordinate a strategic reflection on CEBIOS identity (secretariat/Training center/ expertise center) and communicate clearly on it.** **3. Strengthen the link between CEBIOS vision for the future and the team capacities:** **4. Strengthen learning and communication strategy of CEBIOS** **5. Develop more strategically CEBIOS partnerships** **6. Strengthen the CHM component:** **7. Strengthen management tools:**	CEBioS will implement the proposed recommendations from 2018 onwards and more explicitely in phase II. More specifically concerning the 7 recommendations: (1) we will hold a working session about the conclusions of the midterm review and discuss implications, starting with the output of the written consultation and the outputs of the focus group on improving strategy and implementation modality. We will continue organizing weekly staff meetings and explore different formats. We will act as a team on activity packages, including all administrative staff of CEBioS whenever possible. (2) we will organize strategic thinking exercises at several levels, being staff, steering committee, strategic committee and ToC workshop. (3) At the February workshop the ToC will become more explicit and linked to the capacities of CEBioS. We will explore ways to strengthen capacities in awareness and communication. (4) We will recruit a communication officer and together develop an overarching communication strategy and implementation, including a more clear idea of target audiences per SO, communication means and methods. We will ask support from e.g. the Belgian platform for Biodiversity. (5) we will analyse our partnership and expand them if necessary, taking care not to overstretch ourselves, and will be further proactive towards DGD and the ONGs or their platforms. We will continue exploring synergy options within the current strategic dialogue process. We will continue networking with key national and international fora (NFP, BBPf, BES-NET, IPBES, GEOBON, CBD, etc...). (6) CEBioS will continue optimizing CHM together with CBD and their possible support through small grants. (7) As stated earlier in this table, we will explore ways of optimizing accounting and reporting. We will implement the splitting up of the logframe in a master and in SO logframes from phase II onwards, as it is too early to implement this already in 2018 and would add incoherence and confusion to phase I.	This is being implemented. The formulation of phase II was done in countless mini workshops at CEBioS, after the ToC workshops. This is a continuous process being implemented. Done and on going Recruitement is done. A communication strategy is in the making. The new logframe reflects well the spheres of influence and the target audiences. Yes, on going process. Yes, on going process Yes, on going. Until now we kept all component sin a single logframe consisting of 4 Specific Objectives, 15 'Results' and ca. 120 indicators. The indicators are connected to ca 35 budget posts.

ANNEX 7: LOGFRAME, MONITORING FRAME, BUDGET PHASE II, ANNUAL PLAN 2019 (SEE EXEL FILE)

This exel file contains:

- Logframe phase II
- Monitoring frame phase II
- Budget phase II, including budget 2019
- Annual plan 2019

ANNEX 8: DETAILED BUDGET PHASE II (SEE EXEL FILE)

This exel file contains:

- Control sheet (technical to calculate and control other sheets)
- Detailed budget DGD format
- Budget per SO and per year, summaries
- Budget for institutional cooperation with OBPE (Burundi)
- Budget for institutional cooperation with CSB (DRC)
- Budget for institutional cooperation with UAC (Benin)
- Budget for institutional cooperation with IRHOB (Benin)

ACRONYMS

ARES	Académie de Recherche et d'Enseignement Supérieur
APN	African Parks
AVIGREF	Associations Villageoises de Gestion des Réserves de Faune
BELSPO	Belgian Science Policy Office
CAMES	Conseil Africain et Malagache pour l'enseignement supérieur.
CBD	Convention on Biological Diversity
CBFP	Congo Basin Forest Partnership
CBNRM	Community based natural ressources management
CEBioS	Capacities for Biodiversity and Sustainable Development
CENAGREF	Centre National de Gestion des Réserves de Faune
CEPA	Communication, Education and Public Awareness
CHM	Clearing House Mechanism
CHM-IAC	CHM Informative Advisory Committee
CHM- IT	Clearing House Mechanism Information Tools
CIFOR	Center for International Forestry Research
CITES	Convention on International Trade in Endangered Species of wild fauna and flora
COHERENS	Coupled Hydrodynamic Ecological Model for Regional Shelf Seas
COMIFAC	Commission des Forêts d'Afrique Centrale
COP	Conference of the Parties
CSB	Centre de Surveillance de la Biodiversité
D4D	Digital for Development
DDD	Direction de Développement Durable
DGD	Directorate-general for Development Cooperation and Humanitarian Aid
ENABEL	Belgian Development Agency
ES	Ecosystem service
FAQ	Frequently Asked Questions
GTI	Global Taxonomy Initiative
IA	Institutional Actor
ICCN	Institut Congolais pour la Conservation de la Nature, Kinshasa, D.R. Congo
ICT	Information and Computer Technology
IDCP	Indicative Development Cooperation Plan
IEBR	Institute of Ecology and Biological Resources, Hanoi, Vietnam
IMAB	Inventories Monitoring and Assessment of Biodiversity
IMARPE	Instituto del Mar del Peru
IMER	Institute of Marine Environment Research
INRB	Institut National de Recherche Biomédical
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IRD	L'Institut de recherche pour le développement

IRHOB	L'Institut de Recherches Halieutiques et Océanologiques du Bénin
ITM	Institute for Tropical Medicine Antwerp
KLIMOS	Interdisciplinary and interuniversity research platform generating capacity for the sustainability transition
MEPN	Ministère de l'Environnement et de la Protection de la Nature
MRV	Measurement, Reporting and Verification
MTE	Mid-term evaluation
NGO	Non-Governmental Organisation
NP	National Park
NBSAP	National Biodiversity Strategy and Action Plan
OECD	Organisation for Economic Co-operation and Development
OECD-DAC	OECD Development Assistance Committee
PSU	Publication Service Unit RBINS
RBINS	Royal Belgian Institute of Natural Sciences
AfricaMuseum	Royal Museum for Central Africa
SBI	Subsidiary Body for Implementation
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SDG	Sustainable Development Goals
SO	Specific Objective
UAC	Université d'Abomey- Calavi , Benin
UA	Universiteit van Antwerpen, Belgium
UB	Université du Burundi
UG	Université de Goma
ULB	Université Libre de Bruxelles, Belgium
UNIKIN	Université de Kinshasa, DR Congo
UNIKIS	Université de Kisangani, DR Congo
UNILU	Université de Lubumbashi, DR Congo
UOB	Université Officielle de Bukavu, DR Congo
UN	United Nations
UNEP	The United Nations Environment Programme
UNESCO	The United Nations Educational, Scientific and Cultural Organization
UNESCO-MAB	The UNESCO Man and Biosphere Programme
VLIR-UOS	Flemish Interuniversity Council, Cooperation for development, Belgium
VNMN	VietNam National Museum Of Nature
WCMC	The UN Environment World Conservation Monitoring Centre
WGRI	Working Group on Review of Implementation of the Convention
WWF	World Wildlife Fund